AGENDA
BOARD OF CITY COMMISSIONERS
OCTOBER 20, 2025 AT 6:00 PM
COMMISSION CHAMBERS AT CITY HALL
16 WEST 9TH STREET
SHAWNEE, OKLAHOMA

Official action can only be taken on items which appear on the agenda. The public 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 public body may refer the matter to Staff or back to Committee or the recommending body. Under certain circumstances, items are deferred to a future date or stricken from the agenda entirely.

CALL TO ORDER

DECLARATION OF A QUORUM

INVOCATION

FLAG SALUTE

1. Citizens Participation (A three-minute limit per person)
   (A twelve-minute limit per topic)

Citizens may provide comment relevant to City business. Per Oklahoma State Statute 25 O.S. § 311(B)(1), the City Commission may only consider, deliberate, or render decisions on those items of City business that were included in the agenda. For other citizen comments, the City Commission may refer the matter to the City Manager for administrative consideration, or to schedule the matter for Commission consideration at a later date.

2. Consider approval of Consent Agenda:

   a. Minutes from the September 15, 2025, regular meeting.

   b. Acknowledge the following minutes and reports:

      - Planning Commission Minutes from the August 6, 2025 and September 3, 2025, regular meetings.
      - Shawnee Beautification, Parks, and Recreation Committee Minutes from the August 21, 2025, regular meeting.
      - License Payment Report for September 2025.
      - Project Payment Report for September 2025.

c. Budget amendments for Fiscal Year 2025 – 2026:

- Fund 001 - General Fund - Fire Department - To appropriate monies received from sale of a vehicle and transfer into Fire Admin and Capital Outlay - Equipment for the Fire Department expenditures in FY26.
- Fund 010 - Grant Fund - Emergency Management Department - Repayment of Funds DR 4706 PW 3 Emergency Debris Removal project for the 2023 Tornado.
- Fund 010 - Grant Fund - Emergency Management Department - To pay for services rendered from the 2023 Tornado, and money received in FY25.
- Fund 301 - Capital Improvement Fund - Fire Department - To appropriate monies for the Altering System at Fire Station #3 and transfer into Capital Outlay - Buildings for the Fire Department expenditures in FY26.
- Fund 301 - Capital Outlay - Fire Department - To appropriate monies for the purchase of an E-One Rescue Pumper and to transfer into Capital Outlay - Equipment for the Fire Department expenditures in FY26.
- Fund 301 - Capital Improvement Fund - Police Department - To appropriate sale of property monies to be used for the vehicle purchase in Capital Outlay for the Police Department expenditures in FY26.
- Fund 302 - Street Improvement Fund - Engineering - To appropriate monies into Capital Outlay - Street for Kickapoo Street expenditures in FY26.
- Fund 304 - American Rescue Plan Fund - To appropriate monies to be used for SW Loop Water Main Project in Capital Outlay - Buildings & Improvements for the expenditures in FY26.
- Fund 603 - Insurance Recovery Fund - Police Department - To appropriate insurance monies into Capital Outlay - Police Vehicles for the Police Department expenditures in FY26.

d. Acknowledge the resignation of Jamie Hembree from the Shawnee Planning Commission effective immediately.

e. Acknowledge the City of Shawnee Holiday Schedule for 2026.

f. Acceptance of Georg Fischer Central Plastics public infrastructure and placing the maintenance bonds into effect.

g. Acceptance of Right-of-Way Utility Easement Agreements for the Southwest Loop Waterline project impacting multiple parcels within Sections 24 and 25, Township 10 North, Range 3 East.

h. Approval of an agreement with Honeywell for the installation of an alerting system for Fire Station No. 3.

i. Approval of the purchase of an E-One Rescue Pumper using the Sourcewell Contract E-One #113021-RVG.

j. Approval of the purchase of a 2026 Ram 2500 Crew Cab truck utilizing state bidding in compliance with the approved Capital Improvement Plan for 2026-2030 for the Heart of Oklahoma Exposition Center.

k. Approval of the purchase of a 2026 Freightliner 108SD PLUS utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Street Department.

l. Approval of the purchase of a 2026 Chevrolet Silverado 3500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Street Department.

m. Approval of the purchase of a 2026 Chevrolet Silverado 3500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for Building Maintenance.

n. Approval of the purchase of a 2026 Chevrolet Silverado 1500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for Building Maintenance.

o. Approval of the purchase of a 2026 Chevrolet Silverado 5500 Regular Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Traffic Department.

p. Acknowledge Change Order No. 1 for Lowe's Water Line project.

3. Presentation of the Pet of the Month by Animal Control.

4. Consideration of resolution authorizing the Mayor and Staff to sign closeout documents related to CV2 The City of Shawnee Community Development Block Grant Contract Number CDBG-EXP-CV2-Shawnee CI-03182 Coronavirus.

5. Consideration of a resolution for the selection of City of Shawnee Bridge Inspectors for the Oklahoma Department of Transportation Bridge Inspection Program.

6. Consideration of a resolution for project sponsorship for the Oklahoma Department of Transportation (ODOT) Transportation Alternatives Program (TAP) Application and Maintenance Commitment for the Wallace Street Sidewalk project.

7. Public Hearing of a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 730 North Pennsylvania Avenue. Case No. CUP02-25 | Applicant: Penny Schultz

8. Consideration of a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 730 North Pennsylvania Avenue. Case No. CUP02-25 | Applicant: Penny Schultz

9. Consider Bid(s):

    a. Shawnee SW Loop Watermain Loop, Project No. 25-1040-01

    b. Shawnee Sewer Bursting FY 26, Project No. 25-119

10. Acknowledge Monthly Sales Tax Report.

11. New Business (Any matter not known or which could not have been reasonably foreseen prior to the posting of the agenda.)

12. Commissioners Comments

13. Adjournment

Respectfully submitted,

Lisa Lasyone, MMC, City Clerk

The City of Shawnee encourages participation from its citizens in public meetings. If participation is not possible due to a disability, notify the City Clerk, in writing, at least forty-eight hours prior to the scheduled meeting**,** and necessary accommodations will be made. (ADA 28 CFR 36)

DRAFT

BOARD OF CITY COMMISSIONERS PROCEEDINGS
SEPTEMBER 15, 2025 AT 6:00 PM

The Board of City Commissioners of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in Regular Session in the Commission Chambers at City Hall, 16 West 9th Street, Shawnee, Oklahoma on Monday, September 15, 2025, at 6:00 PM, pursuant to notice duly posted as prescribed by law on Thursday, September 11, 2025, at 3:05 PM. Mayor Stephens presided and called the meeting to order. Upon roll call, the following members were in attendance.

Eric Stephens
Mayor

Absent Commissioner Ward 1 - Vice Mayor	Greta Shuler Commissioner Ward 2
Chris Odneal Commissioner Ward 3	Ashley Fichtner Commissioner Ward 4
Mark Sehorn Commissioner Ward 5	Lauren Richter Commissioner Ward 6

ABSENT: Daniel Matthews

CALL TO ORDER

DECLARATION OF A QUORUM

INVOCATION

FLAG SALUTE

1. Citizens Participation (A three-minute limit per person)
(A twelve-minute limit per topic)

Citizens may provide comment relevant to City business. Per Oklahoma State Statute 25 O.S. § 311(B)(1), the City Commission may only consider, deliberate, or render decisions on those items of City business that were included in the agenda. For other citizen comments, the City Commission may refer the matter to the City Manager for administrative consideration, or to schedule the matter for Commission consideration at a later date.

Ms. Kerri Keck, Ms. Cyndi Berger, Mr. Rob Morris, and Ms. Theresa Cody spoke during Citizens Participation.

2. Consider approval of Consent Agenda:

a. Minutes from the August 18, 2025, regular meeting.

b. Acknowledge the following minutes and reports:

- Shawnee Beautification, Parks, and Recreation Committee Minutes from the July 17, 2025, regular meeting.

- License Payment Report for August 2025.

- Project Payment Report for August 2025.

c. Budget amendments for Fiscal Year 2025 – 2026:

- Fund 001 — General Fund — To appropriate fund balance for FY25 Encumbrances for which goods or services will be received or rendered in FY26.

- Fund 706 — Donations — To appropriate donation money into Other Materials and Supplies for Fire Prevention Clown Program expenditures in FY26 for the Fire Department.

d. Lake Lease Transfer:

- Mosler Tract Lot 4, 16406 Archery Range Road
  To: Jeremy D. Ayers
  From: April Hill (Whalen)

- Magnino Tract Lot 9, 16724 Clearpond Lane

To: Stephen Ray & Shanna Lynn Keiffer
From: Dianna M. Jones

- Magnino A Tract Lot 5, 17104 Magnino Rd
  To: Lora Melton
  From: Dana Browning

- Belcher Tract Lot 6, 15411 Nickens Rd
  To: Robert & Traci Murphy
  From: Kenneth & Reta Sparks

e. Acknowledge the resignation of Chad Payn from the Shawnee Beautification, Parks, and Recreation Committee effective immediately.

f. Ratification of the City Manager Agreement with Mark Simpson.

g. Acceptance of Right-of-Way Utility Easement Agreement for property within Satterfields addition.

h. Acknowledge the Oklahoma Municipal Retirement Fund lump sum payment from the Defined Benefit Plan for Justin Beaver.

i. Approval of the purchase of a 2026 Ford F-250 utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030.

j. Approval of the Calendar Year 2026 Schedule of Regular Meetings for the Board of City Commissioners, the Board of Trustees of the Shawnee Airport Authority, and the Board of Trustees of the Shawnee Municipal

Authority.

k. Ackowledge Change Order No. 4 for Independence Waterline Project.

A motion was made by Commissioner Odneal, seconded by Commissioner Shuler, to approve Consent Agenda Item Nos. 2(a-k). Motion carried 6-0-0.

AYE: Odneal, Shuler, Stephens, Fichtner, Sehorn, Richter
NAY: None
ABSTAIN: None

3. Presentation of the Pet of the Month by Animal Control.

Animal Control Officer Trel Myers introduced Teeny, an approximately two (2) year-old canine.

4. Consideration of a resolution of the Mayor and City Commission of the City of Shawnee, Oklahoma that establishes and provides compensation of the City Manager pursuant to Article V, Section 3 of the City Charter.

City Attorney Joe Vorndran stated Article V, Section 3 of the City Charter stipulates that the agreed-upon salary for the City Manager shall be fixed and recited by resolution.

A motion was made by Commissioner Odneal, seconded by Commissioner Fichtner, to approve a resolution of the Mayor and City Commission of the City of Shawnee, Oklahoma that establishes and provides compensation of the City Manager pursuant to Article V, Section 3 of the City Charter.

Resolution No. 6776 was introduced.

A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF SHAWNEE, OKLAHOMA THAT ESTABLISHES AND PROVIDES COMPENSATION OF THE CITY MANAGER PURSUANT TO ARTICLE V, SECTION 3 OF THE CITY CHARTER.

Motion carried 6-0-0.

AYE: Odneal, Fichtner, Sehorn, Richter, Shuler, Stephens
NAY: None

ABSTAIN: None

5. Public hearing of a request to rezone property located at a tract of land directly west of 4308 Faith Boulevard from TA (Transitional Agriculture District) to C-1 (Local Commercial District).
   Case No. RZ03-25 | Applicant: Rickey Crain c/o Landes Engineering *(Deferred from the August 18, 2025, City Commission meeting.)*

City Planner Diana Hood stated that the applicant is requesting to extend the C-1 zoning from the south side of Faith Boulevard to locate a gymnasium on the property. The Planning Commission recommended approval with conditions.

Mayor Stephens declared a public hearing in session to consider a request to rezone property located at a tract of land directly west of 4308 Faith Boulevard from TA (Transitional Agriculture District) to C-1 (Local Commercial District). Mr. Steve Landes appeared in favor. Mr. Donald Mosser and Ms. Cyndi Berger appeared against. The public hearing was closed.

6. Consideration of an ordinance to rezone property located at a tract of land directly west of 4308 Faith Boulevard from TA (Transitional Agriculture District) to C-1 (Local Commercial District).
   Case No. RZ03-25 | Applicant: Rickey Crain c/o Landes Engineering *(Deferred from the August 18, 2025, City Commission meeting.)*

A motion was made by Commissioner Odneal, seconded by Commissioner Fichtner, to approve an ordinance to rezone property with conditions as recommended by the Planning Commission located at a tract of land directly west of 4308 Faith Boulevard from TA (Transitional Agriculture District) to C-1 (Local Commercial District).

Ordinance No. 2820NS was introduced.

AN ORDINANCE CONCERNING THE ZONING CLASSIFICATION OF THE FOLLOWING DESCRIBED PROPERTY LOCATED WITHIN THE CORPORATE LIMITS OF THE CITY OF SHAWNEE, POTTAWATOMIE COUNTY, OKLAHOMA, TO-WIT: A TRACT OF LAND BEGINNING AT A POINT 228.5 FEET S02°27'42"E OF THE NORTHWEST CORNER OF THE NORTH HALF OF THE SOUTH HALF OF THE NORTHWEST QUARTER (NW/C, N/2, S/2, NW/4) OF SECTION FOUR (4), TOWNSHIP TEN (10) NORTH, RANGE FOUR (4) EAST OF THE INDIAN MERIDIAN, POTTAWATOMIE COUNTY, OKLAHOMA; THENCE S02°27'42"E A

DISTANCE OF 112.5 feet; THENCE N89°06'02"E A DISTANCE OF 294 FEET; THENCE N02°27'42"W A DISTANCE OF 112.5 FEET; THENCE S89°06'02"W A DISTANCE OF 294 FEET TO THE POINT OF BEGINNING. FROM ZONING CLASSIFICATION TA (TRANSITIONAL AGRICULTURAL DISTRICT) TO C-1 (LOCAL COMMERCIAL DISTRICT), AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF SHAWNEE ACCORDINGLY.

Motion carried 5-1-0.

AYE: Odneal, Fichtner, Sehorn, Shuler, Stephens
NAY: Richter
ABSTAIN: None

7. Public hearing of a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 15105 Eckel Road.
   Case No. CUP01-25 | Applicant: Jeff and Katie Cannon; CC Cannon, LLC

City Planner Diana Hood stated that the applicants are requesting a Conditional Use Permit for a Short-Term Rental. The Planning Commission recommended approval.

Mayor Stephens declared a public hearing in session to consider a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 15105 Eckel Road. Ms. Katie Cannon and Mr. Jeff Cannon appeared in favor. Mr. Rob Morris and Mr. Kenneth Crawford appeared against. The public hearing was closed.

8. Consideration of a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 15105 Eckel Road.
   Case No. CUP01-25 | Applicant: Jeff and Katie Cannon; CC Cannon, LLC

A motion was made by Commissioner Fichtner, seconded by Commissioner Richter, to approve a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 15105 Eckel Road. Motion carried 5-0-1.

AYE: Fichtner, Richter, Odneal, Stephens, Sehorn
NAY: None
ABSTAIN: Shuler

9. Consideration of a request to reduce the speed limit on North Kickapoo Avenue from Westech Road to Garrett's Lake Road from 45 mph to 35 mph, and to

establish 4-way stop intersections at both North Kickapoo and Wolverine Road, and North Kickapoo and Garrett's Lake Road.

Assistant City Manager and Director of Engineering Seth Barkhimer stated that City staff has reviewed traffic conditions along this corridor and identified safety concerns related to both speed and intersection control. Staff recommends approval of the item.

A motion was made by Commissioner Fichtner, seconded by Commissioner Sehorn, to approve a request to reduce the speed limit on North Kickapoo Avenue from Westech Road to Garrett's Lake Road from 45 mph to 35 mph, and to establish 4-way stop intersections at both North Kickapoo and Wolverine Road, and North Kickapoo and Garrett's Lake Road. Motion carried 5-1-0.

AYE: Fichtner, Sehorn, Richter, Shuler, Stephens
NAY: Odneal
ABSTAIN: None

10. Consideration of an amendment to a contract with Downey Contracting, LLC to provide Construction Manager at Risk Services for the Shawnee Animal Shelter Project.

Assistant City Manager and Director of Engineering Seth Barkhimer stated that the design stages of the project are complete and Downey Contracting, LLC has submitted a Guaranteed Maximum Price (GMP) Amendment to their originally negotiated reconstruction contract in the amount of One Million Four Hundred Seventy-Eight Thousand Two Hundred Thirty-Nine Dollars ($1,478,239.00), which includes consulting fees. Staff recommends approval of the item.

A motion was made by Commissioner Richter, seconded by Commissioner Fichtner, to approve an amendment to a contract with Downey Contracting, LLC to provide Construction Manager at Risk Services for the Shawnee Animal Shelter Project. Motion carried 6-0-0.

AYE: Richter, Fichtner, Sehorn, Shuler, Odneal, Stephens
NAY: None
ABSTAIN: None

11. Consideration of a request for a Final Plat for Shawnee Twin Lakes, Lake No. 1, Phase 3.
Case No. FPL03-25 | Applicant: City of Shawnee

City Planner Diana Hood provided a Staff report. The Planning Commission recommended approval.

A motion was made by Commissioner Odneal, seconded by Commissioner Shuler, to approve a request for a Final Plat for Shawnee Twin Lakes, Lake No. 1, Phase 3. Motion carried 6-0-0.

AYE: Odneal, Shuler, Stephens, Fichtner, Sehorn, Richter
NAY: None
ABSTAIN: None

12. Acknowledge Monthly Sales Tax Report.

Finance Director Kimberly Hoover reported sales tax collections are up One Hundred Eighty-Six Thousand Seventy Dollars ($186,070.00) or Two Point Four Zero Percent (2.40%), above the projected budget year-to-date. She stated that use tax collections are down Fourteen Thousand Eight Hundred Fifty-One Dollars ($14,851.00) or One Point Two Eight Percent (1.28%), below the projected budget year-to-date.

13. Administrative Report(s):

a. Vacant Structure Identification Overview — Joe Vorndran, City Attorney

City Attorney Joe Vorndran provided a presentation on the Vacant Structure Identification Overview. Topics discussed included:

- Problem with Vacant Structures
- Tracking
- Notice Must be Posted on Building
- Timeline
- Sample Forms
    - Identification Form
    - Tresspass Authorization Form

14. New Business (Any matter not known or which could not have been reasonably foreseen prior to the posting of the agenda.)

There was no new business.

15. Commissioners Comments

Commissioner Richter commented on sales tax, Capital Improvement Plan (CIP) items moving forward, and the vacant structure ordinance.

Commissioner Sehorn commented on sales tax and downtown Shawnee.

Commissioner Fichtner commented on the new Chambers layout and safety.

Mayor Stephens commented on sales tax and comments regarding Citizens Participation.

Commissioner Odneal commented on animal shelter construction, downtown Shawnee, and the vacant structure ordinance. He invited everyone to Pedal Palooza at Boy Scout Park on Saturday, September 20, 2025.

Commissioner Schuler commented on downtown Shawnee and Main Street.

RECESS CITY COMMISSION MEETING BY THE POWER OF THE CHAIR TO CONVENE SHAWNEE AIRPORT AUTHORITY AND SHAWNEE MUNICIPAL AUTHORITY (7:11 P.M.)

RECONVENE CITY COMMISSION MEETING BY THE POWER OF THE CHAIR (7:17 P.M.)

16. Consideration, discussion, and possible action to enter into executive session to hold confidential communications between the City Commission of the City of Shawnee and its counsel concerning the settling of certain claims in pending litigation (*City of Shawnee v. Purdue Pharma L.P., et al.,* Case No. 1:19-op-46155-DAP, pending in the United States District Court for the Northern District of Ohio, and related litigation), including potential resolution of certain claims against Purdue Pharma LP and its affiliated entities in Purdue Pharma LP's bankruptcy case (Case No. 7:19-bk-23649 pending in the United States Bankruptcy Court for the Southern District of New York), members of the Sackler family (the "Sackler's"), Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmacetucials Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, related to lawsuits against pharmaceutical supply chain participants of opioid prescription drugs, and taking appropriate action in open session, including possible authorization to settle claims, the disclosure of which may seriously impair the litigation if known by public disclosure as allowed by 25 O.S. § 307(B)(4).

A motion was made by Commissioner Odneal, seconded by Mayor Stephens, to approve to enter into executive session to hold confidential communications

between the City Commission of the City of Shawnee and its counsel concerning the settling of certain claims in pending litigation (*City of Shawnee v. Purdue Pharma L.P., et al.,* Case No. 1:19-op-46155-DAP, pending in the United States District Court for the Northern District of Ohio, and related litigation), including potential resolution of certain claims against Purdue Pharma LP and its affiliated entities in Purdue Pharma LP's bankruptcy case (Case No. 7:19-bk-23649 pending in the United States Bankruptcy Court for the Southern District of New York), members of the Sackler family (the "Sackler's"), Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmacetucials Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, related to lawsuits against pharmaceutical supply chain participants of opioid prescription drugs, and taking appropriate action in open session, including possible authorization to settle claims, the disclosure of which may seriously impair the litigation if known by public disclosure as allowed by 25 O.S. § 307(B)(4). Motion carried 6-0-0.

AYE: Odneal, Stephens, Fichtner, Sehorn, Richter, Shuler
NAY: None
ABSTAIN: None

COMMISSION ENTERED INTO EXECUTIVE SESSION AT 7:20 P.M. WITH ALL MEMBERS PRESENT.

COMMISSION RECONVENED FROM EXECUTIVE SESSION AT 7:53 P.M. WITH ALL MEMBERS PRESENT.

17. Consider approval of a resolution, to include (a) approving voting to accept the Thirteenth Amended Joint Chapter 11 Plan of Reorganization of Purdue and Its Affiliated Debtors in Participation in Case No. 19-23649 pending in the United States Bankruptcy Court for the Southern District of New York, and authorizing and directing its legal counsel vote to accept the Plan via master ballot or otherwise, (b) approving voting to accept and participate in the Governmental Entities Settlement Agreement (the "GESA") dated June 17, 2025, and authorizing the Mayor of the City of Shawnee, or the Mayor's designee, to execute the Subdivision Participation Form for the City of Shawnee's participation in the GESA, and approval of the Purdue State-Subdivision Agreement as it pertains to the Plan and the GESA, and (c) approving voting to accept and participate in the settlement agreements with Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma

Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmaceuticals Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, and authorizing the Mayor of the City of Shawnee, or the Mayor's designee, to execute the Subdivision Participation Form for the City of Shawnee's participation in the settlements with Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmaceuticals Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, and (d) authorizing Litigation Counsel in the opioid litigation to negotiate and enter into a State-Subdivision Agreement with the State through the Attorney General on behalf of City of Shawnee with respect to the Generic/Small/Secondary Manufacturer Settlements.

A motion was made by Commissioner Odneal, seconded by Commissioner Shuler, to approve a resolution, to include (a) approving voting to accept the Thirteenth Amended Joint Chapter 11 Plan of Reorganization of Purdue and Its Affiliated Debtors in Participation in Case No. 19-23649 pending in the United States Bankruptcy Court for the Southern District of New York, and authorizing and directing its legal counsel vote to accept the Plan via master ballot or otherwise, (b) approving voting to accept and participate in the Governmental Entities Settlement Agreement (the "GESA") dated June 17, 2025, and authorizing the Mayor of the City of Shawnee, or the Mayor's designee, to execute the Subdivision Participation Form for the City of Shawnee's participation in the GESA, and approval of the Purdue State-Subdivision Agreement as it pertains to the Plan and the GESA, and (c) approving voting to accept and participate in the settlement agreements with Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmaceuticals Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, and authorizing the Mayor of the City of Shawnee, or the Mayor's designee, to execute the Subdivision Participation Form for the City of Shawnee's participation in the settlements with Alvogen, Inc., Amneal Pharmaceuticals, Inc., Apotex, Inc., Hikma Pharmaceuticals USA, Inc., Indivior Inc., Mylan Pharmaceuticals Inc., Sun Pharmaceutical Industries, Inc., and Zydus Pharmaceuticals, and (d) authorizing Litigation Counsel in the opioid litigation to negotiate and enter into a State-Subdivision Agreement with the State through the Attorney General on behalf of City of Shawnee with respect to the Generic/Small/Secondary Manufacturer Settlements.

Resolution No. 6777 was introduced.

A RESOLUTION TO APPROVE PARTICIPATION IN SETTLEMENTS WITH PURDUE PHARMA LP, MEMBERS OF THE SACKLER FAMILY, ALVOGEN, INC., AMNEAL PHARMACEUTICALS, INC., APOTEX, INC., HIKMA PHARMACEUTICALS USA, INC., INDIVIOR, INC., MYLAN PHARMACEUTICALS INC., SUN PHARMACEUTICAL INDUSTRIES, INC., AND ZYDUS PHARMACEUTICALS.

Motion carried 6-0-0.

AYE: Odneal, Shuler, Stephens, Fichtner, Sehorn, Richter
NAY: None
ABSTAIN: None

18. Adjournment

There being no further business to be considered, the meeting was adjourned by power of the Chair. (7:56 p.m.)

_____
ERIC STEPHENS, MAYOR

ATTEST:

_____
LISA LASYONE, MMC
CITY CLERK

PLANNING COMMISSION MINUTES
DATE: August 6, 2025
MINUTES

The Planning Commission of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in person for a regular meeting on August 6, 2025, at 1:30 p.m., according to notice duly posted as prescribed by law.

For lack of both Chair and Vice-Chair, Commissioner Porter called the meeting to order at **1:35 p.m.** City Planner Diana Hood called Roll and stated a quorum was present.

The following Commissioners were present:
Present: Hayes, Porter, Reese, Alexander
Absent: Hembree, Johnson, Barrett

Item 1. Consideration of approval of the minutes from the regular meeting on July 2, 2025. Commissioner Porter asked for questions or corrections to the minutes.

Commissioner Porter noted that the minutes needed correction on the motion of item 1 on the minutes. Commissioner Porter made a motion to **Approve** the minutes with the noted correction, which Commissioner Alexander seconded.
Motion **passed 4-0-0**.
Aye: Hayes, Alexander, Porter, Reese
Nay: None
Abstain: None

Item 2. Public Hearing and Consideration of a request to amend the Planned Unit Development restrictions for the Unity Medical Plaza (PUD02-25).
Case No. PUD02-25 | Applicant: Saint Anthony Shawnee Hospital c/o Mission Energy Development LLC.

Background:
Unity Medical Plaza is located along the north side of West MacArthur Street, west of Kickapoo Street. The area is zoned under a Planned Unit Development with a base zoning of C-2 (Regional Commercial). The owner, St. Anthony Shawnee Hospital has authorized Mission Energy Development LLC to request a revision to the existing PUD to allow for Solar Panels to be installed in the northern undeveloped tract. The Shawnee Airport is located directly to the West and across MacArthur Street to the Southwest, and is zoned I-1 (Light Industrial). To the East lies both C-1 (Local Commercial) and C-2 (Regional Commercial) zoning, and is the site of some apartments as well as the OBU sports fields. To the Southeast lies the main OBU campus, zoned C-1.

Discussion:
The proposed amendment aims to add "Utilities and Public Service Facility, Minor," to the list of allowed uses in the area to allow for Solar Panel installation on the northern undeveloped tract. The original PUD established the entire area to be used solely for medical offices and other related uses.

Furthermore, the base zoning of C-2 would normally require a Conditional Use Permit (CUP) to allow the use in the area. A CUP allows a specific, singular use for a property, and can expire or be revoked. The PUD Amendment seeks to establish the described use as allowed by right under the PUD, which gives the applicant more freedom to decide timelines and details.

Financial Impact: None

Staff Recommendation: Staff recommends Approval of the requested PUD amendment.

This application will be heard at the City Commission meeting on Monday, August 18, at 6:00 pm.

Commissioner Reese made a motion to recommend the **APPROVAL** of **Case No. PUD02-25** which Commissioner Alexander seconded.
Motion **passed 4-0-0**.
Aye: Hayes, Alexander, Porter, Reese
Nay: None
Abstain: None

Item 3. Public Hearing and Consideration of a request to rezone property from TA (Transitional Agriculture) to C-1 (Local Commercial)
Case No. RZ03-25 | Applicant: Rickey Crain c/o Landes Engineering

Background:
The subject property has no real address, but is designated as Parcel Number 0000-04-010-004-0-008-00 through the Pottawatomie County Assessor and lies at the northeast corner of North Bryan Avenue and East Faith Boulevard. The subject property is zoned TA (Transitional Agriculture) with similar zoning to the west across North Bryan Ave, with C-1 (Local Commercial) zoning to the south and R-1 (Low Density Residential) zoning to the north and east.

Discussion:
The applicant is requesting to extend the C-1 zoning from the south side of Faith Boulevard to locate a gymnasium on the property, which is currently vacant. The desired use is a form of Health Club/Recreation, and is allowed in this zoning district. The Comprehensive Plan Future Land Use Map (FLUM) indicates the subject property has a Medium Density Residential land use designation. This land use designation features a density of up to 12 dwelling units per acre. The Comprehensive Plan also notes that this land use designation can include a mix of lower density housing types, civic uses, and limited higher intensity uses along with connections to neighborhood commercial services. An extension of the nearby C-1 zoning would be appropriate for the area, especially given its position as a corner lot between Bryan Ave and the adjacent residential area.

Referencing the City of Shawnee Zoning Code (Code) DIVISION 15. - Amendments; Procedures. Section 22-645. - Planning commission recommendation required. This section gives authority to the Planning Commission to make changes (amendments) to the official Zoning Map. *"...be amended, supplemented, changed, modified, or repealed by ordinance, but no change shall be made until the planning commission, after notice and public hearing, files with the city commission a report and recommendation on the proposed change."*

Staff completed the required public hearing notifications for this application. All property owners within 300' from the perimeter of the subject property were mailed a public hearing notification letter. Additionally, a notice of public hearing was published in The County Democrat weekly newspaper. A sign providing details and contact information was placed on the subject property.

Findings and Facts:

- The subject property has C-1 zoning to the south, TA to the west, and R-1 zoning to the north and east.
- The request is in conformance with the Comprehensive Plan Future Land Use Map (FLUM).
- There is water, sewer, and storm sewer access along North Bryan Avenue.
- Notification for a public hearing was served.

Options:

- Recommending Approval of Case No. RZ03-25 to rezone from TA (Transitional Agriculture) to C-1 (Local Commercial) as requested by the applicant.
- Recommending Denial of the application for RZ03-25 to rezone the subject property.
- Recommending Deferral Case No. RZ03-25 with a request for additional and specific information to a certain date.

This rezoning application will be heard at the City Commission meeting on Monday, August 18, at 6:00 pm

Commissioner Reese made a motion to recommend the **APPROVAL WITH CONDITIONS** of **Case No. RZ03-25** which Commissioner Hayes seconded.

Conditions are:
A stormwater plan prepared for staff review before/at the time of building permit submittal.

Motion **passed 4-0-0**.
Aye: Hayes, Alexander, Porter, Reese
Nay: None
Abstain: None

Item 4. Community Development Update

Interim Community Development Director Petya Stefanoff informed the Commission that the previous Community Development Director, Rian Harkins, has left employment with the City. She notes that she is running a certified citizen's program designed for educating appointed and elected City Officials as well as other professionals in fields adjacent to Planning projects, and states how to register. Next, Mrs. Stefanoff reports that staff is finalizing the reports to submit to HUD for the Community Development Block Grant (CDBG).

Item 5. Planning Commissioners' Comments

Commissioner Porter asked about the Traffic Study for Kickapoo and Harrison Streets that the Planning Commission had requested in earlier months. City Engineer and Assistant City Manager Seth Barkheimer responded that staff is currently drafting a Request for Qualifications (RFQ) for selecting a consultant group to conduct that study. Mr. Barkheimer continues to say that the City is currently in the Right-of-Way acquisition phase, and that there should be movement on relocating utilities relatively soon.

Item 6. Adjournment

The meeting adjourned at **2:07 p.m.**

Amanda Johnson
Chair/Vice-Chair

10/1/2025
Date

Petya Stefanoff
Interim Community Development Director

10-1-25
Date

PLANNING COMMISSION MINUTES
DATE: September 3, 2025
MINUTES

The Planning Commission of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in person for a regular meeting on September 3, 2025, at 1:30 p.m., according to notice duly posted as prescribed by law.

Chair Barrett called the meeting to order at **1:30 p.m.** City Planner Diana Hood called Roll and stated a quorum was present.

The following Commissioners were present:
Present: Hayes, Reese, Porter, Barrett, Alexander, Johnson
Absent: Hembree

Item 1. Consideration of approval of the minutes from the regular meeting on August 6, 2025.

Chair Barrett asked for questions or corrections to the minutes. Commissioner Porter made a motion to **Approve** the minutes, which Commissioner Reese seconded.
Motion **passed 6-0-0**.
Aye: Hayes, Reese, Porter, Barrett, Alexander, Johnson
Nay: None
Abstain: None

Item 2. Consideration of a request for a Final Plat for Shawnee Twin Lakes, Lake No. 1, Phase 3. Case No. FPL03-25 | Applicant: City of Shawnee

Background:
The subject property is located to the northwest of the intersection of Highway 102 and Clearpond Road in Sections 14,15, and 23, Township 10 North, Range 2 East. The property is zoned TL (Twin Lakes), with similar zoning to the north, west, and south, with a small section of C-2 (Regional Commercial) to the north-northwest. The property to the east across Highway 102 is not within the corporate limits of the city and has no zoning designation.

Discussion
Findings and Facts:

- Staff has reviewed the document and finds it sufficient, including the City Engineer and the Fire Marshal.
- Public Notice is not required for a Final Plat.

Options:

- Approve Case No. FPL03-25, Final Plat for Shawnee Twin Lakes - No. 1, Phase 3 as presented.
- Denial of Case No. FPL03-25, Final Plat for Shawnee Twin Lakes - No. 1, Phase 3.
- Deferring Case No. FPL03-25 with a request for additional and specific information to a certain date.

This application will be heard at the City Commission meeting on Monday, September 15, at 6:00 pm.

Financial Impact: None
Attachments: 26169742-Shawnee Twin Lakes - Lake No. 1, Phase 3 - FINAL PLAT
Staff Recommendation: Staff recommends APPROVAL of Case No. FPL03-25, Final Plat for Shawnee Twin Lakes - No. 1, Phase 3.

Commissioner Johnson made a motion to recommend the **APPROVAL** of **Case No. FPL03-25** which Commissioner Alexander seconded.
Motion **passed 6-0-0**.

Aye: Hayes, Reese, Porter, Barrett, Alexander, Johnson
Nay: None
Abstain: None

Item 3. Public Hearing and Consideration of a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 15105 Eckel Road, Shawnee, OK, 74801
Case No. CUP01-25 | Applicant: Jeff and Katie Cannon; CC Cannon, LLC

Background:
The subject area, addressed as 15105 Eckel Road, is a Lake Lease with the City and located south of the intersection of Eckel Road and Homer Lane Road. The area is zoned TL (Twin Lakes), and Lake No. 1 lies to the southeast. There are approximately 8 other residences on Eckel Road. The applicant is requesting a Conditional Use Permit for their Short-Term Rental, as required by Section 22-199.I of the Unified Development Code. Short-Term Rentals are allowed with a CUP in all zoning districts EXCEPT for the two Commercial zoning districts (C-1 & C-2), and the two Industrial zoning districts (I-1 & I-2).

Discussion
A Conditional Use Permit authorizes the owner to use a piece of property in such a way that is not normally allowed by default in the subject zoning district. It is an avenue by which certain land uses are allowed in a given zoning district, provided the owner meets certain criteria.

Referencing the City of Shawnee Unified Development Code DIVISION 6. – Procedures. Section 22-227. – Conditional Use Permit. "The planning commission shall review the conditional use permit and submit its report and recommendation to the effect of the proposed building or use upon the character of the neighborhood, traffic congestion, public utilities, and other matters pertaining to the general health, safety, and welfare of the public and to the city commission." In Section 22-197 of the Unified Development Code is Table 3.2 - Use Table. This table indicates that in the TL zoning district, a Short-Term Rental is permitted subject to acquiring a Conditional Use Permit (CUP).

The Comprehensive Plan Future Land Use Map indicates an Agriculture/Open Space land use, and the current zoning of TL (Twin Lakes) was specifically designed to enhance the experience of residents, tourists, and visitors while protecting the character and environment of the area. A Short-Term Rental use is allowed in this zoning district WITH a CUP.

Staff completed the required public notices for this request. As this parcel and everything in the surrounding 300 foot buffer radius is owned by the City, Staff instead sent mail notices to all other addresses located along Eckel Road in an effort to comply with the intent of the public notice requirements. Additionally, a notice of public hearing was published in The County Democrat weekly newspaper.

Findings and Facts:
- Proper notification for a public hearing was served
- Staff has no concerns regarding the location and use
- Short-Term Rental is an allowed use in TL with a CUP
- Owner/Applicant must also obtain a License to operate, and must comply with Sec. 22-199.I -Short-Term Rental to keep said license. (See Attachments).

Financial Impact: None
Attachments: Sec 22-199 - Short Term Rental, 7.28.2025 CUP application - without payment info for security
Staff Recommendation: Staff recommends APPROVAL of Case No. CUP01-25: Conditional Use Permit for Short-Term Rental.

Commissioner Reese made a motion to recommend **APPROVAL** of **Case No. CUP01-25** which Commissioner Alexander seconded.
Motion **passed 4-2-0**.
Aye: Reese, Barrett, Alexander, Johnson

Nay: Hayes, Porter
Abstain: None

Item 4. Community Development Update

Interim Community Development Director Petya Stefanoff outlined the Short-Term Rental and Conditional Use Permit process, as the Department is working to bring currently operating STRs into compliance with City Ordinance if they are not already. Next, Mrs. Stefanoff gave an update on the Safe Streets for All project that the City is working on collaboratively with Pottawatomie Go and Oklahoma University. She reported on the recent community feedback event for that project, and stated that there are two more events scheduled for November 1st and November 18th/19th. Lastly, she notified the Commission that the American Planning Association – Oklahoma Chapter will be having its annual conference in Oklahoma City on November 2 through 4 and encouraged the commissioners to attend if they have the chance.

Item 5. Planning Commissioners' Comments

Commissioner Johnson noted that the Pottawatomie County Petal Palooza event is coming up on September 20th, and that feedback for Safe Streets for All will also be collected there.

Item 6. Adjournment

The meeting adjourned at **2:01 p.m.**

Amanda Johnson
Chair/Vice-Chair

10/1/2025
Date

Petya Mn
Interim Community Development Director

10-1-25
Date

SHAWNEE BEAUTIFICATION, PARKS, AND RECREATION COMMITTEE PROCEEDINGS

AUGUST 21, 2025 AT 4:00 PM

The Shawnee Beautification, Parks, and Recreation Committee of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in Regular Session in the Commission Chambers at City Hall, 16 West 9th Street, Shawnee, Oklahoma on Thursday August 21, 2025 at 4:00 P.M., pursuant to notice duly posted as prescribed by law at 11:27 A.M.on August 20, 2025. Committee Member Nelson presided and called the meeting to order. Upon roll call, the following members were in attendance.

Absent
Chairperson

Absent
Vice Chairperson

Raymond Lutomski
Committee Member

Kerri Keck
Committee Member

Sue Nelson
Committee Member

Chris Johnston
Committee Member

Absent
Commissioner/Committee Member

ABSENT: Chad Payn, Sherry Lankford, and Lauren Richter

CALL TO ORDER

DECLARATION OF QUORUM

1. Consideration of approval of the Minutes from the July 17, 2025 regular meeting.

A motion to approve the July 17, 2025 minutes was made by Kerri Keck. A 2nd was made by Chris Johnston. Motion carried 4-0.
Aye: Sue Nelson, Kerri Keck, Raymond Lutomski, and Chris Johnston
Nay: None

2. Staff Reports

    1. July monthly report was discussed.
    2. The newly remodeled Rotary Briscoe Boy Scout Park Splash Pad opened on August 20, 2025.
    3. The new Optimist Park Splash Pad will open next summer.
    4. Department is looking for volunteers to help with the September 23rd and 25th tree planting in Wildwood Park.
    5. Recreation Center has two Rec Aide positions open.

3. Consideration of board member involvement at the Fall Festival.

The committee discussed possibly having a subcommittee to work with Amy Riggins on what members could help with and what their roles will be at the Fall Fest.

4. Consideration of next steps for Artwork Project.

The committee discussed the next steps to move forward with the project. Kerri Keck will work with the Arts Board and have a report at the September meeting.

5. Citizens Participation (A three-minute limit per person)
(A twelve-minute limit per topic)

Mr. Crawford and Ms. Cody spoke at this meeting.

6. Committee Comments

The committee appreciated the monthly report and Kerri Keck let the committee know Spotlight on Shawnee is taking place today at OBU.

7. Adjournment

The meeting was adjourned at 4:41 P.M.

Sherry Lankford for Chad Payne

CHAD PAYN
CHAIRPERSON

ATTEST:

Jane Wright

JANE WRIGHT
SECRETARY

Entity Payment Report

09/01/2025 - 09/30/2025

Payment Date	Name	Payment Type	Receipt #	Payment Amount
9/30/2025	YNOT GROUP LLC	IBX CC	4695	1,500.00
9/30/2025	JM EXCAVATION AND LAND IMPROVEMENT	IBX CC	4693	75.00
9/30/2025	L&W Plumbing Services LLC	IBX CC	4692	100.00
9/29/2025	WEST SHORE HOME LLC	IBX CC	4691	75.00
9/29/2025	AC SERVICE PLUS LLC	Check	4690	75.00
9/29/2025	CHARLES & MARY SHIFF	Check	4689	808.00
9/29/2025	WARREN & SANDRA JOHNSON	Check	4688	15.00
9/29/2025	SUNNY ROADS PROCESSING 6, LLC	IBX CC	4687	50.00
9/29/2025	TRANSFORMATION ROOFING & CONSTRUCTION	IBX CC	4686	75.00
9/29/2025	JULIE & CHARLIE AKERMAN	Check	4685	200.00
9/26/2025	HERMAN'S PLUMBING	Check	4684	75.00
9/25/2025	WILSON ELECTRIC HEAT & AIR	IBX CC	4682	75.00
9/25/2025	WALTER & BRENDA CRISTENSEN	Check	4681	808.00
9/25/2025	1776 PLUMBING LLC	IBX CC	4680	100.00

9/25/2025	THE ARTS AT317	Check	4679	15.00
9/25/2025	DEBORAH GEORGE	Check	4678	15.00
9/25/2025	OSBORN TREE SERVICE	IBX CC	4677	25.00
9/25/2025	TRUE HOPE TREE SERVICE	IBX CC	4676	25.00
9/24/2025	United Dynamics Inc	Check	4675	25.00
9/24/2025	GF CENTRAL PLASTICS - METALS CAMPUS	IBX CC	4674	50.00
9/24/2025	MARK H & MARY JANE CANNON	Check	4673	808.00
9/24/2025	CANDACE COLLIE	Check	4672	808.00
9/24/2025	CC CANNON, LLC	IBX CC	4671	808.00
9/24/2025	PERRY & ELIZABETH GATEWOOD TRUST	IBX CC	4670	808.00
9/24/2025	MATTHEWS PLUMBING AND UTILITIES	IBX CC	4669	75.00
9/23/2025	KEDARNATH LLC dba SUPER FIRE CANNABIS	IBX CC	4668	1,500.00
9/23/2025	KEDARNATH LLC dba SUPER FIRE CANNABIS	IBX CC	4667	50.00
9/23/2025	ON THE MARK HEAT & AIR, LLC	IBX CC	4666	75.00
9/23/2025	RONALD TAFFE	Check	4665	25.00
9/23/2025	MONICA & JOSHUA FREED	Check	4664	808.00

9/23/2025	PHYSICAL THERAPY CENTRAL	IBX CC	4663	15.00
9/23/2025	SAM DUNCAN VENT HOODS LLC	IBX CC	4662	100.00
9/23/2025	RHONDA MASQUAT	Check	4661	15.00
9/22/2025	ADUB ELECTRIC LLC	Check	4660	75.00
9/22/2025	ACOCK CLIMATE CONTROL	IBX CC	4659	75.00
9/22/2025	BLACK SITE AUTOMOTIVE LLC	Check	4658	50.00
9/22/2025	COMFORT CONTROL SPECIALISTS	IBX CC	4657	75.00
9/22/2025	MARK JENNINGS	Check	4656	808.00
9/22/2025	MARK JENNINGS	Check	4655	808.00
9/22/2025	needs inspection - OKLAHOMA COURT SERVICES, INC	Check	4654	50.00
9/19/2025	CITIZEN POTAWATOMI NATION	Check	4653	75.00
9/19/2025	CITIZEN POTAWATOMI NATION	Check	4652	75.00
9/19/2025	J & K DISPENSARY	Check	4651	1,500.00
9/18/2025	VFW POST 1317	Check	4650	500.00
9/18/2025	pending - CENTRIC HOME HEALTH & HOSPICE	IBX CC	4649	50.00
9/18/2025	$ - AMY PERKINS & MANDY VICKERY	Check	4648	808.00

9/17/2025	LELAND PREWITT	IBX CC	4647	808.00
9/16/2025	THE SOCIAL SIP AND SHOP	IBX CC	4646	50.00
9/16/2025	DYLAN SIGMAN & CHARLES MOORE	Check	4645	808.00
9/16/2025	$ - ADVANCE ELECTRIC, INC	IBX CC	4644	75.00
9/16/2025	PAMELA STREET	Check	4643	808.00
9/16/2025	ANDERSON ELECTRICAL SERVICE LLC	IBX CC	4642	75.00
9/16/2025	CHRIS & LISA SPEARS	Check	4641	808.00
9/16/2025	CHRIS & LISA SPEARS	Check	4640	808.00
9/15/2025	RANDY E WOLFE	Cash	4639	808.00
9/15/2025	LOVE'S HVAC	Check	4638	75.00
9/12/2025	WORK READY SHAWNEE	Check	4637	25.00
9/12/2025	DART PHONE	IBX CC	4636	50.00
9/12/2025	WINWIN FARM LLC	Cash	4635	1,500.00
9/11/2025	R & M SERVICES	IBX CC	4634	100.00
9/11/2025	CL ELECTRIC	Check	4633	75.00
9/11/2025	WOODY'S CONSTRUCTION	IBX CC	4632	75.00
9/11/2025	CHAMPION PLUMBING	IBX CC	4631	75.00
9/11/2025	OLLIE'S BARGAIN OUTLET, INC	IBX CC	4630	50.00
9/11/2025	OLLIE'S BARGAIN OUTLET, INC	IBX CC	4629	25.00
9/10/2025	SUE & JIMMY SIGMAN	Check	4628	808.00

9/9/2025	ELECTRICAL SOLUTIONS OF OKLAHOMA, INC	IBX CC	4627	75.00
9/9/2025	SAVE-A-LOT	Check	4626	15.00
9/9/2025	PACE REAL ESTATE, LLC	Check	4625	15.00
9/5/2025	CANDACE & WILLIAM COLLIE	Check	4624	808.00
9/5/2025	OKLAHOMA ROOTS LLC	Check	4623	1,500.00
9/4/2025	HAROLD HECK	Check	4622	15.00
9/4/2025	HALLOWEEN DEPOT	IBX CC	4621	50.00
9/4/2025	NORTHWIND HEAT AND AIR INC	IBX CC	4620	100.00
9/4/2025	MAIN SQUEEZE LEMONADE CO	IBX CC	4619	9.00
9/4/2025	ROBERT & TRACI MURPHY	Check	4618	1,883.00
9/3/2025	EXPRESS 24/7 HEATING AND AIR LLC	IBX CC	4617	75.00
9/3/2025	MEGAN LINCOLN & JODI AYERS	Check	4616	808.00
9/3/2025	TERESA & CODY ROE	Check	4615	808.00
9/3/2025	GODDESS TRANSPORT LLC	Check	4614	1,500.00
9/3/2025	JACK'S ICE CREAM INC	Cash	4613	50.00
9/3/2025	OKIE CONSTRUCTION & PLUMBING	IBX CC	4612	100.00
9/2/2025	JOHN BARRETT	Check	4611	808.00
9/2/2025	LORA MELTON	Check	4610	1,883.00

9/2/2025	MUNIZ HEAT & AIR	IBX CC	4609	100.00
9/2/2025	SUPERIOR SAFEROOMS	IBX CC	4608	75.00
9/2/2025	$ - INCE ELECTRIC	Cash	4607	100.00
9/2/2025	TOM GABEL	Check	4606	808.00
				34,521.00

Total Records: 88

Monthly - City Clerk

09/01/2025 - 09/30/2025

Permit #	Permit Date	Permit Type	Parcel Address	Applicant Name	Description	Project Cost	Square Feet	Total Fees
20251131	9/30/2025	E - Electrical	4 TERRA LN	ONPOINTE ELECTRIC	New Instillation	0	0	$54.50
20251130	9/30/2025	M - Mechanical	313 N UNION	A/C DOCTORS	CHANGE OUT	0	0	$64.50
20251129	9/30/2025	B - Commercial - Remodel	8032 INDUSTRIAL DR	APOLLO BUILDING SYSTEMS INC	REMODEL	380,000	680	$174.50
20251128	9/30/2025	F - Operational Permit	1700 W INDEPENDENCE ST	SASSY DAMES CRAFT SHOWS	CRAFT SHOW	0	0	
20251127	9/30/2025	O - Land Disturbance	8032 INDUSTRIAL DR	APOLLO BUILDING SYSTEMS INC	LAND DISTURBANCE	0	0	$50.00
20251126	9/30/2025	O - Demolition and Moving	511 N LOUISA AVE	Meier and Son Demolition LLC	Demolition	0	0	
20251125	9/30/2025	P - Plumbing	3901 N KICKAPOO	Kolby Bennett	Miscellaneous	0	0	$54.50
20251124	9/30/2025	B - Commercial - New	4510 MARKETPLACE BLVD	TBD	NEW CONSTRUCTION	17,000,000	106,651	$34,022.25
20251123	9/29/2025	E - Electrical	1405 W WALLACE	ARIZONA SOLAR SOLUTIONS dba SUNTRIA	NEW INSTALLATION	0	0	$54.50

20251122	9/29/2025	B - Solar Panels	1405 W WALLACE	ARIZONA SOLAR SOLUTIONS dba SUNTRIA	NEW INSTALLATIO N	27,513	399	$89.29
20251121	9/29/2025	E - Electrical	228 W 34TH ST	Cliff Poteet	New Service 200 amp	0	0	$54.50
20251120	9/29/2025	P - Plumbing	1922 ASPEN PL	WEST SHORE HOME LLC	REMODEL	0	0	$54.50
20251119	9/29/2025	B - Accessory Structure	4020 N HARRISON AVE	Homestead Steaks LLC		0	0	
20251118	9/29/2025	O - Sign	910 W 45TH ST	NextHome Central Real Estate	sign permit	0	0	$50.00
20251117	9/29/2025	PC - Zoning Change	306 E 45TH	Dean Koleada	Rezone	0	0	$350.00
20251116	9/29/2025	PC - Zoning Change & Conditional	17308 MAGNINO RD	Will Jones	CUP for STR	0	0	$350.00
20251115	9/26/2025	P - Plumbing	415 W OAKLAND	Bison Plumbing Solutions	Miscellaneious	0	0	$54.50
20251114	9/26/2025					0	0	
20251113	9/26/2025	O - Sign	910 W 45TH ST	NEXTHOME CENTRAL REAL ESTATE	TEMPORARY SIGN	0	0	$54.50
20251112	9/26/2025	O - Paving Cut and Boring	101 KEN DEL DR	DOBSON FIBER		0	0	
20251111	9/25/2025	E - Electrical	1401 E INDEPENDENC E	SHAWVER AND SON	NEW INSTILLATION	0	0	$54.50
20251110	9/25/2025	B - Residential Remodel	1629 N MARKET	LEAL CONSTRUCTIO N	REMODEL	30,000	1,168	$252.70

20251109	9/25/2025	E - Electrical	1900 W MACARTHUR ST	WILSON ELECTRIC HEAT & AIR	REWIRE	0	0	$54.50
20251108	9/25/2025	E - Electrical	1900 N KICKAPOO	WILSON ELECTRIC HEAT & AIR	REPLACE EXISTING	0	0	$54.50
20251107	9/25/2025	E - Electrical	201 N KICKAPOO	TLS GROUP INC	TEMPORARY POWER	0	0	
20251106	9/25/2025	B - Commercial - Remodel	1504 N HARRISON AVE	TOMMY ELLIS	NEW INSTALLATIO N	3,200	5	$29.50
20251105	9/25/2025	M - Mechanical	2515 N KICKAPOO	SUNBELT HEATING AND AIR	CHANGE OUT	0	0	$154.50
20251104	9/24/2025	F - Burn	32009 HORNBECK RD	TERESA ROE	BURN PERMIT	0	0	$29.50
20251103	9/24/2025	O - Paving Cut and Boring	6 OAK HOLLOW RD	BLUEPEAK	ROAD BORE	0	0	
20251102	9/24/2025	O - Paving Cut and Boring	1008 BURNING WOOD DR	BLUEPEAK	ROAD BORE	0	0	
20251101	9/24/2025	P - Plumbing	2209 BENT TREE RD	VIP PLUMBING	REPLACE EXISTING	0	0	$54.50
20251100	9/24/2025	E - Electrical	615 N PARK	J & J ELECTRIC	REPLACE EXISTING	0	0	$54.50
20251099	9/24/2025	M - Mechanical	13 W 45TH ST SUITE 100	SAM DUNCAN VENT HOODS LLC	NEW INSTALLATIO N	0	0	$54.50
20251098	9/24/2025	B - Residential - Remodel	3901 N KICKAPOO #49	MISTY MADER	EXTERIOR WORK ONLY	19,000	5	$29.50
20251097	9/24/2025	B - Residential - Remodel	3901 N KICKAPOO #41	MISTY MADER	EXTERIOR WORK ONLY	19,000	5	$29.50

20251096	9/24/2025	B - Residential Remodel	3901 N KICKAPOO #37	MISTY MADER	EXTERIOR WORK ONLY	19,000	5	$29.50
20251095	9/24/2025	B - Residential Remodel	3901 N KICKAPOO #31	MISTY MADER	EXTERIOR WORK ONLY	19,000	5	$29.50
20251094	9/24/2025	B - Residential Remodel	3901 N KICKAPOO #7	MISTY MADER	EXTERIOR WORK ONLY	19,000	5	$29.50
20251093	9/23/2025	B - Residential Remodel	1209 CAROL	DONNA HARRELL	REMODEL	5,000	50	
20251092	9/23/2025	B - Accessory Structure	32009 HORNBECK RD	TERESA ROE	REPLACE EXISTING	300	16	
20251091	9/23/2025	E - Electrical	3000 RALEY DR	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251090	9/23/2025	B - Solar Panels	3000 RALEY DR	EIGHTTWENTY	NEW INSTALLATION	51,000	1,492	$377.50
20251089	9/23/2025	E - Electrical	1301 W MACARTHUR ST	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251088	9/23/2025	B - Solar Panels	1301 W MACARTHUR ST	EIGHTTWENTY	NEW INSTALLATION	138,000	2,909	$731.75
20251087	9/23/2025	E - Electrical	750 W MACARTHUR ST	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251086	9/23/2025	B - Solar Panels	750 W MACARTHUR ST	EIGHTTWENTY	NEW INSTALLATION	396,000	9,763	$2,445.25
20251085	9/23/2025	E - Electrical	2311 N KICKAPOO ANNEX	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50

20251084	9/23/2025	B - Solar Panels	2311 N KICKAPOO ANNEX	EIGHTTWENTY	NEW INSTALLATION	67,000	819	$209.25
20251083	9/23/2025	E - Electrical	2206 N KICKAPOO AVE	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251082	9/23/2025	B - Solar Panels	2206 N KICKAPOO AVE	EIGHTTWENTY	NEW INSTALLATION	48,000	630	$162.00
20251081	9/23/2025	E - Electrical	2241 N AIRPORT RD	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251080	9/23/2025	B - Solar Panels	2241 N AIRPORT RD	EIGHTTWENTY	NEW INSTALLATION	40,000	511	$132.25
20251079	9/23/2025	E - Electrical	2009 N AIRPORT RD	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20251078	9/23/2025	B - Solar Panels	2009 N AIRPORT RD	EIGHTTWENTY	NEW INSTALLATION	75,000	361	$94.75
20251077	9/22/2025	O - Demolition and Moving	1915 E HIGHLAND	MIDWEST WRECKING	DEMOLITION	0	0	
20251076	9/22/2025	O - Paving Cut and Boring	326 W 11TH ST	DOBSON FIBER	ROAD BORE	0	0	
20251075	9/22/2025	B - Residential Remodel	1927 W BENEDICT	EMERALD CAPITAL GROUP, LLC	REMODEL	1,500	0	$29.50
20251074	9/22/2025	B - Accessory Structure	3901 N KICKAPOO	SAULITOS MASONRY LLC	NEW CONSTRUCTION	50,000	1,196	$303.50
20251073	9/22/2025	E - Electrical	409 N LEO	ADUB ELECTRIC	NEW INSTALLATION	0	0	$104.50
20251072	9/22/2025	E - Electrical	3000 RALEY DR	FULL SPEED ELECTRIC	NEW INSTALLATION	0	0	$54.50

20251071	9/22/2025	F - Operational Permit	1700 W INDEPENDENCE ST	MONKEY BUSINESS	CONSIGNMENT SALE	0	0	
20251070	9/18/2025	O - Demolition and Moving	543 W POPLAR	WADES SERVICES	DEMOLITION	0	0	
20251069	9/18/2025	B - Commercial - Add On	704 W AYRE	3SIXTY	NEW CONSTRUCTION	5,500	450	$117.00
20251068	9/18/2025	P - Plumbing	302 N MARKET	VIP PLUMBING		0	0	$54.50
20251067	9/17/2025	O - Curb Cut, Driveway and	14 DEL RANCHO	RICHARD GOBER	REPLACE EXISTING	0	0	$50.00
20251066	9/16/2025	B - Swimming Pool	4 TERRA LN	G & R POOLS CONSTRUCTION LLC	NEW CONSTRUCTION	97,000	576	$64.50
20251065	9/16/2025	B - Commercial - Remodel	1415 E MACARTHUR	SHAWNEE CHURCH OF CHRIST	REMODEL	38,000	1,348	$341.50
20251064	9/16/2025	O - Sign	1016 N KICKAPOO	SUMMIT LOCATIONS LLC	NEW INSTALLATION	20,800	160	$50.00
20251063	9/16/2025	E - Electrical	22 E BURNS & 1007,1009 N BEARD	ANDERSON ELECTRICAL SERVICES LLC	REMODEL	0	0	$54.50
20251062	9/16/2025	F - Burn	34807 BELCHER RD	KYLE MANUS	BURN PERMIT	0	0	$29.50
20251061	9/15/2025	O - Demolition and Moving	31709 INGRAM RD	BEYL-DAVENPORT HOUSE MOVING INC	HOUSE MOVING	0	0	$50.00
20251060	9/15/2025	B - Accessory Structure	1820 N HARRISON AVE	BRANCH COMMUNICATIONS	ADD ON	50,000	0	

20251059	9/15/2025	O - Sign	19 INTERSTATE PKWY	SIGNS AND WONDERS LLC	NEW INSTALLATIO N	8,977	0	
20251058	9/15/2025	O - Sign	2102 KICKAPOO SUITE A	SIGNWORKS	SIGN PERMIT	500	32	$50.00
20251057	9/15/2025	F - Fire Suppression	603 W INDEPENDENC E	EMBER CO	FIRE SUPPRESSION	0	1,223	$253.42
20251056	9/15/2025	E - Electrical	520 N BELL	CL ELECTRIC	REPLACE EXISTING	0	0	$104.50
20251055	9/15/2025	E - Electrical	518 N BELL	CL ELECTRIC	REPLACE EXISTING	0	0	$104.50
20251054	9/15/2025	E - Electrical	516 N BELL	CL ELECTRIC	REPLACE EXISTING	0	0	$104.50
20251053	9/15/2025	O - Chicken Permit	714 N HOBSON	APRIL CERNOCKY	CHICKEN PERMIT	0	0	$15.00
20251052	9/15/2025	M - Mechanical	4901 N KICKAPOO SUITE 6705	TD HEAT & AIR	CHANGE OUT	0	0	$604.50
20251051	9/15/2025					0	0	
20251050	9/15/2025	M - Mechanical	1218 E WALLACE ST	WATKINS HEATING & AIR CONDITIONIN G	CHANGE OUT	0	0	$54.50
20251049	9/12/2025	E - Electrical	1502 E 45TH	AMERICAN AIR CONDITIONIN G & HEATING, INC	NEW INSTALLATIO N	0	0	$29.50
20251048	9/12/2025	B - Commercial -	1102 W MACARTHUR	TRINITY BUILDS	REMODEL	1,077,252	2,670	$672.00
20251047	9/12/2025	M - Mechanical	31950 LAKE RD	R & M SERVICES LLC	CHANGE OUT	0	0	$84.50

20251046	9/11/2025	E - Electrical	1211 E MARGARET	CL ELECTRIC	SERVICE UPGRADE	0	0	$104.50
20251045	9/11/2025	O - Demolition and Moving	32209 HOMER LANE RD	WOODY'S CONSTRUCTION	DEMOLITION	0	0	$50.00
20251044	9/11/2025	P - Plumbing	1308 LAVERNE	CHAMPION PLUMBING	REPLACE EXISTING	0	0	$54.50
20251043	9/11/2025	O - Paving Cut and Boring	2707 Woodlawn Ct	B & H CONSTRUCTION	ROAD BORE	0	0	
20251042	9/11/2025	P - Plumbing	822 N PENNSYLVANIA AVE	ACOCK CLIMATE CONTROL	MISCELLANEOUS	0	0	$54.50
20251041	9/11/2025	M - Mechanical	4605 CHURCHILL	ADVENT MECHANICAL	CHANGE OUT	0	0	$64.50
20251040	9/11/2025	P - Plumbing	11 OAK HILL	PERSONAL PLUMBING	REMODEL	0	0	$54.50
20251039	9/11/2025	O - Demolition and Moving	33600 POST OFFICE NECK	WADES SERVICES	DEMOLITION	0	0	$50.00
20251038	9/11/2025	B - Accessory Structure	12 ROCK HOLLOW RD	PINE FRONT TRACTOR SERVICE	MOVE ON	14,543	120	
20251037	9/11/2025	M - Mechanical	11 LARKINS PL	SPARKS HEAT AND AIR	CHANGE OUT	0	0	$74.50
20251036	9/11/2025	B - Residential New	219 OUTLANDER WAY	ANDY HAMMONS	NEW CONSTRUCTION	267,400	2,848	$1,589.70
20251034	9/10/2025	O - Paving Cut and Boring	301 W HIGHLAND	B & H CONSTRUCTION	STREET CUT	0	0	
20251033	9/10/2025	E - Electrical	506 E MAIN ST	J & J ELECTRIC	REMODEL	0	0	$104.50

20251032	9/10/2025	B - Commercial - Remodel	4901 N KICKAPOO SUITE 6705	ALFREDO ALVAREZ	REMODEL	57,800	6,000	$29.50
20251031	9/10/2025	B - Residential Remodel	1001 N PENNSYLVANIA	GLEN MATHEW	REMODEL	50,000	1,291	$278.84
20251030	9/10/2025	P - Plumbing	1211 E MARGARET	HARDINS FAMILY PLUMBING	REMODEL	0	0	$104.50
20251029	9/10/2025	P - Plumbing	520 N BELL	HARDINS FAMILY PLUMBING	REMODEL	0	0	$104.50
20251028	9/10/2025	P - Plumbing	518 N BELL	HARDINS FAMILY PLUMBING	REMODEL	0	0	$104.50
20251027	9/10/2025	P - Plumbing	516 N BELL	HARDINS FAMILY PLUMBING	REMODEL	0	0	$104.50
20251026	9/10/2025	B - Residential New	211 OUTLANDER WAY	LILLEY SIGNATURE HOMES	NEW CONSTRUCTION	350,000	2,719	$1,562.29
20251025	9/9/2025	E - Electrical	106 E FRANKLIN	ABOVE ALL ELECTRICAL SOLUTIONS, LLC	SERVICE UPGRADE	0	0	$54.50
20251024	9/9/2025	O - Paving Cut and Boring	630 TRAILS END DR	B & H CONSTRUCTION	ROAD BORE	0	0	
20251023	9/9/2025	O - Paving Cut and Boring	628 HONEY SPRINGS LN	B & H CONSTRUCTION	ROAD BORE	0	0	
20251022	9/9/2025	O - Paving Cut and Boring	100 W 9TH ST SUITE A	BLUEPEAK	ROAD BORE	0	0	
20251021	9/9/2025	F - Fire Alarm / Smoke Control	412 N DRAPER AVE	FIRETROL PROTECTION SYSTEMS	REPLACE EXISTING	0	0	$104.50

20251020	9/9/2025	E - Electrical	7109 N KICKAPOO	KELVIN ELECTRIC	REMODEL	0	0	$54.50
20251019	9/8/2025	B - Residential New	627 N LOUISA	JOSE DAVILA	NEW CONSTRUCTION	70,000	1,300	$1,240.75
20251018	9/8/2025	E - Electrical	701 W WOOD	SOVEREIGN ELECTRIC	REMODEL	0	0	$104.50
20251017	9/8/2025	B - Residential Remodel	302 N KIMBERLY	ASGARDIAN CONSTRUCTION	REMODEL	40,000	1,350	$29.50
20251016	9/8/2025	P - Plumbing	422 N TENBROOK	JACKSON PLUMBING, LLC	REMODEL	0	0	$54.50
20251015	9/8/2025	P - Plumbing	302 N KIMBERLY	JACKSON PLUMBING, LLC	REMODEL	0	0	$54.50
20251014	9/5/2025	B - Storm Shelter	1709 PECAN CROSSING	GROUND ZERO SHELTERS	NEW INSTALLATION	4,875	24	$29.50
20251013	9/5/2025	M - Mechanical	1809 N UNION AVE	ADVENT HEAT AND AIR	CHANGE OUT	0	0	$54.50
20251012	9/4/2025	B - Residential Remodel	418 W RIDGEWOOD ST	ZACHARY RADACH	REMODEL - ABATEMENT	10,000	872	$189.80
20251011	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	
20251010	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	
20251009	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	
20251008	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	

20251007	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	
20251006	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	150	3	
20251005	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	950	3	
20251004	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	4,500	40	
20251003	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	2,250	27	
20251002	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	2,250	27	
20251001	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	2,500	19	
20251000	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	2,500	19	
20250999	9/4/2025	O - Sign	4734 N KICKAPOO	CLAYTON SIGNS	NEW INSTALLATION	8,000	113	
20250998	9/4/2025	M - Mechanical	536 N BROADWAY AVE #B	LUCKY DAY HVAC	REPLACE EXISTING	0	0	$104.50
20250997	9/4/2025	M - Mechanical	506 S BEARD AVE	LUCKY DAY HVAC	REPLACE EXISTING	0	0	$184.50
20250996	9/4/2025	B - Accessory Structure	41507 HAZEL DELL RD	GOBER POST FRAME CONSTRUCTION	NEW CONSTRUCTION	43,500	2,400	$514.50

20250995	9/4/2025	M - Mechanical	302 N KIMBERLY	NORTHWIND HEAT AND AIR, INC	REMODEL	0	0	$54.50
20250994	9/4/2025	E - Electrical	1421 N PHILADELPHIA	ARIZONA SOLAR SOLUTIONS INC dba SUNTRIA	NEW INSTALLATION	0	0	$54.50
20250993	9/4/2025	B - Solar Panels	1421 N PHILADELPHIA	ARIZONA SOLAR SOLUTIONS INC dba SUNTRIA	NEW INSTALLATION	24,632	378	$84.83
20250992	9/4/2025	B - Residential New	1804 LARKIN LN	GREG SEBASTIAN	NEW CONSTRUCTION	350,000	3,124	$1,623.35
20250991	9/4/2025	O - Land Disturbance	1210 MONROE DR	MELO CONSTRUCTION	REPLACE EXISTING	0	0	$50.00
20250990	9/4/2025	B - Commercial - Remodel	2501 RALEY DR	LINGO CONSTRUCTION	REMODEL	15,000,000	63,898	$15,979.00
20250989	9/3/2025	M - Mechanical	42 E DRUMMOND	DAVIS A/C & HEAT	CHANGE OUT	0	0	$64.50
20250988	9/3/2025	B - Commercial -	3223 N KICKAPOO	CDBL, INC	REMODEL	0	2,760	$694.50
20250987	9/3/2025		4510 MARKETPLACE BLVD	THE HOME DEPOT U.S.A., LLC	CIVIL PLANS	0	0	
20250986	9/3/2025	P - Plumbing	311 W GEORGIA	AIRCO SERVICE	CHANGE OUT	0	0	$54.50
20250985	9/3/2025	B - Residential Remodel	202 S DIXON	KEVIN SMITH	REMODEL	30,000	1,050	$227.63
20250984	9/2/2025	B - Storm Shelter	815 W FRANKLIN	SUPERIOR SAFEROOMS	NEW INSTALLATION	3,600	48	$29.50

20250983	9/2/2025	B - Storm Shelter	801 W FRANKLIN	SUPERIOR SAFEROOMS	NEW INSTALLATIO N	3,600	48	$29.50
20250982	9/2/2025	P - Plumbing	703 E 45TH ST	OKIE CONSTRUCTIO N & PLUMBING	REPLACE EXISTING	0	0	$504.50
20250981	9/2/2025	M - Mechanical	1937 N KICKAPOO AVE	TRI-COUNTY AIR SOLUTIONS	NEW INSTALLATIO N	0	0	$104.50
20250980	9/2/2025	P - Plumbing	701 W WOOD	DALE'S PLUMBING	REMODEL	0	0	$54.50
20250979	9/2/2025	P - Plumbing	1300 N KENNEDY AVE	IPLUMB CO	MOVE EXISTING	0	0	$54.50
20250978	9/2/2025	M - Mechanical	322 N FLORENCE	MUNIZ HEAT & AIR	NEW INSTALLATIO N	0	0	$54.50
20250977	9/2/2025	B - Residential Remodel	11 W RIDGEWOOD	PAUL CALMES	REMODEL	20,000	950	$206.38
20250976	9/2/2025	E - Electrical	539 N LOUISA	INCE ELECTRIC	CHANGE OUT	0	0	$54.50
								$71,631.48

Total Records: 155

10/1/2025

Page: 13 of 13

Finance Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Kimberly Hoover, Finance Director

Subject: Budget amendments for Fiscal Year 2025 – 2026:

Background: A total budget amendment in the amount of $3,793,236.09 should be considered.

General Fund – Shawnee Fire Department sold a vehicle last month with permission of the City Commission. The Fire Department would like to move the money into the Fire Administration Budget to be used in expenditures for the department. City Staff is requesting the amount be used in FY26 for Repair & Maintenance – Vehicles and Capital Outlay – Equipment. The amount of the appropriation is as follows:

- $2,500.00 – Repair & Maintenance – Vehicles
- $7,500.00 – Capital Outlay – Equipment

Grant Fund – The Oklahoma Department of Emergency Management (OEM) has completed a closeout review of DR 4706 PW 3 for the City of Shawnee. During the closeout review, it was determined that an excess payment was made in the amount of $65,675.06. This was caused due to a full payment being made before a deobligation of funds for ineligible management costs by FEMA was completed. The deobligation was in the amount of $65,675.06. The City Staff is requesting a budget in revenue under Federal Grant Revenue for $533,869.02, money received from the State, and an expense in Other Contractual Services for the repayment of $65,675.06 back to the State. The amount of the appropriation is as follows:

- $533,869.02 – Federal Grant Revenue
- $65,675.06 – Other Contractual Services

Grant Fund – In FY25, the City of Shawnee received Federal Reimbursement for emergency repairs to Jonco Road from the April 2023 Tornado. We received invoices from Seminole County District 2 for payment relating to Jonco Road. City Staff is requesting the amount be paid in FY26 under Other Contractual Services to pay Seminole District 2. The amount of the appropriation is as follows:

- $9,967.26 – Other Contractual Services

Capital Improvement Fund – As part of remodeling Fire Station #3, an Alerting System needs to be installed. City Staff is requesting the amount be used in FY26 for Capital Outlay – Buildings. The amount of the appropriation is as follows:

- $62,165.92 – Capital Outlay – Buildings

Capital Improvement Fund– Shawnee Fire Department ordered and purchased in 2022 for E-One Rescue Pumper. The delivery date of early 2025. As of May, we had not held the pre-build meeting, and the manufacturer indicated they would need to postpone that meeting until September. Due to the delay, in August 2025, the city received their money back and is now ordering a stock engine from Banner, with an anticipated delivery in late November or early December 2025. The City Staff is requesting to transfer the funds to Capital Outlay-Equipment. The amount of the appropriation is as follows:

- $738,336.00 – Capital Outlay - Equipment

Capital Improvement Fund –The Police Department received monies for the sale of vehicles. City Staff is requesting the amount be used in FY26 for Capital Outlay – Police Vehicles. The amount of the appropriation is as follows:

- $55,785.00 – Capital Outlay – Police Vehicles

Street Improvement Fund – At the August 18th meeting, the City Commission approved to modify an agreement with Oklahoma Department of Transportation (ODOT) regarding the Grade, Drain, & Surface Kickapoo Street Project State Job No. 32255(04). City Staff is requesting the amount to be used in FY26 for Capital Outlay – Streets. The amount of the appropriation is as follows:

- $308,098.83 – Capital Outlay – Streets

American Rescue Plan Fund- To appropriate monies to be used for SW Loop Water Main Project for the expenditures in FY26. The City Staff is requesting to transfer the monies from Fund 304 to Fund 501 to Capital Outaly - Buildings & Improvements. The amount of the appropriation is as follows:

- $2,000,000.00 - Capital Outlay - Buildings & Improvements

Insurance Recovery Fund – The Police Department received monies for a vehicle needing repairs. City Staff is requesting the amount be used in FY26 for Capital Outlay – Police Vehicles. The amount of the appropriation is as follows:

- $9,339.00 – Capital Outlay – Police Vehicles

Financial Impact: See attached amendments.

Attachments:

Staff Recommendation: Approval of all budget amendments.

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
GENERAL FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
001	48090			SALE OF SURPLUS PROPERTY	(142.00)	(10,000.00)	(10,142.00)
				Total	(142.00)	(10,000.00)	9,858.00

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
001	5-0710-53040			REPAIR & MAINTENANCE - VEHICLES	2,250.00	2,500.00	4,750.00
301	5-0710-54500			CAPITAL OUTLAY - EQUIPMENT	65,000.00	7,500.00	72,500.00
					-	-	-
					67,250.00	**10,000.00**	**77,250.00**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate monies received from sale of a vehicle and transfer into Fire Admin and Capital Outlay - Equipment for the Fire Department expenditures in FY26.

Approved:

Mayor

Attest:

City Clerk

Posted By _____ Date _____ BA# _____ Pkt.# _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
GRANT FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
010	41010			FEDERAL GRANT REVENUE	97,822.68	533,869.02	631,691.70
				Total	97,822.68	533,869.02	631,691.70

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
010	5-0740-53390			OTHER CONTRACTUAL SERVICES	-	65,675.06	65,675.06
					-	-	-
					-	**65,675.06**	**65,675.06**

Approved by the City Commission this

Explanation of Budget Amendment:

Repayment of funds DR 4706 PW 3 Emergency Debris Removal Project from Tornado 2023.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
GRANT FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
					-	-	-
				Total	-	-	-

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
010	5-0740-53390			OTHER CONTRACTUAL SERVICES	-	9,967.26	9,967.26
					-	-	-
					-	**9,967.26**	**9,967.26**

Approved by the City Commission this

Explanation of Budget Amendment:

To pay for services rendered from the 2023 Tornado, and money received in FY25.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
CAPITAL OUTLAY

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
					-	-	-
				Total	-	-	-

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
301	5-0720-54200			CAPITAL OUTLAY - BLDGS	848,531.08	62,165.92	910,697.00
					-	-	-
					-	-	-
					848,531.08	**62,165.92**	**910,697.00**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate monies for Altering System at Fire Station #3 and transfer into Capital Outlay - Buildings for the Fire Department expenditures in FY26.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
CAPITAL IMPROVEMENT FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
301	48220			OTHER MISC REVENUE	(850,563.72)	738,336.00	(112,227.72)
				Total	(850,563.72)	738,336.00	(112,227.72)

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
301	5-0720-54500			CAPITAL OUTLAY - EQUIPMENT	481,769.66	738,336.00	1,220,105.66
					-	-	-
					-	-	-
					481,769.66	**738,336.00**	**1,220,105.66**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate monies for the purchase of an E-One Rescue Pumper and to transfer into Capital Outlay - Equipment for the Fire Department expenditures in FY26.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
CAPITAL OUTALY

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
001	48090			SALE OF SURPLUS PROPERTY	(66,029.00)	(55,785.00)	(10,244.00)
				Total	(66,029.00)	(55,785.00)	(10,244.00)

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
301	5-0620-54560			CAPITAL OUTLAY - POLICE VEHICLES	270,596.83	55,785.00	326,381.83
					-	-	-
					270,596.83	**55,785.00**	**326,381.83**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate sale of property monies to be used for the vehicle purchase in Capital Outlay for the Police Department expenditures in FY26.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
STREET IMPROVEMENT FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
					-	-	-
				Total	-	-	-

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
302	5-0920-54800			CAPITAL OUTLAY - STREETS	1,783,441.49	308,098.83	2,091,540.32
					-	-	-
					1,783,441.49	**308,098.83**	**2,091,540.32**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate monies into Capital Outlay - Street for Kickapoo Street expenditures in FY26.

Approved:

Mayor

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
AMERICAN RESCUE PLAN FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
304	5-1040-54200			CAPITAL OUTLAY - BULDGS & IMPROV	8,872,760.84	(2,000,000.00)	6,872,760.84
				Total	8,872,760.84	(2,000,000.00)	6,872,760.84

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
501	5-1030-54200			CAPITAL OUTLAY - BLDGS & IMPROV	-	2,000,000.00	2,000,000.00
					-	-	-
					-	**2,000,000.00**	**2,000,000.00**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate monies to be used for SW Loop Water Main Project in Capital Outlay - Building & Improvements for the expenditures in FY26.

Approved:

Chairman _____

Attest:

City Clerk _____

Posted By _____ Date _____ BA# _____ Pkt.# _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
INSURANCE RECOVERY

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
603	48010			INSURANCE RECOVERY	-	(9,339.00)	-
				Total	-	(9,339.00)	9,339.00

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
301	5-0620-54560			CAPITAL OUTLAY - POLICE VEHICLES	261,257.83	9,339.00	270,596.83
					-	-	-
					261,257.83	**9,339.00**	**270,596.83**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate insurance monies into Capital Outlay - Police Vehicles for the Police Department expenditures in FY26.

Approved:

Mayor

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk

Lisa Lasyone

From: Jamie Hembree <jamielahembree@gmail.com>
Sent: Wednesday, October 1, 2025 9:54 PM
To: Lisa Lasyone
Subject: [EXTERNAL EMAIL]Fw: [EXTERNAL EMAIL]Re: Planning Commission

"CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe."
Lisa,
Due to too many other work and family obligations, I need to resign my spot on the planning commission. Thank you for all you all do to make our community better. Please let me know if you need anything further on my end.

Thanks!
Jamie Hembree

Human Resources
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: August 27, 2025

To: Mark Simpson, City Manager

From: Jennifer Greenland, HR Director

Subject: 2026 Non-Union Holiday Schedule

On the following City holidays, the City Hall offices will be closed, and most employees will have the day off:

January 1, 2026	Thursday	New Year's Day
January 19, 2026	Monday	Martin Luther King, Jr. Day
February 16, 2026	Monday	Presidents' Day
May 25, 2026	Monday	Memorial Day
June 19, 2026	Friday	Juneteenth Independence Day
July 3, 2026	Friday	Independence Day (observed)
September 7, 2026	Monday	Labor Day
November 11, 2026	Wednesday	Veterans Day
November 26, 2026	Thursday	Thanksgiving Day
November 27, 2026	Friday	Day after Thanksgiving
December 24, 2026	Thursday	Christmas Eve
December 25, 2026	Friday	Christmas Day

Approved: _____
City Manager

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Acceptance of Georg Fischer Central Plastics public infrastructure and placing the maintenance bonds into effect.

Background: The public improvements associated with the Georg Fischer manufacturing facility have been completed and are ready to be accepted by the City. The Water and Sewer improvements are located around the new facility on the south side of Wolverine Road. As required, the developer paid 100% of the construction costs.

The improvements were installed to the City of Shawnee Specifications. The water main passed all required testing and is now ready for acceptance. The acceptance of the improvements by the City Commission will place the maintenance bonds into effect.

Financial Impact: Not applicable.

Attachments: GF Maintenance Bonds

Staff Recommendation: Acceptance of the improvements.

H & H PLUMBING & UTILITIES, INC.

Established 1976
OK State License 76003

TRANSMITTAL SHEET

TO: The City of Shawnee

FROM: Jessica Porter

PROJECT: GF Plastics Public Water Line

DATE: 9/2/2025

LOCATION: 41401 Wolverine Rd.

ATTENTION: Planning / Public Works

☐	FOR REVIEW	☐	CHANGE ORDER	☐	SIGNED CONTRACT
☐	FOR APPROVAL	☐	REQUEST FOR INFO.	☐	SUBMITTALS (6)SETS
☒	FOR YOUR USE	☐	PRICING REQUEST	☐	O & M MANUALS ( )SETS
☐	PLEASE REPLY	☐	BID PROPOSAL	☐	URGENT

NOTES/COMMENTS:

Enclosed is the original maintenance bond, #30240154, for the Public Water Line at GF Plastics.

Thanks,
Jessica Porter
jessica@hhplumbing.us

(405) 288-2346 Office
(405) 288-2349 Fax

381 W Adkins Hill Rd.
Norman, OK 73072-9218

AIA® Document A313™ – 2020

Warranty Bond

CONTRACTOR/PRINCIPAL:
(Name, legal status, and address)
H & H Plumbing & Utilities, Inc.
381 W Adkins Hill Rd
Norman, OK 73072

SURETY:
(Name, legal status, and address)
Western Surety Company
101 S Reid St, Ste 307
Sioux Falls, SD 57103

OWNER/OBLIGEE:
(Name, legal status, and address)
City of Shawnee
16 W 9th St
Shawnee, OK 74801

CONSTRUCTION CONTRACT
Date: 08-21-2025
Description:
(Name and location)
Georg Fischer Central Plastics
41401 Wolverine Rd
Shawnee, OK 74804

BOND #30240154
Term of the Bond
The Term of this Bond commences on the date of final completion under the Construction Contract and continues for a period of 2 years, unless otherwise specified below, notwithstanding a longer warranty period set forth in the Construction Contract.

Amount of this Bond: $ 40813.50
Modifications to this Bond:

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Company: *(Corporate seal)*	Company: *(Corporate seal)*
CONTRACTOR AS PRINCIPAL *(Signature)*	**SURETY** *(Signature)*
BY: Chad Madden, President	BY: Paul B. Moore, Attorney-in-Fact
(Printed name and title)	*(Printed name and title)*

(Any additional signatures appear on the last page of this Warranty Bond)

(FOR INFORMATION ONLY — Name, address, and telephone)

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User Notes: (68a75f44546be2d763888d59)

AGENT or **BROKER:**

Evolution Insurance Partners
120 E Sheridan Ave., Ste 106
Oklahoma City, OK 73104

OWNER'S REPRESENTATIVE:
(Architect, Engineer, or other party:)

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User Notes: (68a75f44546be2d763888d59)

§ 1 During the Term of the Bond, the Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the Contractor's warranty obligations set forth in the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor satisfies its warranty obligations under the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond. It is understood and agreed that in no event shall the Surety's obligations under this Bond extend to warranties provided by the Contractor's suppliers and manufacturers.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

.1 the Owner first provides notice to the Contractor and the Surety during the Term of the Bond of the Owner's intent to declare a Contractor Default;

.2 the Contractor fails to remedy the Contractor Default within a reasonable amount of time of such notice; and,

.3 the Owner declares a Contractor Default and notifies the Surety.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly, under reservation of rights, and at the Surety's expense, remedy the Contractor's Default. The Surety may, with the consent of the Owner, arrange for the Contractor to remedy the Contractor's Default.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 The responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. The Surety is obligated, without modification or qualification, for the responsibilities of the Contractor for correction of defective work as set forth in the Construction Contract, and additional legal and design professional costs resulting from the Contractor's Default or resulting from the actions or failure to act of the Surety under Section 5.

§ 8 The Owner may request an extension of the Term of this Bond. The Surety, at its sole option, may extend the Term of this Bond by continuation certificate or rider setting forth the new expiration date.

.1 If the Surety extends the Term of this Bond, the Bond shall be considered one continuous bond.

.2 If the Surety decides not to extend the Term of this Bond, then the Surety shall notify the Owner in writing thirty (30) days prior to the end of the current term of this Bond at the address indicated on page 1.

.3 Neither the Surety's failure to extend the Term of this Bond nor the Contractor's failure to provide a replacement bond or other acceptable security shall be considered a breach or default by the Surety or Contractor on this Bond, nor serve as a basis for a claim or demand on this Bond.

§ 9 The Surety's total liability under this Bond is limited to the Amount of this Bond indicated on Page 1, regardless of whether the Term of this Bond is extended, the length of time this Bond remains in force, and the number of premiums that shall be payable or paid.

§ 10 No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work of the Contractor required by the Construction Contract is located and shall be instituted within two years after a declaration of Contractor Default. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be in writing and mailed or delivered to the address shown on the first page of this Bond.

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User Notes: (68a75f44546be2d763888d59)

§ 13 Provisions in this Bond that conflict with applicable statutory or other legal requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein.

§ 14 Definitions

§ 14.1 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.2 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with the warranties required under the Construction Contract.

§ 14.3 Owner Default. Failure of the Owner, which has not been remedied or waived, to perform or otherwise comply with the other material terms of the Construction Contract.

§ 14.4 Contract Documents. All the documents that comprise the Construction Contract.

§ 14.5 Surety. The company or companies lawfully authorized to issue surety bonds in the jurisdiction where the project is located.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this Bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

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User Notes: (68a75f44546be2d763888d59)

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Paul B Moore, Lauren Hutto Rogers, Individually

of Norman, OK, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the Authorizing By-Laws and Resolutions printed at the bottom of this page, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 17th day of October, 2024.

WESTERN SURETY COMPANY

Larry Kasten, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 17th day of October, 2024, before me personally came Larry Kasten, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
March 2, 2026

M. BENT
NOTARY PUBLIC
SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, Paula Kolsrud, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law and Resolutions of the corporation printed below this certificate are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 21st day of August, 2025.

WESTERN SURETY COMPANY

Paula Kolsrud, Assistant Secretary

Authorizing By-Laws and Resolutions

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

This Power of Attorney is signed by Larry Kasten, Vice President, who has been authorized pursuant to the above Bylaw to execute power of attorneys on behalf of Western Surety Company.

This Power of Attorney may be signed by digital signature and sealed by a digital or otherwise electronic-formatted corporate seal under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 27th day of April, 2022:

"RESOLVED: That it is in the best interest of the Company to periodically ratify and confirm any corporate documents signed by digital signatures and to ratify and confirm the use of a digital or otherwise electronic-formatted corporate seal, each to be considered the act and deed of the Company."

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

H&HPLUM-01 ROGLA1

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 8/21/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Evolution Insurance Partners P O Box 310508 New Braunfels, TX 78131	CONTACT NAME: Lauren Rogers PHONE (A/C, No, Ext): (210) 388-0998 FAX (A/C, No): E-MAIL ADDRESS: lrogers@evolution.insure
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A : Valley Forge Insurance Company — 20508
INSURED H & H Plumbing & Utilities Inc 381 W Adkins Hill Rd Norman, OK 73072	INSURER B : Continental Insurance Company — 35289
	INSURER C : Columbia Casualty Company
	INSURER D :
	INSURER E :
	INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR			7063639642	1/1/2025	1/1/2026	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
							MED EXP (Any one person)	$ 15,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			7063639639	1/1/2025	1/1/2026	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB CLAIMS-MADE			7063639673	1/1/2025	1/1/2026	AGGREGATE	$ 5,000,000
	DED X RETENTION $ 10,000							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) N	N/A		7063639656	1/1/2025	1/1/2026	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Pollution Liability			7063986257	1/1/2025	1/1/2026	Claims Made	2,000,000
C	Pollution Liability			7063986257	1/1/2025	1/1/2026	Deductible	20,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Public Water Line Georg Fischer Central Plastics 41401 Wolverine Rd Shawnee OK

Certificate Holder is listed as Additional Insured as respects General Liability, Auto & Umbrella Liability if required or agreed to in a written contract subject to all provisions & limitations of the policy. 30 days notice of cancellation; 10 days notice of cancellation for non-payment of premium applies. Wavier of Subrogation also applies as respects General Liability, Auto Liability, Umbrella Liability, Workers Compensation, as required by written contract subject to all provisions & limitations of the policy. There are no exclusions for mold on the pollution policy and it includes contractual liability. Umbrella is Follow Form with underlying policies of General Liability, Auto and Employers Liability. Insurance shown is primary for Additional Insured & other insurance afforded to Additional Insured will apply as excess & not contribute as primary to the insurance shown on this certificate but only for liability as respects the Named Insured's operations for/on behalf of Additional Insured.

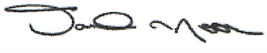
CERTIFICATE HOLDER

City of Shawnee
16 W 9th St
Shawnee, OK 74801

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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H & H Plumbing & Utilities, Inc.

Lic. No.
OK 076003

381 W. Adkins Hill Road, Norman, OK 73072-9218
(405) 288-2346 (405) 288-2349 FAX

Contractor:	Evans General Contractors	Ph.#:	(972) 842-9182	Project:	Georg Fischer Central Plastics
Address:	13155 Noel Rd #275	Fax #:		Address:	41401 Wolverine Rd.
	Dallas, TX 75240	Email:	kkey@evans-gc.com		Shawnee, OK

Labor, materials, taxes, permits, staking, and maintenance bonds for a complete **Public Water Line** installation as described on the plans and outlined below.

Public Water Line

ITEM #	ITEM	UNIT	Qty	PRICE	TOTAL
1	6" C-900 DR14 PVC water pipe	LF	90	42.00	3,780.00
2	12" C-900 DR14 PVC water pipe	LF	2885	90.00	259,650.00
3	12" Tapping sleeve	EA	2	5,250.00	10,500.00
4	12" Tapping valve & box	EA	2	3,890.00	7,780.00
5	12" Wet tap	EA	2	1,650.00	3,300.00
6	12" x 45° Bend	EA	6	1,450.00	8,700.00
7	12" x 45° Vertical Bend under box pipe	EA	8	2,150.00	17,200.00
8	6" x 45° Vertical Bend under box pipe	EA	2	980.00	1,960.00
9	12" x 22 1/2° Bend	EA	3	1,440.00	4,320.00
10	12" x 12" Tee	EA	2	1,650.00	3,300.00
11	12" x 6" Tee	EA	3	1,520.00	4,560.00
12	12" x 4" Tee	EA	1	1,500.00	1,500.00
13	4" x 3" Reducer	EA	2	365.00	730.00
14	4" Gate valve & box	EA	1	1,350.00	1,350.00
15	6" Gate valve & box	EA	5	1,650.00	8,250.00
16	12" Gate valve & box	EA	2	3,890.00	7,780.00
17	12" Isolation Valve for insolation control	EA	2	3,890.00	7,780.00
18	Fire hydrant	EA	3	4,960.00	14,880.00
19	Fire hydrant riser	EA	3	720.00	2,160.00
20	2" Irrigation Single short service	EA	1	2,250.00	2,250.00
21	20" Steel Casing under box pipe	LF	20	180.00	3,600.00
22	12" Cap w/ Blow off assembly and box	EA	2	2,820.00	5,640.00
23	Sand bedding & backfill	CY	710	29.00	20,590.00
24	Rock bedding & backfill	TONS	65	55.00	3,575.00
25	Chlorination & disinfection	LS	1	1,500.00	1,500.00
26	Pressure test	LS	1	1,500.00	1,500.00
					408,135.00

Contract Amount **$ 408,135.00**

Submitted By: _____ Title: President Date: 8/21/2025

Accepted By: _____ Title: _____ Date: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this 29th day of September 2025, by William Leslie Ford, ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:

(Legal Description of Easement Property)

A variable width strip of land being a part of the west half of section twenty-five, township Ten North, Range Three East of the Indian Meridian (W/2 Sec. 25-T1ON-R3E, I.M., Pottawatomie County, Oklahoma, being more particularly described as follows:
The east twenty feet of the property owned by the Willia Leslie Ford 1982 Revocable Trust, intending to be the 20 feet west of an adjacent to the existing Right-of-way for US 177/US 270/OK SH 3 widening to 60 feet west of and adjacent to said right-of-way north of the jog in said right-of- way as shown in Exhibit A.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

(Legal Description of Easement Property)

A variable width strip of land being a part of the west half of section twenty-five, township Ten North, Range Three East of the Indian Meridian (W/2 Sec. 25-T1ON-R3E, I.M., Pottawatomie County, Oklahoma, being more particularly described as follows:
The east twenty feet of the property owned by the Willia Leslie Ford 1982 Revocable Trust, intending to be the 20 feet west of an adjacent to the existing Right-of-way for US 177/US 270/OK

SH 3 widening to 60 feet west of and adjacent to said right-of-way north of the jog in said right-of- way as shown.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing, maintaining, and replacing a below-ground water main and associated appurtenances (collectively the "Utility Line"), no non-water above-ground structures, poles, equipment, or facilities shall be permitted within the Easement Property, and no use shall be made of the Easement Property except as necessary to operate and maintain the below-ground Utility Line.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR) (GRANTEE) – CITY OF SHAWNEE

William L Ford

Mayor of the City of Shawnee

(GRANTOR)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this 29th day of September 2025, personally appeared William L. Ford and _____ on behalf of the ~~City of Shawnee,~~ known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

AMY NICOLE WATTERS
NOTARY PUBLIC - STATE OF OKLAHOMA
MY COMMISSION EXPIRES APR. 09, 2026
COMMISSION # 18003536

Amy Nicole Watters
Notary Public
Commission No. 18003536
My Commission Expires: April 9, 2026

(GRANTEE)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this 30 day of September, 2025, by Shawnee Milling Co, ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:
A twenty-foot wide (20') strip of land being a part of the West Half of the Southwest Quarter of Section Twenty-Five, Township Ten Noarth, Range Three East of the Indian Meridian (W/2 SW/4 sec. 25-ToN-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows:
The east twenty feet of the property owned by Shawnee Milling Co., intending to be 20 feet west of and adjacent to the existing Right-of-Way for Us 177 / US 20 / OK SH 3:
Said tract contains 0.386 acres (16,811 square feet), more or less.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

A twenty-foot wide (20') strip of land being a part of the West Half of th Southwest Quarter of Section Twenty-Five, Township Ten Noarth, Range Three East of the Indian Meridian (W/2 SW/4 sec. 25-ToN-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows:
The east twenty feet of the property owned by Shawnee Milling Co., intending to be 20 feet west of and adjacent to the existing Right-of-Way for Us 177 / US 20 / OK SH 3:
Said tract contains 0.386 acres (16,811 square feet), more or less.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing, maintaining, and replacing a below-ground water main and associated appurtenances (collectively the "Utility Line"), no non-water above-ground structures, poles, equipment, or facilities shall be permitted within the Easement Property, and no use shall be made of the Easement Property except as necessary to operate and maintain the below-ground Utility Line.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR) Shawnee Milling Company

_____

(GRANTEE) – CITY OF SHAWNEE

_____
Mayor of the City of Shawnee

(GRANTOR)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this 30th day of September 20 25, personally appeared Joseph Ford and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

AMY NICOLE WATTERS
NOTARY PUBLIC - STATE OF OKLAHOMA
MY COMMISSION EXPIRES APR. 09, 2026
COMMISSION # 18003536

_____
Notary Public
Commission No. 18003536
My Commission Expires: April 9, 2026

(GRANTEE)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this 24 day of September, 2025, by MRZ Lizzies Home Rentals LC, ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:

A Twenty-Foot (20') wide strip of land being a part of the East Half of the Southwest Quarter of Section Twenty-Four, Township Ten North, Range Three East of the Indian Meridian (E/2 SW/4 T0N-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows: The north and west twenty feet of the property owned by Mrz Lizzies Rental Homes, LLC except the east three-hundred and thirty feet of said property intending to be the 20 feet adjacent to the existing Right-of-Way for US 177 / 270 interchange with Farrall Street less the east 330 feet of said property.
Said tract contains 0.741 acres (32,295 square feet), more or less.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

A Twenty-Foot (20') wide strip of land being a part of the East Half of the Southwest Quarter of Section Twenty-Four, Township Ten North, Range Three East of the Indian Meridian (E/2 SW/4 T0N-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows: The north and west twenty feet of the property owned by Mrz Lizzies Rental Homes, LLC except the east three-hundred and thirty feet of said property intending to be the 20 feet adjacent to the existing Right-of-Way for US 177 / 270 interchange with Farrall Street less the east 330 feet of said property.
Said tract contains 0.741 acres (32,295 square feet), more or less.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing, maintaining, and replacing any utility lines, wires, cables, pipes, equipment and related utility facilities (collectively the "Utility Facilities"), including, without limitation, electric, gas, sewer, telephone, communications, cable and water utility facilities.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR)

Kaye Steele Trustee

(GRANTEE) – CITY OF SHAWNEE

_____
Mayor of the City of Shawnee

(GRANTOR)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this 24th day of September 2025, personally appeared Kaye Steele and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

NOTARY PUBLIC STATE OF OKLAHOMA
LISA B. LASYONE
COMMISSION # 05001067
Commission Expires JAN. 31, 2029

Lisa B. Lasyone
Notary Public
Commission No. 05001067
My Commission Expires: 01-31-2029

(GRANTEE)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this 20 day of October, 2025, by City of Shawnee , ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:

A sixty-foot wide (60') strip of land being a part of the West Half of the Northwest Quarter of Section Twenty-Five, Township Ten North, Range Three East of the Indian Meridian (W/2 NW/4 Sec. 25-T1oN-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows:
The east sixty feet of the property owned by the City of Shawnee, intending to be 60 feet west of and adjacent to the existing Right -of-Way for US 17 / US 270 / OK SH 3:
Said tract contains 0.587 acres (25,561 feet), more or less.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

A sixty-foot wide (60') strip of land being a part of the West Half of the Northwest Quarter of Section Twenty-Five, Township Ten North, Range Three East of the Indian Meridian (W/2 NW/4 Sec. 25-T10N-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows: The east sixty feet of the property owned by the City of Shawnee, intending to be the 60 feet west of and adjacent to the existing Right-of-Way for US 177 / US 270 / OK SH 3; Said tract contains 0.587 acres (25,561 square feet), more or less.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing,

maintaining, and replacing any utility lines, wires, cables, pipes, equipment and related utility facilities (collectively the "Utility Facilities"), including, without limitation, electric, gas, sewer, telephone, communications, cable and water utility facilities.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR) (GRANTEE) – CITY OF SHAWNEE

_____ _____
Mayor of the City of Shawnee

STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this _____ day of _____, 2025, by Michael & Cathy Barksdale, ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:

A variable width strip of land being a part of the West Half of the Southwest Quarter of Section Twenty-Four, Township Ten North, Rage Three East of the Indian Meridian (W/2SW/4 Sec. 24-T1on-R3E, I.M), Pottawatomie County, Oklahoma, being more particularly described as follows: The north and east twenty feet of the property owned by the Michael and Cathy Barksdale, intending to be the 20 feet adjacent to the existing Right-of-way for US 177 / US 270 interchange with Farrall Street widening to 60 feet at the south property line on an extension of the sixty-foot-wide easement to the south as shown:
Said tract contains 0.775 acres (33,775 square feet), more or less.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

A variable width strip of land being a part of the West Half of the Southwest Quarter of Section Twenty-Four, Township Ten North, Rage Three East of the Indian Meridian (W/2SW/4 Sec. 24-T1on-R3E, I.M), Pottawatomie County, Oklahoma, being more particularly described as follows: The north and east twenty feet of the property owned by the Michael and Cathy Barksdale, intending to be the 20 feet adjacent to the existing Right-of-way for US 177 / US 270 interchange with Farrall Street widening to 60 feet at the south property line on an extension of the sixty-foot wide easement to the south as shown:
Said tract contains 0.775 acres (33,775 square feet), more or less.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing, maintaining, and replacing any utility lines, wires, cables, pipes, equipment and related utility

facilities (collectively the "Utility Facilities"), including, without limitation, electric, gas, sewer, telephone, communications, cable and water utility facilities.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR) (GRANTEE) – CITY OF SHAWNEE

_____ _____
Mayor of the City of Shawnee

(GRANTOR)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

(GRANTEE)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

RIGHT OF WAY UTILITY EASEMENT AGREEMENT

This Right of Way Utility Easement Agreement made and entered into this _____ day of _____, 2025, by Michael W and Cathy A Barksdale, ("Grantor") in favor of The City of Shawnee, Oklahoma, located at 16 W. 9th Street, Shawnee, Oklahoma 74801 ("Grantee") (collectively referred to herein as "the Parties").

WITNESSETH:

WHEREAS, Grantor is the record owner of and in possession of the following described real property, to-wit:

A sixty-foot wide (60') strip of land being a part of the West Half of the Northwest Quarter of Section Twenty-Five, Township Ten North, Range Three East of the Indian Meridian (W/2 NW/4 Sec. 25-T10N-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows:

The east sixty feet of the property owned by Michael and Cathy Barksdale, intending to be 60 feet west of and adjacent to the existing Right-of-way for US 177/US 270/ OK SH 3:

Said tract contains 0.883 acres (38,469 square feet). More or less.

WHEREAS, Grantor agrees to grant Grantee a Right of Way Utility Easement over, under, and across the Easement Property as more fully described below.

NOW THEREFORE, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties do mutually understand and agree as follows:

1. Grantor does hereby grant, bargain, sell and convey to Grantee and its' respective successors and assigns, a right of way utility easement, over, under, and across the Easement Property as more fully described as follows to wit:

A sixty-foot wide (60') strip of land being a part of the West Half of the Northwest Quarter of Section Twenty-Five, Township Ten North, Range Three East of the Indian Meridian (W/2 NW/4 Sec. 25-T10N-R3E, I.M.), Pottawatomie County, Oklahoma, being more particularly described as follows:

The east sixty feet of the property owned by Michael and Cathy Barksdale, intending to be 60 feet west of and adjacent to the existing Right-of-way for US 177/US 270/ OK SH 3:

Said tract contains 0.883 acres (38,469 square feet). More or less.

2. Grantor does hereby grant, bargain, sell, alien, convey and confirm unto Grantee, its successors, successors-in-title and assigns, a perpetual utility easement on, over, through, across, and under the Easement Area for purposes of installing, operating, using, repairing, maintaining, and replacing any utility lines, wires, cables, pipes, equipment and related utility

facilities (collectively the "Utility Facilities"), including, without limitation, electric, gas, sewer, telephone, communications, cable and water utility facilities.

3. Grantor hereby reserves the right to use the Easement Property and further reserves the right to grant additional easements across the Easement Property to third parties.

4. The Parties, their respective heirs, successors or assigns, shall not place or erect a fence, gate or other barrier over and across or otherwise interfere with the Right of Way Easement Property that will interfere with the rights granted and reserved herein.

5. This *Right of Way Utility Easement Agreement* herein, along with its other rights, benefits, duties, and obligations created and established herein, constitutes the entire understanding between the Parties.

6. The benefits and burdens of the Use of Easement granted herein shall run with the land described above, so long as the Utility Facility remains in operational use for the purposes stated above, and shall be binding upon the Parties hereto and their successors and assigns, forever.

7. By executing this Agreement, the Parties agree to the terms conditions and obligations contained therein and further agree to be bound by same.

Executed the day and year first above written.

(GRANTOR) (GRANTEE) – CITY OF SHAWNEE

_____ _____
Mayor of the City of Shawnee

(GRANTOR)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

(GRANTEE)
STATE OF OKLAHOMA)
) SS
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ____ day of _____ 20___, personally appeared _____ and _____ on behalf of the City of Shawnee, known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their voluntary acts and deeds for the uses and purposes therein set forth.

_____
Notary Public
Commission No. _____
My Commission Expires: _____

Fire Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Director of Engineering

Subject: Approval of an agreement with Honeywell for the installation of an alerting system for Fire Station No. 3.

Background: City staff is pleased to report that renovations to Fire Station No. 3 are nearing completion. As part of the modernization of this facility, staff recommends the installation of an updated Fire Alerting System to enhance emergency response efficiency.

The Fire Alerting System represents an essential component of the overall facility renovation and operational readiness of the station. The system will provide rapid, reliable dispatch notifications and integrate seamlessly with the City's existing communication infrastructure.

This improvement aligns with the City of Shawnee's adopted Capital Improvement Plan (CIP), which includes Fire Station No. 3 renovation and equipment upgrades as a priority project. The alerting system will be procured through Honeywell at a cost of $62,165.92. Funding for this purchase is available within the Fire Station No. 3 CIP project allocation.

Financial Impact: $62,165.92; from 303-5-0720-54200; Proj. No. C-21-04

Attachments: Quote

Staff Recommendation: Approval of the item.

US DIGITAL DESIGNS
by Honeywell
1150 W Grove Pkwy St #110
Tempe, AZ 85283

US DIGITAL DESIGNS
by Honeywell

Author: DWK
Date: 9/11/2025
Expires: 12/10/2025
Proposal: OK_SHAW007 v3

Quotation to:

Shawnee, OK
Shawnee Fire Department

Project:

G2 Fire Station Alerting System

One (1) Station System

HGACBuy and USDD entered into a Cooperative Purchase Agreement for 9-1-1-Equipment & Emergency Notification Software and Services - Contract #EC07-23 on or about August 14, 2023, (the 'Purchase Agreement') which allows H-GAC members to purchase USDD 'Products' and 'Services' (as defined below), which agreement is made available by its terms for use by End User.

Jeff King
Lead Territory Manager
(513)-667-7770
(602)-687-1730
Jeff.King@honeywell.com
stationalerting.com

Installation by:

Fire Department Alerting Solutions

This proposal is subject to corrections due to errors or omissions

US DIGITAL DESIGNS
by Honeywell

Quote Submitted To:
Shawnee, OK
Shawnee Fire Department

Date: 9/11/2025
Expires: 12/10/2025
Proposal: OK_SHAW007 v3

STATION 03

USDD Design Referenced:
USDD.OK_SHAW.FS03.FSA.2024.11.15

STATION SYSTEM LICENSES

Part No.	Description	Quantity	US List Unit	Unit Price	Extended Price
G2-VA	G2 Voice Alert - Single Station License	1	$ 1,433.25	$ 1,289.93	$ 1,289.93
G2-APP-DLA	G2 Mobile FSAS App	24	$ 15.00	$ 13.50	No Charge

STATION SYSTEM CONTROLLER

Part No.	Description	Quantity	US List Unit	Unit Price	Extended Price
ATX	G2 ATX Station Controller	1	$ 23,272.50	$ 20,945.25	$ 20,945.25
UPS-STD	ATX UPS, Standard	1	$ 1,017.64	$ 915.88	$ 915.88
UPS-WMB	Wall-Mount for UPS (Shelf/Bracket)	1	$ 77.25	$ 69.53	$ 69.53

STATION SYSTEM PERIPHERAL COMPONENTS

Part No.	Description	Quantity	US List Unit	Unit Price	Extended Price
PB-B	Push Button, Standard (Black)	1	$ 126.50	$ 113.85	$ 113.85
MR-2	G2 Message Remote 2	1	$ 1,753.75	$ 1,578.38	$ 1,578.38
USDD-LCD-SIGN	G2 LCD Message Sign	2	$ 3,000.00	$ 2,700.00	$ 5,400.00
SPK-LED-FM	G2 Speaker - LED Illuminated, Flush Mount	5	$ 374.00	$ 336.60	$ 1,683.00
SPK-OAS	G2 Speaker - OmniAlertStrobe	1	$ 1,575.00	$ 1,417.50	$ 1,417.50
SPK-STD-FM	Speaker - Standard, Flush Mount	7	$ 132.30	$ 119.07	$ 833.49
SPK-W-SM	Speaker - Appbay/Outdoor - Weatherized, Surface Mount	2	$ 373.75	$ 336.38	$ 672.76
STR-2	G2 Strobe Light / Red LED	1	$ 661.50	$ 595.35	$ 595.35

STATION SYSTEM SERVICES

Part No.	Description	Quantity	US List Unit	Unit Price	Extended Price
ST-INST	Station Installation Fire Department Alerting Solutions.	1	$ 21,450.00	$ 21,450.00	$ 21,450.00
ST-SU	Station Configuration & Commissioning	1	$ 2,750.00	$ 2,475.00	$ 2,475.00
ST-PM	Station Project Management	1	$ 1,500.00	$ 1,350.00	$ 1,350.00
ST-ES	Station Engineering & Design Services	1	$ 750.00	$ 675.00	$ 675.00
FREIGHT-CHARGES	Shipping	1	$ 701.00	$ 701.00	$ 701.00

STATION SYSTEM WARRANTY & OPTIONAL RECURRING ANNUAL SUPPORT

Part No.	Description	Quantity	US List Unit	Unit Price	Extended Price
RS-1YR-STD	**[STANDARD] 1st Year Warranty & Support - Included with Initial Purchase** Technical phone support Monday through Friday from 08:00 to 17:30 MST, excluding USDD holidays; Remote access support Monday through Friday from 08:00 to 17:30 MST, excluding USDD holidays;	1.0	$ 3,946.10	$ 3,551.49	No Charge

STATION 03

Equipment Only:	$	35,514.92
System:	$	61,464.92
Shipping:	$	701.00
Warranty & Support:	$	-
Estimated Tax:	$	-
Station Subtotal:	$	62,165.92

This quote does not include or assume any amounts for **sales or use tax**. Customer needs to contact its procurement department to determine if sales or use tax is payable, and if so, to make the determination of the amount to be paid. Per our contracts, Customer is responsible for the payment of any sales or use taxes owed from any purchase from USDD.

Warranty & Support Notes:

Customer must elect to choose any coverage they require beyond initial warranty period, or USDD will not be authorized to provide any service or support. Mobile Smart Phone Alerting App and Mapping Services only available to customer while under warranty or elected recurring annual support. Support Agreements subject to change if system design is modified. For additional details, please review current USDD Warranty Statement and Service Agreement. USDD cannot warrant nor support any system configuration that deviates from this specific proposal's documented station system design file number. USDD cannot warrant nor support any system not using USDD-approved UPS Battery Backup. USDD cannot warrant nor support any system not installed by G2 Trained & Certified Installation technician (installer). If customer intends to tie this system into any 3rd-party system or devices, USDD will be unable to warrant or support the system until we've had a chance to review documented engineering assumptions and approve system integrity, performance and reliability expectations.

For FSAaaS Program: The cost of service and support beyond initial warranty period is included in the FSASaaS Program for a total of 5 years. The service and support includes Mobile Smart Phone Alerting App and Mapping Services. Please see the FSASaaS Subscription Agreement for more information concerning the service and support provided by USDD. USDD cannot warrant nor support any system not using USDD-approved UPS Battery Backup. USDD cannot warrant nor support any system not installed by G2 Trained & Certified Installation technician (installer). If customer intends to tie this system into any 3rd-party system or devices, USDD will be unable to warrant or support the system until we've had a chance to review documented engineering assumptions and approve system integrity, performance and reliability expectations.

Station System Installation Notes:

01 - Unless specifically detailed in this proposal, no installation by USDD or it's subcontractors is assumed or provided.
02 - Because these are mission-critical systems, USDD can only warrant and support systems installed by G2 Trained and Certified Contractors.
03 - USDD can source, qualify, train and certify Local Licensed Regional Subcontractors where needed.
04 - Installation warranted by installation contractor - G2 FSAS warranted, serviced and supported by USDD.
05 - Unless specifically detailed in this proposal, installation to be performed during normal working hours.
06 - Unless specifically detailed in this proposal, no permit fees or material charges have been included.
07 - Unless specifically detailed in this proposal, no removal or remediation has been assumed or included.
08 - Unless specifically detailed in this proposal, no bonds of any type (performance, bid) have been assumed, included or budgeted for in this proposal.
09 - USDD FSAS Equipment to be made available by owner to Installation Contractor prior to on-site arrival.
10 - Structural backing for system devices and other millwork (not specifically detailed) by others.
11 - If applicable, Gas Control Shutoff Valve Addendum (to USDD and installation contractor) must be signed prior to installation.
12 - All electrical power, including (but not limited to) raceway, conduit, backboxes, service panels, high-voltage wiring and fixtures by others.
13 - All communications pathway infrastructure (network, radio, etc.) by others unless specifically detailed in this proposal.
14 - USDD cannot warrant nor support any owner-furbished (3rd-Party) system or component we are required to integrate with. USDD cannot warrant nor support any system or component it has not proofed engineering for and has not specifically authorized for use within public safety environments.
15 - Any misuse, unauthorized modification, improper installation, excessive shock, attempted repair, accident, or improper or negligent use, storage, transportation, or handling by any party other than USDD shall render this limited warranty null, void and of no further effect

US DIGITAL DESIGNS
by Honeywell

Quote Submitted To:
Shawnee, OK
Shawnee Fire Department

US DIGITAL DESIGNS
by Honeywell

Date: 9/11/2025
Expires: 12/10/2025
Proposal: OK_SHAW007 v3

Section Totals

Unless Otherwise Noted, All Prices are $USD

STATION 03 SYSTEM:	$	62,165.92
STATION 03 WARRANTY & SUPPORT:	$	-
STATION 03 ESTIMATED TAX:	$	-

Notes: One (1) Station System currently included in this proposal with installation by Fire Station Alerting Solutions.

Station-Level Subtotal:	**$**	**62,165.92**

US Digital Designs System Total:	**$**	**62,165.92**

(TBD By Customer) Customer must elect to choose any coverage they require beyond initial warranty period, or USDD will not be authorized to provide any service or support. Mobile Smart Phone Alerting App and Mapping Services only available to customer while under warranty or elected recurring annual support. Support Agreements subject to change if system design is modified. For additional details, please review current USDD Warranty Statement and Service Agreement

This quote does not include or assume any amounts for sales or use tax. Customer needs to contact its procurement department to determine if sales or use tax is payable, and if so, to make the determination of the amount to be paid. Per our contracts, Customer is responsible for the payment of any sales or use taxes owed from any purchase from USDD.

Dispatch or station level training is not included in this proposal. Contact your Regional Territory Manager to schedule additional training if needed

TERMS AND CONDITIONS OF HONEYWELL PRODUCT SALES

These terms and conditions of sale ("Terms and Conditions") are adopted effective January 1, 2023 (the "Terms and Conditions Effective Date"), and supersede all prior versions covering the sale of products and related services (collectively, "Products", as defined more specifically below) by Honeywell International Inc., through its US Digital Designs group ("Honeywell"). References to "Customer", "you", or "your" all pertain to the purchaser of Products. These Terms and Conditions, together with any separate agreement you may have with Honeywell that specifically references these Terms and Conditions (collectively, the "Agreement") set forth the entire agreement between the parties relating to your purchase of Honeywell Products. The Agreement may only be modified by an authorized representative of each party in a signed writing.

1. **ORDERS**. Orders (including any revised and follow-on orders) (each, an "Order") for Honeywell Products are non-cancelable, except as expressly set forth herein, and will be governed by the terms of the Agreement. All Orders are subject to acceptance by Honeywell and shall include the following information: purchase order number; customer's legal name and billing address; Customer's shipping address; and a list of the Products and quantities for each different type of Product Customer wishes to order. Honeywell's acknowledgment of its receipt of an Order shall not constitute acceptance of such Order.

1.1 **No Returns.** Because of the nature of System and its Products, Honeywell cannot accept returns of Product for refund, credit, exchange or any other purpose. Notwithstanding, defective Products may be returned as provided for under Section 9.4 – Return Material Authorization Process. Customer must thoroughly assess its requirements and specifications prior to ordering.

2. **REMITTANCES**. All invoices shall be due and payable upon receipt in United States currency, free of exchange or any other charges, or as otherwise agreed in writing by Honeywell.

3. **QUOTE PRICING**. This proposal expires 30 days after its date. Prices are subject to correction for error. Prices, terms, conditions, and Product or Service specifications are subject to change without notice. Pricing is subject to immediate change upon announcement of Product discontinuance.

4. **PAYMENT**.

4.1. **Invoicing & Payment**. Honeywell reserves the right to invoice Customer monthly for all materials delivered. Invoices are due thirty (30) days from the date of the invoice, unless prepayment is required in the quote. If the Customer becomes overdue in any progress payment, Honeywell shall be entitled to suspend further shipments, shall be entitled to interest at the annual rate of 18%, or the maximum amount allowed by law, and shall also be entitled to avail itself of any other legal or equitable remedies. Customer agrees that it will pay and/or reimburse Honeywell for any and all reasonable attorneys' fees and costs which are incurred by Honeywell in the collection of amounts due and payable hereunder.

4.2. **Payment Disputes**. Any disputes must be provided to Honeywell as soon as possible and must be accompanied by detailed supporting information. Disputes as to invoices are deemed waived fifteen (15) days following the invoice date. In the event that any portion of an invoice is undisputed, such undisputed amount must be paid by no later than the invoice due date.

4.3. **No Set Off**. Neither Customer nor any related entities (or representatives or agents thereof) shall attempt to set off or recoup any invoiced amounts or any portion thereof against other amounts that are due or may become due from Honeywell, its parent, affiliates, subsidiaries or other legal entities, business divisions, or units.

4.4. **Credit Card Payments**. All Honeywell quotes are developed for the Customer with the understanding that any purchase of the Products listed thereon will facilitated using to Honeywell's standard Purchase Order and Invoice process. If Ccustomer would rather seek to use a Credit Card for purchase, then said order would be subject to a 4% credit card surcharge.

5. **SURCHARGES.**

5.1. For avoidance of doubt, Orders placed prior to the Terms and Conditions Effective Date which have not been delivered, including those on backlog or which requested delivery more than twelve (12) months from the date of Order, are subject to Surcharges.

5.2. Honeywell will invoice Customer, and Buyer agrees to pay for any Surcharges pursuant to the standard payment terms in these Terms and Conditions. If a dispute arises with respect to Surcharges and that dispute remains open for more than fifteen (15) days, Honeywell may, in its sole discretion, withhold performance or future shipments, or combine any other rights and remedies under this Agreement or permitted by law, until the dispute is resolved. The terms of this Section shall prevail in the event of inconsistency with any other terms in these Terms and Conditions. Any Surcharges, as well as the timing, effectiveness, and method of determination thereof, will be separate from and in addition to any changes to pricing that are affected by any other provisions in these Terms and Conditions.

6. **CANCELLATION AND SUSPENSION**. Any Order resulting from this proposal is subject to cancellation or instructions to suspend work by the Customer only upon agreement to pay Honeywell for all work in progress, all inventoried or ordered project parts and materials, and all other costs incurred by Honeywell related to the Order.

7. **TAXES**. Honeywell's pricing excludes all taxes (including but not limited to sales, use, excise, value-added, and other similar taxes), tariffs and duties (including, but not limited to, amounts imposed upon the Product(s) or bill of material thereof under any Trade Act, including, but not limited to, the Trade Expansion Act, section 232 and the Trade Act of 1974, section 301) and charges (collectively "Taxes"). All Taxes of any kind levied by any federal, state, municipal or other governmental authority, which tax Honeywell is required to collect or pay with respect to the production, sale, or delivery of products sold to Customer, shall be the responsibility of and be invoiced to Customer, unless, at the time of Order placement, Customer furnishes Honeywell with a valid exemption certificate or other documentation sufficient to verify exemption from Taxes, including, but not limited to, a direct pay permit. Customer agrees to pay all such Taxes and further agrees to reimburse Honeywell for any such payments made by Honeywell.

8. **SHIPPING/DELIVERY/RISK OF LOSS.**

8.1. **Delivery Liability**. Delivery and shipment dates for Products are estimates only. Deliveries may be made in partial shipments. Honeywell and its affiliated entities are not liable, either directly or indirectly, for delays of carriers or delays in connection with any Force Majeure Event (as defined in Section 17 below), and the estimated delivery date shall be extended accordingly.

8.2. **Future Delivery and Repricing**. Honeywell will schedule delivery in accordance with its standard lead times unless the Order states a later delivery date or the parties otherwise agree in writing. Honeywell will accept Orders with a future ship date of up to eighteen (18) months from the date of the entry of the Order. Customer agrees that in the event an Order is scheduled to be delivered more than six (6) months from the date of the entry of the Order, Honeywell may, in its sole determination and at each six (6) month anniversary of the date of the entry of the Order, adjust the pricing of the Order to conform to the then-current prices of the Honeywell Products included in the Order. Honeywell will include any repricing in its final invoice related to the Order.

8.3. **Storage Fees**. If delivery takes place more than six (6) months from the date of the entry of the Order, Customer agrees to pay Honeywell a storage fee (the "Storage Fee"), as set forth in the quote, for each month after six (6) months from the date of the entry of the Order Customer has not taken delivery of the Products in the Order. Honeywell will separately invoice any storage fees owed under this Section at the end of each month for which the storage fees are owed.

8.4. **Title & Risk of Loss**. Unless otherwise specifically detailed in this quote, delivery terms for Products (excluding software and services) are (i) EX Works (EXW Incoterms 2020) Honeywell's point of shipment ("Honeywell Dock") for all shipments (except that Honeywell is responsible for obtaining any export license), and (ii) F.O.B. Honeywell Dock for all domestic shipments. For shipments from a Honeywell Dock to a Buyer location within the same country, the import/export provisions of the INCOTERMS do not apply. Honeywell shall be responsible for obtaining insurance on each shipment to Customer for the full value of the shipment. Shipment shall be to a single point of delivery.

9. **LIMITED WARRANTY**. CUSTOMER'S EXCLUSIVE REMEDIES AND HONEYWELL'S SOLE LIABILITY AS TO ANY WARRANTY CLAIM ON ANY PRODUCT SOLD IN CONNECTION WITH THIS QUOTE IS AS SET FORTH IN THIS SECTION. SUCH REMEDIES ARE IN LIEU OF ANY OTHER LIABILITY OR OBLIGATION OF HONEYWELL, INCLUDING WITHOUT LIMITATION ANY LIABILITY OR OBLIGATION FOR DAMAGE, LOSS, OR INJURY (WHETHER DIRECT, INDIRECT, EXEMPLARY, SPECIAL, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL) ARISING OUT OF OR IN CONNECTION WITH THE DELIVERY, USE, OR PERFORMANCE OF THE PRODUCTS. CREDIT, REPAIR OR REPLACEMENT (AT HONEYWELL'S OPTION) IS THE SOLE REMEDY PROVIDED HEREUNDER. NO EXTENSION OF THIS WARRANTY WILL BE BINDING UPON HONEYWELL UNLESS SET FORTH IN WRITING AND SIGNED BY A HONEYWELL AUTHORIZED REPRESENTATIVE.

9.1. **Product Warranty Terms**. Subject to the terms, conditions and limitations contained herein, and unless Honeywell has otherwise provided an alternative written warranty (in which case the terms of such warranty will control), Honeywell warrants and guarantees its products will be free from defects in workmanship and materials (collectively, "Defects") for 12 months from Customer's the "Go Live Date" ("Warranty Period"). This limited warranty does not cover defects caused by normal wear and tear or maintenance. For purposes of subparagraph, "Go-Live Date" shall mean means the date on which an authorized Honeywell technician has inspected and approved installations, confirmed that all connections and start-up configurations are properly working, and confirming the System can send and receive alerts through the configured communication pathways.

9.2. **Product Defects**. If a Defect with a Product arises and a valid claim is made within the Warranty Period, Customer shall initiate the RMA process as described below. Upon approval, Honeywell at its option, will either (1) repair the Product defect at no charge, using new parts or parts equivalent to new in performance and reliability or (2) exchange the Product with a Product that is new or equivalent to new in performance and reliability and is at least functionally equivalent to the original Product. Any replacement Product or part, including a user-installable part that has been installed in accordance with instructions provided by Honeywell, shall remain under warranty during the Warranty Period or for ninety (90) days from the date of repair, whichever is longer. When a Product or part is exchanged, any replacement item becomes the Customer's property and the replaced item becomes the property of Honeywell. Parts provided by Honeywell in fulfillment of its warranty obligation must be used in the same Honeywell Fire Station Alerting System for which the warranty claim is made.

9.3. **Procedure for Warranty Claim**s.

9.3.1. Prior to making a Warranty claim, Customer is encouraged to review Honeywell's online help resources. Thereafter, to make a valid claim hereunder, Customer must contact Honeywell technical support and describe the problem or defect with specificity. The first such contact must occur during the Warranty Period. Honeywell's technical support contact information can be found on Honeywell's web site at https://buildings.honeywell.com/us/en/brands/our-brands/usdd. Customer must use its best efforts to assist in diagnosing defects, follow Honeywell's technical instructions, and fully cooperate in the diagnostic process. Failure to do so shall relieve Honeywell of any further obligation hereunder.

9.3.2. If a defect with the Hardware arises and Customer makes a valid Support Service Request within the Warranty Period, Customer shall initiate the RMA process as described below. Upon approval, Honeywell will cause shipment of a replacement Hardware component to Customer prior to the defective Hardware component being returned to Honeywell for repair. The replacement Hardware will be new or equivalent to new in performance and reliability and at least functionally equivalent to the original Hardware. When Hardware is exchanged, any replacement item becomes the Customer's property and the replaced item becomes the property of Honeywell. Replaced Hardware provided by Honeywell in fulfillment of the Support Services must be used in the System to which this Agreement applies.

9.4. **Return Material Authorization Process**.If a Customer makes a claim for an advanced replacement of a Hardware component during the Warranty Period, Customer must initiate an RMA request. As part of this RMA process, the Customer shall provide Honeywell with the Hardware, model, serial number, and a description of the Hardware's failure to initiate the RMA process. Upon Honeywell's issuance of the RMA, Honeywell will send the replacement Hardware, shipped postage paid, ground shipping, to the address provided by Customer. RMA requests approved between 12:00 a.m. and 2:00 p.m. Mountain Standard Time are shipped on the same business day. After 2:00 p.m. Mountain Standard Time, the replacement Hardware will be shipped on the next business day. All RMA requests are processed on the business day on which the request was received, excluding holidays. Included with the shipped package will be return shipment instructions and a pre-paid return shipping label for the Hardware that the Customer is returning. The original Hardware must be returned in the shipping box provided by Honeywell. No goods will be accepted for exchange or return without a pre-approved RMA number, nor will goods which have not been properly packaged in Honeywell's shipping box, as proper packaging ensures that goods are not damaged during the shipping process. The original Hardware must be shipped back within 10 days of receiving the replacement Hardware. Failure to return the original Hardware or failure to return the original Hardware in an appropriate manner will cause Customer to incur a replacement charge equal to full market value of the replacement Hardware.

9.5. **No Fault Found**. Customer understands that this fee is intended to discourage return of Products prior to proper troubleshooting or return because the product is "old." Product returns will not be allowed if, upon examination of the returned Product, it is determined that the Product was subjected to accident, misuse, neglect, alteration, improper installation, unauthorized repair, improper testing, or poor packaging upon return. In such event, Honeywell shall invoice Customer for the full market value of the replacement Product.

9.6. **WARRANTY EXCLUSIONS & DISCLAIMERS.**

9.6.1. Honeywell does not warrant that the operation of its Products or any related peripherals will be uninterrupted or error-free. Honeywell further does not warrant nor support any system configuration that deviates from this specific quote's documented station system design file number.

9.6.2. Honeywell does not warrant or support any system not installed by G2 Trained & Certified Installation technician (installer). If Customer intends to tie this system into any 3rd-party system or devices, Honeywell will be unable to warrant or support the Products unless Honeywell has had a chance to review documented engineering assumptions and approve system integrity, performance, and reliability expectations.

9.6.3. Honeywell is not responsible for damage arising from Customer's failure to follow instructions relating to the use of the Products. This Warranty does not apply to any Products, including the hardware or software, not used for its intended purpose.

9.6.4. Honeywell cannot warrant nor support any system not using Honeywell-approved Uninteruptable Power Supply Battery Backup. This Warranty does not apply to monitors or televisions manufactured by third parties. Repair or replacement of such components shall be subject exclusively to the manufacturer's warranty, if any. Recovery and reinstallation of hardware and user data (including passwords) are not covered under this Warranty.

9.6.5. This Warranty does not apply: (a) to consumable parts, such as batteries, unless damage has occurred due to a defect in materials or workmanship; (b) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports; (c) to damage caused by use with non-Honeywell products; (d) to damage caused by accident, abuse, misuse, flood, lightning, fire, earthquake or other external causes; (e) to damage caused by operating the Product outside the permitted or intended uses described by Honeywell; (f) to damage or failure caused by installation or service (including upgrades and expansions) performed by anyone who is not a representative of Honeywell or a Honeywell authorized installer or service provider; (g) to a Product or part that has been modified to alter functionality or capability without the written permission of Honeywell; (h) to Software (as defined below); (i) to any other damage caused by an event or action outside of Honeywell's control, including, without limitation, Customer's failure to apply required or recommended updatres or patches to any Software or Product; or (h) if any serial number has been removed or defaced.

10. **LIMITATIONS OF LIABILITY**. TO THE EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY IN SECTION 9 OF THESE TERMS AND CONDITIONS AND ANY OTHER REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS OR IMPLIED. AS PERMITTED BY APPLICABLE LAW, **HONEYWELL SPECIFICALLY DISCLAIMS ANY AND ALL STATUTORY OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS**. If Honeywell cannot lawfully disclaim statutory or implied warranties, then to the extent permitted by law, all such warranties shall be limited in duration to the duration of this express Warranty and to repair or replacement service as determined by Honeywell in its sole discretion. No reseller, agent, or employee is authorized to make any modification, extension, or addition to this Warranty. If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

EXCEPT AS PROVIDED IN THE LIMITED WARRANTY IN SECTION 9 OF THESE TERMS AND CONDITIONS, AND TO THE EXTENT PERMITTED BY LAW, HONEYWELL IS NOT RESPONSIBLE FOR INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF THE USE OF MONEY; LOSS OF ANTICIPATED SAVINGS; LOSS OF GOODWILL; LOSS OF REPUTATION; AND LOSS OF, DAMAGE TO OR CORRUPTION OF DATA. HONEYWELL IS NOT RESPONSIBLE FOR ANY INDIRECT LOSS OR DAMAGE HOWSOEVER CAUSED, INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY, ANY COSTS OF RECOVERING PROGRAMMING OR REPRODUCING ANY PROGRAM OR DATA STORED OR USED WITH HONEYWELL PRODUCTS, AND ANY FAILURE TO MAINTAIN THE CONFIDENTIALITY OF DATA STORED ON THE PRODUCT.

L PRODUCT CLAIMS ARE LIMITED TO THOSE EXCLUSIVE REMEDIES SET FORTH IN THE LIMITED WARRANTY IN SECTION 9 OF THESE TERMS AND CONDITIONS. HONEYWELL'S AGGREGATE LIABILITY IN CONNECTION WITH THEREWITH SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCTS PAID BY CUSTOMER TO HONEYWELL FOR THE PRODUCTS GIVING RISE TO THE CLAIM. Honeywell disclaims any representation that it will be able to repair any Hardware under this Warranty or make a product exchange without risk to or loss of the programs or data stored thereon.

11. **SERVICE AGREEMENT**. The Product being purchased hereunder is not subject to any post-Warranty service agreement or maintenance program unless specifically contracted for between Honeywell and Customer. Honeywell offers a comprehensive post-Warranty Service Agreement at additional cost. Customer should contact Honeywell regarding its Service Agreement and costs associated therewith.

12. **SOFTWARE PRODUCTS**. All software Products delivered by Honeywell to Customer or for which Honeywell provides access, including, without limitation, Honeywell's mobile application software and Products with embedded software or firmware (collectively, "Software") are not sold and are licensed. At all times that Customer is in compliance with the terms of these Terms and Conditions and any other agreement between the parties, Customer shall have a non-exclusive, non-transferable, fully paid license to use the Software, but only in conjunction with the Products provided by Honeywell and Customer's fire station alerting system (the "License"). The terms of such Software License may be set forth in a separate software license agreement or end user license agreement provided by Honeywell with such Software. In no event shall Customer have any right to (or authorize or allow any third party to) distribute, sell, lend, rent, transfer, or convey the Software; grant any sublicense, lease, or other rights in the Software; decompile, disassemble, reverse engineer, or otherwise attempt to reconstruct, identify, or discover any source code, underlying user interface architecture or techniques, or algorithms of the Software by any means; or take any action that would cause the Software or any portion of it to be placed in the public domain. In the event of a conflict between the terms of any Software license terms provided upon download or purchase a purchase and these Terms and Conditions, the relevant Software license terms shall control solely with respect to such Software.

13. **INTELLECTUAL PROPERTY**: Customer hereby agrees and acknowledges that Honeywell owns all rights, title, and interest in and to the Intellectual Property (as defined below). Customer agrees to not remove, obscure, or alter Honeywell's or any third party's copyright notice, trademarks, or other proprietary rights notices affixed to or contained within or accessed in conjunction with or through Honeywell's Product (as defined below). Nothing herein shall be deemed to give, transfer, or convey to Customer any rights in the Intellectual Property other than the License, as set forth above. For purposes of this Section,"Intellectual Property" means any and all rights of Honeywell related to Honeywell's Products existing from time to time under patent law, copyright law, trade secret law, trademark law, unfair competition law, and any and all other proprietary rights, and any and all derivative works, work product, applications, renewals, extensions and restorations thereof, now or hereafter in force and effective worldwide.

14. **FIRST ARRIVING MOBILE APP.** If Customer wishes to use its First Arriving Mobile App ("First Arriving") with the System being acquired from Honeywell, Customer agrees to the following:

14.1 Customer acknowledges that it bears full responsibility for complying with applicable law and resultations, including all privacy requirements, and for providing any required notices and obtaining all required consents in order for Honeywell to transmit alert to First Arriving. Customer also acknowledges that Honeywell bears no responsibility for any service failure by First Arriving, nor is Honeywell responsible for supporting First Arriving's services or platform. Honeywell is offering to transmit alerts that are transmitted through its Honeywell service to First Arriving merely as a courtesy to Customer.

14.2 IN NO EVENT SHALL HONEYWELL BE LIABLE TO CUSTOMER FOR ANY CLAIMS, WHETHER ARISING FROM ANY INDEMNIFICATION OBLIGATION HONEYWELL MAY HAVE OR THAT ARISE FROM A BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), OPERATION OF LAW, OR OTHERWISE, AND EVEN IF THE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF THE LIABILITY OR THE LIABILITY IS OTHEWISE FORESEEABLE, FOR ANY LOST PROFITS OR REVENUE, SPECIAL, INCIDENTAL, INDEIRECT, CONSEQUETIAL, EXEMPLARY, OR PUNITIVE DAMAGES OF ANY KIND (INCLUDING ALL DAMAGES DUE TO BUSINESS INTERRUPTION, LOSS OR CORRUPTION OF DATA, OR LOST USE OF ANY PROPERTY OR CAPITAL) THAT RELATE TO OR ARISE OUT OF HONEYWELL'S TRANSMISSION OF ALERTS TO FIRST ARRIVING. FURTHER HONEYWELL'S AGGREGATE LIABILITY IN CONNECTION WITH ITS TRANSMISSION OF ALERTS TO FIRST ARRIVING WILL BE LIMITED TO THE GREATER OF THE AMOUNT PAID BY CUSTOMER TO HONEYWELL IN ORDER FOR HONEYWELL TO TRANSMIT ALERTS TO FIRST ARRIVING OR $100.

15 REMOTE ACCESS TO THE SYSTEM.

15.1 **Remote Access**. Honeywell requires remote network access to the Customer's Products through Secure Shell (SSH) to perform implementation and support tasks under this Agreement. To enable remote network access, the Customer will provide Honeywell support personnel VPN or similar remote network access to the Products for Honeywell support personnel (**"Customer Support**") to effectively troubleshoot critical or complex problems and to expedite resolution of such issues. Remote network access is also used to install core software upgrades and customized software. Honeywell will only access Customer's Products with the knowledge and consent of Customer. Honeywell will not access any other systems or data.

15.2. **Alternative to Network Access**. If the Customer elects not to provide remote network access to the Products, then Honeywell may not be able to perform some support functions. Customers that elect not to routinely provide network access may temporarily reinstate this access to allow Honeywell to perform the above services. The following services will not be performed without this access: Product software upgrades; Product software customization; Network troubleshooting assistance including packet capture and network monitoring on Honeywell devices; Detailed log analysis; Bulk updates to certain Product database tables; Troubleshooting that requires low-level system access or large file transfer.

15.3. **Timely Access**. Customers much ensure that remote access is available prior to notifying Honeywell of a support request. In the event that the Customer is unable to provide remote access, Honeywell will not be required to provide support outside those tasks that do not require remote access, and any corresponding resolution response times will not apply.

15.4. **Physical Security Tokens**. Honeywell has multiple software engineers that provide after-hours support and these engineers do not typically take security tokens from the Honeywell office. If the customer requires the use of physical security tokens, this may delay after hours service.

16. **GOVERNING LAW**. This proposal and any contract or agreement resulting therefrom will be governed by and construed according to the laws of the State of Arizona without regard to its conflicts of law principles.

17. **DISPUTE RESOLUTION/ARBITRATION**. Before either Honeywell or Customer initiate any dispute resolution process related to the Agreement, they must schedule an executive resolution conference to be held within thirty (30) days of receipt of the other party's written request. The conference must be attended by at least one executive from each party. At the conference, each party will present its view of the dispute in detail and the executives will enter into good faith negotiations in an attempt to resolve the dispute. If the dispute is not resolved within fifteen (15) days of the end of the conference or if one party refuses to attend the executive resolution conference, then Honeywell and Customer further agree that any remaining dispute between them arising out of or relating to this Agreement will be settled by litigation with jurisdiction being Maricopa County, Arizona.

18. **FORCE MAJEURE**. Except for Customer's duty to pay sums due hereunder, neither party will be liable to the other for any failure to meet its obligations due to any Force Majeure Event. As used herein, a "Force Majeure Event" is one that is beyond the reasonable control of the non-performing party and may include, but is not limited to: (a) delays or refusals to grant an export license or the suspension or revocation thereof, (b) embargoes, blockages, seizure or freeze of assets, or any other acts of any government that would limit a party's ability to perform the Contract, (c) fires, earthquakes, floods, tropical storms, hurricanes, tornadoes, severe weather conditions, or any other acts of God, (d) quarantines, pandemics, or regional medical crises, (e) labor strikes, lockouts, or pandemic worker shortages, (f) riots, strife, insurrection, civil disobedience, landowner disturbances, armed conflict, terrorism or war, declared or not (or impending threat of any of the foregoing, if such threat might reasonably be expected to cause injury to people or property), and (g) shortages or inability to obtain materials or components. The party unable to fulfill its obligations due to Force Majeure will promptly (i) Notify the other in writing of the reasons for its failure to fulfill its obligations and the effect of such failure; and (ii) Use all reasonable efforts to avoid or remove the cause and perform its obligations.

If a Force Majeure Event results in a delay, then the date of performance will be extended by the period of time that the non-performing party is actually delayed or for any other period as the parties may agree in writing. In the event that a Force Majeure Event is ongoing for a period of time which is sixty (60) days or longer, Honeywell may provide notice to Customer that it is cancelling its Order.

19. **ACCEPTANCE OF TERMS**. This proposal shall become a binding contract between the Customer and Honeywell when accepted in writing by the Customer. Without limiting the foregoing, issuance by Customer of a purchase order to Honeywell for any of the goods or services herein described shall constitute acceptance.

20. **SEVERABILITY**. In the event any provision or portion of a provision herein is determined to be illegal, invalid, or unenforceable, the validity and enforceability of the remaining provisions shall not be affected and, in lieu of such provision, a provision as similar in terms as may be legal, valid, and enforceable shall be added hereto.

21. **WAIVER**. The failure of either party to insist upon strict performance of any provision of these Terms and Conditions, or to exercise any right provided for herein, shall not be deemed to be a waiver for the future of such provision or right, and no waiver of any provision or right shall affect the right of the waiving party to enforce any provision or right herein.

22. **NO JOINT VENTURE**. The parties acknowledge that they are independent entities and nothing contained in these Terms and Conditions shall be construed to constitute either party hereto as the partner, joint venturer, employee, agent, servant, franchisee, or other representative of the other party hereto, and neither party has the right to bind or obligate the other, except as otherwise provided herein. Furthermore, nothing contained in these Terms and Conditions shall be construed to constitute Customer as an exclusive purchaser of the Products in any respect.

THIS QUOTE SUBJECT TO REVIEW FOR ERRORS AND OMISSIONS.

Fire Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: James Kriwanek, Fire Chief

Subject: Approval of the purchase of an E-One Rescue Pumper using the Sourcewell Contract E-One #113021-RVG.

Background: In October 2022, we ordered and paid for a new engine with an expected delivery date of early 2025. As of May 2025, the pre-build meeting had not yet been held, and the manufacturer indicated they would need to postpone that meeting until September. We informed them that this delay was unacceptable and requested the return of our payment so that we could pursue other options.

After discussions with representatives from Banner, we identified a stock engine available for purchase, with an anticipated delivery in late November or early December 2025. Therefore, we would like to proceed with the purchase of the stock truck from Banner.

Financial Impact: $738,336.00 from 301-5-0720-54500; Project No. 26-0720-01

Attachments: Fire Apparatus Proposal

Staff Recommendation: Approval of the purchase.

BANNER
FIRE EQUIPMENT, INC

FIRE APPARATUS PROPOSAL

DATE: October 8, 2025

This proposal has been prepared for:

Shawnee Fire Department
16 W. 9th Street
Shawnee, Oklahoma 74801

We hereby propose to furnish to you, subject to proper execution of the attached agreement by you and by an officer of this Company, the following apparatus and equipment to be built in accordance with the attached specifications:

UNIT QUANTITY	MODEL	PRICE
1	E-One rescue pumper, 1,000-gallon water tank, 1500 GPM Hale QMax XS pump, mounted on a Spartan FC94 custom cab and chassis equipped with a Cummins L9 450 HP engine per specs. SO # 148537 Includes, 7-year maintenance package, 150' of 1" booster hose with nozzle, change out red LED warning lights to blue, one power block with fuses and ground, three Kocheck triple holder with wrenches, two 6' New York Fire Hooks, one 8' Flame fighter pike pole, one 12' flame fighter pike pole, one 18" supervac ppv 28V fan Milwaukee (no batteries), one 18" gas ppv fan Honda GX200. Lettering to match existing fleet.	$738,336.00

Truck will be sold/purchased using the Sourcewell Contract E-One #113021-RVG

Delivery will be FOB Oklahoma City, OK. and will be made approximately sixty (60-90) calendar days after receipt of a contract, based upon proper execution of the attached agreement by both parties. Terms of Payment are 100% of the purchase price due at time of completion. The price listed above is firm for 30 days. Price is subject to increase after that time.

Company: BANNER FIRE EQUIPMENT, INC.

By: Mike Booth
Mike Booth

Title: Apparatus Sales

BANNER
FIRE EQUIPMENT, INC

SALES CONTRACT

This agreement made by and between Banner Fire Equipment, INC (Company) and (Buyer)

Shawnee Fire Department
(Legal Name of Buyer)

16 W. 9th Street Shawnee, Oklahoma 74801
(Address, City, State, Zip Code)

1. **Acceptance:** The "Company" agrees to sell, and the "Buyer" agrees to purchase the apparatus and equipment described in the following Exhibit Specifically:

   a. **Exhibit: -** E-One FC94 pumper SO# 148537.

   Each **Exhibit** made part of this contract, in accordance with the terms and conditions listed on contract pages 1,2,3 & 4.

2. **Delivery:** The E-One FC94 rescue pumper is to be completed and delivered within the next 60-90 days.

3. **Note:** Due to turmoil in the current manufacturing struggles dealing with inflation, parts and labor shortages the above delivery times are best estimates at the time of this contract. Any changes in delivery shall be communicated and documented as a change order upon notification of the change.
   The Company cannot be held liable for penalties and / or delays due to strikes, failures to obtain materials, fires, accidents, force majeure, pandemics, civil wars, riots, delays in the manufacturing due to long lead times on materials, delays in manufacturing due to labor shortages, floods, explosions, hurricanes, or any other causes beyond the Company's control.
   To establish a stable design, procurement, and build schedule, a Buyer change order cutoff date of eight (8) Days from the date of the execution of the contract will be enforced. Changes in major components, configuration, or other items that may change the major components or configuration, (e.g.: engine, transmission, axles, water tank, body, fire pump) will not be allowed after the contract execution date.
   If inability to obtain exclusive or brand name materials causes completion or delivery problems, the Company shall advise the Buyer of said problem. The Company resolves to examine alternative sources of said material. Material substitutions shall be mutually agreed upon by the

Buyer and the Company. No substitutions shall be made without the execution of a written changer order by the Buyer.

3. **Change Orders:** Changes to the contract may be requested by the Buyer after the execution of the contract. Changes after completion of the pre- construction conference will delay production time. All changes shall be reviewed for cost and schedule impact by the Company. Changes shall be sequentially numbered and are not considered approved until a change order from both parties is signed. Change Orders shall be prepared by the Company and executed by the Buyer. The price of the apparatus shall be adjusted to account for any Change Orders.

4. **SPECIFICATIONS:** The Company agrees that all materials, workmanship, and warranties in and about this apparatus shall comply with the attached Specifications.

5. **WARRANTY:** The Warranties in and about this apparatus shall comply with the hereto attached specifications.

6. **PRICE:** The Buyer shall pay, as a purchase price for:

   a. Exhibit A, E-One FC94 rescue pumper: **$738,336.00**
   b. Exhibit B, Prepayment Terms; 100% payment is due when truck is completed at Banner.

7. **TERMS OF PAYMENT:**

   a. Terms of payment: 100% of the above amount is due at the time of completion and delivery of the apparatus.
   The purchase price payment reflects US dollars and does not include any authorized change orders which, if applicable, shall be paid at the time of the final inspection and signed acceptance by both the buyer and the seller.

   b. No payment of any amount shall be made payable to a sales representative without written approval from the company.

   c. Late payment: A late fee of .025% of the sale price will be charged per day for overdue payments beginning thirty (30) days after the payment is due for the next thirty (30) days.

   d. It is agreed that the apparatus and equipment covered by this contract shall remain the property of the Company and not be placed in service until the entire contract price has been paid.

e. A copy of the Buyer's tax-exempt certificate, if applicable, shall be submitted with this signed contract.

f. A Banner Fire Equipment, Inc Title information form attached, properly filled out, and submitted with this contract.

8. Banner Fire Equipment, Inc requires, and the Customer agrees, that the until shall be inspected and / or delivered within seven (7) days of notice that the unit has been completed at the dealership. No add-ons will be completed at the dealership without the 90% payment of the vehicle before agreed upon add-ons are to be started by Banner Fire Equipment, Inc.

9. **CANCELLATION**: In the event this Agreement is cancelled or terminated by the buyer before completion there will be a cancellation fee charged to the buyer. The following charge schedule based on costs incurred will be applied (a) 10% of Purchase Price after the order is accepted and entered by Banner Fire Equipment, Inc. (b) 20% of the purchase price after signed drawings from Pre-Construction, and (c) 30% of the purchase price after material requisition. Once the vehicle is in product there will be no cancellation allowed.

   This contract, to be binding, must be signed by an officer of Banner Fire Equipment, Inc or a person authorized, in writing, by Banner Fire Equipment, Inc. to do so.

10. **TAG-ON / ADDITIONAL ORDERS:** The Company, at its sole discretion, would allow the terms of this contract to be extended both in terms to the Buyer as well as to other entities for similar unit(s) for a time period of 24 months after this contract is signed by both parties. To accommodate for pricing, the Company would quote the original prices plus manufactures price increases or Producer's Price Index (PPI) as it applies to either Fire Apparatus and/or heavy commercial truck market. After execution of this contract, which ever PPI or the Manufacturer's price increase is greater will be used. Additionally, any regulatory changes (NFPA, EPA/Engine Emissions, FMVSS, etc.) would also have to be added as they become applicable. Change orders changing these units from the original quotation would need to be authorized, signed, and accepted as normal. Any entity using the tag-on process would be required to sign a new contract commencing the relationship. If the purchasing agency is not the BUYER, a separate contract will be required to complete the additional purchases.

    Additionally, any new tag-on order would require separate Performance bond if initially required by the purchaser.

This contract, including its appendices, embodies the entire understanding between the parties relating to the subject matter contained herein and merges all prior discussions and agreements between them. No agent or representative of the Company has authority to make any representations, statements, warranties, or agreements not herein expressed and all modifications of amendments of this agreement, including any appendices, must be in writing signed by an authorized representative of each of the parties hereto.

No surety of any performance bond given by the Company to the Buyer in connection with this Agreement shall be liable for any obligation of the Company arising under the Standard Warranty.

11. **GOVERNING LAW:** This Agreement shall be governed by and construed in accordance with the laws of the State of Oklahoma without giving effort to principals of conflict of laws. Buyer and Company irrevocable and unconditionally agree that any suit, action, or other legal proceeding arising out of or relating to this agreement shall be brought in a court of records of the State of Oklahoma.

12. **Trade-in:** At the time of this contract NO trade in vehicles have been offered for consideration.

IN WITNESS WHEREOF, the Buyer and the Company have caused this contract to be executed by their duly authorized representatives.

COMPANY	BUYER
Banner Fire Equipment, Inc.	Shawnee Fire Department
By:_____	By:_____
Michael T. Benker	Title:_____
Title: Dealer Principal	
Date:_____	Date:_____

City Manager Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Approval of the purchase of a 2026 Ram 2500 Crew Cab truck utilizing state bidding in compliance with the approved Capital Improvement Plan for 2026-2030 for the Heart of Oklahoma Exposition Center.

Background: City staff recommends the purchase of a 2026 Ram 2500 truck for the Heart of Oklahoma Exposition Center utilizing the State of Oklahoma's purchasing contract. This truck will serve as a new addition to the Expo's fleet and will be used to support daily operations, event setup, and facility maintenance across the campus. The purchase aligns with the City's adopted Capital Improvement Plan (CIP), which includes funding for new equipment to enhance efficiency and expand service capacity at the Expo. Utilizing the State contract ensures the City receives competitive pricing and complies with all procurement requirements. Staff recommends approval of the purchase consistent with the State's awarded pricing.

Financial Impact: $63,603.00 from 303-5-1210-54200; Proj. No. 26-1210-02

Attachments: Quote

Staff Recommendation: Approval of the item.

JOHN VANCE MOTORS, INC
FLEET & GOVERNMENT SALES
PO BOX 400, GUTHRIE, OK 73044
405-282-3800
OK Vendor # 0000074088

QUOTE

DATE	9/10/2025
QUOTE NUMBER	000Q17919
EXPIRATION DATE	9/22/2025
SHIP VIA	Factory Order
TERMS	SW035 - STATE CONTRACT
PO Number	

SOLD TO:

Heart of Oklahoma Expo Center
Frank Abbott
1700 W. Independence St.
Shawnee, OK 74804
405-765-9725

SHIP TO:

Heart of Oklahoma Expo Center
Frank Abbott
1700 W. Independence St.
Shawnee, OK 74804
405-765-9725

Any Questions? Call 405-282-3800
Jonathan Riedlinger

jonathan@VanceFleet.Com

Qty	OPTION	Description	Unit Price	Ext. Price
		Oklahoma State Contract		
1	DJ7L91	2026 Ram 2500 Crew Cab 6'4" bed(149" wheelbase)	$44,463.00	$44,463.00
1	24Z	Quick Order Package 24Z Big Horn	$0.00	$0.00
1	A7E	Big Horn Level 1 Equipment Group	$1,365.00	$1,365.00
1	A7F	Big Horn Level 1 Plus Equipment Group: Emergency Vehicle Alert System (EVAS), 12" Touchscreen Display, Glove Box Lamp, Auto Power-Folding Mirrors, Footwell Courtesy Lamp, Anti-Spin Differential Rear Axle, MOPAR Deployable Bed Step, Alexa Built-In, Forward & Reverse Utility Lights, Locking Lower Glove Box, Remote Start System, 9 Alpine Speakers w/Subwoofer, Disassociated Touchscreen Display, Dual Glove Boxes, 2nd Row In Floor Storage Bins, Rear View Auto Dim Mirror, Rear Dome w/On/Off Switch Lamp, LED Bed Lighting, GPS Navigation, SiriusXM w/360L, Connected Travel & Traffic Services, Foam Bottle Insert (Door Trim Panel), Big Horn IP Badge, Off-Road Info Pages, Trailer Tow Pages, HD Radio, Radio: Uconnect 5 Nav w/12.0" Display, Power Heated Folding Telescopic Mirrors, Steering Wheel Mounted Audio Controls, Air Conditioning ATC w/Dual Zone Control, MOPAR Spray In Bedliner, Luxury Steering Wheel, Power Telescoping Mirrors(-5% off of MSRP)	$2,598.00	$2,598.00
1	4WD/XEF	Four wheel drive with transfer case skid plate	$2,863.00	$2,863.00
1	ETM	Engine: 6.7L I6 Cummins HO Turbo Diesel	$11,327.00	$11,327.00
1	NHK	Engine block heater(-5% off of MSRP)	$185.00	$185.00
1	DFM	Transmission: 8-Speed TorqueFlite HD Automatic	$0.00	$0.00
1	DMR	Axle: 3.42 Ratio	$0.00	$0.00
1	UBQ	Radio: Uconnect 5 Nav w/12.0" Display	$0.00	$0.00
1	MR5	Chrome tubular side steps(-5% off of MSRP)	$802.00	$802.00
1	WBE	Wheels: 18" x 8.0" Polished Aluminum	$0.00	$0.00
1	TCN	Tires: LT275/70R18E BSW AS	$0.00	$0.00
1	MJX9	Interior: Black premium cloth bucket seats	$0.00	$0.00
1	PW7	Exterior: Bright White Clearcoat	$0.00	$0.00
		****A discount of -5% will be applied to items not listed on State Contract****		

Accepted By: _____

SUB-TOTAL	*$63,603.00*
TAG/TAXES	*$0.00*
TOTAL DUE	*$63,603.00*

Terms:
THIS QUOTE DOES NOT GUARANTEE THE FACTORY WILL BUILD THE VEHICLE.
1) TAG & TAXES ARE NOT INCLUDED UNLESS ITEMIZED ON QUOTE
2) ALL REBATES & INCENTIVES HAVE BEEN INCLUDED IN TOTAL PRICE.
3) PURCHASE ORDER REQUIRED TO ORDER VEHICLE

Dealer: _____

Public Works Department
111 S. Kickapoo St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Brad Schmidt, Deputy Director of Shawnee Municipal Authority

Subject: Approval of the purchase of a 2026 Freightliner 108SD PLUS utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Street Department.

Background: This purchase is part of the Street Department fleet replacement approved in the Capital Improvement Plan.

Financial Impact: $219,261.00 from 301-5-0920-54200; Project No. 24-0920-27

Attachments: Quote

Staff Recommendation: Approval of item.

Industrial Truck Equipment, Inc.
3400 South Thomas Road
Oklahoma City, OK 73179
Phone: 4056886100

Quotation

Quote To: City of Shawnee
111 S. Kickapoo Ave,
Shawnee, OK 74801

Quote Number:	103160			**Contact:**	Devin Daubert
Quote Date:	07/21/2025	**Expires**	09/30/2025	**Inquiry:**	
Customer:	CITY OF SHAW			**Terms:**	Net 15
Salesman:	Dunnam, Devin			**Phone:**	
Ship Via:				**FAX:**	

SOURCEWELL
Viking-Cives
Snow and Ice equipment
#062222-VCM
Maturity Date: 8/15/2026
Customer:
City of Shawnee
Shawnee , Oklahoma
Account # 187314
Item(s) Sold:
(SW-CH0205)
(SW-TK0110)
(SW-TK0554)

Item	Part Number Description	Revision	Quantity	Price
1	CHASSIS 2026 FREIGHTLINER 108SD PLUS DETROIT DD8 350HP ALLISON 3000RDS AUTO TRANS SEE SPECS ATTACHED		1	$128,261.00 /EA
			Total:	**$128,261.00**
2	ODOTSPEC-VC-SHAWNEE-1.2 CITY OF SHAWNEE, VIKING TURNKEY EQUIPMENT PACKAGE BODY: Viking-Cives Western Style Dump Body 15' x 36" Cross-memberless Dump Body with 1/4" AR450 floor, A606 Corten Corrosion Resistant Steel Costruction. Mailhot G4 Nitride Coated hoist with hoist basket. Tail Hinge Body Locks for Added Safety when performing maintenance. Aero Electric Tarp Assembly, integral tarp mounting in Cab shield. Receiver Style Pintle hitch w/ 45 Ton Hook Channel Bumper Ends Body Painted Black with DOT Tape And Corner Markers ODOT SPEC Whelen Municipal Warning Light System	1.2	1	$88,500.00 /EA

Item	Part Number Description	Revision	Quantity	Price
	Stainless Steel Light boxes in rear corner posts and in 45 Degree Cabshield corners Amber/White forward and Red/Blue rear. HYDRAULICS: Certified Power Hydraulics Freedom MDC Tower Controls Electric Joysticks in cab w/ Armrest Electronic Spreader Controls Ground Speed Low Oil Sensor Body Up Indiciator PLOW: Viking-Cives Lo-Pro UQH Plow Hitch 34" Frame Assembly for Freightliner 108SD+ SPREADER: NO SPREADER - PLUMBING FOR HYDRAULICS ONLY Misc: Mudflap brackets, 3 Light bar. SS Built In Rear Mud flap brackets, Pull out Ladder, Hydraulic Spreader Connections in Body, Junction Box for Hyd. Connections, Built in Spreader Ratchets, Bolt-On Asphalt Lip, Board Pockets w/ Boards. Cone Holder Mounted behind front bumper Ready to Work, Turnkey Package			
			Total:	**$88,500.00**
3	FREIGHT CHARGES FREIGHT CHARGES		1	$2,500.00 /EA
			Total:	**$2,500.00**
			Sub-Total:	***$219,261.00***
			Tax Exempt:	***$0.00***
			Total:	***$219,261.00***

Please call, text, or email me with any questions:
C: 479-857-9941
Devin@iteok.com
Thank you for this opportunity, I look forward to working with you.

By Dunnam, John
Industrial Truck Equipment, Inc.

Public Works Department
111 S. Kickapoo St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Brad Schmidt, Deputy Director of Shawnee Municipal Authority

Subject: Approval of the purchase of a 2026 Chevrolet Silverado 3500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Street Department.

Background: This vehicle purchase is part of the approved Street Department fleet replacement included in the Capital Improvement Plan.

Financial Impact: $60,665.60 from 301-5-0920-54200; Project No. 24-0920-26

Attachments: Quote

Staff Recommendation: Approval of item.

Dealer Name: Carter Chevrolet Agency, LLC
Make Bidding: Chevrolet

1 Ton Crew Cab 4x4 Bed Removal

Model Bidding: 2026 Silverado 3500 Crew Cab Pickup
Model Code: CK30943

Body & Chassis	Enter Vehicle Specification and Manufacturer Option Codes
Gross Vehicle Weight Rating	11,700 lbs.
Wheelbase/CA	172" Wheelbase; 56" Cab-to-Axle; 8' Pickup Bed Deleted
Engine	
Engine Type (Cylinder/Liter)	6.6L V8 Gasoline Engine with Direct Injection & Variable Valve Timing
Transmission	
Automatic	10 Speed Automatic Transmission
Drive Axle	
Primary Drive Axle	**Four Wheel Drive**
Transfer Case	Transfer Case, two-speed, electronic shift with push button controls
Differential Type/Ratio	3:73 Rear Axle Ratio
Rear Differential	Auto-Locking Rear Differential
Electrical	
Alternator/Min (amps)	170 AMP
Battery min. (CCA)	720 cold-cranking amps/80 Amp-hr, maintenance-free with rundown protection & retained accessory power
Fuel	
Fuel Capacity min Liters(Gals)	36 Gallons
Exterior	
Paint	White
Mirrors	Outside high-visibility vertical trailering lower convex mirrors, manual-folding/extending, molded in black
Lights	Headlamps, halogen reflector with halogen Daytime Running Lamps; IntelliBeam, automatic high beam on/off
Doors & Windows	
Doors	4 Doors
Door Locks	Power Door Locks with Remote Keyless Entry, with 2 transmitters
Windows	Power Windows
Floor	
Floor Covering	Rubberized Vinyl
Interior	
Air Conditioning	Air Conditioning, single-zone
Radio	Audio System, Chevrolet Infotainment 3 system, 7" diagonal HD color touchscreen, AM/FM stereo Bluetooth audio streaming for 2 active devices, voice command pass-through to phone, Wireless Apple CarPlay and Wireless Android Auto compatibility
Tilt & Cruise	Steering column, Tilt-Wheel, manual with wheel locking security feature; Cruise Control, electronic with set & resume speed, steering wheel-mounted
Seats	
Seating Capacity min.	6 Passenger
Front Seat	40/20/40 Split Bench, (Specifiy Cloth or Vinyl)
Rear Seat	60/40 Folding Bench
Safety	
Brakes	4-wheel antilock, 4-wheel disc with DURALIFE rotors
Restraint System All Pass	Standard
Air Bags Both Sides	Frontal, Seat Mounted Side Impact, & Head Curtain
Tires & Wheels	
Tires & Wheels	LT275/70R18E all-terrain, blackwall
Rear Wheels	Single Rear Wheels
Trailering	
Brake Controller	Trailer Brake Controller, integrated
Tow Hooks	Recovery hooks, front, frame-mounted, Black
Warranty	
Bumper to Bumper Warranty	3 Year / 36,000 Miles
Drive Train Warranty	5 Year / 100,000 Miles

2026 Chevy 4x4 3500HD Crew Cab w/Pickup Bed Delete - MSRP $55,040 less 11%	**$48,985.60**
Upfitter Switch Kit, shipped loose in cab - MSRP $150 (less 5%)	**$142.50**
8' Service Body, white, with Trailer Hitch; Amber/Clear lights in front Grille; Amber/Blue lights on rear of bed	**$11,425.00**
Delivery Fee - 75 miles/$1.50 per mile (Waived if vehicle is picked up in Okarche)	**$112.50**
2026 4x4 3500HD Crew Cab Pickup - FOB City of Shawnee	**$60,665.60**

Recommended Options:	
Skid Plates - MSRP $150 less 5%	**$142.50**
Tire, Spare LT275/70R18 all-terrain - MSRP $380 less 5%	**$361.00**

Public Works Department
111 S. Kickapoo St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Brad Schmidt, Deputy Director of Shawnee Municipal Authority

Subject: Approval of the purchase of a 2026 Chevrolet Silverado 3500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for Building Maintenance.

Background: This vehicle purchase is part of the Building Maintenance fleet replacement, approved in the Capital Improvement Plan.

Financial Impact: $60,665.60 from 301-5-4020-54200; Project No. 26-4020-01

Attachments: Quote

Staff Recommendation: Approval of Item.

Dealer Name: Carter Chevrolet Agency, LLC
Make Bidding: Chevrolet

1 Ton Crew Cab 4x4 Bed Removal

Model Bidding: 2026 Silverado 3500 Crew Cab Pickup
Model Code: CK30943

Body & Chassis	Enter Vehicle Specification and Manufacturer Option Codes
Gross Vehicle Weight Rating	11,700 lbs.
Wheelbase/CA	172" Wheelbase; 56" Cab-to-Axle; 8' Pickup Bed Deleted
Engine	
Engine Type (Cylinder/Liter)	6.6L V8 Gasoline Engine with Direct Injection & Variable Valve Timing
Transmission	
Automatic	10 Speed Automatic Transmission
Drive Axle	
Primary Drive Axle	**Four Wheel Drive**
Transfer Case	Transfer Case, two-speed, electronic shift with push button controls
Differential Type/Ratio	3:73 Rear Axle Ratio
Rear Differential	Auto-Locking Rear Differential
Electrical	
Alternator/Min (amps)	170 AMP
Battery min. (CCA)	720 cold-cranking amps/80 Amp-hr, maintenance-free with rundown protection & retained accessory power
Fuel	
Fuel Capacity min Liters(Gals)	36 Gallons
Exterior	
Paint	White
Mirrors	Outside high-visibility vertical trailering lower convex mirrors, manual-folding/extending, molded in black
Lights	Headlamps, halogen reflector with halogen Daytime Running Lamps; IntelliBeam, automatic high beam on/off
Doors & Windows	
Doors	4 Doors
Door Locks	Power Door Locks with Remote Keyless Entry, with 2 transmitters
Windows	Power Windows
Floor	
Floor Covering	Rubberized Vinyl
Interior	
Air Conditioning	Air Conditioning, single-zone
Radio	Audio System, Chevrolet Infotainment 3 system, 7" diagonal HD color touchscreen, AM/FM stereo Bluetooth audio streaming for 2 active devices, voice command pass-through to phone, Wireless Apple CarPlay and Wireless Android Auto compatibility
Tilt & Cruise	Steering column, Tilt-Wheel, manual with wheel locking security feature; Cruise Control, electronic with set & resume speed, steering wheel-mounted
Seats	
Seating Capacity min.	6 Passenger
Front Seat	40/20/40 Split Bench, (Specifiy Cloth or Vinyl)
Rear Seat	60/40 Folding Bench
Safety	
Brakes	4-wheel antilock, 4-wheel disc with DURALIFE rotors
Restraint System All Pass	Standard
Air Bags Both Sides	Frontal, Seat Mounted Side Impact, & Head Curtain
Tires & Wheels	
Tires & Wheels	LT275/70R18E all-terrain, blackwall
Rear Wheels	Single Rear Wheels
Trailering	
Brake Controller	Trailer Brake Controller, integrated
Tow Hooks	Recovery hooks, front, frame-mounted, Black
Warranty	
Bumper to Bumper Warranty	3 Year / 36,000 Miles
Drive Train Warranty	5 Year / 100,000 Miles

2026 Chevy 4x4 3500HD Crew Cab w/Pickup Bed Delete - MSRP $55,040 less 11%	**$48,985.60**
Upfitter Switch Kit, shipped loose in cab - MSRP $150 (less 5%)	**$142.50**
8' Service Body, white, with Trailer Hitch; Amber/Clear lights in front Grille; Amber/Blue lights on rear of bed	**$11,425.00**
Delivery Fee - 75 miles/$1.50 per mile (Waived if vehicle is picked up in Okarche)	**$112.50**
2026 4x4 3500HD Crew Cab Pickup - FOB City of Shawnee	**$60,665.60**

Recommended Options:	
Skid Plates - MSRP $150 less 5%	**$142.50**
Tire, Spare LT275/70R18 all-terrain - MSRP $380 less 5%	**$361.00**

Public Works Department
111 S. Kickapoo St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Brad Schmidt, Deputy Director of Shawnee Municipal Authority

Subject: Approval of the purchase of a 2026 Chevrolet Silverado 1500 Crew Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for Building Maintenance.

Background: This vehicle purchase is part of Building Maintenance fleet replacement approved in the Capital Improvement Plan.

Financial Impact: $43,758.00 from 301-5-4020-54200; Project No. 26-4020-01

Attachments: Quote

Staff Recommendation: Approval of Item.

Dealer Name: Carter Chevrolet Agency, LLC
Make Bidding: Chevrolet
1/2 Ton Truck Crew Cab **Model Bidding:** 2026 Silverado 1500 Crew Cab
Crew Cab **Model Code:** CK10543

Body & Chassis	Enter Vehicle Specification and Manufacturer Option Codes
Gross Vehicle Weight Rating	7,100 Lbs.
Wheelbase	157" Wheelbase
Crew Cab Bed Length	6.5 Ft. Bed
Engine	
Engine Type	TurboMax Gasoline Engine - 310 hp & 430 lb-ft torque
Transmission	
Automatic - Two Wheel Drive	8 Speed Automatic, electronically controlled with overdrive and tow/haul mode
Drive Axle	
Primary Drive Axle	Four Wheel Drive
Differential Type/Ratio	3.42 Rear Axle Ratio
Electrical	
Alternator/Min (amps)	220 Amps
Battery min. (CCA)	Battery, heavy-duty, 730 CCA/80 Amp-hr, maintenance-free with rundown protection
Fuel	
Fuel Capacity min Liters(Gals)	24 Gallons
Exterior	
Paint	White
Doors & Windows	
Doors	4 Doors
Door Locks	Power Locks with Remote Keyeless Entry with two transmitters
Windows	Power Windows
Floor	
Floor Covering	Vinyl/Rubber
Interior	
Air Conditioning	Air Conditioning, single-zone
Radio	Audio system, Chevrolet Infotainment 3 system 7" diagonal HD color touchscreen, AM/FM stereo, Bluetooth audio streaming for 2 active devices, voice command pass-through to phone, Wireless Apple CarPlay and Wireless Android Auto compatibility
Tilt & Cruise	Steering column, Tilt-Wheel, manual with wheel locking security feature and Cruise Control, electronic with set and resume speed, steering-wheel mounted
Seats	
Seating Capacity min.	6 Passenger
Seats	40/20/40 Split Bench Front Seat (Specify Cloth or Vinyl Upholstery)
Rear Seat	60/40 Folding Bench Rear Seat
Safety	
Brakes	4-wheel antilock, 4-wheel disc with DURALIFE rotors
Restraint System All Pass	Standard
Air Bags Both Sides	Frontal, Seat Mounted Side Impact & Head Curtain
Tires & Wheels	
Tires & Wheels	P255/70R17 All Season, blackwall
Spare	Full Size Spare
Warranty	
Bumper to Bumper Warranty	3 Yr./36,000 Miles
Drive Train Warranty	5 Yr./100,000 Miles

2026 Chevy 4x4 1500LD Crew Cab Pickup, SWB - MSRP $48,495 less 10%	**$43,645.50**
Delivery Fee - 75 miles/$1.50 per mile (Waived if vehicle is picked up in Okarche)	**$112.50**
2026 1500LD 4x4 Crew Cab - FOB City of Shawnee	**$43,758.00**

Recommended Optional Items	Additional Cost
Skid Plates	$142.50
5.3L EcoTec3 V8 Gasoline Engine	$1,515.25
Trailering Package includes trailer hitch, 7-pin and 4-pin connection & Hitch Guidance (requires Auto-Locking rear differential)	$403.75
Auto-Locking Rear Differential	$375.25
Trailer Brake Controller, integrated (requires trailering package)	$261.25
Upfitter Switch Kit, Shipped loose in Cab	$142.50

Public Works Department
111 S. Kickapoo St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Brad Schmidt, Deputy Director of Shawnee Municipal Authority

Subject: Approval of the purchase of a 2026 Chevrolet Silverado 5500 Regular Cab truck utilizing state bidding and in compliance with the approved Capital Improvement Plan for 2026-2030 for the Traffic Department.

Background: This vehicle purchase is part of the approved Traffic Department fleet replacement in the Capital Improvement Plan.

Financial Impact: $179,941.00 from 301-5-0930-54200; Project No. 24-0930-05

Attachments: Quote

Staff Recommendation: Approval of item.

Dealer Name: Carter Chevrolet Agency, LLC
Make Bidding: Chevrolet
Model Bidding: 2026 Silverado 5500 Regular Cab C&C - 4x4
Model Code: CK56403

19,500# Regular Cab
Cab & Chassis 4x4

Body & Chassis	Enter Vehicle Specification and Manufacturer Option Codes
Gross Vehicle Weight Rating	19,500 lbs GVWR
Gross Curb Weight Ration	26,000 lbs GCWR
Wheelbase/CA	165" WB / 84" CA
Engine	
Engine Type (Cylinder/Liter)	6.6L Duramax Turbo-Diesel V8, B20-Diesel compatible, 350 hp, 750 lb-ft torque
Diesel Particulate Filter	DPF, diesel particulate filter, manual regeneration
Transmission	
Automatic	Rugged Duty Service Transmission, Automatic close-ratio 6-speed automatic with double overdrive, Allison A1700RDS
PTO	Power Take Off, engine control provisions Access is available on left-hand & right-hand side
Drive Axle	
Primary Drive Axle	**Four Wheel Drive**
Differential Type/Ratio	4.30 Rear Axle Ratio
Electrical	
Alternator/Min (amps)	170 AMP
Battery min. (CCA)	HD dual 1100 cold-cranking amps includes battery box mounted to left side under cab
Fuel	
Fuel Capacity min Liters(Gals)	40 gallon fuel tank, mounted between frame side rails & behind rear axle
Exterior	
Paint	White
Mirrors	Outside high-visibility vertical camper-style, black with manual folding & extension & lower convex spotter glass
Lights	Headlamps, halogen projector-beam; Lamps, Smoked Amber roof marker; Daytime Running Lamps, with automatic exterior lamp control
Doors & Windows	
Doors	2 Doors
Door Locks	Power Door Locks
Windows	Manual Driver & Front Passenger Windows
Floor	
Floor Covering	Rubberized Vinyl
Interior	
Air Conditioning	Air Conditioning, single-zone
Radio	Audio system, 4.2" diagonal color display, AM/FM stereo with USB port and auxiliary jack
Tilt & Cruise	Steering column, manual Tilt-Wheel; Cruise control, steering wheel-mounted
Seats	
Seating Capacity min.	3 Passenger
Seats	40/20/40 Split Bench, Vinyl
Safety	
Brakes	Hydraulic, heavy duty Bosch/Meritor/Wabco system with 4-channel (ABS)
Restraint System All Pass	Standard
Air Bags Both Sides	Frontal, Seat Mounted Side Impact, & Head Curtain
Suspension	
Front	7500 lb Dana Spicer 60-256, single-reduction, front driving front axle
Rear	15,500 lbs multi-leaf, vari-rate rear suspension
Tires & Wheels	
Tires & Wheels	225/70R19.5G highway blackwall
Rear Wheels	225/70R19.5G highway blackwall; Dual Rear Wheels
Warranty	
Bumper to Bumper Warranty	3 Year / 36,000 Miles
Drive Train Warranty	5 Year / 100,000 Miles

2025 Chevy 4x4 5500MD Reg C&C - MSRP $68,822 less 5%	**$65,380.90**
2026 Model Year price increase - 5% estimate only	**$3,441.10**
11' Knapheide Body with AT 40 Telescopic Articulated, 45' Height, Bucket Lift	**$111,119.00**
Delivery Fee - 75 miles/$1.50 per mile (Waived if vehicle is picked up in Okarche)	**$112.50**
2026 4x4 5500HD Reg C&C Bucket Truck - FOB City of Shawnee (Estimate)	**$179,941.00**

Recommended Options:	
Full Size Spare Tire, 225/70R19.5G Highway Blackwall - MSRP $400 less 5%	**$380.00**
Engine Block Heater - MSRP $100 less 5%	**$95.00**
Skid Plates - MSRP $275 less 5%	**$261.25**
Power Windows (incls power mirrors) - MSRP $645 less 5%	**$612.75**
Remote Keyless Entry - MSRP $175 less 5%	**$166.25**

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Director of Engineering

Subject: Acknowledge Change Order No. 1 for Lowe's Water Line project.

Background: This change order reconciles multiple unit rate items. The changes are tied to the difference in field conditions from design plans.

This change order reduces the overall contract by $1,200.00 and additional itemized information is provided.

Financial Impact: Deduction of $1,200.00 for 304-5-1040-54200; C-23-04

Attachments: Change Order

Staff Recommendation: Approval of the item.

BURNS McDONNELL

01-05-2015 Form CO-2

CHANGE ORDER NO. 1 (Final)
For Contract between Owner and Contractor

Project Name: Lowe's Water Line Loop Replacement and Extension

BMcD Project No. 154794

Owner: City of Shawnee Client Project No. ARP-23-0015-DPG

Contractor: Davenport Construction Contract No. C-23-04

The below noted modification(s) to subject Contract are directed by Owner and accepted by Contractor (any applicable attachments are specifically identified):

An additional 45-degree fitting was required to avoid an electric line at the north end of the project and was utilized in lieu of a solid sleeve. All pavement replacement was completed as concrete to accelerate the paving process.

Table 2 - Modification of original pay items:

Pay Item Number	Description	Unit	Bid Quantity	Quantity Change	Revised Quantity	Unit Price	Contract Change
5	Remove and Replace Asphalt	SY	300	(300)	0	$300.00	($90,000.00)
6	Remove and Replace Concrete	SY	108	300	408	$300.00	$90,000.00
20	6" Gate Valve	EA	3	(1)	2	$2,400.00	($2,400.00)
29	14" 45° Bend	EA	2	1	3	$3,300.00	$3,300.00
31	12" Solid Sleeve	EA	1	(1)	0	$1,200.00	($1,200.00)
33	Traffic Stripe	LF	60	(60)	0	$15.00	($900.00)
						Total revised original pay items	($1,200.00)

The prices shown for original pay items were established by competitive bidding and the adjustments provided above include a decrease in the amount of $1,200.00.

All change order quantity adjustments for original pay items established by competitive bidding include a decrease in the amount of $1,200.00 which represents a decrease of 0.2% below the original contract price.

BURNS McDONNELL

01-05-2015 Form CO-2

As a result of the modification(s) described above:

The revised **Contract Price** is:

Original Contract Price		$ 549,017.00
Total net amount of all previous Change Orders	(+ or -).	$ 0.00
Total net amount of this Change Order	(+ or -).	$ (1,200.00)
Current Contract Price, including this Change Order		$547,817.00

The price and/or time extension set forth in this Change Order is full compensation for all costs and delays, direct and indirect, incurred in connection with the conditions giving rise to this Change Order, the work specified herein, and any consequential costs, delays, or effects on unchanged work resulting therefrom.

This Change Order, when executed, constitutes a modification to the Contract and all provisions of the Contract, except as modified above and by any previous Change Orders, shall apply hereto.

OWNER

City of Shawnee

By [signature]

Date 10/13/25

CONTRACTOR

Davenport Construction, Inc.

By [signature]

Date 10/6/2025

The conditions of the Change Order are noted for compliance and payment.

BURNS & McDONNELL

By Michael Way Digitally signed by Michael Way Date: 2025.10.07 05:54:03-05'00'

Date 10/7/2025

Community Development Department
16 W 9th Street, Shawnee, OK 74801

Date: October 20, 2025

To: Board of City Commissioners

From: Petya Stefanoff, Interim Community Development Director

Subject: Consideration of resolution authorizing the Mayor and Staff to sign closeout documents related to CV2 The City of Shawnee Community Development Block Grant Contract Number CDBG-EXP-CV2-Shawnee CI-03182 Coronavirus.

Background: The City of Shawnee received a COVID-19 Grant from the State Department of Commerce to support the community with various services for people affected by the pandemic. The City assisted with the following services within the grant limits: Mental Health Services, Mortgage/Rental Assistance, Nutrition Assistance, and Utility Assistance.

Financial Impact: The City was awarded $1,020,814.09, and $999,409.84 has been expended.

Attachments: COVID Grant Closeout Resolution

Staff Recommendation: Per the grant rules, the city is obligated to return the unused funds.

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND STAFF TO SIGN CLOSEOUT DOCUMENTS RELATED TO CV2 THE CITY OF SHAWNEE COMMUNITY DEVELOPMENT BLOCK GRANT CONTRACT NUMBER CDBG-EXP-CV2-SHAWNEE CI-03182 CORONAVIRUS PROJECT.

WHEREAS, the City of Shawnee has obtained additional CDBG CV grant funds within the community; and,

WHEREAS, the Board of Commissioners of the City of Shawnee directed Staff to proceed with the implementation of a grant received from the Oklahoma Department of Commerce to complete Coronavirus project activities within the community; and,

WHEREAS, the Oklahoma Department of Commerce (ODOC) has memorialized the grant as Contract Number CDBG-EXP-CV2-Shawnee CI-03182.

NOW THEREFORE, BE IT RESOLVED by the Board of Commissioners of the City of Shawnee that the following project close-out stipulations have been met:

1. All final costs to be covered by the contract has been incurred or obligated.
2. All project activities have been completed.
3. All leverage funds have been expended.
4. The following documentation is approved for submission through OKGrants.
   - A) Final Expenditure Report,
   - B) Contract Closeout Certification,
   - C) Final LMI Beneficiary QPR Report,
   - D) Proof of Second Public Hearing, and
   - E) Commission Minutes and Resolution.

PASSED AND APPROVED this 20th day of October, 2025.

_____
ERIC STEPHENS, MAYOR

ATTEST:
(SEAL)

_____
LISA LASYONE, MMC, CITY CLERK

DRAFT

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Consideration of a resolution for the selection of City of Shawnee Bridge Inspectors for the Oklahoma Department of Transportation Bridge Inspection Program.

Background: To comply with National Bridge Inspection (NBI) Standards, the City of Shawnee is required to inspect all NBI bridges every other year. Staff would like to select the same entity that has done our inspections for the previous 4 cycles, they also do the inspections for Pottawatomie County. This resolution elects to use the same consultant that the County selects, Circuit Engineering District No. 4, 40002 Benson Park Road, Shawnee Oklahoma.

Financial Impact: None

Attachments: Bridge Inspection Resolution 2025

Staff Recommendation: Approval of the Resolution

RESOLUTION NO. _____

CONCERNING BRIDGE INSPECTION RESPONSIBILITY BY LOCAL GOVERNMENT FOR COMPLIANCE WITH NATIONAL BRIDGE INSPECTION STANDARDS.

Bridge Inspection Contracts for April 1, 2026 to March 31, 2028

WHEREAS, the City of Shawnee has the responsibility of bridge maintenance and safety inspections.

WHEREAS, the City of Shawnee has the following options:

(1) Select one of Oklahoma Department of Transportation's (ODOT')s prequalified engineering firms.
(2) Elect to do bridge safety inspections with your own forces using inspection teams and an oversight engineer *fully qualified* as mandated by the NBIS (National Bridge Inspection Standards).
(3) Use the same consultant as Pottawatomie County.
(4) Let ODOT make your selection.

Therefore, BE IT RESOLVED, by the City of Shawnee, that it is their desire to select option No. 3 and to contract with:

Name: Circuit Engineering District No. 4
Address: 40002 Benson Park Road, Shawnee, OK 74801

as the engineer responsible for City bridge inspections as approved by the Oklahoma Department of Transportation.

PASSED and approved this_____day of_____, 2025.

_____
Eric Stephens, Mayor

ATTEST:
(Seal)

_____
Lisa Lasyone, MMC, City Clerk

DRAFT

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Consideration of a resolution for project sponsorship for the Oklahoma Department of Transportation (ODOT) Transportation Alternatives Program (TAP) Application and Maintenance Commitment for the Wallace Street Sidewalk project.

Background: The City of Shawnee aims to enhance pedestrian accessibility by adding ADA-compliant sidewalks on the north side of Wallace Street from Kickapoo to Harrison, as outlined in the current Capital Improvement Plan. This project, slated for FY 2026 and 2027, will benefit residents across three City wards, fill gaps in sidewalk infrastructure, improve ADA accessibility, and enhance pedestrian access to Jefferson Elementary School. To fund this project, the City is pursuing a Transportation Alternatives Program grant from the Oklahoma Department of Transportation.

The adoption of the resolution for project sponsorship is a requirement of the grant application. City staff recommends approval of the resolution.

Financial Impact: The required local match will be 20% of the total cost and is estimated to be $300,000

Attachments: Resolution, Cost Estimate & Cost Share Breakdown

Staff Recommendation: Approval of the resolution and authorization of the necessary signatures for the grant application

RESOLUTION NO. _____

RESOLUTION OF PROJECT SPONSORSHIP FOR A TRANSPORTATION ALTERNATIVES PROGRAM APPLICATION AND MAINTENANCE COMMITMENT

A RESOLUTION DECLARING THE ELIGIBILITY OF THE CITY OF SHAWNEE TO SUBMIT AN APPLICATION TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR USE OF TRANSPORTATION ALTERNATIVES PROGRAM FUNDS SET FORTH BY INFRASTRUCTURE INVESTMENT AND JOBS ACT FOR THE WALLACE STREET SIDEWALK PROJECT, SHAWNEE, OKLAHOMA AND AUTHORIZING THE CITY MANAGER TO SIGN THIS APPLICATION.

WHEREAS, the City of Shawnee, Oklahoma, is submitting an application to the Oklahoma Department of Transportation (ODOT) for transportation alternatives program funds in the amount of $778,708 set forth by MAP-21 and as outlined in ODOT's transportation alternatives program guidance & application packet for 2026; and

WHEREAS, the City of Shawnee, Oklahoma, is participating as an eligible project sponsor in the Oklahoma Department of Transportation's transportation alternatives program set forth by Infrastructure Investment and Jobs Act (IIJA); and

WHEREAS, federal monies are available under a transportation alternatives program set forth by IIJA, administered by the State of Oklahoma, Department of Transportation, for the purpose of creating and promoting the planning and development of active transportation facilities and programs in Oklahoma; and

WHEREAS the City of Shawnee, Oklahoma, acknowledges availability of the required local match of no less than 20%; and,

WHEREAS, after appropriate public input and due consideration, the governing body of City of Shawnee, Oklahoma, has recommended that an application be submitted to the state of Oklahoma for the Wallace Street Sidewalk Project.

NOW, THEREFORE, be it resolved by the governing body of the City of Shawnee, Oklahoma:

Section 1. That the City of Shawnee, Oklahoma, does hereby authorize the staff of the City of Shawnee, Oklahoma to submit an application to the Oklahoma Department of Transportation for transportation alternatives program funds set forth by IIJA on behalf of the citizens of City of Shawnee, Oklahoma.

Section 2. That the City of Shawnee, Oklahoma, hereby assures the Oklahoma Department of Transportation that sufficient funding for the Wallace Street Sidewalk Project is available.

Section 3. That the City of Shawnee, Oklahoma, hereby assures the Oklahoma Department of Transportation that sufficient funding for the operation and maintenance of the Wallace Street Sidewalk Project will be available for the life of the project.

DRAFT

Section 4. That the City of Shawnee, Oklahoma, hereby assures the Oklahoma Department of Transportation that the City of Shawnee, Oklahoma, will have title or permanent easement to the Wallace Street Sidewalk Project by the time of project letting, if necessary.

Section 5. That the chief project sponsor of City of Shawnee, Oklahoma, is authorized to sign the application to the Oklahoma Department of Transportation for transportation alternatives program funds set forth by IIJA on behalf of the citizens of Shawnee, Oklahoma. The chief project sponsor is also authorized to submit additional information as may be required and act as the official representative of the City of Shawnee, Oklahoma in this and subsequent related activities.

PASSED AND APPROVED this 20th day of October, 2025.

_____
ERIC STEPHENS, MAYOR

ATTEST:
(SEAL)

_____
LISA LASYONE, MMC, CITY CLERK

DRAFT

Wallace Street Sidewalk Project - Preliminary Cost Estimate

Date: 04.08.2024

	Item Number		Description	Quantity	Unit	Unit Cost	Total Cost
1	201 (A)	1200	Clearing and Grubbing	1	LSUM	$ 30,000.00	$ 30,000.00
2	202 (H)	2900	Earthwork	1	LSUM	$ 50,000.00	$ 50,000.00
3	220	1100	SWPPP Documentation and Management	1	LSUM	$ 5,000.00	$ 5,000.00
4	221		Erosion Control	1	LSUM	$ 20,000.00	$ 20,000.00
5	230 (A)	7200	Solid Slab Sodding	1500	SY	$ 5.00	$ 7,500.00
6	402	2600	Traffic Bound Surface Course Type E	800	TON	$ 70.00	$ 56,000.00
7	411 (B)		Superpave, Type S3 (PG 64-22 OK)	200	TON	$ 85.00	$ 17,000.00
8	411(B)		Superpave, Type S4 (PG 64-22 OK)	200	TON	$ 95.00	$ 19,000.00
9	509 (A)	200	Class AA Concrete	50	CY	$ 725.00	$ 36,250.00
10	509 (D)	500	Class C Concrete	10	CY	$ 800.00	$ 8,000.00
11	609 (B)	4360	2'-8" Comb. Curb & Gutter (6" Barrier)	1730	LF	$ 50.00	$ 86,500.00
12	609 (C)		Header Curb (18" and Less)	300	LF	$ 100.00	$ 30,000.00
13	610 (A)	5200	4" Concrete Sidewalk	1775	SY	$ 75.00	$ 133,125.00
14	610 (B)	5300	6" Concrete Driveway (HES)	475	SY	$ 110.00	$ 52,250.00
15	610 (I)	6000	Tactile Warning Device New	200	SF	$ 50.00	$ 10,000.00
16	612 (E)		Valve boxes adjust to grade	5	EA	$ 3,500.00	$ 17,500.00
17	612 (F)		Water Meter Reset	10	EA	$ 2,500.00	$ 25,000.00
18	619 (A)	6200	Removal of Obstructions	1	LSUM	$ 10,000.00	$ 10,000.00
19	622 (A)	200	Pipe Railing	150	LF	$ 250.00	$ 37,500.00
20	625	4300	Remove and Reconstruct Fence	375	LF	$ 40.00	$ 15,000.00
21	641	2110	Mobilization	1	LSUM	$ 70,000.00	$ 70,000.00
22	642 (B)	3300	Construction Staking Level II	1	LSUM	$ 10,000.00	$ 10,000.00
23	805 (A)	3528	Remove & Reset Existing Signs	10	EA	$ 700.00	$ 7,000.00
24	880 (J)		Construction Traffic Control	1	LSUM	$ 25,000.00	$ 25,000.00
25	856 (A)	8200	Traffic Stripe Multi Poly (4")	100	LF	$ 10.00	$ 1,000.00
26	856 (A)	8216	Traffic Stripe Multi Poly (24")	300	LF	$ 35.00	$ 10,500.00
						Railroad Engineering and Construction of crossing	$ 50,000.00
						Subtotal	$ 839,125.00
						Design	$ 85,000.00
						ROW Acquisition	$ 100,000.00
						Construction Administration & Inspection (6%)	$ 50,347.50
						Contingency (10%)	$ 83,912.50
						Total	$ 1,158,385.00

Wallace Street Sidewalk Cost Share Breakdown

04.08.2024

	City of Shawnee (20%)	ODOT (80%)	Total
Design	$ 85,000.00	$ -	$ 85,000.00
ROW Acquisition and Utility Rlocation	$ 100,000.00	$ -	$ 100,000.00
Construction Subtotal	$ 167,825.00	$ 671,300.00	$ 839,125.00
Construction Administration & Inspection	$ 10,069.50	$ 40,278.00	$ 50,347.50
Contingency	$ 16,782.50	$ 67,130.00	$ 83,912.50
Total	$ 379,677.00	$ 778,708.00	$ 1,158,385.00

City of Shawnee
OKLAHOMA

Community Development Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Petya Stefanoff, Interim Community Development Director

Subject: Public Hearing of a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 730 North Pennsylvania Avenue.
Case No. CUP02-25 | Applicant: Penny Schultz

Background: The property addressed as 730 N Pennsylvania Ave is located just south of the intersection of East Dewey Street and North Pennsylvania Avenue, and is zoned R-1 (Low Density Residential) with similar zoning surrounding it on all sides. The owner, Blue Peaches LLC, has designated the applicant, Penny Schultz, to make an application on their behalf for a Conditional Use Permit to operate a Short-Term Rental.

The applicant is requesting a Conditional Use Permit and License to begin operation as a new Short-Term Rental, as required by Sec. 22-199.I of the Unified Development Code. Short-Term Rentals are allowed in all Residential zoning districts with a CUP.

Discussion
A Conditional Use Permit authorizes the owner or agent to use a piece of property in such a way that is not normally allowed by right in a zoning district. It is an avenue by which certain land uses are allowed in a given zoning district, provided the owner meets the criteria.

Referencing the City of Shawnee Unified Development Code DIVISION 6. – Procedures. Section 22-227. – Conditional Use Permit. *"The planning commission shall review the conditional use permit and submit its report and recommendation to the effect of the proposed building or use upon the character of the neighborhood, traffic congestion, public utilities, and other matters pertaining to the general health, safety, and welfare of the public and to the city commission."*

In Section 22-197 of the Unified Development Code is Table 3.2 - Use Table. This table indicates that in the R-1 zoning district, a Short-Term Rental is permitted subject to acquiring a Conditional Use Permit (CUP).

The Comprehensive Plan Future Land Use Map indicates a Low Density Residential land use, and the current zoning district of R-1 (Low Density Residential) is designed to accommodate low-density single-family residential development supported by parks, open space, cultural, and educational amenities. A Short-Term Rental use is allowed in this zoning district with a CUP.

Staff completed the required public notices for this request via a mailed notice to the property owners

within 300 feet of the subject property as well as a publication in the County Democrat weekly newspaper.

Findings and Facts:

- The subject property has a zoning of R-1, which allows for a Short-Term Rental with a Conditional Use Permit
- The request conforms to the Comprehensive Plan Future Land Use Map.
- The Property Manager is Penny Schultz, the Applicant

Action:

- Accept the Planning Commission's Recommendation of Approval with No Conditions for the request (CUP02-25) to operate a Short-Term Rental.
- Deny the request for Conditional Use Permit (CUP02-25).
- Approve the request With Conditions, with the understanding that if the Applicant fails to comply the CUP will be revoked.
- Defer to a certain date for further discussion and information.

Financial Impact: None

Attachments: CUP02-25 PC to CC Record of Action, Application packet

Staff Recommendation: Staff recommends accepting the Planning Commission's recommendation of Approval of the CUP with No Conditions.

RECORD OF ACTION

DATE: October 20, 2025

TO: Mayor and Board of City Commissioners -- City of Shawnee, OK

FROM: Diana Hood, City Planner

SUBJECT: **Record of Action by Planning Commission**

==========

CASE NO: CUP02-25

REQUEST: Public Hearing and Consideration of a request for a Conditional Use Permit to operate a Short-Term Rental at the property addressed as 730 N Pennsylvania Avenue.

Applicant: Penny Schultz

Subject Property Address: 730 N Pennsylvania Ave

Legal Description: DEXTER'S 2ND BLK 4 LOT 8

Current Zoning: R-1 (Low Density Residential) **Requested Zoning:** N/A

Staff Recommendation: Approval as presented.

==========

Planning Commission Meeting Date: October 1, 2025

PC Recommendation: Approval.

Conditions: None

Vote: 6 -- 0 -- 0 Members Present: 6

Members:	Motion	2nd	Aye	Nay	Abstain	Comments
ALEXANDER			X			
PORTER		X	X			
JOHNSON			X			
REESE	X		X			
BARRETT(CHAIR)						
HAYES			X			
HEMBREE			X			

PLANNING COMMISSION APPLICATION

City of Shawnee
OKLAHOMA

City of Shawnee
Community Development Department

16 West 9th Street
Shawnee, OK 74801
(405) 878-1672
COSPlanning@shawneeok.org
Fax (405) 878-1587 www.ShawneeOK.org

For Office Use Only

Case Number:_____

Project Number :_____

Date Filed:_____

_____
Planning Commission Secretary

REQUEST:

_____Rezoning
__✓__Conditional Use Permit
_____Rezoning w/Conditional Use Permit
_____Planned Unit Development

I, the undersigned, do hereby respectfully make application and petition to the City Commission to amend the zoning map, and to change the zoning district of the Shawnee area, from_____District to _____District, as hereinafter requested, and in support of this application, the following facts are shown:

PROPERTY LOCATION (STREET ADDRESS): 730 N. Pennsylvania

LEGAL DESCRIPTION: Dexter's 2nd Block 4 Lot 8

PROPERTY OWNER (S): Blue Peaches, LLC

PROPERTY AGENT (APPLICANT): Penny Schultz

APPLICANT'S ADDRESS: 43607 Moccasin Trail Road

CITY: Meeker STATE: OK ZIP: 74855

EMAIL ADDRESS: pennyjacklinschultz@hotmail.com

TELEPHONE NUMBER: (405) 464.0974 CONTACT NUMBER: (405) 432.9889

DIMENSIONS OF PROPERTY: AREA:_____ WIDTH:_____

LENGTH:_____ FRONTAGE:_____

CURRENT ZONING:_____ **CURRENT USE:** rental

PROPOSED ZONING:_____ **PROPOSED USE:** Airbnb

With the filing of this application, I acknowledge that I have been informed of off-street parking, fencing and paving requirements in regard to the zoning I have requested as witnessed by my signature COMPLETED APPLICATION AND ALL CORRESPONDING DOCUMENTS MUST BE RECEIVED 30 DAYS PRIOR TO MEETING TO MAKE THE AGENDA.

_____
SIGNATURE OF APPLICANT

FOR STAFF USE ONLY

REZONING &/OR C.U.P FEE $ 350.00 **PLANNED UNIT DEVELOPMENT FEE $ 550.00**

RECEIPT NO. _____

PLANNING COMMISSION ACTION:_____ **DATE:**_____

CITY COMMISSION ACTION:_____ **DATE:**_____

PLACE ON ZONING MAP: _____ **ORDINANCE NO.:**_____

STEADILY INSURANCE AGENCY INC.
9450 SW GEMINI DR PMB 18626
BEAVERTON, OR 97008

****

VISION BANK
PO BOX 698
SHAWNEE, OK 74802-0698

Invoice

STEADILY.

Invoice ID INV_01K0QDB4NQ8QBF0S9G99160YYQ
Date of issue July 21, 2025
Date due September 04, 2025

For Standard Mail (USPS only):

Steadily Insurance Agency, Inc
P.O. Box 122314
Dallas, TX 75312-2314

For Overnight or Courier Deliveries Only (FedEx, UPS, etc.):

Steadily Insurance Agency, Inc
Lockbox #892314
885 East Collins Boulevard, Suite 110
Richardson, TX 75081

Bill to

Blue Peaches
LLC

Questions about this invoice?

Contact the producing agency listed on the policy declarations page.

$1,518.31 USD due September 04, 2025

Pay online

Description	Amount
SP1-OK-20377131-00 | 730 N Pennsylvania Ave, Shawnee, OK 74801	$1,518.31
Subtotal	$1,518.31
Total	$1,518.31
Amount due	**$1,518.31 USD**

STEADILY.

Policy Number SP1-OK-20377131-00

Insurance Declarations Page

$1,518.31

Annual premium, fees and taxes

Policy Information

Starts	**July 21, 2025 12:01 AM**
Expires	**July 21, 2026 12:01 AM** Both dates 12:01 AM LST at the Insured Risk Address
Named Insured	Blue Peaches LLC 43607 Moccasin Trail Rd Meeker, OK 74855
Policy Type	DP-0001 Dwelling Policy
Policy Number	SP1-OK-20377131-00
Insuring Company	Canopius US Insurance, Inc.
Program Administrator	Steadily Insurance Agency, Inc.
Producing Agency	Kelli James Agency/08456E

Payment Information

Pay online steadily.com/pay

Pay by check
Payable to: "Steadily Insurance Agency, Inc"
Memo: "Policy SP1-OK-20377131-00"

Payment Addresses - Please Read Carefully:
For Standard Mail (USPS only):
Steadily Insurance Agency, Inc
P.O. Box 122314
Dallas, TX 75312-2314

For Overnight or Courier Deliveries Only (FedEx, UPS, etc.):
Steadily Insurance Agency, Inc
Lockbox #892314
885 East Collins Boulevard, Suite 110
Richardson, TX 75081
*This address is for courier services only - it does **not** accept USPS mail.*

Need help?

Your Agent
Kelli James
Kelli James Agency/08456E
4055852944
kjames2@farmersagent.com

File a Claim
steadily.com/claims
claims@steadily.com

Premium & Fees

730 N Pennsylvania Ave	$1,430.00
Surplus Lines Tax	$85.80
Slas Transaction Fee	$2.51
Total Amount Due	**$1,518.31**

If paid in full or via escrow, the premium and all applicable taxes and fees are required at time of payment. Installment plans will include annualized taxes and fees in initial payment. Inspection fee of $32.00 is included in displayed premium.

STEADILY.

Policy Number SP1-OK-20377131-00

Declarations Page for 730 N Pennsylvania Ave

730 N Pennsylvania Ave
Shawnee, OK 74801
Pottawatomie County

First Mortgagee:
Vision Bank
PO Box 698
Shawnee, OK 74802
Loan/Contract #s: 4480005641

Occupancy	Tenant-Occupied
Short term rental	Yes
Residence type	Single Family
Year built	1945
Construction	Frame
Size	650 square feet

Coverages

Property Coverage	**Limits**	**Premium**
Dwelling (the house)	$73,000	$1,303.00
Loss Valuation*	Actual Cash Value	
Private Structures (other than the house)	$0	-$2.00
Loss Valuation	Actual Cash Value	
Personal Property	$0	$0.00
Loss Valuation	Actual Cash Value	
Additional Living Costs And Fair Rental Value	$0	$0.00
Bed Bug Infestation Cost Reimbursement Coverage		$18.00
Aggregate Limit Per Policy	$5,000	
Aggregate Limit Per Described Location	$5,000	
HOA Fines Coverage		$0.00
Aggregate Limit Per Policy	$1,000	
Limit Per Occurrence	$500	
Loss Assessment Coverage	Excluded	Excluded

*Roof Loss Settlement Terms may vary based on the age of the roof and the location of the risk. Please refer to your policy for the Roof Loss Settlement Type which is applicable to this dwelling. (Not applicable in New Mexico.)

Liability Coverage	**Limits**	**Premium**
Personal Liability	Excluded	
Premises Liability	$100,000 per occurrence	$66.00
Animal Liability Sublimit	$10,000	
Off-Premises Liability Extension	$10,000	$13.00
Medical Payments	$500 per person / $25,000 per occurrence	$0.00

Deductibles	**Deductible Amount**
All Other Perils	$5,000
Wind and Hail	$5,000

Policy Discounts

STDLYDEC-CW 425
Program administered by Steadily Insurance Agency, Inc. | 9450 SW Gemini Dr, PMB 18626, Beaverton OR 97008

STEADILY.

Policy Number SP1-OK-20377131-00

Paperless, Loss Free, Generation

Dwelling Discounts

Home Protection, Local Smoke and/or Burglar Alarm

Tax Year 2025
OTC
926
Revised 11-2024

State of Oklahoma
County Assessor Notice of Increase in Valuation of Real Property

Pottawatomie County Assessor PO BOX 1748 Shawnee OK 74802-

Account # 630018308

BLUE PEACHES LLC
43607 MOCCASIN TRAIL RD
MEEKER OK 74855-

Phone
Email

This is NOT a tax bill.

The County Treasurer will mail a tax statement later in this calendar year.

Notice: ***The mailing date of this notice will extend the filing period for Homestead Exemption, Additional Homestead Exemption and Senior Valuation Limitation for 30 days.***

Date Mailed	Property Account Number	Physical Address	Homestead	School District
4/20/2025	0765-00-004-008-0-000-00	00730 N PENNSYLVANIA	N	93

Categories	Preceding Year	Current Year	Explanation of Values
Fair Cash Value (Market)	34,331	33,032	**Fair Cash Value (Market):** The value or price at which a willing buyer would purchase the property and a willing seller would sell the property if both parties are knowledgeable about the property. [68 O.S . § 2802(19)].

Categories	Preceding Year	Current Year	Explanation of Values
Taxable Fair Cash Value (Capped)	31,810	33,032	**Taxable Fair Cash Value (Capped):** The annual increase in taxable fair cash value is limited to 3% on homestead property and agricultural land, and 5% on all other real property unless the property is transferred, changed, or conveyed during the preceding calendar year, or improvements were made to the property. [Oklahoma Constitution Article 10 § 8B & 68 O.S. § 2802(29)].
Assessment Percentage	12.00%	12.00%	**Assessment Percentage:** Means the percentage applied to personal property and real property pursuant to Section 8 of Article X of the Oklahoma Constitution. [68 O.S. § 2802(6)].
Assessed Value	3,817	3,964	**Assessed Value:** Means the percentage of the fair cash value of personal property, or the percentage of the taxable fair cash value of real property, pursuant to the provisions of Sections 8 and 8B of Article X of the Oklahoma Constitution, either of individual items of personal property, parcels of real property or the aggregate total of such individual taxable items or parcels within a jurisdiction. [68 O.S. § 2802(5)].
Estimated Tax	393.00	408.00	**Estimated Tax:** Taxes are estimated using last years levies and may be subject to change.

Legal Description:
DEXTER'S 2ND BLK 4 LOT 8

Lot 0008 Block 0004

NOTE:

For additional information regarding this notice contact your County Assessor's office.

Leona Satterfield

PO BOX 1748
Shawnee OK 74802-

Phone (405) 275-4740
Fax

202100010942
Filed for Record in
POTTAWATOMIE OKLAHOMA
RAESHEL FLEWALLEN, COUNTY CLERK
08-09-2021 At 10:49 am.
QCD 20.00

Instrument PG 1 OF 2
202100010942

Return to: Blue Peaches,LLC
c/o Penny Schultz
43607 Moccasin Trail
Meeker, Ok 74855

QUIT CLAIM DEED

(OKLAHOMA STATUTORY FORM)

Doc Stamps: exempt per section 3202 para 3 Tax ID#: 0765-00-004-008-0-000-00

THAT, D & K HOUSING LLC, PARTY OF THE FIRST PART, IN CONSIDERATION OF THE SUM OF TEN & NO/100THS.....DOLLARS, AND OTHER VALUABLE CONSIDERATIONS, IN HAND PAID, THE RECEIPT WHICH IS HEREBY ACKNOWLEDGED, DO HEREBY QUITCLAIM, GRANT, BARGIN, SELL AND CONVEY UNTO BLUE PEACHES, LLC, PARTY OF THE SECOND PART, THE FOLLOWING DESCRIBED REAL PROPERTY AND PREMISES SITUATED IN POTTAWATOMIE COUNTY, STATE OF OKLAHOMA, TO WIT:

LOT EIGHT (8), BLOCK FOUR (4), DEXTER'S 2ND ADDITION TO THE CITY OF SHAWNEE, POTTAWATOMIE COUNTY, OKLAHOMA.

PROPERTY ADDRESS: 730 N. PENNSYLVANIA, SHAWNEE, OK 74801

TOGETHER WITH ALL AND SINGULAR THE HEREDITAMENTS AND APPURTENANCES THEREUNTO BELONGING.

TO HAVE AND TO HOLD THE ABOVE DESCRIBED PREMISES UNTO THE SAID PARTY OF THE SECOND PART, AND TO THE HEIRS, SUCCESSORS AND ASSIGNS FOREVER.

IRS DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
CINCINNATI OH 45999-0023

Date of this notice: 06-25-2021

Employer Identification Number:
87-1391955

Form: SS-4

Number of this notice: CP 575 B

For assistance you may call us at:
1-800-829-4933

IF YOU WRITE, ATTACH THE
STUB AT THE END OF THIS NOTICE.

BLUE PEACHES
PENNY L SCHULTZ MBR
43607 MOCCASIN TRAIL RD
MEEKER, OK 74855

WE ASSIGNED YOU AN EMPLOYER IDENTIFICATION NUMBER

Thank you for applying for an Employer Identification Number (EIN). We assigned you EIN 87-1391955. This EIN will identify you, your business accounts, tax returns, and documents, even if you have no employees. Please keep this notice in your permanent records.

When filing tax documents, payments, and related correspondence, it is very important that you use your EIN and complete name and address exactly as shown above. Any variation may cause a delay in processing, result in incorrect information in your account, or even cause you to be assigned more than one EIN. If the information is not correct as shown above, please make the correction using the attached tear off stub and return it to us.

Based on the information received from you or your representative, you must file the following form(s) by the date(s) shown.

Form 1065 03/15/2022

If you have questions about the form(s) or the due date(s) shown, you can call us at the phone number or write to us at the address shown at the top of this notice. If you need help in determining your annual accounting period (tax year), see Publication 538, *Accounting Periods and Methods*.

We assigned you a tax classification based on information obtained from you or your representative. It is not a legal determination of your tax classification, and is not binding on the IRS. If you want a legal determination of your tax classification, you may request a private letter ruling from the IRS under the guidelines in Revenue Procedure 2004-1, 2004-1 I.R.B. 1 (or superseding Revenue Procedure for the year at issue). Note: Certain tax classification elections can be requested by filing Form 8832, *Entity Classification Election*. See Form 8832 and its instructions for additional information.

A limited liability company (LLC) may file Form 8832, *Entity Classification Election*, and elect to be classified as an association taxable as a corporation. If the LLC is eligible to be treated as a corporation that meets certain tests and it will be electing S corporation status, it must timely file Form 2553, *Election by a Small Business Corporation*. The LLC will be treated as a corporation as of the effective date of the S corporation election and does not need to file Form 8832.

To obtain tax forms and publications, including those referenced in this notice, visit our Web site at www.irs.gov. If you do not have access to the Internet, call 1-800-829-3676 (TTY/TDD 1-800-829-4059) or visit your local IRS office.

Pottawatomie

Parcel Map and Account Listing

Data provided by Leona Satterfield County Assessor

Date 08/11/2025
Time 14:54:33

Map Image

The Pottawatomie County GIS Data is for informational purposes only and should not be used to determine precise boundaries, parcel boundaries, appraisal, engineering, or legal descriptions. This map is not a legal document and shall not be construed as an official survey.

Account List

Account	630018320	Current Owner	Legal Description
ParcelID	0765-00-005-008-0-000-00	LINCOLN CAPITAL LLC	DEXTER'S 2ND BLOCK 5 LOT 8
Situs	00924 N TUCKER		
Sec/Twn/Rng		SERIES 924 NORTH TUCKER	
Subdivision	DEXTERS 2ND	401 DANA LANE	
Block/Lot	0005 / 0008	MCLOUD OK 74851-	
Lot Size	1 Lots	Book/Page 2022-3645	
Account	**630018319**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-007-0-000-00	POTTAWATOMIE COUNTY	DEXTER'S 2ND BLK 5 LOT 7
Situs	00928 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	309 N BROADWAY	
Block/Lot	0005 / 0007	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 0195-7743	
Account	**630018379**	**Current Owner**	**Legal Description**
ParcelID	0765-00-010-011-0-000-00	ALVAREZ JASON	DEXTER'S 2ND BLK 10 LOT 11
Situs	01006 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	28287 LEO RD	
Block/Lot	0010 / 0011	MACOMB OK 74852-000C	
Lot Size	1 Lots	Book/Page 2015-9107	

Account	630018380	Current Owner	Legal Description
ParcelID	0765-00-010-012-0-000-00	POTTAWATOMIE COUNTY	DEXTER'S 2ND BLK 10 LOT 12
Situs	01002 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	309 N BROADWAY	
Block/Lot	0010 / 0012	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2015-7134	
Account	**630018298**	**Current Owner**	**Legal Description**
ParcelID	0765-00-003-007-0-000-00	VANDERBURG ODELL N & MARY E	DEXTER'S 2ND BLK 3 LOTS 7 & 8
Situs	00712 N MINNESOTA		
Sec/Twn/Rng		% RONALD VANDERBURG	
Subdivision	DEXTERS 2ND	712 N MINNESOTA	
Block/Lot	0003 / 0007	SHAWNEE OK 74801-000C	
Lot Size	2 Lots	Book/Page 2028-0280	
Account	**630018383**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-003-0-000-00	LACLAIRE BOBBIE JUNE	DEXTER'S 2ND BLK 11 LOT 3
Situs	00805 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	805 N MINNESOTA AVE	
Block/Lot	0011 / 0003	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2017-0062	
Account	**630018305**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-005-0-000-00	FIRST INDIAN BAPTIST CHURCH	DEXTER'S 2ND BLK 4 LOT 5 LAND 300 IMP. 2130
Situs			
Sec/Twn/Rng		XXXXXXXX	
Subdivision	DEXTERS 2ND	MINNESOTA & DARROW	
Block/Lot	0004 / 0005	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page	
Account	**630018318**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-006-0-000-00	EDMONSON TOMMY & ADENIA	DEXTER'S 2ND BLK 5 LOT 6
Situs	00731 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	4031 FRED STEVENS LN	
Block/Lot	0005 / 0006	CHOCTAW OK 73020-	
Lot Size	1 Lots	Book/Page 2021-3832	
Account	**630018306**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-006-0-000-00	ON POINT PROPERTIES LLC	DEXTER'S 2ND BLK 4 LOT 6
Situs	00715 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	31 VIVIAN TERRACE	
Block/Lot	0004 / 0006	SHAWNEE OK 74804-	
Lot Size	1 Lots	Book/Page 2023-5030	
Account	**630018373**	**Current Owner**	**Legal Description**
ParcelID	0765-00-010-004-0-000-00	TAHERI JIM	DEXTER'S 2ND BLK 10 LOT 4
Situs	00807 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	807 N PENN	
Block/Lot	0010 / 0004	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2007-4460	
Account	**630018308**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-008-0-000-00	BLUE PEACHES LLC	DEXTER'S 2ND BLK 4 LOT 8
Situs	00730 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	43607 MOCCASIN TRAIL RD	
Block/Lot	0004 / 0008	MEEKER OK 74855-	
Lot Size	1 Lots	Book/Page 2021-7061	
Account	**630018382**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-002-0-000-00	CROSS LORI ANN & RICKY BRUCE SR	DEXTER'S 2ND BLK 11 LOT 2
Situs	00803 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	803 N MINNESOTA AVE	
Block/Lot	0011 / 0002	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2022-4158	

Account	630018405	Current Owner	Legal Description
ParcelID	0765-00-012-012-0-000-00	BYRD STEVEN GLEN	DEXTER'S 2ND BLOCK 12 LOT 12
Situs	00802 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	802 N MINNESOTA	
Block/Lot	0012 / 0012	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2014-3340	
Account	**630018404**	**Current Owner**	**Legal Description**
ParcelID	0765-00-012-011-0-000-00	BYRD STEVEN GLEN	DEXTER'S 2ND BLK 12 LOT 11
Situs	00804 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	802 N MINNESOTA AVE	
Block/Lot	0012 / 0011	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2014-3772	
Account	**630018372**	**Current Owner**	**Legal Description**
ParcelID	0765-00-010-003-0-000-00	PINE RIDGE INVESTMENTS LLC	DEXTER'S 2ND BLK 10 LOT 3
Situs	00805 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	3400 E FOREST PARK DR	
Block/Lot	0010 / 0003	OKLAHOMA CITY OK 73121-2228	
Lot Size	1 Lots	Book/Page 2022-2276	
Account	**630018392**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-012-0-000-00	PRYOR ROBERT & MONICA	DEXTER'S 2ND BLK 11 LOT 12 (2006 9258)
Situs	00802 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	105280 S 3440 RD	
Block/Lot	0011 / 0012	MEEKER OK 74855-000C	
Lot Size	1 Lots	Book/Page 2014-6265	
Account	**630018371**	**Current Owner**	**Legal Description**
ParcelID	0765-00-010-001-0-000-00	CRAWFORD ANGELA LIVING TRUST	DEXTER'S 2ND BLK 10 LOT 1
Situs	00801 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	P O BOX 462	
Block/Lot	0010 / 0001	SHAWNEE OK 74802-0462	
Lot Size	1 Lots	Book/Page 2017-9205	
Account	**630018307**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-007-0-000-00	TUTTLE AMBROYSHA M	DEXTER'S 2ND BLK 4 LOT 7
Situs	00732 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	732 N PENNSYLVANIA AVE	
Block/Lot	0004 / 0007	SHAWNEE OK 74801-6336	
Lot Size	1 Lots	Book/Page 0185-6406	
Account	**630018390**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-010-0-000-00	TABLETOP INVESTMENTS LLC	DEXTER'S 2ND BLK 11 LOT 10
Situs	00812 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	12608 ARROWHEAD DR	
Block/Lot	0011 / 0010	OKC OK 73120-000C	
Lot Size	1 Lots	Book/Page 2019-3324	
Account	**630018384**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-004-0-000-00	LONG RONALD J & JANICE L	DEXTER'S 2ND BLK 11 LOT 4
Situs	00809 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	809 N MINNESOTA	
Block/Lot	0011 / 0004	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2533-0319	
Account	**630018317**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-005-0-000-00	D & K HOUSING LLC	DEXTER'S 2ND BLK 5 LOT 5
Situs	00729 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	439 E WALLACE	
Block/Lot	0005 / 0005	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2017-3524	

Account	630018381	Current Owner	Legal Description
ParcelID	0765-00-011-001-0-000-00	HITTELL JAMES ALBERT	DEXTER'S 2ND BLK 11 LOT 1
Situs	00801 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	801 N MINNESOTA	
Block/Lot	0011 / 0001	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2005-0991	
Account	**630018391**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-011-0-000-00	TABLETOP INVESTMNETS LLC	DEXTER'S 2ND BLK 11 LOT 11
Situs	00808 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	12608 ARROWHEAD DR	
Block/Lot	0011 / 0011	OKC OK 73120-000C	
Lot Size	1 Lots	Book/Page 2019-3318	
Account	**630018389**	**Current Owner**	**Legal Description**
ParcelID	0765-00-011-009-0-000-00	TABLETOP INVESTMENTS LLC	DEXTER'S 2ND BLK 11 LOT 9
Situs	00816 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	12608 ARROWHEAD DR	
Block/Lot	0011 / 0009	OKC OK 73120-000C	
Lot Size	1 Lots	Book/Page 2019-3322	
Account	**630018323**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-011-0-000-00	SNODGRASS NELDA J	DEXTER'S 2ND BLK 5 LOT 11 LAND 630 IMP 650
Situs	00914 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	914 N TUCKER	
Block/Lot	0005 / 0011	SHAWNEE OK 74801-000C	
Lot Size	Lots	Book/Page 2014-1124	
Account	**630018321**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-009-0-000-00	LAPACH FRED RAY & TAMMY LYNN	DEXTER'S 2ND BLK 5 LOT 9
Situs	00920 N TUCKER		
Sec/Twn/Rng		2022 REVOCABLE TRUST	
Subdivision	DEXTERS 2ND	211 E SEVERN	
Block/Lot	0005 / 0009	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2022-7306	
Account	**630018322**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-010-0-000-00	POWELL FAWN	DEXTER'S 2ND BLK 5 LOT 10 LAND 630 IMP 1570
Situs	00916 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	916 N TUCKER	
Block/Lot	0005 / 0010	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2008-0389	
Account	**630018324**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-012-0-000-00	ROARK JERRY & LISA	DEXTER'S 2ND BLK 5 LOT 12
Situs	00902 N TUCKER		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	902 N TUCKER	
Block/Lot	0005 / 0012	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2022-5895	
Account	**630010975**	**Current Owner**	**Legal Description**
ParcelID	0000-18-010-004-0-020-00	ROBERTS STANLEY R & ANDREW THOMAS	93-SU ADJ DEXTER'S 2ND BEG 60'S & 16'W SW/C BLK 4 S109' E176' N109' W176' POB.LESS .19 AC 2011-12827
Situs	00501 E DARROW		
Sec/Twn/Rng	18-10N-4E		
Subdivision		501 E DARROW ST	
Block/Lot		SHAWNEE OK 74801-	
Lot Size	0.2500 Acres	Book/Page 2022-2272	
Account	**630050024**	**Current Owner**	**Legal Description**
ParcelID	0000-18-010-004-0-020-01	WRIGHT KEITH & MACHELLE	BEG 60'S & 84'E OF SW/C BLK 4 DEXTERS 2ND TH E76' S109' W76' N109' POB
Situs	00505 E DARROW		
Sec/Twn/Rng	18-10N-4E		
Subdivision		1212 TURNBERRY CIR	
Block/Lot		SHAWNEE OK 74801-000C	
Lot Size	0.1900 Acres	Book/Page 2012-0205	

Account	630018313	Current Owner	Legal Description
ParcelID	0765-00-005-001-0-000-00	HACKLER JUANITA C	DEXTER'S 2ND BLK 5 LOT 1 TOD TO BRYAN ERIC JOHNSON 2022-12201
Situs	00721 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	721 N PENNSYLVANIA AVE	
Block/Lot	0005 / 0001	SHAWNEE OK 74801-	
Lot Size	1 Lots	Book/Page 2022-1006	
Account	**630018299**	**Current Owner**	**Legal Description**
ParcelID	0765-00-003-009-0-000-00	JONES MICHAEL & MARILYN	DEXTER'S 2ND BLK 3 LOT 9
Situs	00708 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	44308 WESTECH RD	
Block/Lot	0003 / 0009	SHAWNEE OK 74804-000C	
Lot Size	1 Lots	Book/Page 2014-8561	
Account	**630018312**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-012-0-000-00	HARRIS ZONADA FAYE	DEXTER'S 2ND BLK 4 LOT 12
Situs	00720 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	2765 S HARRAH RD	
Block/Lot	0004 / 0012	HARRAH OK 73045-	
Lot Size	1 Lots	Book/Page 2022-1679	
Account	**630018300**	**Current Owner**	**Legal Description**
ParcelID	0765-00-003-010-0-000-00	JONES HAROLD P JR & KERI	DEXTER'S 2ND BLK 3 LOT 10
Situs	00706 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	706 N MINNESOTA	
Block/Lot	0003 / 0010	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2348-0037	
Account	**630018311**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-011-0-000-00	WAPSKINEH RONALD	DEXTER'S 2ND BLK 4 LOT 11
Situs	00724 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	724 N PENNSYLVANIA	
Block/Lot	0004 / 0011	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2017-2492	
Account	**630018315**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-003-0-000-00	HOUSING AUTH OF THE	DEXTER'S 2ND BLK 5 LOT 3 LAND 200
Situs	00725 N PENNSYLVANIA		
Sec/Twn/Rng		CITY OF SHAWNEE	
Subdivision	DEXTERS 2ND	P O BOX 3427	
Block/Lot	0005 / 0003	SHAWNEE OK 74802-000C	
Lot Size	1 Lots	Book/Page	
Account	**630018302**	**Current Owner**	**Legal Description**
ParcelID	0765-00-003-011-0-001-00	GRUNDEN RONALD R	DEXTER'S 2ND BLK 3 E90' LOTS 11 & 12
Situs	00704 N MINNESOTA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	704 N MINNESOTA	
Block/Lot	0003 / 0011	SHAWNEE OK 74801-000C	
Lot Size	1 Lots	Book/Page 2004-6175	
Account	**630018316**	**Current Owner**	**Legal Description**
ParcelID	0765-00-005-004-0-000-00	COFFEY WESLEY P & DAVID W	DEXTER'S 2ND BLK 5 LOT 4
Situs	00727 N PENNSYLVANIA		
Sec/Twn/Rng		COFFEY & SUSAN J STEELE	
Subdivision	DEXTERS 2ND	344373 E 1000 RD	
Block/Lot	0005 / 0004	MEEKER OK 74855-000C	
Lot Size	1 Lots	Book/Page 2019-9618	
Account	**630018310**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-010-0-000-00	HARJO SHARON MELODY	DEXTER'S 2ND BLK 4 LOT 10
Situs	00726 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	PO BOX 3606	
Block/Lot	0004 / 0010	SHAWNEE OK 74802-3606	
Lot Size	1 Lots	Book/Page 2008-3011	

Account List

Account	630018314	Current Owner	Legal Description
ParcelID	0765-00-005-002-0-000-00	BIBB LLEWELLYN VIRGINIA	DEXTER'S 2ND BLK 5 LOT 2
Situs	00723 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	723 N PENNSYLVANIA	
Block/Lot	0005 / 0002	SHAWNEE Ok 74801-000C	
Lot Size	1 Lots	Book/Page 2017-4573	
Account	**630018309**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-009-0-000-00	FIRST INDIAN BAPTIST CHURCH	DEXTER'S 2ND BLK 4 LOT 9
Situs	00728 N PENNSYLVANIA		
Sec/Twn/Rng			
Subdivision	DEXTERS 2ND	P O BOX 1561	
Block/Lot	0004 / 0009	SHAWNEE Ok 74802-000C	
Lot Size	1 Lots	Book/Page 2016-1357	
Account	**630018303**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-001-0-000-00	FIRST INDIAN BAPTIST CHURCH	DEXTER'S 2ND BLK 4 LOTS 1 THRU 3 LAND 105
Situs			
Sec/Twn/Rng		XXXXXXXX	
Subdivision	DEXTERS 2ND	MINNESOTA & DARROW	
Block/Lot	0004 / 0001	SHAWNEE Ok 74801-000C	
Lot Size	Lots	Book/Page	
Account	**630018304**	**Current Owner**	**Legal Description**
ParcelID	0765-00-004-004-0-000-00	FIRST INDIAN BAPTIST CHURCH	DEXTER'S 2ND BLK 4 LOT 4 LAND 35 IMP. 1565
Situs			
Sec/Twn/Rng		XXXXXXXX	
Subdivision	DEXTERS 2ND	MINNESOTA & DARROW	
Block/Lot	0004 / 0004	SHAWNEE Ok 74801-000C	
Lot Size	1 Lots	Book/Page	

Conditional Use Permit (CUP)

ADDRESS: 730 N Pennsylvania Ave

CASE NUMBER: CUP02-25

USE APPROVED: Short-Term Rental

CONDITIONS OF APPROVAL: N / A

UPON DUE NOTICE OF THIS PUBLIC HEARING AND CONSIDERATION OF COMMENTS AND RECOMMENDATIONS OF ALL INTERESTED PARTIES, THE BOARD OF COMMISSIONERS OF THE CITY OF SHAWNEE, OKLAHOMA, DOES HEREBY AUTHORIZE THE CONDITIONAL USE OF THE LAND OR BUILDINGS TO OCCUR ON THE SUBJECT PROPERTY ACCORDING TO THE INFORMATION CONTAINED IN THE APPLICATION AND ILLUSTRATED ON THE SITE PLAN. THE USE PERMIT IS GRANTED WITH THE ABOVE-STATED CONDITIONS ON THIS __20th_ DAY OF ___October_____, 20__25__.

_____

ERIC STEPHENS, MAYOR
SHAWNEE CITY COMMISSION

(SEAL)

ATTEST:

_____

LISA LASYONE, CITY CLERK

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Shawnee SW Loop Watermain Loop, Project No. 25-1040-01

Background: In December of 2024, the City of Shawnee entered into a Professional Services Agreement with Wall Engineering, LLC for the final design of the Southwest Loop Watermain project.

With design complete, the project was advertised and staff opened bids on October 7, 2025. City staff and the Wall design team have reviewed the bid proposals. Sixteen (16) bids were received, and the base bids ranged from $1,436,364 to $3,025,701. The design estimate for the Base Bid, prior to the bid opening, was $1,940,000.

Staff recommends awarding the base bid to Sooner Site Utility & Construction, LLC, at $1,436,364.00.

Financial Impact: $1,436,364.00; from 501-5-1040-54200; Proj. No. 25-1040-01

Attachments: Specs, Award Docs, Drawings

Staff Recommendation: Award of the Contract.

SHAWNEE MUNICIPAL AUTHORITY

CDBG WATER SYSTEM IMPROVEMENTS

CONTRACT DOCUMENTS & SPECIFICATIONS
VOLUME 2 OF 3
DIVISION 01 - 33

ISSUED FOR BIDDING

STATE OF OKLAHOMA
Department of Environmental Quality
APPROVED
July 17, 2025
Water Quality Division
Construction Permitting Section

Permit Number: WL000063250449R

Date Received: July 17 2025

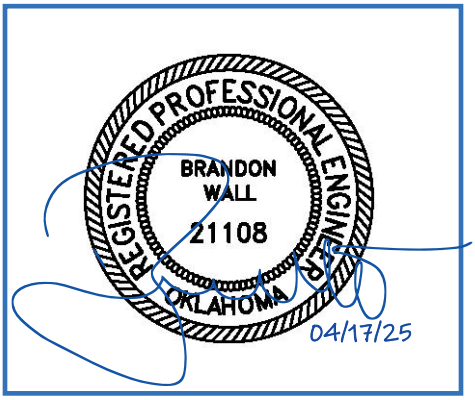
WALL ENGINEERING

Wall Engineering Project # SHN-25-01
Certificate of Authorization #5413

SHAWNEE MUNICIPAL AUTHORITY
SW WATERMAIN LOOP

ISSUED: BIDDING

The seal below covers all sections of the Contract Documents:



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00_01_07.01	Seals Page, Civil
00_01_10	Table of Contents
00_01_21	Requirements for Bidders

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00_11_13	Advertisement for Bids
00_21_13	Instruction to Bidders
00_41_13	Bid Form
00_41_13	Bid Form - Attachment "A" - Bid Summary Sheet
00_43_13	Bid Security Form
00_45_13	Bidder's Qualifications
00_45_19	Noncollusion Affidavit
00_45_20	Business Relationship Affidavit
00_45_36.13	Equal Opportunity Provisions
00_45_47.13	Payroll Affidavit

CDBG SPECIAL PROCUREMENT & PROJECT REQUIREMENTS

00_45_47.16	CDBG Exhibit C – Notification to Department of Labor
00_45_47.19	CDBG Section 3 Plan and Forms
00_45_47.23	Payroll Certification
00_45_47.26	Hold Harmless Clause
00_45_47.29	Certificate of Compliance with Air & Water Acts
00_45_47.33	Special Conditions – Hazards, Safety & Accident Prevention
00_45_47.36	Contractor Debarment Review Certification
00_45_47.39.1	Wage Rates
00_45_47.39.2	Section 3 Income Limits
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00_61_20	Maintenance Bond Form
00_62_16	Certificate of Insurance
00_62_76	Application for Payment Form
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03_30_00 Cast-in-place Concrete

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SC-105	Gravel Surface Section
SC-106	Asphalt Surface Section
SP-261	Road Crossing
SP-263	Thrust Blocking
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VL-352	Standard Valve Blocking
VL-353	Valve Box Installation
VL-362	1" Water Combination Air/Vac Valve

VOLUME 3 OF 3
CONSTRUCTION DRAWINGS

SECTION 01_00_01

BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SCOPE OF WORK

A. These Basic Requirements apply to the entire project. It is **imperative** that the Contractor become **completely** familiar with this Specification section as these notes will be utilized in ascertaining whether the Contractor has completed and complied with project requirements. It is the responsibility of the Contractor to distribute relevant components of this section to any subcontractors, suppliers or others performing work or supplying goods on this project.

B. Cost for all items outlined in Basic Requirements as described in this Section are to be included in the price bid.

C. This section outlines miscellaneous project requirements not specifically covered elsewhere in the Contract Documents. If a conflict exists between this section and any other specification section and/or provisions of the contract documents the more stringent/expensive shall govern. Notify engineer immediately of conflict.

D. Section includes:

1. Milestones
2. Specified materials & equipment
3. Coordination
4. Related sections of the contract documents
5. Compliance with manufacturer's instructions
6. Drawing & Contract documents for contractor use
7. Related specifications
8. Contractor's superintendent
9. ~~Contractor's field office~~
10. ~~Engineer's field office~~
11. Bypass of raw or partially treated sewage
12. Road closings
13. Trenching within public right-of-way
14. Points of access to the site
15. Property provisions
16. Existing utilities and connections
17. Change of pipeline location
18. Groundwater & dewatering plan
19. Quality Assurance
20. ~~Manufacture's Field Services~~
21. ~~Equipment Electrical Verification~~
22. Rock removal
23. Grades, lines & levels
24. Cutting & patching
25. Permits & regulations
26. Regulatory inspections

27. Saturday, Sunday, holiday and night work
28. Assistance by engineer
29. Progress cleaning
30. Incidental work
31. Schedules
32. Schedule of values
33. Payment Requests
34. Safety standards and accident prevention
35. Water for construction
36. Electrical power for construction
37. Materials delivery, handling & storage
38. Blasting
39. Security
40. Site maintenance
41. Pour sequence
42. ~~Abandoned piping~~
43. Permit-required confined spaces
44. Progress meeting
45. Substantial and final completion
46. Project signs
47. Access and Parking
48. Removal of utilities, facilities and controls
49. ~~Maintenance / spare parts~~
50. ~~Transfer of utilities~~
51. Occupancy
52. ~~Final Cleaning~~
53. Warranty date
54. Project record documents / as-builts
55. Closeout Documents
56. Labor standards
57. Scope of work

1.2 PROJECT

A. CDBG Water System Improvements

1.3 PROJECT ENGINEER

A. Brandon Wall, P.E.; Wall Engineering; (580) 924-1800

B. Physical Address (for UPS/FedEx Shipment); 223 N. Washington, Durant, OK 74701

C. Mailing Address (for postal mail); PO Box 1457, Durant, OK 74702

1.4 OWNER

A. Town of Ryan, 614 Washington St., Ryan OK 73565

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 MILESTONES

A. Milestone 1 - Substantial Completion of all work under this Contract from NTP is 150 calendar days

B. Milestone 2 - Final Completion of all work under this Contract from NTP is 210 calendar days

C. Liquidated damages for uncompleted work that is required to meet the milestones set out above shall be $1,500 per Calendar Day.

3.2 SPECIFIED MATERIALS & EQUIPMENT

A. Where materials or equipment are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality of performance, and to establish equal basis for the evaluation of bids. Where the words "equivalent" or "equal to" are used, they shall be understood to mean the equivalent of, or equal to, in the opinion or judgment of the Engineer. Unless a substitute has been approved in writing by written addenda prior to bid date by the Engineer, the Engineer shall have the right to require the use of originally specified item without additional justification.

B. Should an approved equivalent be allowed by the Engineer the Contractor shall bear full responsibility for reimbursement to the Owner of any/all engineering costs associated with approved equivalent/equal.

C. No material which has been used by the Contractor for any temporary purpose whatsoever is to be incorporated in the permanent structure without written consent of the Engineer.

3.3 COORDINATION

A. Coordinate the Work of various trades having interdependent responsibilities for installing, connecting to, and placing equipment in service.

B. Coordinate requests for substitutions to provide compatibility of space, operating elements, effect on the Work of other trades, and on the Work scheduled for early completion.

C. Schedule construction activities in sequence required to obtain best results where installation of one part of the Work is dependent on installation of other components, either before or after its own installation.

D. Make adequate provisions to accommodate items scheduled for later installation, including:
1. Accepted alternates.
2. Installation of products purchased with allowances.
3. Work by others.
4. Owner-supplied, Contractor-installed items.

3.4 RELATED SECTIONS OF THE CONTRACT DOCUMENTS

A. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

3.5 COMPLIANCE WITH MANUFACTURERS INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with Manufacturer's printed instructions or recommendations, obtain and distribute copies of such instructions and / or recommendations to parties involved in the installation, including two copies to the Owner and one copy to the Engineer. Maintain one set of complete instructions at the job site during installation and until completion.

B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions / recommendations and in conformity with specified requirements.

C. Should job conditions or specified requirements conflict with Manufacturer's instruction, consult with Engineer for further instructions.

D. Do not proceed with work without clear instructions.

E. Perform work in accordance with Manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically authorized by the Engineer.

F. Manufacturer shall supply to the Engineer a statement of compliance on equipment / materials furnished, certifying that it meets the specification requirements and has been installed in accordance with the Manufacturer's instructions.

3.6 DRAWINGS AND CONTRACT DOCUMENTS FOR CONTRACTOR USE

A. The Specifications and Drawings have equal importance. The Contractor shall notify the Engineer of any conflicts discovered in the documents. In the case of conflicts, the most conservative criteria will govern, and the Engineer will make final decisions on resolution.

B. When no clarification is provided the Contractor is to assume that more expensive product/system/item is to apply and shall be included in the Contractor's bid.

3.7 RELATED SPECIFICATIONS:

A. The Oklahoma Department of Transportation "Standard Specifications for Highway Construction" latest edition are hereby adopted as part of these Specifications where reference is made. Said Specifications will be hereinafter referred to as the "ODOT Standard Specifications". However, no portion of the Standard Specifications referring to Basis of Payment will be adopted as part of these Specifications.

B. All construction shall conform, wherever applicable, in its entirety to CWA (Clean Water Act) regulations and the most current edition of the ODEQ (Oklahoma Department of Environmental Quality) which govern public systems including OAC 252:626 & OAC 252:656 and all other section of ODEQ regulations cited therein. The requirements and standards called for shall be fully applicable and enforced in the construction of this project.

3.8 CONTRACTOR'S SUPERINTENDENT

A. All operations shall be under the control of the Contractor's general superintendent. The General Superintendent shall be experienced in all aspects of the project. The Superintendent's experience and diligence will be the key to maintain proper quality control during the project. The contractor shall not complete any project work without a designated superintendent present, no exceptions. All written and verbal communications with designated superintendent shall be binding.

3.9 CONTRACTOR'S FIELD OFFICE:

A. N/A

3.10 ENGINEER'S FIELD OFFICE:

A. N/A

3.11 BYPASS OF RAW OR PARTIALLY TREATED SEWERAGE

A. No bypass of raw or partially treated solid waste or wastewater shall be permitted. If there is an accidental bypass and/or discharge of raw sewage at the site, Contractor shall immediately notify the Owner, the Engineer, and ODEQ. Contractor shall execute the required forms and provide copies to the Engineer and pay any and all fines levied by the regulatory agency for the bypass and/or illegal discharge.

3.12 ROAD CLOSINGS:

A. The Contractor shall provide notification to the Engineer of any public road impacts at least forty- eight (48) hours prior to the time he intends to obstruct any portion of the road. Engineer will coordinate with Owner and if the Owner agrees to the street obstruction the Contractor shall notify the Fire Department, Police or Sheriff Department, ambulance service and news media twenty-four (24) hours prior to obstructing the road and shall keep the street in condition for unobstructed use by emergency vehicles. News media notification shall include at least one local newspaper and at least one local radio station.
1. Traffic plan to include anticipated dates / times of closure.

B. The Contractor shall submit a traffic control plan detailing road closing to Engineer with sufficient review time prior to forty-eight (48) hour notice period.

C. The Contractor shall leave at least one lane of traffic open when cutting when crossing open cut roadway in accordance with approved Traffic Control Plan.

3.13 TRENCHING WITHIN PUBLIC RIGHT-OF-WAY

A. Completely backfill trenches across streets and install temporary or permanent pavement as soon as possible after pipe laying.

B. Site conditions:
   1. Use substantial steel plates with adequate trench bracing to bridge across trenches at street and alley crossings, commercial driveways, and residential driveways where trench backfill and temporary patch have not been completed during regular working hours.
   2. Provide safe and convenient passage for pedestrians.
   3. Maintain access to fire stations, fire hydrant, and hospitals at all times.
   4. Provide traffic control devices, barricades, and signage as required by the regulating agency.

C. Except where otherwise specified, indicated on the Drawings, or accepted in writing by the Engineer, the maximum length of open trench, where construction is in any stage of completion, shall not exceed the linear footage as set forth below. Descriptions under following area designations are general in nature and may be amended in writing by the Engineer due to particular or peculiar field conditions:
   1. Business District Areas C 100 Linear Feet: Store front areas.
   2. Commercial Areas C 400 Linear Feet: Industrial, shopping centers, churches, schools, hotels, motels, markets, gas stations, government and private office buildings, hospitals, fire and police stations, and nursing homes.
   3. Residential Areas C 1 Block or 600 Linear Feet, Whichever is the Least: Single and multi-family residences, apartments, and condominiums.
   4. Undeveloped Areas C 1,000 Linear Feet: Parks, golf courses, farms, undeveloped subdivided land.

3.14 POINTS OF ACCESS TO THE SITE

A. Restrict entry into Site to points where the easements cross state and county roads and highways or other publicly owned roads and streets. Keep operations within the easement.

B. Use State, County, or City roadways for construction traffic only with written approval of the appropriate representatives of each entity. State, County, or City roadways may not all be approved for construction traffic. Obtain written approval to use State, County, City, or private roads to deliver pipe and/or heavy equipment to the Site. Copies of the written approvals must be furnished to the Owner as Record Data before Work begins. No additional compensation will be paid because the Contractor is unable to gain access to the easement from public roadways.

C. Maintain access to the facilities at all times. Do not obstruct roads, pedestrian walks, or access to the various buildings, structures, stairways, or entrances. Provide safe temporary walks or other structures to allow access for normal operations during construction.

D. Provide adequate and safe access for inspections. Leave ladders, bridges, scaffolding and protective equipment in place until inspections have been completed. Construct additional safe access if required for inspections.

E. Provide security at the construction Site as necessary to protect against vandalism and loss by theft.

F. Maintain security of the Site and access leading to it.
1. Close gates and keep locked.
2. Obtain permission of any landowners whose property must be crossed in gaining access to the Site.
3. Install a gate lock consisting of a chain with two locks. Give one lock and key to the landowner. Use one lock for the Contractor, Construction Manager, and Owner. Provide keys to the Contractor's lock to Owner and Construction Manager.
4. At the end of the Project, remove the Contractor's lock from the assembly.

3.15 PROPERTY PROVISIONS

A. Make adequate provisions to maintain the flow of storm sewers, drains, and water courses encountered during the construction. Restore structures which may have been disturbed during construction to their original position as soon as construction in the area is completed.

B. Protect trees, fences, signs, poles, guy wires, and all other property unless their removal is authorized. Restore any property damaged to equal or better condition.

C. Provide temporary fencing, with gates, to restrain livestock in areas where livestock are pastured unless the Contractor makes satisfactory arrangements with the property owner and/or tenant. Install temporary fence on the easement lines and removed after the trench has been backfilled. Pay damages for losses resulting from failure to maintain such barriers or failure of barriers to exclude livestock. Install temporary fencing on any tract in order to contain construction activities within easement limits.

3.16 EXISTING UTILITIES AND CONNECTIONS

A. Any existing utilities are shown based on what is visible outside and existing as-built maps. Depth of these utilities, which may interfere with pipeline construction, is not known. Contractor shall be aware of the possibility of running into existing utilities during construction and shall prepare his bid to cover any cost of repairing the damages that may be caused during construction. No additional payment shall be made to the Contractor for dealing with any existing utilities at the construction site.

B. There may be additional buried lines that are not shown and if such is encountered, said lines will be left in service. If said lines are broken by the Contractor, they shall be repaired as soon as possible. No additional payment shall be made to the Contractor for dealing with any existing utilities at the construction site. Contractor shall prepare his bid to cover any cost of field verifying existing utilities including uncovering where necessary.

C. Where connection to existing lines are shown on the Drawings, the work may be required to be done at night or at a time which will least interfere with the operation of the existing facility. The work shall be coordinated and scheduled with the Owner and will be done at a time to least inconvenience their operation.

D. Contractor shall be responsible for damage to utilities whether being shown on the Drawings or not.

E. Contractor shall be responsible for contacting all utility companies prior to construction.

3.17 CHANGE OF PIPELINE LOCATION

A. The alignment of the pipeline is shown on the Drawings, and no change is contemplated. It may be necessary to change the alignment due to utility conflicts, unanticipated variations in existing conditions, or for any other reason prior to the time pipe is actually installed.

B. No additional compensation will be paid to the Contractor except as provided by unit prices, unless excessive cost is incurred that is directly applicable to such changes and this cost is documented in accordance with the General / Supplemental Conditions. No compensation will be paid for specials, field cuts, field welds, or other incurred cost resulting from failure to locate existing utilities prior to manufacture of pipe.

3.18 GROUNDWATER & DEWATERING PLAN

A. Contractor shall take all necessary measures to keep excavations clear of ground water, sewage, or storm water during the process of the work and until the finished work is safe from injury.

B. Contractor shall be responsible for site, surface and subsurface drainage. Maintain such drainage as specified herein during the life of the contract.

C. Supply all supervision, labor, material, and equipment including standby equipment, necessary to maintain a dry excavation as may be necessary to construct the project.

D. Maintain groundwater in or below the bearing strata at a safe level at all times by methods which prevent loss of fines, which preserves the undisturbed state of subgrade soils and which sufficiently lowers the groundwater level in permeable strata at or below excavation and fill levels such that blowing or unstable conditions do not develop in the bottom or sides of excavation or fill areas.

E. Water shall be kept out of exaction areas as necessary to protect the supporting strength of foundation material, to permit efficient and satisfactory assembly, or replacement of facilities, to prevent floatation of equipment or structures, to prevent misalignment of facilities, and to prevent unstable conditions developing in the bottom or sides of excavation areas.

F. Protect all adjacent structures, existing and under construction , from settlement, flotation, damage, or other adverse effects resulting from accumulation of water, water removal, or dewatering methods.

G. Install all drains, ditching, sluiceways, pumping, and bailing equipment, wicking, sumps, wells, well points, cutoff trenches, curtains, sheeting, drains, and all other equipment and structures necessary to create and maintain a dry excavation and groundwater level at a minimum of 2 feet below excavation subgrades.
   1. As part of any dewatering system, observation wells or piezometers shall be provided and installed, as required, to effectively and efficiently monitor drawdown to required levels.

H. Discharge water removed from the site to natural watercourses, storm drains or channels
   1. Disposal of water shall be in a manner satisfactory to Engineer and Owner and in conformance with all Federal, State, and local rules, regulations, codes, and permits.
   2. Disposal of water shall cause no damage to property or any work under construction or constructed.
   3. Large quantities of water shall not be discharged as overland flow. Overland flow is not permitted onto private property.
   4. No water shall be discharged into sanitary sewers.
   5. Sanitary sewage shall be disposed of in a manner satisfactory to local, state, and federal officials.

I. Dewatering operations shall cease when all foundations, structures, pipe installations, and other excavated areas have been properly backfilled and compacted and are safe from damage, flotation, settlement, displacement, or other injury.

J. No pipe shall be laid in water, and water shall not be allowed to run over masonry until concrete or mortar has set at least forty-eight (48) hours.

K. Necessary precautions shall be taken to protect all new and existing structures from flooding and/or flotation from hydrostatic uplift.

L. Dewatering of the excavation shall be considered an integral part of the excavation work and should be bid with the most appropriate item

M. Operate and maintain dewatering and removal operations on a 24-hour basis for the time required to complete that portion of the Work which requires dewatering prior to its construction and which requires protection from floatation or displacement of such Work until proper backfilling and compaction is completed.

N. There has been no geotechnical data collected at the site, but should groundwater be present it shall be the responsibility of the Contractor to dewater, as necessary to protect the work site and keep the worksite safe. All costs of dewatering construction work areas shall be included in most appropriate bid item and there shall be no additional cost to the Owner.

3.19 QUALITY ASSURANCE

A. The Contractor shall assume full responsibility for coordination of the entire project, including verification that all structures, piping, coating systems and equipment components are compatible. The Contractor shall initially operate each equipment system, and shall make all necessary adjustments so that each system is placed in proper operating condition.

B. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

C. Comply fully with manufacturers' instructions, including each step-in sequence. Taking delivery of materials that later prove to be unusable shall be the responsibility of the contractor. Contractor shall pay restocking fee if applicable, and as necessary. Shop

drawing approval by the Engineer does not guarantee payment for material or equipment not needed or not incorporated into the project.

D. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

E. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances codes, or specified requirements indicate higher standards or more precise workmanship.

F. Employ competent workmen, skilled in the occupation for which they are employed. Provide Work meeting quality requirements of the Contract Documents as determined by the Engineer and Owner.

G. Remove defective Work from the Site immediately unless provisions have been made and approved by the Engineer to allow repair of the product at the Site. Clearly mark the Work as "defective" until it is removed or allowable repairs have been completed.

3.20 MANUFACTURER FIELD SERVICES

A. N/A

3.21 EQUIPMENT ELECTRICAL VERIFICATION

A. N/A

3.22 ROCK REMOVAL

A. Rock removal will not be measured for payment and should be included in the price bid for other items of work.

3.23 GRADES, LINES & LEVELS:

A. The Contractor shall provide and be solely responsible for all surveying and construction staking required to construct the project. The Contractor shall employ a surveyor licensed in the State of Oklahoma to provide said surveys and staking. The Owner will provide points for horizontal control and bench marks for elevation and/or project survey CAD file. See Section 01_71_23 Field Engineering.

B. The Contractor shall construct all structures and pipelines to within the following tolerances. In all cases, the grading must be such that water is not ponded and drainage is not impeded. Field adjustment is permissible to establish drainage.

	Alignment	Grade
Structures	±0.10 ft.	±0.02 ft.
Pavement	±0.20 ft.	±0.05 ft.
Pipelines	± 0.1 ft.	± 0.2 ft

Grading	--	±0.10 ft.
Ductbanks	1.00 ft./1000 ft.	0.25 ft./100 ft.

C. All permanent benchmarks at the site (if existing) are shown on the plans.

D. Prior to mobilization perform Field Engineering in accordance with Section 01_71_23.

E. The Contractor shall be responsible for layout, staking and control of all grades, lines and levels from control shown on the plans.

F. The Contractor shall safeguard all permanent benchmarks at the site and shall bear the cost of replacing the benchmarks and assume entire expense or correcting work improperly constructed due to failure to maintain and protect such established points and marks

G. Required surveying includes setting all permanent easements, temporary easements, centerline, etc.
1. Stake to be set every 150' minimum for project extents.
2. Staking shall be required prior to beginning work.

3.24 CUTTING AND PATCHING

A. Perform cutting, fitting, and patching required to complete the Work or to:
1. Uncover Work to provide for installation of new Work or the correction of defective Work.
2. Provide routine penetrations of non-structural surfaces for installation of mechanical, electrical, and plumbing Work.
3. Uncover Work that has been covered prior to observation by the Engineer.

B. Submit written notification to the Engineer in advance of performing any cutting which affects:
1. Work of any other contractors or the Owner.
2. Structural integrity of any structure or system of the Project.
3. Integrity or effectiveness of weather exposed or moisture resistant structure or systems.
4. Efficiency, operational life, maintenance, or safety of any structure or system.
5. Appearance of any structure or surfaces exposed occasionally or constantly to view.

C. The notification shall include:
1. Identification of the Project.
2. Location and description of affected Work.
3. Reason for cutting, alteration, or excavation.
4. Effect on the Work of any separate contractor or Owner.
5. Effect on the structural or weatherproof integrity of the Project.
6. Description of proposed Work, including:
   a. Scope of cutting, patching, or alteration.
   b. Trades that will perform the Work.
   c. Products proposed for use.
   d. Extent of refinishing to be performed.

e. Cost proposal, when applicable.

7. Alternatives to cutting and patching.
8. Written authorization from any separate contractor whose Work would be affected.
9. Date and time Work will be uncovered or altered.

D. Examine the existing conditions, including structures subject to damage or to movement during cutting or patching.
   1. Inspect conditions affecting installation of products or performance of the Work after uncovering the Work.
   2. Provide a written report of unacceptable or questionable conditions to the Engineer. The Contractor shall not proceed with Work until Engineer has provided further instructions. Beginning Work will constitute acceptance of existing conditions by the Contractor.

E. Protect the structure and other parts of the Work and provide adequate support to maintain the structural integrity of the affected portions of the Work. Provide devices and methods to protect adjacent Work and other portions of the Project from damage. Provide protection from the weather for portions of the Project that may be exposed by cutting and patching Work.

F. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs.

G. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.

H. Cut, remove, and legally dispose of selected mechanical equipment, components, and materials as indicated, including but not limited to, the removal of mechanical piping, heating units, plumbing fixtures and trim, and other mechanical items made obsolete by the modified Work.

I. Restore work which has been cut or removed. Install new products to provide completed work per the Contract Documents.

J. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through the surfaces. Where fire rated separations are penetrated, fill the space around the pipe or insert with materials with physical characteristics equivalent to fire resistance requirements of penetrated surface.

K. Patch finished surfaces and building components using new products specified for the original installation.

L. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
   1. For continuous surfaces, refinish to the nearest intersection.
   2. For an assembly, refinish the entire unit.

3.25 PERMITS AND REGULATIONS:

A. The Contractor & all Subcontractors shall secure and pay for all construction and Owner required permits required to carry out the work unless otherwise specified and shall

produce same upon demand of the Owner. The Contractor shall obtain completion survey, certificate of completion or occupancy if required by local regulations.

B. All features of design and construction shall comply with the local building regulations and/or other lawful or public regulations which apply at the site. If any features of construction as shown on the Owner's plan, do not conform to the regulations, the Contractor shall notify the Owner of such discrepancy, and shall base his quotation and work on features of construction which do conform to the regulations.

C. If the Contractor performs any work contrary to such laws, ordinances, rules and regulations and without such notice to the Owner, he shall bear all costs arising there from.

D. All Contractor and Subcontractors shall register with City prior to beginning construction (if required.)

E. Arrange for inspections and certification by agencies having jurisdiction over the Work.

F. Retain copies of permits and licenses at the Site and observe and comply with all regulations and conditions of the permit or license, including additional insurance requirements.

G. Arrange for inspections and certification by agencies having jurisdiction over the Work.

3.26 REGULATORY INSPECTIONS:

A. The Contractor will provide access to the work site and facilities for representatives of the Environmental Protection Agency and Oklahoma Department of Environmental Quality (ODEQ) and other agencies, as well as, Owner and Engineer, as required whenever the work is in progress.

3.27 SATURDAY, SUNDAY, HOLIDAY AND NIGHT WORK:

A. No work shall be done between the hours of 7:00 p.m. and 7:00 a.m., nor on Saturday, Sunday or legal holidays without the approval of the Engineer, in each case, except such work as may be necessary for the proper care, maintenances and protection of work already done, or of equipment, or in the case of an emergency.

3.28 ASSISTANCE BY ENGINEER:

A. It is understood and agreed that such assistance as the Engineer may render to the Contractor in connection with the interpretation of drawings and Specifications shall not relieve the Contractor from any responsibility for the work. Any work which proves faulty shall be corrected by the Contractor without delay. The failure of the Engineer, or Resident Project Representative to call the Contractor's attention to faulty work or work performed which is not in accordance with Drawings and Specifications shall not imply acceptance or exempt the Contractor for correcting the improper work.

3.29 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Where work is performed in residential and commercial areas, cleanup

sufficient to permit normal access and use by property owners shall be performed daily. Final cleanup shall be performed after each individual water or sewer extension has been installed. Failure to perform clean-up work as described above may result in retainage of an additional 10 percent of the cost of the work completed until the clean-up work has been completed or non-processing of additional pay requests.

3.30 INCIDENTAL WORK:

A. Work called for on the Drawings and/or Specifications and are not set forth in the Bid Schedule as pay items, shall be considered as incidental work and will not be paid for directly, but shall be included in the price bid for the various pay items.

3.31 SCHEDULES:

A. The Contractor shall furnish the Engineer with a tentative schedule, in a format approved by the Engineer, setting forth in detail the procedure he proposes to follow, and giving the dates on which he expects to start and to complete separate portions of the work. The schedule shall be updated and submitted to the Engineer on a monthly basis corresponding with the date of the monthly progress meetings and/or pay applications.

B. If at any time, in the opinion of the Engineer, proper progress is not being maintained, such changes shall be made in the schedule of operations which will satisfy the Engineer that the work will be completed within the period stated in the proposal.

C. Whenever it becomes apparent from the current schedule and monthly progress reports that delays to the critical path have resulted and the Contract completion date will not be met, or when so directed by the Owner, the Contractor shall take some or all of the following actions at no additional cost to the Owner. The Contractor shall submit to the Owner for approval, a written statement of the steps he intends to take to remove or arrest the delay to the critical path in the approved schedule.
   1. Increase construction manpower
   2. Increase the number of working hours per shift, shifts per day, working days per week, and/or the amount of construction equipment
   3. Reschedule activities to achieve maximum schedule gain

3.32 SCHEDULE OF VALUES

A. Within ten (10) calendar days following the Effective Date of the Contract, the Contractor shall submit to the Engineer a schedule of values (a breakdown of each lump sum bid) which in turn shall be used to determine partial payment estimates and may be used to verify costs of credits, change orders, etc.
   1. The tentative schedule of values will be reviewed by the Engineer to determine whether, in his judgment, the schedule of values is of sufficient detail and if the prices included are "unbalanced" or "front-end loaded", in an effort to inflate the prices of those items of work to be completed in the early stages of the work.
   2. The Engineer will provide the Contractor with his comments and/or may request additional information from the Contractor to justify certain item quantities and prices therefore. The Contractor shall address the Engineer’s comments, revise the schedule, and resubmit the tentative schedule for further review and/or approval.
   3. Once the tentative schedule is accepted by the Engineer, it shall become the schedule of values to be used in verifying partial payment estimates.

4. No partial payment request (including the first) shall be approved until the schedule of values has been approved by the Engineer and received by the Owner.
5. Each partial payment request by the Contractor shall include the approved schedule of values, modified to indicate the total quantity and price of the work completed to the date of the request. After acceptance of the schedule of values submittal, no modifications will be made to the schedule of values, except as required by approved change orders.
6. In so far as possible, total quantities and unit prices shall be shown for all items of work, separating for each item the materials and labor and such other sub-items as the Contractor may desire. "Lump sum", "miscellaneous", and other such general entries in the schedule shall be avoided whenever possible. Such items as Bond premiums, insurance, temporary facilities and equipment storage may be listed separately in the schedule of values provided the costs can be substantiated. Overhead and profit shall not be listed as separate items.
7. No additional payment will be allowed if the quantities shown on the schedule are less than those actually required to accomplish the work, unless the quantities are altered by a change order.

3.33 PAYMENT REQUEST PROCEDURE

A. Contractor shall prepare the partial pay estimate and submit it to the engineer's field personnel.

B. Engineer's field personnel will check the estimate for accuracy and completeness and recommend any changes.

C. Contractor shall make revisions to the estimate and submit required number of copies to the Engineer for processing.

D. Pay requests shall not be submitted more than once per Month.

3.34 SAFETY STANDARDS AND ACCIDENT PREVENTION:

A. With respect to all work performed under this Contract the Contractor shall:
1. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1910 or 1926, as applicable.
2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
3. Assume sole responsibility for safety at the Site. Protect the safety and welfare of persons at the Site.
4. Provide safe access to move through the Site. Provide and maintain barricades, guard rails, covered walkways, and other protective devices to warn and protect from hazards at the Site.
5. Comply with latest provisions of the Occupational Health and Safety Administration and other regulatory agencies in performing Work.
6. Cooperate with accident investigations related to the Site. Provide two copies of all reports, including insurance company reports, if requested by the Owner,

prepared concerning accidents, injury, or death on the Site to the Engineer as Record Data per Section 01 33 00 "Submittal Procedures."

3.35 WATER FOR CONSTRUCTION:

A. The Contractor shall arrange for the necessary temporary water service, including the securing of any necessary permits.
   1. The Contractor shall make the necessary arrangement to supply water required for testing the work prior to acceptance of the work, unless otherwise specifically stated in the Specifications for the equipment, system, or facility.
   2. Cost of water usage shall be borne by the Contractor. The Contractor shall use temporary water meters as required by the City to monitor the use of potable water.
   3. Contractor shall implement dust control measures to minimize the creation and dispersion of dust. Dust control will include application of water to control dust from roadways and other activities. Contractor shall apply clean water to gravel and unsurfaced roads. Contractor must use a fire hydrant meter to obtain water from the plant. Contractor shall bear the cost of water used for dust control.

3.36 ELECTRICAL POWER FOR CONSTRUCTION

A. The Contractor shall determine the type and amount required and make arrangements for providing temporary electric power. The Contractor shall pay all costs related to obtaining temporary electrical services
   1. The Contractor shall maintain the temporary electric power system during the Contract period at his expense.
   2. The electrical service shall be of adequate capacity for all construction tools and equipment without overloading the temporary facilities. The temporary systems and their components shall be furnished and installed in conformance with the requirements of the National Electrical Code and all local authorities having jurisdiction.
   3. Temporary electric power installation shall meet the construction safety requirements of NEC. Federal (OSHA), State and other governing agencies.
   4. Cost of electrical power usage for the Contractor's and his subcontractor's construction trailers and associated equipment shall be paid for by the Contractor.

3.37 MATERIAL DELIVERY, HANDLING AND STORAGE

A. Contractor's storage facilities, if necessary, will be located as specified, indicated in the drawings, or a bonded storage facility in the general vicinity. Any off-site storage is subject to Owner's approval. All storage costs and transportation are the responsibility of the Contractor.

B. Arrange deliveries of products in accordance with construction schedules; coordinate to avoid conflict with work and conditions at the site.

C. Deliver products in undamaged condition, in Manufacturer's original containers or packaging, with identifying labels intact and legible.

D. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

F. Owner will not accept deliveries for Contractor or assist in unloading.

G. All materials shall be stored in accordance with Manufacturer's recommendations.

H. Deliver products that are too large to fit through openings to the Site in advance of the time enclosing walls and roofs are erected. Set in place, raised above floor on cribs.

I. Assume full responsibility for the protection and safekeeping of products stored at the Site.

J. Store products at locations acceptable to the Engineer and to allow Owner access to maintain and operate existing facilities.

K. Store products in accordance with the Supplier's storage instructions immediately upon delivery. Leave seals and labels intact. Arrange storage to allow access for maintenance of stored items and for inspection. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

L. Obtain and pay for the use of any additional storage areas as needed for construction. Store products subject to damage by elements in substantial weather-tight enclosures or storage sheds. Provide and maintain storage sheds as required for the protection of products. Provide temperature, humidity control and ventilation within the ranges stated in the Supplier's instructions. Remove storage facilities at the completion of the Project.

M. Protect the pipe interior. Keep all foreign materials such as dirt, debris, animals, or other objects out of the pipe during the Work. Cap or plug ends of installed pipe in an approved manner when pipe is not being installed. Clean or wash out pipe sections that become contaminated before continuing with installation. Take precautions to prevent the pipe from floating or moving out of the proper position during or after laying operations. Immediately correct any pipe that moves from its correct position.

N. Provide adequate exterior storage for products that may be stored out-of-doors.
   1. Provide substantial platforms, blocking, or skids to support materials and products above ground; slope to provide drainage. Protect products from soiling or staining.
   2. Cover products subject to dislocation or deterioration from exposure to the elements, with impervious sheet materials. Provide ventilation to prevent condensation below covering.
   3. Store loose, granular materials on clean, solid surfaces, or on rigid sheet materials, to prevent mixing with foreign matter.
   4. Provide surface drainage to prevent erosion and ponding of water.
   5. Prevent mixing of refuse or chemically injurious materials or liquids with stored materials.
   6. Pipes and conduits stored outdoors are to have open ends sealed to prevent the entrance of dirt, moisture, and other injurious materials. Protect PVC pipe from ultraviolet light exposure.

7. Store light weight products to prevent wind damage.

O. Protect and maintain mechanical and electrical equipment in storage.
1. Provide Supplier's service instructions on the exterior of the package.
2. Service equipment on a regular basis as recommended by the Supplier. Maintain a log of maintenance services. Submit the log as Record Data at the completion of the Project.
3. Provide power to and energize space heaters for all equipment for which these devices are provided.
4. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.

P. Maintain storage facilities. Inspect stored products on a weekly basis and after periods of severe weather to verify that:
1. Storage facilities continue to meet specified requirements.
2. Supplier's required environmental conditions are continually maintained.
3. Surfaces of products exposed to the elements are not adversely affected.
4. Store products in accordance with Manufacturer's instructions, with seals and labels intact and legible.
5. Store products subject to damage by the elements in weathertight enclosures.
6. Maintain temperature and humidity within the ranges required by Manufacturer's instructions.

Q. Replace any stored item damaged by inadequate protection or environmental controls.

R. Payment may be withheld for any products not properly stored.

3.38 BLASTING

A. Blasting for excavations is not allowed.

3.39 SECURITY

A. Furnish, install and maintain suitable barriers and protections to prevent public entry, and to protect the work, existing facilities and existing roads from construction operations. Damage to existing roads caused by the Contractors' vehicles shall be repaired by the Contractor at no cost to the Owner.

B. The Contractor shall take all necessary measures and be solely responsible for the protection of temporary facilities, finished construction areas, equipment, and materials at the site until the project has been completed and accepted by the Owner.

3.40 SITE MAINTENANCE

A. The Contractor shall limit his on-site operations and storage of equipment and materials to the area designated on the Plans and Specifications and as directed by the Owner.

B. Except as provided herein, no sidewalk, private property, or other areas adjacent to the plant site shall be used for storage of the Contractor's equipment and materials unless prior written approval is obtained from the Owner.

C. The Contractor shall maintain the area during construction in a manner that will not obstruct operations on street areas. Contractor shall proceed with his work in an orderly manner, maintaining the construction site free of debris and unnecessary equipment or materials.

D. At all times, the Contractor shall maintain areas covered by the Contract and public properties free from accumulations of waste, debris, and rubbish caused by construction operations. All trash and waste materials shall be cleaned up and disposed in an approved waste receptacle each day.

E. Excavated materials shall be removed from the site in a manner that will cause the least damage to adjacent lawns, grassed areas, trees, gardens, shrubbery, or fences regardless of whether these are on private property or on public right-of-ways.

F. All demolition and waste materials shall be disposed of off-site by the Contractor. Copies of agreement between the contractor and property owner of disposal sites shall be furnished to the Owner and Engineer.

3.41 POUR SEQUENCE

A. Contractor shall provide a pour sequence for each and every structure. All shop drawings pertaining to and affecting the structure shall be approved prior to starting this work. Bolt patterns for gate and equipment installations must be checked, equipment dimension shall be verified to ascertain that proper installation can be accomplished, pipe penetrations shall be verified, and conflicts shall be immediately brought to Engineer's attention prior to doing the work. Contractor shall also verify location of windows, doors, ducts, equipment lifting devices, unit heaters, electrical and mechanical work which may affect the outcome of the project. Work done without proper verification or notification shall be removed and re-done at no additional expense to the Owner.

3.42 ABANDONED PIPING

A. N/A

3.43 PERMIT-REQUIRED CONFINED SPACES

A. The contractor shall evaluate the project’s work area(s) to determine if any spaces are permit-required confined spaces per the requirements of Federal Regulations Standards 29CFR 1910.146. If the work area(s) contains permit spaces, the Contractor shall inform all employees and subcontractor(s), by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, the permit spaces.

B. NOTE: A sign reading DANGER – PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER or using other similar language to satisfy the requirement for a sign.

C. If the Contractor decides that its employees and/or subcontractor(s) will not enter permit spaces, the Contractor shall take effective measures to prevent its employees and/or subcontractor(s) from entering the permit spaces and shall comply with paragraphs (c)(1), (c)(2), (c)(6) and (c)(8), of Federal Regulation Standards 29CFR 1910.146.

D. If the Contractor decides that its employees and/or subcontractor(s) will enter permit spaces, the Contractor shall develop and implement a written permit space program that complies with Federal Regulation Standards 29CFR 1910.146. the written program shall be available for review by employees and subcontractor(s). The written program shall also be available to the Owner's authorized representatives for information only.

E. The Contractor may use the alternate procedures specified in paragraph (c)(5)(ii) of the Federal Regulation Standards 29CFR 1910.146 for entering a permit space under the conditions set forth in paragraph (c)(5)(i) of the Federal Regulation Standards 29CFR 1910.146.

3.44 PROGRESS MEETINGS:

A. Contractor shall conduct regular project progress meetings on a monthly basis and at other times as requested by the Engineer or required by progress of the Work. Contractor, Engineer, and all subcontractors active on the site shall be represented at each meeting. Contractor may at his discretion request attendance by other parties involved in the project.

B. Contractor shall preside at the meetings. Meeting minutes will be prepared and distributed by Contractor. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

3.45 SUBSTANTIAL AND FINAL COMPLETION

A. When the work is substantially complete, Contractor shall notify the Owner and Engineer in writing that the entire work is substantially complete (operational or beneficial occupancy) and request that Engineer issues a certificate of substantial completion. Work which may remain uncompleted at substantial completion shall include only minor surface work relative to right-of-way restoration, sodding, seeding, pavement replacement, etc.

B. Upon written notice from Contractor to the Engineer and Owner that the entire work is complete within the time called out on the Bid the Engineer will make a final inspection with Owner and Contractor and will notify Contractor in writing all particulars of the project which are incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such work prior to final payment.

3.46 PROJECT SIGNS

A. Not Required.

3.47 ACCESS AND PARKING

A. Access to the plant site for construction personnel shall be through the construction entrance, if shown on the drawings. Otherwise, the Contractor will coordinate access to

the site with the Operator and Engineer. At no time, shall the Contractor impede access to the plant site that will interfere with plant operations. Signs shall be installed to divert all traffic to that gate, including signs inside the plant site if needed. Location of job sign will be as directed by Owner.

3.48 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Final Inspection.

B. Remove underground installations to a minimum depth of two feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

3.49 MAINTENANCE / SPARE PARTS

A. N/A

3.50 TRANSFER OF UTILITIES

A. N/A

3.51 OCCUPANCY

A. Owner will occupy the premises during the entire period of construction for the conduct of his normal operations. Contractor shall cooperate with Owner in all construction operations to minimize conflict, and to facilitate Owner's usage.

3.52 FINAL CLEANING

A. N/A.

3.53 WARRANTY DATE

A. OR Warranty period shall begin at the date of final inspection and shall be as specified in the Contract Documents.

3.54 PROJECT RECORD DOCUMENTS / AS-BUILTS

A. Contract shall prepare and maintain record documents (as-builts) for the project to accurately reflect the construction as built. Documents must be submitted upon completion as a condition of final acceptance.
   1. Drawing Requirements
      a. Legibly mark contract drawings to record actual construction:
         1) Horizontal and vertical location of underground and under slab utilities and appurtenances referenced to permanent surface improvements.
         2) Location of internal utilities and appurtenances referenced to permanent surface improvements.
         3) Field changes of dimension and detail.
         4) Changes made by change order or field order.

5) Details not on original contract drawings.

2. Specifications Requirements
   a. Legibly mark specifications and addenda to record:
      1) Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed;
      2) Changes made by change order or field order;
      3) Other matters not originally specified.

3.55 CLOSEOUT DOCUMENTS

A. Submit following Closeout Submittals upon Substantial Completion and at least 7 days prior to submitting Application for Final Payment:
   1. Evidence of Compliance with Requirements.
   2. Project Record Documents.
   3. Warranties and Bonds.
   4. Evidence of Payment and release forms as outlined in Contract Documents.
   5. Release of claims as outlined in Conditions of the Contract.
   6. Certificate of Final Completion.

3.56 LABOR STANDARDS

A. It is the responsibility of the Contractor to verify required wage rates for all anticipated laborer classifications prior to bid. Any discrepancies found by governing bodies and/or decisions rendered during construction will be borne by the Contractor. Owner assumes no responsibility nor oversight and is not a party to the labor requirements.

3.57 SCOPE OF WORK

A. The Contractor shall, except as otherwise specifically stated herein or in any applicable parts of these Contract Documents, provide and pay for all labor, materials, equipment, tools, construction equipment and other facilities and services necessary for proper execution, testing, successful start-up and completion of the Work.

B. Any part or item of the Work which is reasonably implied or normally required to make each installation satisfactorily and completely operable shall be performed by the Contractor and the expense thereof shall be included in the bid price. It is the intent of these Specifications to provide the Owner with complete operable systems. All miscellaneous appurtenances and other items or work that are incidental in meeting the intent of these Specifications shall be considered as having been included in the bid price, even though these items may not be specifically called for in the Specifications.

END OF SECTION

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SECTION 01_33_01

GENERAL SUBMITTAL REQUIREMENTS

PART 1 GENERAL

1.1 SUBMISSION FORMAT

A. The Contractor shall submit to the Engineer for review / comment a PDF copy of all submittals and shop drawings via the Engineer established Dropbox site per 01_34_24 Digital Construction Documents. Comments will be returned via Dropbox site. Upon approval and after making any revisions required, the approved submittals will be uploaded to the Dropbox site.

B. At the end completion of the project, Contractor shall furnish two (2) copies of all submittals bound in hard covers binder with:
   1. Submittals shall be grouped by Division with Division Numbers outlined on the cover
   2. Table of Contents referencing each submittal
   3. Dividers and numbered/named tabs between each submittal
   4. Submittals should be in order of Specification Section and grouped by Division
   5. Format to 8-1/2 by 11 with engineering drawings reduced to an 11 by 17 and folded

C. All transmittals must be from Contractor and bear approval stamp on the submittal item. Transmittals will not be received from or returned to subcontractors. Shop drawing transmittal stamp shall read:
   1. "(Contractor's Name)" has determined and verified/checked all field dimensions and measurements, field construction criteria, tolerances, clearances, quantities, materials, fabrication processes, catalog numbers, similar data, and any/all other provisions outlined in the Contract Documents and hereby certifies compliance thereto. Any deviations from Contractor Documents have been itemized in summary in a page to follow and detailed on specific submittal pages. It is also understood that Engineer review / approval is for design conformity and general conformance only and in no way releases Contractor from adherence to the full requirements of the Contract Documents.

D. Transmittals received will be initially reviewed to ascertain inclusion of Contractor's approval stamp. Drawings not stamped by the Contractor or stamped with a stamp containing language other than that specified in 1.1B will not be reviewed for technical content and will be returned without any action.

E. Submittals are to be numbered by Specification Section, then sequential number and name in the following format:
   1. Spec Section Title – Submittal Number in that Section (example: "33_05_25-001 Steel Casing Pipe")
   2. Additional items from the same sections are to be numbered with subsequent submittal numbers. (Example "33_05_25-002 Casing Spacers."

3. Rejected submittal revisions sent for additional consideration are to have a numeric letter input after the submittal number. (Example "33_05_25-002a Casing Spacers."

4. Submittals not numbered in accordance with this Specification will not be reviewed for approval and will be returned.

5. Submittals for separate Specifications sections may not be combined into a single submittal document. Combined specifications will be returned unapproved.

1.2 PRODUCT SUBMITTALS AND SHOP DRAWINGS

A. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, as appropriate.

B. Provide submittal information defining specific equipment or materials utilized on the project. Generalized product information not clearly defining specific equipment or materials to be provided will be rejected.

C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

D. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

E. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed Work.

F. A letter certifying full and complete compliance with the Specifications, Drawings and other project requirements. The letter shall list any exceptions to or deviations from specified requirements, if any, and reasons for same. Exceptions or deviations shall also be clearly marked in a separate color in submittals. If the submittal includes a deviation that is not clearly noted in the letter and the Engineer does not explicitly accept the deviation in a response letter, the deviation is not approved and the Contractor is obligated to perform the work as stipulated in the drawings and specifications at no additional cost to the Owner or Engineer.

G. When revised for resubmission, identify all changes made since previous submission.

H. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

I. Submittal data shall be in such form and so presented that the Engineer may readily review the data formatted in 8-1/2 by 11 format. Engineering drawings are to be reduced to an 11 by 17.

J. Approval by Engineer indicates general compliance or acceptability; however, it does not relieve the Contractor of final responsibility for proper dimensions, character, quantity, quality, strength or sufficiency of the items involved.

K. Waivers, or exceptions, to the Plans and Specifications may be validated only in writing by the Engineer. Written validation will specifically identify the feature in question and no such waiver or exception shall be assumed as a result of omissions or oversights in examining and approving the above drawings or other materials.

L. Any equipment installed by the Contractor, not formally approved by the Engineer, shall be at the Contractor's risk if it is found that the installed equipment does not conform to the Specifications or manufacture's requirements / guidelines.

M. Contractor at a minimum must submit sufficient information to determine:
   1. Conformance to specifications, including: kind, type size, arrangement, finishes, and operation of component materials, and devices.
   2. Conformance to Contract Documents, including dimensions, orientation, appearance, external connections and anchorages, installation clearances.
   3. Specific purpose or design conditions and adequacy to meet same: weights, dynamic, loads, supports required, operating characteristics.
   4. Coordination with other work, including items needed by this trade, but furnished by others, and information needed by others to perform their part.
   5. Delivery Date:
      a. Include if product / material delivery delay could potentially impact construction schedule.
      b. This should be stated as a firm date of delivery, not measured from approval of drawings to date of shipping. For this purpose, the time taken by the Engineer to process data may be taken as not exceeding 21 calendar days. The Engineer does not assume responsibility for correctness or completeness of the data; however, the Contractor should determine that proposed delivery dates will not cause delay or result in failure to complete the project on time.
      c. No extension of time or waiver of liquidated damages will be granted due to failure to deliver on time unless the Contractor presents written evidence that favorable delivery is not obtainable for an acceptable item.
      d. Such evidence will be considered as a basis for extension of time only when presented promptly after award of contract.
      e. Failure of contractor to include a delivery date waives any future claim for time extensions. The Engineer does not assume responsibility for verifying inclusion of delivery date in submittal nor review of contractor's schedule.

1.3 RELATED SECTIONS

A. 01_34_24 Digital Construction Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01_34_24

DIGITAL CONSTRUCTION DOCUMENT MANAGEMENT

PART 1 GENERAL

1.1 SUMMARY

A. Section includes requirements for Digital Construction Document Management

1.2 REQUIREMENTS

A. Engineer and Contractor shall utilize Engineer's Dropbox file system for submission of all data and documents throughout the duration of the Contract.
   1. Dropbox is a web-based file storage system
   2. Dropbox is available to all Contractor's personnel, subcontractor personnel, suppliers, consultants and Engineer at no cost.
   3. The joint use of this system is to facilitate electronic exchange of information, automation of key processes, and overall management of Contract Documentation.
   4. Dropbox shall be the primary means of project information submission and management.

B. Data entered in a collaborative mode by Engineer and Contractor will be jointly owned.

C. Review comments made (or lack thereof) on submitted documentation shall not relieve Contractor from compliance with requirements of the Contract Documents. Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents.

D. Engineer's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

E. Contractor shall send email notification to personnel outlined in preconstruction conference each time items are uploaded to Dropbox. Likewise, Engineer will submit notification by email to Contractor each time items are uploaded.

1.3 ACCESS ALLOCATIONS

A. Provide a list of Contractor's key Dropbox personnel for the Engineer's acceptance. The Engineer reserves the right to perform a security check on all potential users. The Contractor will be allowed to add additional personnel and subcontractors to Dropbox.

B. The Engineer will grant initial access to Dropbox by creating email invites to accepted Contractor personnel. User profiles will define levels of access into the system; determine assigned function-based authorizations and user privileges. Subcontractors and suppliers will be given access to Dropbox by and through the Contractor. Contractor is responsible for adding and removing users from the system through Engineer notification.

1.4 SYSTEM REQUIREMENTS

A. Contractor shall use computer hardware and software that meets the requirements of the Dropbox system as recommended by Dropbox to access and utilize Dropbox. As recommendations are modified by Dropbox, Contractor will upgrade their system(s) to meet or exceed the recommendations. Upgrading of Contractor's computer systems will not be justification for a cost or time modification to the Contract.

B. Contractor shall ensure that connectivity to the Dropbox system is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirements for using the system is 128 kb/s. It is recommended a faster connection be used when uploading pictures and files into the system.

1.5 CONTRACTOR DATA OVERSIGHT RESPONSIBILITY

A. Contractor shall be responsible for the validity of their information placed in Dropbox and for the abilities of their personnel.

B. Entry of information exchanged and transferred between the Contractor and its subcontractors and suppliers on Dropbox shall be the responsibility of the Contractor.

C. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program.

D. Contractor shall utilize the existing forms in the Contract Documents to the maximum extent possible. If a form does not exist in Dropbox the Contractor must include a form of their own or provided by Engineer as an attachment.

E. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. Contractor is responsible for the training of their personnel in the use of Dropbox and the other programs indicated above as needed.

PART 2 PRODUCTS

2.1 DESCRIPTION

A. Dropbox. www.dropbox.com

B. Training for use of Dropbox is available free of charge on Dropbox website

PART 3 EXECUTION

3.1 DROPBOX UTILIZATION

A. Dropbox shall be utilized in connection with all document and information management required by these Contract Documents.

B. File folders will be setup for use within Dropbox folders corresponding to items outlined

C. Use Dropbox file transfer when sharing large size files or multiple files that exceed the maximum allowable size for e-mail when sending files to contacts outside the project access list.

3.2 SUBMITTALS

A. Use Dropbox for submittals.

B. Content: As specified in Section 01_33_00 - Submittal Procedures.

C. Format: As specified in Section 01_33_00 - Submittal Procedures.

D. Submit Portable Document Format (PDF) documents to the Dropbox submittal work flow process and forms.
   1. Consolidate electronic format submittals with multiples pages into a single file.

E. Samples:
   1. Contractor shall enter submittal data information into Dropbox.
   2. Attach a copy of the submittal form(s) to the sample.

F. Record And Closeout Submittals:
   1. Operation and maintenance data as specified in Section 01_78_24 - Operation and Maintenance Manuals.
   2. Extra materials, spare parts, etc.
   3. As-Built markups will be scanned to PDF and submitted via single file

3.3 CONSTRUCTION MODIFICATION & MISCELLANEOUS DOCUMENTS

A. Dropbox will be used for submittal of the following Contract Documents forms:
   1. Request for Information (RFI)
   2. Work Change Directives (WCD)
   3. Field Orders (FO)
   4. Change Orders (CO)
   5. Certifications
   6. Certified Payroll
   7. Project Schedules
   8. Miscellaneous items dealing with project equipment

3.4 OFFICIAL CORRESPONDENCE

A. Use Dropbox for memos, notices, change proposals, or any official correspondence.

3.5 PAYMENT APPLICATIONS

A. Use Dropbox for payments applications in accordance with the Contract Documents.

3.6 PROJECT PHOTOS & VIDEOS

A. Use Dropbox for required project photos and videos in accordance with the Contract Document.

3.7 OTHER

A. Use Dropbox for daily reports, meeting agendas and minutes, testing lab reports, data logs, and other construction documents.

END OF SECTION

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SECTION 01_45_29

TESTING LABORATORY SERVICES

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This Section describes services to be provided by an independent testing laboratory approved by the Engineer, including the Contractor's responsibilities

B. The Contractor shall employ and pay for services of an independent testing laboratory to perform specified testing. Cost to be included in price bid for item(s) being tested.

C. The independent testing laboratory will perform tests and other services specified in individual specification Sections and as required by the Engineer and/or Owner.

D. Representatives from the independent testing laboratory shall collect all samples in the field.

E. The independent testing laboratory shall be acceptable to the Engineer and Owner. The Engineer reserves the right to reject testing laboratories that the Engineer believes does not have sufficient qualifications or any other reasonable objections.

F. When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory at the sole expense of the Contractor and shall not be paid from testing allowance.

G. The Contractor shall furnish concrete mix designs, properties of materials, and confirmation cylinders made from batch design at the Contractor's expense.

H. Employment of a testing laboratory by the Contractor in no way relieves the Contractor of his obligation to perform the work according to the Contract Documents.

1.2 SUBMITTALS

A. Prior to start of Work, submit testing laboratory name, address, and telephone number, and name(s) of full-time registered Engineer(s) that will be in charge of testing/oversight on project.

1.3 REFERENCE STANDARDS

A. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

B. ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

1.4 QUALITY ASSURANCE

A. Comply with "Recommended Requirements for Independent Laboratory Qualification," published by the American Council of Independent Laboratories.

B. Comply with basic requirements of ASTM E329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete Steel, and Bituminous Materials as Used in Construction." ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

C. Laboratory: Authorized to operate in the state of Oklahoma.

D. Laboratory Staff: Maintain a full-time registered Engineer on staff to review services.

E. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

1.5 LABORATORY RESPONSIBILITIES

A. Cooperate with Engineer and Contractor; provide qualified personnel at the site after due notice.

B. Test samples of mixes submitted by Contractor.

C. Perform specified inspections, sampling, and testing of materials in accordance with specified standards

D. Ascertain compliance of materials and mixes with requirements of Contract Documents.

E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of work or products.

F. Perform additional inspections and tests required by Engineer.

G. Attend conferences and progress meetings, when requested.

1.6 LABORATORY REPORTS

A. Promptly submit written report of each test and inspection; one copy each to Engineer, Owner, Contractor, and one copy to Record Document File. Each report shall include:
   1. Date Issued.
   2. Project Title and Number.
   3. Testing Laboratory Name, Address and Telephone Number.
   4. Name and Signature of Laboratory Inspector.
   5. Date and Time of Sampling or Inspection.
   6. Record of Temperature and Weather Conditions.
   7. Date of Test.
   8. Identification of Product and Specification Section.
   9. Location of Sample or Test in the Project.
   10. Type of lnspection or Test.

11. Results of tests and compliance with Contract Documents.

B. Laboratory is not authorized to:
1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the Work.
3. Perform any duties of the Contractor.
4. Stop the Work.

1.7 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor shall assume full responsibility for coordination of the entire project, including verification that all structures, piping, coating systems and equipment components are compatible. The Contractor shall initially operate each equipment system, and shall make all necessary adjustments so that each system is placed in proper operating condition.

B. Cooperate with laboratory personnel, provide access to Work and to manufacturer's operations.

C. Secure and deliver to the laboratory adequate quantities of samples of materials proposed to be used and which require testing.

D. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.

E. Furnish copies of products test reports as required.

F. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site or at source of Products to be tested, to facilitate tests and inspections, storage and curing of test samples.

G. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

H. Notify Engineer 24 hours prior to expected time for operations requiring inspection and testing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01_56_17

DUST CONTROL

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This item shall consist of the application of water on haul routes and/or construction sites for the purpose of maintaining these areas relatively free of dust.

B. This item shall not be measured for payment and will considered subsidiary to other items of work.

1.2 SUBMITTALS

A. Dust control plan to be submitted to the Engineer prior to construction

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CONSTRUCTION

A. Dust control shall be achieved by the application of water sprinkled in amounts sufficient to control the dust to the satisfaction of the Engineer and the Owner.

B. The contractor shall furnish and operate an approved sprinkler vehicle equipped with valves to regulate the flow of the liquid to the sprinkler bar so that the liquid will be evenly distributed, and at a controllable rate over the entire width sprinkled.

C. It shall be the Contractor's continuous responsibility at all times, including nights, holidays, and weekends until final acceptance of the project by the Owner to maintain the specified areas relatively free of dust in a manner which will cause the least inconvenience to the personnel at the plant site and owner.

END OF SECTION

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SECTION 01_71_23

FIELD ENGINEERING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes field engineering to establish lines and grades.

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections and provisions of the Contract Documents including:
   1. Qualifications of the professional land surveyor or registered civil engineer in the state where project is located that will be performing the field engineering.
   2. Pre-Excavation Report

1.4 PRE-EXCAVATION REPORT

A. Prior to the start of the Work, create a report confirming the verification of the following data:
   1. Site elevations for area outlined for improvements.
   2. Control Points shown on Drawings or established control points based on CAD file provided.
   3. Any special features not shown on Drawings
   4. Verify existing electrical, instrumentation, fiber, and any other utilities.

B. Incorporate information from Pre-Excavation Report into the record drawings.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 SURVEY REFERENCE POINTS

A. Survey Control data and/or Survey CAD File will be provided by Engineer. Reference points to be checked / verified prior to establishment of additional points. If refence points aren't present in the Control/CAD data it shall be the responsibility of the Contractor to establish reference points based on CAD/Data provided at no additional cost to price bid.

B. From these established reference points, establish other control and reference points as required to properly lay out the Work.

C. Locate and protect control points prior to starting site work, and preserve permanent reference points during construction:
   1. Make no changes or relocations without prior written notice.
   2. Replace Project control point, when lost or destroyed, in accordance with original survey control.

D. Set monuments for principal control points and protect them from being disturbed and displaced:
   1. Re-establish any disturbed monuments.
   2. When disturbed, postpone parts of the Work that are governed by disturbed monuments until such monuments are re-established.

3.2 CONSTRUCTION STAKES, LINES, AND GRADES

A. Execute the Work in accordance with the lines and grades indicated.

B. Make distances and measurements on horizontal planes, except elevations and structural dimensions.

3.3 QUALITY CONTROL

A. Accuracy of stakes, alignments, and grades may be checked randomly by Engineer:
   1. Notice of when checking will be conducted will be given.
   2. When notice of checking is given, postpone parts of the Work affected by stakes, alignments, or grades to be checked until checked.
   3. Engineer's check does not substitute or complement required field quality control procedures.

3.4 RECORD DOCUMENTS

A. Prepare and submit Record Documents as specified.

END OF SECTION

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SECTION 01_78_34

WARRANTIES AND BONDS

PART 1 GENERAL

1.1 SUBMITTALS

A. Provide duplicate, notarized copies of warranties and bonds required by the Contract Documents. Assemble Contractor's documents and those of subcontractors, suppliers, and Manufacturers. Provide table of contents and assemble in binder with durable plastic cover.

B. The Contractor shall additionally submit a warranty document from each Manufacturer that is specific to the stipulations of the Contract Documents. The Contractor shall submit all warranties/bonds for the project in one submittal upon project acceptance. Items to be included are the bond, warranty period, list of contacts for replacement parts, and other pertinent information found to be of importance for the warranty/bond. All items are to be submitted in a PDF file and a 3-ring binder with tabs that differentiate the different warranty/bond sections.

1.2 WARRANTY INITIATION

A. Warranty shall begin only upon final acceptance of the entire project as a whole by Owner.

1.3 WARRANTY PERIOD

A. For all improvements indemnify the Owner against any repairs which may become necessary to any part of the work performed and to items of equipment and systems procured for or furnished under this Contract, arising from defective workmanship or materials used therein, for a period of one (1) year / two (2) years after date of final acceptance by Owner.

1.4 REMEDY ACTIONS

A. In the event the Contractor fails to proceed to remedy the defects of which he has been notified within fifteen (15) days of the date of such notice, the Owner reserves the right to cause the required materials to be procured and the work to be done, as described in the Drawings and Specifications, and to hold the Contractor and the sureties on his bond liable for the cost and expense thereof.

B. If immediate repairs are necessary to continue operations of the facility, the Owner reserves the right to cause those repairs to be made and hold the Contractor liable for the expense of such repairs. In such a case, every reasonable effort will be made by the Owner to notify the Contractor in advance but, failure of such notification shall not constitute a waiver of the Contractor's liability. In any case, the Contractor will be notified as soon as reasonably possible of the need for such repairs.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

END OF SECTION

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SECTION 02_21_20

SUBSURFACE UTILITY ENGINEERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Requirements for subsurface utility engineering (SUE) in Critical Locate Areas.

B. Critical Locate Areas include the following stationing where SUE Quality Level A SUE is required:
1. STA. 10+00 to STA. 11+40
2. STA. 19+86 to STA. 20+25
3. STA. 29+31 to STA. 29+63
4. STA. 31+00 to STA. 33+25
5. STA. 38+00 to STA. 43+10
6. STA. 43+10 to STA. 47+00
7. STA. 72+00 to STA. 74+00
8. STA. 74+00 to STA. 77+18

C. The Drawings also denote additional Critical Locate Areas for SUE Quality Level A services. These are at any/all locations where the proposed main crosses existing utilities crossings outside of other Critical Locate Areas specified above.

1.2 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections if included.

B. Shop drawings:
1. Contractor shall submit all SUE information as follows:
    a. Plan drawings that clearly illustrate vertical and horizontal location of utilities based on SUE.
        1) Horizontal location shall include northing and easting coordinates and measurements from relevant facilities (fence, edge of pavement, etc.)
    b. Identifies size and material and service for known utilities.
    c. Identify size and material for unknown utilities encountered.
    d. Transfer all location, size, material and depth information to a one consistent drawing which also details proposed utility depth at conflicting location.
    e. Provide, in tabular format, all utility conflictions.
2. Review of shop drawings and calculations by Engineer and Owner are for record purposes only.

C. Detailed sequence of SUE:

1. Submit a schedule for all SUE events that shows start, end, and intermediate milestones.

1.3 REFERENCES

A. The Contractor shall follow the standards listed below, except as otherwise specified herein. The latest revision or edition in effect at the time of bid opening shall be utilized.

B. American Society of Civil Engineers (ASCE):
1. 38-02 Standard Guideline for the Collection and Depiction of Existing and Subsurface Utility Data. Quality Level A.

1.4 DESCRIPTION/DESIGN REQUIREMENTS

A. Existing utilities indicated on the Drawings are approximate only and are provided based on the best information available.

B. Existing utilities are shown for the convenience of Contractor only.
1. It is the Contractor's responsibility to field verify the vertical and horizontal location of all utilities including those not indicated or incorrectly indicated on the Drawings.

C. Contractor is responsible to review all geotechnical reports, record drawings, and Contract Documents.

D. Coordinate with utility locator, such as CALL OKIE BEFORE YOU DIG, and other affected entities.

E. Contractor is responsible for protecting all utilities encountered.

F. If a conflict exists between what is indicated on the Drawings and what exists in the field, Contractor shall notify Engineer immediately.

G. Provide subsurface utility engineering services by a Civil Engineer registered in the state the project is located in accordance with ASCE 38-02.
1. Quality Level A to be achieved through the use of hydrovac excavation, minimum, as well as other mean recommended by SUE engineer.

1.5 QUALIFICATIONS

A. General: Contractor shall utilize the services of a qualified subconsultant for SUE services with minimum qualifications that include but are not limited to:
1. Minimum of 5 years of SUE experience in the state the project is located in where providing vertical and horizontal locations of utilities in accordance with ASCE 38-02 utility quality level A was required.
2. Completion of 5 SUE projects of equal or greater magnitude within the past 5 years.

1.6 SEQUENCING

A. Do not begin Work until submittals have been accepted by Engineer and until equipment and materials necessary for installation are on site.

B. Submit submittals a minimum of 30 days prior to the scheduled date to begin excavation work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CRITICAL LOCATE AREA

A. At Critical Locate Areas, perform hydro vacuum excavation to field verify horizontal and vertical locations of such lines within 4 feet horizontally of proposed work.
   1. Verify location of existing utilities minimum of 30 working days in advance of pipe laying activities. Use extreme caution and care when uncovering utilities designated by Critical Locate.
   2. Notify Engineer immediately upon identification of any obstructions.

B. Notify involved utility companies of date and time that investigation excavation will occur and request that their respective utility lines be marked in field. Comply with utility or pipeline company requirements that their representative be present during excavation. Provide Engineer with 48 hours notice prior to field excavation or related work.

C. Survey vertical and horizontal locations of obstructions relative to project baseline and datum and provide to Engineer. Submittal shall be signed and sealed by Professional Land Survey licensed in the state the project is located for determination of vertical and horizontal locations. Provide a digital copy of survey drawings to Engineer in AutoCAD format.

D. Complete all Critical Locate Area SUE services prior to preparing submittals for all underground water lines, gas lines, storm sewers, sanitary sewers, telecommunication lines, electric lines or power ducts, pipelines, and concrete structures. Submit SUE documentation to Engineer as noted in this specification and identify any conflicts or discrepancies from Drawings to the Engineer.

3.2 SUE SCHEDULE

A. Provide SUE services for pipelines and utilities crossing as indicated herein on the drawings identified as Critical Utility Locate Area.

END OF SECTION

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SECTION 03_30_00

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

A. Cast-in-place concrete work, as indicated on the drawings and specified herein.

B. Any Drawing or Specification that conflicts with this Specification or apparent conflicts within this Specification shall be brought to the attention of the Engineer prior to bid. When no clarification is provided the Contractor is to assume that the more restrictive & expensive product/system/item applies and shall be included in the Contractor's bid.

C. All listed iron and steel products used in this project must be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials. The deminimis and minor components waiver apply to this contract for minor components.

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. Section 01_33_01 General Submittal Requirements

C. Section 03_11_00 Concrete Formwork

D. Section 03_20_00 Concrete Reinforcement

E. Section 03_15_20 Concrete Joints & Embedded Items

F. Section 03_64_24 Concrete Repair Crack Injection

1.3 DEFINITIONS

A. Average daily temperature: Calculated by summing hourly measurements of air temperature in the shade at the face of the concrete and dividing that sum by 24. In calculating the sum of the temperatures recorded, any measurement less than 50 degrees Fahrenheit shall be recorded as 0 degrees Fahrenheit and included in the sum.

B. Cold weather: Includes one or more of the following conditions:
   1. Current air temperature is 45 degrees Fahrenheit and falling.
   2. Air temperature during the first 24 hours after placement is expected to fall into the range of 45 degrees Fahrenheit to 40 degrees Fahrenheit.
   3. A period when, for more than 3 consecutive days, the following conditions exist:
      a. The average daily air temperature drops below 40 degrees Fahrenheit, and;

b. The air temperature is not greater than 50 degrees Fahrenheit for more than one-half of any consecutive 24-hour period.

C. Cold weather concreting: Operations for placing, finishing, curing, and protecting concrete during cold weather.

D. Green concrete: Concrete that has not yet achieved 100 percent of the minimum specified compressive strength, f'c, for that mix.

E. Hairline crack: Crack with a crack width of less than 4 thousandths of an inch (0.004 inches).

F. Hot weather: Any combination of ambient temperature, concrete temperature, relative humidity, wind speed, and solar radiation intensity that creates conditions that will evaporate water from a free concrete surface at a rate equal to or greater than 0.2 pounds per square foot per hour as determined by the Menzel Formula and nomograph published in ACI 305R and included as Attachment A to this Section.

G. Hot weather concreting: Operations for placing, finishing, curing, and protecting concrete during hot weather.

H. Mass concrete: Concrete with a thickness of more than 36 inches.

1.4 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections if included.

B. Submit mix designs for each specified concrete and grout type. Design data shall include the name of the concrete supplier; manufacturer/supplier and type of cement used; size and type of aggregate; proportional weights of cement, aggregate, and water per cubic yard of concrete; name and quantity of admixture used.

C. Concrete Mix Design
1. Concrete mix design.
   a. Mixture Identification and intended use.
   b. Minimum 28-day compressive strength.
2. Constituent quantities per cubic yard.
3. Sources of all concrete mix components including coarse aggregate, fine aggregate, cement, water, admixtures, and pozzolans where included.
4. Cement type and manufacturer, include chemical analysis (mill test report) for each cement type to be used.
5. Pozzolan type and source; include chemical analysis for each pozzolan type to be used.
6. Water/cement ratio, by weight.
7. Air content
8. Mix design slump.
9. Nominal maximum aggregate size.
10. Average compressive strengths conforming to the requirements of ACI 318 at 28 days.

11. Provide both average strengths and sample standard deviation. Provide results at 7 and 14 days if available.
12. Laboratory shrinkage test results for concrete mix designs, where specified.

D. Aggregate for Mix Design:
1. Laboratory sieve analysis, conforming to ASTM C33.
2. Verification that aggregate is not "deleterious," or "potentially deleterious." Provide documentation or other certification that aggregate does not contain deleterious substances and has been used without issues on previous projects.

E. Admixtures.
1. Submit Manufacturer's data brochures on all admixtures proposed for use and provide certification of compliance with specified ASTM standards for each admixture.

F. Submit Manufacturer's data sheets and product specifications for curing compounds and items specified in other Sections including form release agents, bonding agents, etc. Identify the locations where each will be used in the Work as a part of the submittal.

G. Where products conforming to NSF-61 are required, submit evidence of testing and listing under NSF-61 for use in direct contact with potable water. Testing and listing shall be by a nationally recognized agency acceptable to the Engineer.

H. Concrete jointing plans (construction, expansion, saw)

I. Concrete pour sequences

1.5 REFERENCES

A. The Contractor and/or Manufacturer shall follow the standards listed below, except as otherwise specified herein. The latest revision or edition in effect at the time of bid opening shall be utilized.

B. American Society for Testing and Materials (ASTM).
1. ASTM C31: Standard Practice for Making and Curing Concrete Test Specimens in the Field
2. ASTM C33: Standard Specification for Concrete Aggregates
3. ASTM C39: Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
4. ASTM C42: Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
5. ASTM C87: Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
6. ASTM C94: Standard Specification of Ready-Mixed Concrete
7. ASTM C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
8. ASTM C125: Terminology Relating to Concrete and Concrete Aggregates
9. ASTM C143: Standard Test Method for Slump of Hydraulic Cement Concrete
10. ASTM C150: Standard Specification for Portland Cement
11. ASTM C156: Standard Test Method for Water Retention Through Liquid Membrane- Forming-Curing Compounds for Concrete

12. ASTM C171: Standard Specification for Sheet Materials for Curing Concrete
13. ASTM C172: Standard Practice for Sampling Freshly Mixed Concrete
14. ASTM C173: Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
15. ASTM C191: Standard Test Method for Time of Setting of Hydraulic Cement by Vicat Needle
16. ASTM C192: Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
17. ASTM C231: Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
18. ASTM C260: Standard Specification for Air-Entraining Admixtures for Concrete
19. ASTM C293: Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)
20. ASTM C309: Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
21. ASTM C330: Standard Specification for Lightweight Aggregates for Structural Concrete
22. ASTM C494: Standard Specification for Chemical Admixtures for Concrete
23. ASTM C595: Standard Specification for Blended Hydraulic Cements
24. ASTM C579: Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes
25. ASTM C580: Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes
26. ASTM C595: Standard Specification for Blended Hydraulic Cements
27. ASTM C618: Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
28. ASTM C683: Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
29. ASTM C806: Standard Test Method for Restrained Expansion of Expansive Cement Mortar
30. ASTM C827: Standard Test Method for Change in Height at Early Stages of Cylindrical Specimens of Cementitious Mixtures
31. ASTM C845: Standard Specification for Expansive Hydraulic Cement
32. ASTM C856: Standard Practice for Petrographic Examination of Hardened Concrete
33. ASTM C878: Standard Test Method for Restrained Expansion of Shrinkage-Compensating Concrete
34. ASTM C989: Standard Specification for Slag Cement for Use in Concrete and Mortars
35. ASTM C1017: Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
36. ASTM C1077: Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
37. ASTM C1107: Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)
38. ASTM C1157: Standard Performance Specification for Hydraulic Cement
39. ASTM C1218: Standard Test Method for Water-Soluble Chloride in Mortar and Concrete
40. ASTM C1240: Standard Specification for Silica Fume used in Cementitious Mixtures
41. ASTM C1260: Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

42. ASTM C1293: Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction
43. ASTM C1602: Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
44. ASTM E329: Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

C. American Concrete Institute (ACI).
1. ACI SPEC-117: Specification for Tolerances for Concrete Construction and Materials and Commentary
2. ACI PRC-211.1: Standard Practice for Selecting Proportions for Normal, Heavy-weight and Mass Concrete.
3. ACI PRC-214: Guide to Strength Test Results of Concrete
4. ACI PRC-223: Guide for the Use of Shrinkage Compensating Concrete
5. ACI SPEC-301: Specification for Structural Concrete
6. ACI PRC-302.1R: Guide for Concrete Floor and Slab Construction
7. ACI PRC-304: Guide for Measuring, Mixing, Transporting & Placing Concrete
8. ACI PRC-304.2R: Placing Concrete by Pumping Methods
9. ACI PRC-305R: Guide to Hot Weather Concreting
10. ACI SPEC-305.1: Specification for Hot Weather Concreting
11. ACI PRC-306R: Guide to Cold Weather Concreting
12. ACI SPEC-306.1: Standard Specification for Cold Weather Concreting
13. ACI PRC-308: Guide to Curing Concrete
14. ACI SPEC-308.1: Specification for Curing Concrete
15. ACI PRC-309: Guide for Consolidation of Concrete
16. ACI CODE-318: Building Code Requirements for Structural Concrete.
17. ACI CODE-350: Code Requirements for Environmental Engineering Concrete Structures
18. Manual of Concrete Practice

D. NSF International (NSF):
1. 61 - Drinking Water System Components - Health Effects.

1.6 QUALITY ASSURANCE

A. Conform to ACI SPEC-305.1R when concreting during hot weather.

B. Conform to ACI SPEC-306.1R when concreting during cold weather.

C. Manufacturer's Qualifications:
1. Manufacturer must be certified by the National Ready Mix Concrete Association's Certification of Ready Mixed Concrete Production Facilities.

D. Concrete Consistency
1. Test for slump shall be performed at the job site immediately prior to placing in accordance with ASTM C143. Slump tests shall be performed for each batch of concrete to indicate workability and consistency from batch to batch.
2. If the slump is outside the allowed limits, the concrete shall be rejected. Concrete showing either poor cohesion or poor coating of the coarse aggregate with paste shall be remixed or rejected.

3. If the slump is within the allowable limit, but excessive bleeding, poor workability, or poor finishability are observed, the concrete shall be rejected and changes in the concrete mix shall be made only by an adjustment of one or more of the following:
    a. The gradation of aggregate.
    b. The proportion of fine and coarse aggregate.
    c. The percentage of entrained air, within the allowable limits.

E. Concrete Temperature
1. Concrete temperature is to be measured in accordance with ASTM C1064, per ACI SPEC-301.
2. Concrete temperature shall be taken immediately before placement with the point of measurement being in the chute or bucket.
3. Perform temperature test for each batch and record result on batch ticket.
4. If fresh concrete temperature does not meet requirements in this section the concrete shall be rejected.
    a. Minimum: 50 degrees Fahrenheit.
    b. Maximum: 90 degrees Fahrenheit.

F. Concrete Air Content
1. Test for air content shall be made on a fresh concrete sample for each batch prior to placing in forms.
2. Air content for concrete made of ordinary aggregates having low absorption shall be made in accordance with either ASTM C231, or ASTM C173. If light weight aggregates or aggregates with high absorptions are used, use ASTM C173.
3. If air content of fresh concrete does not meet requirements specified in this Section, the concrete shall be rejected. Do not place concrete that does not meet the air entrainment requirements of this Section.

G. Compressive Strength
1. Compression test specimens shall be made, cured and tested in accordance with ASTM C31 and ASTM C39.
2. Compressive strength tests shall be made on cylinders at 7 and 28 days. The value of each test result shall be the average compressive strength of a minimum of 2 cylinders taken at the same time from the same batch of concrete.
3. Compressive test specimens may be 6” x 12” cylinders or 4” x 8” cylinders. If maximum aggregate size is greater than or equal to 1.5”, then 6”x12” are to be used.
4. Sets of concrete test cylinders shall be cast for each concrete pour as follows.
    a. A "set" of test cylinders consists of a minimum of four cylinders, one to be broken at seven days; and two broken and strengths averaged at 28 days. One hold cylinders may also be made at contractors option or when requested by engineer and remain unbroken so that it will be available to be broken upon unforeseen circumstances or upon the option of the Engineer to break cylinders at different times.
    b. A minimum of one “set” of cylinders will be made for each concrete pour up to 100 CY in volume. For pours larger than 100 CY, additional “sets” of cylinders will be made for each additional 100 CY of concrete poured. Additional set should be made if a pour crosses over into different structures or structural areas if requested by engineer.

c. Additional cylinders may be necessary if an early break or early form required is desired

5. Evaluation of compressive strength for compliance with design requirements will be conducted by the Engineer per ACI 318 – Section 26.12 based on the results of the 28-day test.

H. Failure to Meet Requirements

1. The Owner may withhold payment for any section of concrete which does not meet the requirements of the Plans and Specifications. Withheld payment shall be based upon unit prices established for concrete, if available. Payment shall be withheld until the unacceptable concrete has been repaired or removed and replaced or otherwise brought into conformance with the Plans and Specifications.
2. Concrete Strength
   a. If the 28-day strength test results fall below required values, additional curing may be performed and test cores may be obtained in accordance with ASTM C42 with approval of the Engineer. Additional curing, core removal and testing, if allowed by the Engineer, shall be at the Contractor's expense.
   b. If the strength results from test cores do not exhibit the required strength, the Engineer or Owner's Representative reserves the right to require strengthening, replacement of substandard materials and/or additional testing at the Contractor's expense. The choice of remedy is at the sole discretion of the Engineer or Owner's Representative.
3. Cracking and Crack Repair
   a. It is recognized that some surface hairline cracks and crazing will develop in the concrete surfaces.
   b. Construction, control and expansion joints have been specified and positioned in structures as indicated on the Drawings or specified in Section 03_15_20 – Concrete Joints & Embedded Items, and curing methods specified, for purpose of reducing number and size of cracks, due to normal expansion and contraction expected from specified concrete mixes.
   c. Pressure inject visible cracks, other than hairline cracks and crazing, in the following areas with epoxy as specified in Section 03_64_24 Concrete Repair Crack Injection System:
      1) Floors and walls of water bearing structures.
      2) Walls and overhead slabs of passageways or occupied spaces, outsides of which are exposed to weather or may be washed down and are not specified to receive separate waterproof membrane.
      3) Other items not specified to receive separate waterproof membrane:
         a) Slabs over water channels, wet wells, reservoirs, and other similar surfaces.
      4) Visible wall remaining exposed
   d. Walls or slabs, as specified above, that leak or sweat because of porosity or cracks too small for successful pressure injection with epoxy: Seal on water or weather side by coatings of surface sealant system, as specified in this Section.
   e. Pressure injection and sealing: Continue as specified above until structure is watertight and remains watertight for not less than 1 year after final acceptance or date of final repair, whichever occurs later in time.

4. Other Concrete Properties
   a. If concrete properties besides strength do not meet required values, the Engineer may require concrete samples to be obtained in accordance with ASTM C42 and evaluated in accordance with ASTM C856 at the Contractor's expense.
   b. If concrete properties besides strength do not meet required values, and the results of additional examination per ASTM C856 are deemed unsatisfactory at the sole discretion of the Engineer, the Owner reserves the right to require strengthening, replacement of substandard materials and/or additional testing at the Contractor's expense.

1.7 DESCRIPTION/DESIGN REQUIREMENTS

A. Concrete shall not be placed in any form until formwork has been inspected by the Engineer and permission is given to start placing.

B. Notify Engineer a minimum of 48 hours prior to concrete placement.

C. Fly ash will not be accepted for use in mix designs

D. Provide PVC waterstop at all submerged joints and as outlined in the plans and other specification sections.

E. Retempering by adding water to concrete at the jobsite will not be permitted unless prior approval is obtained from the Engineer.

F. All slabs to receive 10ml vapor barrier prior to concrete placement. No exceptions.

G. See Section 2.3 for additional requirements.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement: ASTM C150, Type I/II, Type I – Only type of one brand of cement shall be used.

B. Coarse Aggregates: Shall consist of gravel, crushed gravel, crushed stone, air-cooled blast furnace slag, or a combination thereof, conforming to ASTM C-33 with a maximum size of 1½-inches. Where required due to minimum spacing of reinforcing steel, maximum size of coarse aggregate shall be reduced to 1-inch with prior written approvalof the Engineer.

C. Fine Aggregate: Shall conform to ASTM C-33 and shall be washed river sand composed of clean, uncoated grains of strong materials.

D. Abrasive aggregates shall be equal to fine (c.f.) "Alumdum" aggregate as manufactured by Norton Company, Worcester, Mass. or "Frictex NS" as manufactured by Sonneborn - Contech. Use only as approved by Engineer.

E. Water: Potable water free from detrimental chemicals and solids that will decrease the strength of the concrete.

F. Embedded Items: Embedded items shall be of the size and type shown or as needed for the application.

G. Curing Materials: Curing materials shall be burlap, impervious sheets, or membrane-forming compounds.

H. Dowels: Plain carbon steel bars, minimum yield point of 60,000 psi for use in slabs on grade.

I. Expansion Joint Filler Strips: Premolded nonextruding, resilient bituminous or non-bituminous type for use in concrete paving or construction, thickness as shown.

J. Form Materials: Wood, metal or other Engineer approved materials that will produce the specified finishes without adversely affecting the concrete surfaces in accordance with Section 03_11_00 Concrete Formwork.

K. Form Coating: Nonstaining form oil or form-release agent that will not deleteriously affect concrete surfaces nor impair subsequent applications.

L. Form Ties: Metal, factory-fabricated removable snap-off type, that will not leave holes less than 1/4 inch nor more than 1 inch deep and not more than 1 inch in diameter.

M. Joint Sealant: As approved by Engineer for sealing joints in concrete against moisture infiltration for specific application.

N. Reinforcement: Bar reinforcement shall be deformed, Grade 60 conforming to ASTM A615. Mesh reinforcement shall be welded wire fabric with wires at right angles to eachother. See Section 03_20_00 Concrete Reinforcement.

O. Bonding Agent: As approved by Engineer.

P. Admixtures: Air-entraining, retarders, and other admixtures as approved by Engineer
1. Admixture manufacturers: One of the following, no equals / substitutes:
   a. BASF Corp., Master Builders Solutions.
   b. Euclid Chemical.
   c. GCP Applied Technologies (formerly W.R. Grace).
   d. Sika Corp.
   e. Xypex Corp.
2. Air-entraining admixture: ASTM C260.
3. Water-Reducing Admixture: ASTM C494/C494M, Type A.
4. Retarding Admixture: ASTM C494/C494M, Type B.
5. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
6. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
7. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
8. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.

2.2 ACCESSORIES

A. Curing Compound: Concrete curing compound shall be of a nature and composition not deleterious to concrete and shall be of a standard and uniform quality ready for use as

shipped by the manufacturer. At the time of use, the curing compound shall be in a thoroughly stirred condition. Curing compounds shall not be diluted by the addition of solvent or thinners, or be altered in any manner without the specific approval of and ina manner prescribed by the manufacturer. Curing compound shall conform to the requirements of ASTM C-309 Type 1.

1. The curing compound shall be sufficiently transparent and free from color so that there will be no permanent change in the color of the concrete. The compound shall contain, however, a temporary dye of sufficient color to make the membrane clearly visible for a period of at least four hours after application.

2.3 CONCRETE MIX QUALITY AND CONTROL

A. No fly ash will be permitted in mix designs.

B. Design: Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate and water. All concrete shall be designed by an approved testing laboratory in accordance with the ACI Standard Recommended Practice for Selecting Proportions for Concrete (ACI-211) to produce the strength for each class of concrete specified, and with slumps and maximum sizes of coarse aggregate in accordance with the requirements outlined below.

C. Prior to placing any concrete, the Contractor shall submit for review mix designs for each specified concrete and grout type.

D. Concrete Classifications

Class	Min. 28-Day Compressive Strength (psi)	Coarse Aggregate Size, Maximum	Max. Water Cement Ratio	Slump Range	Cement Content (lb. per CY)	Admixture Requirements
A	4500	#57	0.40	2-4	535-575	AEA, WRA
A-NA	4500	#57	0.45	2-4	535-575	WRA
B	2500	#57	0.62	3-6	min 423	AEA, WRA
C	4500	#57	0.40	6-9	535-575	AEA, WRA
D	5000	#67	0.40	3-5	575-611	WRA, HRWR
E	2500	#57	0.62	3-6	min 423	AEA, WRA
F	3000	#8	0.62	8	min 423	AEA, WRA
G	4500	#57	0.40	6	575-611	AEA, WRA
G-HE	6000	#57	0.40	6	TBD by Supplier	AEA, WRA

AEA – Air Entraining Admixture
WRA – Water-retaining Admixture
HRWR – High Range Water Reducer

NA – No Air Entraining Admixture
G-HE – Class G High Early Strength - to be used in areas where it is desirable to open to traffic prior to required minimum cure time.

E. Concrete Usage

Class	Usage
A	Structural Concrete and all other locations not specified
A-NA	May be used in lieu of A at indoor slabs w/ surface finishing
B	Concrete Encasement
C	Drilled Shafts; Thin Wall Sections
D	Precast Concrete and Panels
E	Lean Concrete Backfill; Foundation Seal; Blocking/Cradling
F	Underground Duct Banks
G	Concrete pavement, sidewalks, flumes & gutters

F. In not specifically noted in the table above, concrete shall be 4,500 psi.

G. The slump shall not exceed the maximum specified above for the type of construction for which it is to be used. The 28-day compressive strength determined in accordance with current ASTM Specifications C-39 and C-31 and with specimens cured in accordance with C-31 shall not be less than that shown above for the specified class of concrete. No water will be added after the amount specified by the mix design.

H. If additional admixtures are used beyond what is specified, slump shall be based on manufacture's recommendations and as approved by Engineer.

I. Production of Concrete: All ready-mixed concrete shall be batched, mixed and transported in accordance with "Specifications for Ready-Mixed Concrete (ASTM C-94)". Plant equipment and facilities shall conform to the "Check List for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association.

J. Laboratory Testing: Contractor shall be responsible for sampling concrete for test cylinders, recording, providing all materials required, and for making all slump tests in the field directed by the Engineer. All costs in connection with work performed by the laboratory shall be paid by the Contractor. When cylinder reports indicate concrete does not meet strength requirements delineated in the Contract Documents, the Contractor shall be responsible for the costs of developing a redesign of the concrete mix.

K. At least one test shall be made on fresh concrete for each 100 cubic yards of each class of concrete (or fraction thereof) placed on any one day and in any event, not less than one test for each class of concrete each day it is used. Testing shall be done in accordance with the following ASTM Specifications, latest edition:
1. C-172 - Standard Method of Sampling Fresh concrete

2. C-31 - Standard Method of Making and Curing Concrete Compression & Flexure Test Specimens in the Field
3. C-39 - Standard Method of Test of Compressive Strength of Molded concrete Cylinders
4. C-143 - Standard Method of Slump Test for Consistency of Portland Cement Concrete
5. C-173: Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

L. Before any concrete is poured, the Contractor shall construct a storage box in accordance with ASTM Specification C-31. Each set of tests shall consist of one slump test and four compression test cylinders (minimum.) All cylinders shall be kept in the storage box for the first 24 hours. The four cylinders shall be laboratory cured and tested for adequacy of the designfor strength of the concrete in accordance with ASTM Specification C-31. One cylinder shallbe tested at seven days, two at twenty-eight days and one shall be held for break as needed/requested.

M. Failure of Concrete to Meet Strength Requirements
1. Concrete is expected to reach a compressive strength equal to or greater than the minimum specified compressive strength of this Section.
2. Strength of concrete will be considered acceptable if following conditions are satisfied.
   a. Averages of all sets of 3 consecutive strength test results is greater than or equal to the specified compressive strength.
   b. No individual strength test (average of 3 cylinders) falls below 90% of the strength specified.
3. The only cylinders to be used for determination of concrete acceptability will be those laboratory cured and tested at twenty-eight days.
4. When it appears the tests of laboratory-cured cylinders will fail to meet these requirements, the Engineer may require changes in the proportions of concrete for the remainder of the work in order to meet the strength requirements. In addition, the Engineer may also require additional curing not to exceed atotal of twenty-one days on portions of the concrete already poured.

N. The Engineer may also require tests in accordance with Methods of Securing, Preparing and Testing Specimen from Hardened Concrete for Compressive and Flexural Strengths (ASTM Specifications C-42) when the concrete cylinder tests fail to meet strength requirements. In the event there still is question as the quality of the concrete in the structure, the Engineer may require load tests for that portion where the questionable concrete has been placed. Such load tests will be made as outlined in Chapter 20 of American Concrete Institute Building Code. (ACI 318-71), and shall be at the expense of the Contractor.

O. Removal of Under Strength Concrete: If the above tests indicate that a particular batch of previously placed concrete is under strength, the Engineer may direct that the under strength batch be removed and replaced. The removal of the under strength concrete shall also include the removal of concrete that has obtained the required strength if the Engineer deems this necessary to obtain structural or visible continuity when the concrete is replaced.

P. The removal, and replacement of any under strength concrete, shall be made at no additional cost to the Owner. This shall include any new formwork required or any

reinforcing steel that may be required. The Owner shall not be charged any additional costs for any extra work that is required because of the failure of any concrete to meet the minimum test requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify requirements for concrete cover over reinforcement are met

B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

C. Verify waterstop is in place and properly constructed at all joints

3.2 PREPARATION

A. Submit proposed sequence of concrete placements. After acceptance, adhere to proposed sequence of placing concrete, except when specific changes are requested by the Contractor and accepted by the Engineer.
   1. Use construction methods and sequence work to allow concrete placement to reach adequate strength and to be constructed with required support to prevent overstress of the concrete structure during construction.

B. All items, including lines and grades, forms, waterstops, reinforcing, inserts, piping, electrical, plumbing and the Contractor's concreting materials and equipment shall be complete and in compliance with the plans and specifications before proceeding with concrete placement.

C. Concrete finishing shall be completed in daylight hours. When this is not possible, brilliantly light the work site so that all operations are plainly visible.

D. Water shall be removed from excavations before concrete is deposited. Hardened concrete, wood chips, shavings, and other debris shall be removed from interior of forms and inner surfaces of mixing and conveying equipment. Wood forms shall be oiled or, except in freezing weather, wetted with water in advance of pouring. Contractor shall verify that all reinforcement is properly place, aligned, and secured prior to pouring concrete.

E. Soil at bottom of foundation systems is subject to testing for soil bearing value by the testing laboratory. Place concrete immediately after approval of foundation excavations. Excavate and backfill as necessary to complete the concrete work. Place concrete on sub-grades that are well compacted to level and true grade. Before concrete is poured in areas between slabs on grade previously poured, recheck compaction of subgrades and if necessary, recompact to avoid settlement of slabs at joints. Seal extremely porous subgrades. Remove all ice, debris and excess water from subgrades. After completion of the concrete work, backfill all excavations.

F. Do not place concrete on ground or compacted fill until subgrade is in moist condition acceptable to the Engineer.

1. If necessary, sprinkle subgrade with water not less than 6 or more than 20 hours in advance of placing concrete.
2. If subgrade surface becomes dry prior to actual placing of concrete, sprinkle again, without forming pools of water.
3. Do not place concrete if subgrade is muddy or soft.

G. Keep sufficient protective coverings on hand at all times for protection of concrete during and after placement.
1. Protect concrete placed before rain to prevent water from coming in contact with such concrete
2. Protect concrete placed before winds to prevent excessive drying or embedment of debris in the finished surfaces.

H. Mix concrete only in quantities for immediate use. Discard concrete which has set; re-tempering is not permitted. **Completely discharge concrete at the site within one hour and 30 minutes after adding cement to aggregate. In hot weather, reduce this time to one hour or less to prevent stiffening of concrete before it is placed.**

I. Additional water **may be only be added to the mix** when the following conditions are fully satisfied:
1. Batch ticket showing total volume of water already added and maximum volume of water that may be added is available for Engineer's observation before any additional water is added.
2. Total volume of water in the mix after the addition will be less than the maximum allowable volume of water indicated on the ticket.
3. The full concrete load is still within the truck's mixing drum, and truck has not begun to discharge the load. Under no conditions shall water be added in the field to a partial truckload of concrete.
4. Volume of water added, and time of addition are clearly marked for record on the batch ticket delivered to the Engineer.

J. Furnish to the Engineer a delivery ticket for each batch of ready mixed concrete within 24 hours after delivery. Include the following information on each ticket:
1. Time of day concrete was batched, and time of day that discharge from the truck is complete.
2. Printed record of the individual weight of each of the following constituents in the batch: fine aggregate, coarse aggregate, cement, pozzolan, and water.
3. Concrete Class as defined in this Section.
4. Type, brand, and quantity of each admixture in the batch.
5. Total volume of water allowed in the mix, volume of mixing water added at the batch plant, volume of mixing water withheld from the mix during batching, and total volume of any water added to the mix after leaving the batch plant.
    a. In no case shall volume of mixing water withheld result in a water/cementitious materials ratio less than the minimum values specified in this Section.
6. Number of revolutions of transit truck at arrival on site, and total number of revolutions when discharge is complete.
7. Volume of concrete delivered in the batch.
8. Numerical sequence of the batch delivered for that placement.

K. Protection from Adverse Weather

1. If adverse weather is imminent, no concrete placement is permitted. Do not permit rainwater to increase mixing water or to damage the surface finish. If rainfall occurs after placing operations begin, provide adequate covering to protect the work.

3.3 CONVEYING

A. Concrete shall be conveyed from mixer to forms as rapidly as practicable and by methods which will prevent segregation and loss of ingredients. It shall be deposited as nearly as practicable in its final position. Chutes used shall be such that concrete slides in them and does not flow. Chutes, if permitted, shall have a slope of less than 1 on 2. Where a vertical drop greater than 5 feet is necessary, placement shall be through elephant trunks or similar devices to prevent segregation.

3.4 PLACING

A. Completely discharge concrete at the site within one hour and 30 minutes after adding cement to aggregate. In hot weather, reduce this time to one hour or less to prevent stiffening of concrete before it is placed.

B. Unless otherwise specified, all concrete shall be placed upon clean, damp surfaces free from running water, or upon properly consolidated fills, but never upon soft mud or dry, porous earth. The concrete shall be compacted and worked in an approved manner into all corners and angles of the forms and around reinforcement and embedded fixtures as to prevent segregation of the coarse aggregate. Construction of forms for the lifts of vertical.

C. Do not place concrete:
1. With slump outside the limits specified in this Section.
2. In which initial set has occurred, or that has been retempered.
3. During rainstorms or high velocity winds.

D. Deposit concrete at or near its final position to avoid segregation caused by rehandling or flowing.
1. Do not deposit concrete in large quantities in one place, and then work material along forms with vibrator or by other methods.

E. Do not drop concrete freely into place from height greater than 5 feet. Use tremies for placing concrete where drop is over 5 feet.

F. Place concrete on slopes starting from bottom of slope and working upward.

G. Place concrete in horizontal lifts not exceeding 24 inches in depth and bring up evenly in all parts of forms.

H. After concrete placement begins, continue in a continuous operation without significant interruption until the end of the placement. Plan and implement precautions to prevent any delay, between layers or adjacent volumes, from exceeding 20 minutes.

I. If concrete is to be placed over previously placed concrete and more than 20 minutes has elapsed, spread layer of cement grout over surface before placing additional concrete. Provide grout layer thickness of not less than 1/2 inch, nor more than 1 inch.

J. Maintain reinforcement in position on chairs during concrete placement.

K. Slope surfaces uniformly to drains where required.

L. Placement of concrete for slabs, beams, or walkways:
   1. If cast monolithically over walls or columns, do not commence until concrete in walls or columns has been allowed to set and shrink.
   2. Allow set time of not less than 1 hour for shrinkage.
      a. During waiting time, keep top surface of concrete moist, but not wet.
      b. Do not permit water to pond or stand on the surface.
      c. Do not coat surface with evaporation retarders or curing agents.
   3. Start placement above wall or column with layer of cement grout as described in the preceding paragraph.

3.5 VIBRATION

A. Consolidate concrete, including floor slabs on grade, by internal concrete vibrators supplemented by hand-spading, rodding, or tamping so that the concrete is thoroughly worked around reinforcement and embedded items and into the corners of forms. Consolidate each layer of concrete with previously placed layers in a manner that will eliminate all air or stone pockets which may cause honeycombing, pitting, or planes of weakness. Internal vibrators shall produce a minimum frequency of 7000 impulses per minute when submerged in concrete. Do not use vibrators to transport concrete. Insert and withdraw vibrators at uniformly spaced points not farther apart than the visible effectiveness of the machine. Duration of vibration shall be limited to time necessary to produce satisfactory consolidation without causing objectionable segregation. The vibrating equipment shall at all times be adequate in number of units and power to properly consolidate all concrete. At least 1 spare unit shall be on hand as necessary to ensure such adequacy.

3.6 CONSTRUCTION JOINTS

A. Locations of joints are indicated on the Drawings and/or as outlined and approved on submittals
   1. In order to preserve strength and watertightness of structures, make no other joints, except as authorized by the Engineer.

B. Where joint locations are not indicated on the Drawings, submit Contractor's proposed locations for Engineer's review and acceptance. Provide construction joints in slabs and walls at intervals not greater than 30 feet.

C. Time between placements of adjacent concrete separated by joints.
   1. Provide not less than 3 days (72 hours) between placement of adjacent sections for the following:
      a. Slabs.
      b. Walls.

2. Provide not less than 7 days (168 hours) between placement of the lower and upper pours for the following:
   a. Walls over slabs.
   b. Slabs over walls.
   c. Slabs keyed into the sides of walls.
3. For the following structures, provide not less than 14 days between placements of concrete in adjacent concrete wall placements. Place concrete for slabs in accordance with ACI 302.1R, Figure 10.1.1.1b with not less than 14 days between placements of strips cast first and infill strips.
   a. All water holding structures.

D. Construction joints shall be in accordance with Section 03_15_20 – Concrete Joints & Embedded Items. Waterstops shall be installed in all construction joints below grade or in liquid containing structures as noted on the plans.

3.7 PROTECTION

A. General:
1. Keep forms in place, as specified in the following paragraphs, to provide curing and to protect concrete surfaces and edges from damage.
2. Immediately after forms are removed, carefully examine concrete surfaces, and repair any irregularities in surfaces and finishes as specified.

B. Form removal:
1. Do not remove forms from concrete which has been placed when outside ambient air temperature is below 50 degrees Fahrenheit until the following conditions are satisfied:
   a. Concrete has sufficient strength to allow form removal without damage to surfaces.
   b. At least 48 hours have elapsed since the end of concrete placement.
   c. Provisions are in place to maintain moisture for curing concrete, and temperature at or above the required minimum curing temperature specified.
2. Vertical forms:
   a. Retain in place for a minimum of 24 hours after concrete is placed.
   b. If concrete has sufficient strength and hardness to resist surface or other damage after 24 hours, forms may be removed.
3. Other forms supporting concrete, and shoring: Retain in place as follows:
   a. Formed sides of footings: 24 hours minimum.
   b. Formed vertical sides of beams, girders, and similar members: 48 hours minimum.
   c. Forms below slabs, beams, and girders: Until concrete strength reaches specified strength f'c or until shoring is installed.
      1) Shoring for slabs, beams, and girders: Shore until concrete strength reaches minimum specified 28-day compressive strength.
4. Wall bracing: Brace walls until strength of concrete beams and slabs laterally supporting wall reaches minimum specified 28-day compressive strength.

C. Loading of concrete members:
1. Placement of loads on or against green concrete is not permitted.

2. Do not place soil against walls, or fill over the top of concrete until conditions designated in the following paragraphs are satisfied:
   a. Walls have been cast to their full height in the structure and have achieved their minimum specified 28-day compressive strength.
   b. Connecting slabs and beams that brace the walls are in place, are complete, and (in the case of concrete) have achieved their minimum specified 28-day compressive strength.

D. All surfaces shall be protected against injury. During the first 72 hours after placing the concrete, any wheeling, working or walking on the concrete shall not be permitted. All slabs subject to wear shall be covered with a layer of sand or other suitable material as soon as the concrete has set. Sisalcraft paper or other similar tough waterproof paper may also be used, provided all joints between adjacent strips of paper are carefully sealed. This does not alter the requirements for proper curing as specified herein.

E. No concrete slabs or top surfaces or walls shall be placed during rain unless acceptable protective shelter is provided, and during such weather, all concrete placed within the preceding 12 hours shall be protected with waterproof canvas or other suitable coverings. These shall be provided and kept ready at hand.

3.8 BONDING

A. Roughen surfaces of set concrete at all joints, except where bonding is obtained by use of a concrete bonding agent or as specified herein, and clean surfaces of laitance, coatings, loose particles, and foreign matter. Roughen surfaces in a manner to expose bonded aggregate uniformly and to not leave laitance, loose particles of aggregate, or damaged concrete at the surface.

B. Prepare for bonding of fresh concrete to new concrete that has set but is not fully cured, as follows:
   1. At joints between footings and walls and between walls and beams or slabs they support, and elsewhere unless otherwise specified herein, dampen, but do not saturate, the roughened and cleaned surface of set concrete immediately before placing fresh concrete.
   2. At joints in exposed work; at vertical joints in walls; at joints in girders, beams, supported slabs, and other structural members; and at joints designed to contain liquids; dampen, but do not saturate, the roughened and cleaned surface of set concrete and apply either a liberal coating of neat cement grout or a commercial bonding agent.
   3. Use neat cement grout consisting of equal parts Portland cement and fine aggregate by weight and not more than 6 gallons of water per sack of cement. Apply with a stiff broom or brush to a minimum thickness of 1/16". Deposit fresh concrete before cement grout has attained its initial set.

3.9 PATCHING

A. Any concrete which is not formed as shown on the Drawings, or for any reason is out of alignment or level or shows a defective surface shall be considered as not conforming with the intent of these Specifications and shall be removed from job by Contractor at his expense, unless the Engineer grants permission to patch defective area, which shall be done in accordance with the following procedures.

B. Permission to patch any such area shall not be considered a waiver of the right of the Engineer to require complete removal of defective work if patching does not, in the opinion of the Engineer, satisfactorily restore quality and appearance of surface. Suitable non-shrink, latex or epoxy mortar shall be used for patching and repairing defective surface if directed by the Engineer.

C. After removing forms, all concrete surfaces shall be inspected and any poor joints, void, stone pockets, all tie holes, or other defective areas shall be patched, if permitted by the Engineer. Where necessary, defective areas shall be chipped away to a depth of not less than 1" with edges perpendicular to the surface. Area to be patched and a space at least 6" wide entirely surrounding it shall be wetted to prevent absorption of water from the patching mortar. A grout of equal parts Portland cement and sand, with sufficient water to produce a brushing consistency, shall then be well brushed into the surface followed immediately by the patching mortar. The patch shall be made of the same material and of approximately the same proportions and shall not be richer than one part cement to three parts sand. White Portland cement shall be substituted for a part of the gray Portland cement to match color of the surrounding concrete. The proportion of white and gray cements shall be determined by making a trial patch. The amount of mixing water shall be as little as consistent with the requirements of handling and placing. The mortar shall be retempered without the addition of water by allowing it to stand for a period of one hour during which time it shall be mixed occasionally with a trowel to prevent setting.

D. The mortar shall be thoroughly compacted into place and screeded off so as to leave patch slightly higher than surrounding surface. It shall then be left undisturbed for a period of one to two hours to permit initial shrinkage before being finally finished. The patch shall be finished in such a manner as to match the adjoining surface. On exposed surfaces where unlined forms have been used, the final finish shall be obtained by striking off the surface with a straightedge spanning the patch and held parallel to the direction of the form marks.

E. Tie holes left by withdrawal of rods or the holes left by removal of ends of ties shall be filled solid with mortar after first being thoroughly wetted.

3.10 SLABS ON GRADE

A. The Contractor shall insure that subgrade has been thoroughly compacted and leveled prior to concrete placement. Sprinkle all sub-grades with water no more than half an hour prior to placing concrete.

1. Place vapor barrier below interior slabs unless noted otherwise. Sprinkling of fill is not necessary when using vapor barrier. Lap vapor barrier 6" in direction of pour, and seal laps with specified mastic. Repair all ruptures of the vapor barrier that might occur before or during concrete pour.
2. The Contractor shall insure that all reinforcing steel is located properly prior to pour, and that steel will not be vertically displaced during the pour.

3.11 EDGING

A. Edges exposed to view on the outside of structures, footings, pads and slabs, and all those in the inside of structures shall be chamfered, unless otherwise approved by the Engineer. Chamfer shall be at an angle of 45 degrees, as shown on the Plans. If so required by the Engineer, however, the Contractor shall provide square edges for any portion of the work.

3.12 SLAB FINISHES

A. See Section 03_35_00

3.13 FINISH OTHER THAN FLOORS

A. See Section 03_35_00

3.14 CURING

A. Cure concrete by methods specified in this Section.

B. Keep concrete continuously moist and at an average daily temperature of at least 50 degrees Fahrenheit for a minimum of 7 days after placement.
   1. Provide at least 350 degree days of curing (350 degrees times 7 days of 24 hours each).
   2. If hourly temperatures at any surface of a concrete placement drop below 50 degrees Fahrenheit during the curing period, count the period below 50 degrees Fahrenheit as zero degrees, and extend the curing time to compensate.

C. Schedule of curing methods:
   1. Cure the following concrete surfaces using water curing, or plastic membrane curing.
      a. Floor surfaces of water containment structures.
      b. Surfaces where additional concrete will be placed over or against the surface, including concrete joints.
      c. Surfaces where grout or other toppings will be placed over the surface.
      d. Slabs scheduled to receive concrete sealer, or other bonded or adhered architectural finishes.
      e. Formed surfaces scheduled to receive coatings, paint, adhered masonry, cementitious materials, or other similar finishes, and where formwork is removed within 7 days after concrete placement.
      f. Horizontal concrete surfaces at tops of walls.
   2. Cure the following concrete surfaces by water curing, plastic membrane curing, or sprayed curing membrane. Selection of methods shall be at the Contractor's option.
      a. Surfaces not listed in the preceding paragraph.

D. Water curing:
   1. Keep surfaces of concrete constantly and visibly wet, day and night, for period of not less than 7 days.
      a. Each day forms remain in place will be counted as 1 day of water curing.
      b. Do not loosen form ties during period when concrete is cured by leaving forms in place. No further curing credit will be allowed for forms remaining in place after contact has been broken between concrete surface and forms.
   2. Begin water curing as soon as concrete attains initial set.
   3. Maintain a wet surface by ponding, continuous sprinkling, covering with saturated burlap, or otherwise saturating the surface by means acceptable to Engineer.
      a. Flood top of walls with water at least 3 times per day and keep surfaces moist at all times during 7 day curing period.

b. Provide plastic sheet material over surfaces if required to maintain a wet surface during arid or windy conditions. See plastic membrane curing requirements for additional details.

4. Use water having a temperature within 20 degrees Fahrenheit of the temperature of concrete, and not lower than the minimum temperature allowed for the concrete surface during curing.

E. Plastic membrane curing:
1. Install plastic membrane as soon as concrete is finished and can support limited pedestrian traffic without damage.
2. Cover entire surface of finished concrete with membrane.
3. Anchor membrane to prevent uplift from wind or air trapped below the sheet.
4. Fully seal joints and edges to provide full seal around perimeter.
5. Keep concrete under plastic membrane moist, regularly monitoring surfaces and adding supplemental moisture if necessary. Add water as specified for water curing.

F. Sprayed membrane curing compound:
1. Apply curing compound to concrete surface after repairing and patching, and within 1 hour after forms are removed.
   a. If more than 1 hour elapses after removal of forms, do not use membrane curing compound. Instead, provide water curing for not less than 7 days.
   b. Do not remove sprayed membrane curing compound from concrete in less than 7 days after initial application.
   c. When application of curing compound at concrete joints is accepted by Engineer, take care to apply curing compound to all surfaces along full profile of joints.
2. Apply curing compound by mechanical, power operated sprayer with mechanical agitator that will uniformly mix all pigment and compound.
   a. Apply curing compound in at least 2 coats.
   b. Apply each coat in direction turned 90 degrees from application direction of the preceding coat.
   c. Apply curing compound in sufficient quantity so that concrete has uniform appearance and its natural color is effectively and completely concealed immediately after spraying.
   d. Continue to coat and recoat surfaces until specified coverage is achieved and until coating film remains on concrete surfaces.
3. Thickness and coverage of curing compound:
   a. Provide curing compound having film thickness that can be scraped from surfaces at any and all points after drying for at least 24 hours.
   b. Contractor is cautioned that method of applying curing compound specified in this Section may require more curing compound than normally suggested by manufacturer of curing compound and is more than is customary in the trade. Apply amounts specified in this Section, regardless of manufacturer's recommendations or customary practice.
4. If Contractor desires to use a curing compound other than specified product, coat sample areas of concrete wall with proposed curing compound, and also coat similar adjacent area with the specified compound in the manner specified, for comparison:
   a. If proposed sample is not equal or better, in opinion of the Engineer, the proposed substitution will not be allowed.

5. Removal of curing compound.
   a. After curing period is complete, remove curing compound placed on surfaces that will receive additional concrete, including all concrete joint surfaces, by heavy sandblasting or by other means acceptable to Engineer. Complete removal and cleanup prior to placing any new concrete against the surface.
   b. Where additional finishes will be applied over concrete surfaces, unless otherwise recommended by the manufacturer of the finish to be applied, remove curing compound by sandblasting. Provide blasting as necessary to fully remove curing compound.
6. Prior to final acceptance of the work, remove, by sandblasting or by other method acceptable to the Engineer, any curing compound on surfaces exposed to process water or exposed to view, so that only natural color of finished concrete is visible and uniform over the entire surface.

3.15 CONCRETING IN COLD WEATHER

A. When the atmospheric temperature may be expected to drop below 40ºF at the time concrete is delivered to the work site, during placement, or at any time during the curing period, the following provisions also shall apply:
   1. Prevent damage to concrete due to early age freezing and limit rapid changes in temperature at early ages consistent with the requirements of ACI 306R, ACI 306.1 and the requirements in this Section.
   2. If the air temperature is at or below 40 degrees F, cold weather concreting shall be performed in accordance with ACI 306R and ACI 306.1. This includes cases where the temperature drops below 40 degrees F after concrete operations have been started. The temperature shall be taken in shade away from artificial heat.
   3. When air temperatures are at or below 40 degrees F, heated mixing water or a combination of heated mixing water and heated aggregates shall be used, if required, to raise the concrete temperature at placement to the minimum values (or greater) listed in ACI 306R – Chapter 5. The temperature of the heated water or aggregates shall not exceed 150 degrees F when entering the mixer.
   4. Concrete placement is not permitted when the air temperature is at or below 35 degrees F. The temperature shall be taken in shade away from artificial heat.
   5. Do not place concrete against a frozen subgrade or formwork that is at or below 35 F.
   6. Salts, chlorides, chemicals or other foreign materials shall not be mixed with the concrete to prevent freezing or act as an accelerator.
   7. When temperatures at or below 35 F may be expected during the curing period, the concrete shall be maintained at a temperature of at least 50 degrees F for five days or 70 degrees F for three days after placement. Rapid cooling or heating of concrete shall not be permitted.

B. Hot Weather Concreting.
   1. Hot weather concreting shall comply with ACI 305R and ACI 305.1. At air temperatures of 90 degrees F or above, concrete placement shall be in accordance with Hot Weather Concreting requirements in ACI 305R, ACI 305.1 and requirements in this Section.
   2. The temperature of the concrete when placed in the work shall not exceed 90 degrees F. Use chilled water or ice or other approved methods to reduce the temperature of the concrete as required.

3. Concrete shall be placed in the forms without the addition of any more water than is required by design. No excess water may be added to the concrete surface to aid in finishing. Control of the initial set and extending the time for finishing may be accomplished through the use of admixtures in accordance with these Specifications.
4. Plastic shrinkage cracking, due to rapid evaporation of moisture, shall be prevented. Concrete shall not be placed when the evaporation rate (actual or anticipated) equals or exceeds 0.2 pound per square foot per hour, as determined by Figure 4.2 in ACI 305R.

3.16 CONCRETING IN HOT WEATHER

A. When climatic or other conditions are such that the temperature of the concrete may reasonably be expected to exceed 90ºF at the time of delivery at the work site, during placement, or during the first 24 hours after placement, the following provisions also shall apply:
1. The Contractor shall maintain the temperature of the concrete below 90ºF during mixing, conveying, and placing. Methods used shall conform to "Recommended Practice for Hot Weather Concreting," ACI Standard 305.
2. The concrete shall be placed in the work immediately after mixing. Truck mixing shall be delayed until only time enough remains to accomplish it before the concrete is placed.
3. Exposed concrete surfaces, which tend to dry or set too rapidly, shall be continuously moistened by means of fog sprays or otherwise protected from drying during the time between placement and finishing, and after finishing.
4. Finishing of slabs and other exposed surfaces shall be started as soon as the condition of the concrete allows and shall be completed without delay.
5. Concrete surfaces exposed to the air shall be covered as soon as the concrete has hardened sufficiently and shall be kept continuously wet for at least the first 48 hours of the curing period, and for the entire curing period unless curing compound is applied as specified.
6. Formed surfaces shall be kept completely and continuously wet for the duration of curing period (prior to, during, and after form removal) or until curing compound is applied as specified.

3.17 EMBEDDED ITEMS, JOINTS & WATERSTOP

A. See Section 03_15_20 Concrete Joint & Embedded Items

3.18 DRY PACK MORTAR

A. Where surfaces are required to be built up with mortar, such surfaces shall be thoroughly roughened by brushing, completely cleaned, and coated with appropriate bonding compound before the application of the required mortar. The mortar shall be applied immediately following the application of the bonding compound in bands or strips to form a compact durable covering of the required thickness and shall be free from lumps and depression. Construction joints in the mortar shall be sloped to thin edges and, before application is resumed, the joint shall be thoroughly cleaned. Dry pack mortar shall be used for built-up surfaces, setting miscellaneous metal items, and correcting minor repairs and imperfections.

B. No mortar shall be applied during freezing weather unless adequate protection is provided.

C. The mortar shall be cured as specified for concrete.

3.19 MODIFICATION OF EXISTING CONCRETE

A. Where the work indicated on the Plans requires modification of existing concrete structures or concrete poured over six months previously to be removed or modified, the existing concrete shall be cut accurately to the lines required in the presence of the Engineer or the Engineer's Representative. Concrete faces exposed to view shall be cut with a concrete saw. The cutting shall be accomplished in a manner that preserves, free from cracks or other injuries, those parts of the existing structure that are to remain. Where the cut surface is to be left exposed, it shall be cleaned and faced with non-shrink grout and finished to match adjacent surface. Where new concrete or mortar is to be placed against existing concrete surfaces or surfaces that have been cut, such surfaces shall be thoroughly cleaned by sandblasting, and coated with bonding compound just prior to the placement of the new concrete. Bonding compounds shall be as specified herein. Depth of saw cut should be ¾" minimum. Unless otherwise indicated on the Plans or specified, continuity of reinforcing steel shall be obtained by either exposing bars to provide sufficient laps with new bars or by welding existing bars with new bars as specified. Where indicated, existing bars shall be exposed and fully developed by; embedding in new concrete.

3.20 SURFACE REPAIRS

A. Patching Defective Areas:
1. Repair and patch defective areas with cement mortar immediately after removal of forms. Use epoxy-based mortar for structural repairs.
2. Before patching is performed, the Engineer shall be notified and provided sufficient time to observe extent of repairs required.
3. Cut out honeycomb and rock pockets, down to solid concrete but, in no case, to a depth of less than 1". Where defective concrete extends to the depth of reinforcing steel or where reinforcing steel is exposed during concrete chipping, concrete shall be removed to a minimum depth of 3/4 inch clear beyond depth of reinforcing steel. Saw-cut perimeter or area to be patched to provide edges cut perpendicular to the concrete surface.
4. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, the patching mortar will match the color of the surrounding concrete. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with the patching. Compact mortar in place and strike off slightly higher than the surrounding surface.
5. Fill holes extending through concrete by means of a plunger-type gun or other suitable device from the least exposed face, using a flush stop held at the exposed face to ensure complete filling.

B. Repair of Formed Surfaces:
1. Repair exposed-to-view formed concrete surfaces, where possible, that contain defects which adversely affect the appearance of the finish. Remove and replace the concrete having defective surfaces if the defects cannot be repaired to the satisfaction of the Engineer. Surface defects, as such, include color and texture irregularities, crack, spalls, air bubbles, honeycomb, rock pockets, and holes left

by the rods and bolts; fins and other projections on the surface; and stain and other discolorations that cannot be removed by cleaning.

2. Repair concealed formed' concrete surfaces, where possible, that contain defects that adversely affect the durability of the concrete. If defects cannot be repaired, remove and replace the concrete having defective surfaces. Surface defects, as such, include cracks in excess of 0.01" wide, cracks of any width through nonreinforced sections, honeycomb, rock pockets, holes left by tie rods and bolts, and spalls except minor breakage at corner.

C. Repair of Uniformed Surfaces:

1. Test unformed surfaces, such as monolithic slabs, for smoothness and to verify surface plane to the tolerances specified for each surface and finish. Correct low and high areas as herein specified.
2. Test unformed surfaces sloped to drain for trueness of slop, in addition to smoothness, using a template having the required slope. Correct high and low areas as herein specified.
3. Repair finished unformed surfaces that contain defects which adversely affect the durability of the concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to the reinforcement or completely through nonreinforced sections regardless of width, spalling, popouts, honeycomb, rock pockets, and other objectionable conditions.
4. Correct high areas in unformed surfaces by grinding, after the concrete has cured sufficiently so that repairs can be made without damage to adjacent areas.
5. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out the low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete.
6. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen all concrete surfaces in contact with patching concrete and brush with a neat cement grout coating, or use concrete bonding. agent. Place patching concrete before grout takes its initial set. Mix patching concrete of the same materials to provide concrete of the same type or class as the original adjacent concrete. Place, compact, and finish as required to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.
7. Repair isolated random cracks and single holes not over 1" in diameter by the dry-pack method. Groove the top of cracks, and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen all cleaned concrete surfaces and brush with a neat.cement grout coating. Place dry-pack before the cement grout takes its initial set. Mix dry-pack consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched areas continuously moist for not less than 72 hours.

D. Leaking construction joints and cracks in concrete walls and slabs:

1. Repair cracks that develop in walls or slabs, and repair cracks that show any signs of leakage until all leakage is stopped.
2. Pressure inject visible cracks in the following areas, other than hairline cracks and crazing, with repair products and methods acceptable to the Engineer.

a. Floors and walls of water bearing structures.
b. Walls and overhead slabs of passageways and occupied spaces where the opposite face of the member is exposed to weather or may be washed down and where the opposite face does not receive a separate waterproofing membrane.
c. Other items not specified to receive separate waterproofing membrane including slabs over water channels, wet wells, reservoirs, and other similar surfaces.

3. Continue pressure injection of cracks as specified until structure is watertight and remains watertight for not less than 1 year after date of Substantial Completion or date of final repair, whichever occurs later in time.

E. Leaking expansion joints in concrete walls or slabs that include waterstops:
1. Repair any signs of leakage until all leakage is stopped.
2. Pressure inject visible leaks with hydrophilic polyurethane foam resin
3. Continue pressure injection along joints lines as specified until structure is watertight and remains watertight for not less than 1 year after date of Substantial Completion or date of final repair, whichever occurs later in time.

F. Walls and slabs at overhead channels that leak or sweat because of porosity or cracks too small for successful pressure injection with epoxy.
1. Seal on water or weather side by coating using surface-applied sealing system as specified in this Section.
2. Apply as recommended by manufacturer published instructions. Where concrete continues to sweat or leak, apply additional coats of surface-applied sealing system until the sweating or leaks stop.
3. Continue application of surface-applied sealing system until structure is watertight and remains watertight for not less than 1 year after date of Substantial Completion, or date of final repair, whichever occurs later in time.

END OF SECTION

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SECTION 31_23_24

UTILITY EARTHWORK & BACKFILL

PART 1 GENERAL

1.1 SUMMARY

A. Excavating, trenching, backfilling and compacting for water distribution mains, sanitary sewers, manholes and other utility systems and appurtenances, and the disposal of excess excavated material.

B. Furnish and install temporary excavation support and safety systems, including sheeting, shoring and bracing, to ensure the safety of personnel and protect adjacent structures, piping, etc., and meet appropriate requirements established in the Occupational Safety and Health Administration (OSHA) Safety and Health Regulations, Part 1926, Subpart P-Excavations, Trenching and Shoring, and other applicable regulations.

C. Perform excavation regardless of type, nature, or condition of materials encountered.

D. Excavation, regardless of material encountered, shall conform to the dimensions and elevations indicated on the drawings.

E. There will be no extra compensation for dewatering unless specifically outlined on the drawings, bid proposal or Basic Requirements. Cost to be included in associated items of work.

F. There will be no addition compensation for rock removal unless specifically outlined on the drawings, bid proposal or Basic Requirements. Cost to be included in associated items of work.

G. Blasting will not be permitted as a means of excavation

H. Prior to any excavation work, Contractor shall contact OKIE (1 800-CALL-OKIE) as well as all utility Owners within the work site.

I. Backfill shall include the refilling and consolidation of the fill in the trenches and excavations up to the surrounding ground surface or road grade at crossing. The backfill from the trench bottom to 12-inches above the top of the pipes and conduit when laid to the grade including the bedding layer sustaining the pipeline as shown on the drawings is termed "embedment". Backfill above the embedment is termed "final backfill".

J. Should the requirements shown on the Drawings or other specification sections conflict with this section, the more stringent/costly shall apply and shall be bid by the Contractor.

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. Section 01_33_01 General Submittal Requirements

C. Section 31_41_33 Trench Shielding

D. Section 33_05_09.34 Concrete Thrust Blocks & Collars

E. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections and provisions of the Contract Documents.

B. Submit testing laboratory reports, as specified or required, to show compliance with specifications for materials. Certified Test Reports shall be from an independent laboratory paid for by the Contractor. Test reports shall include sieve analysis, soil classification, percentage of wear, Atterberg limits, and soil resistivity tests for embedment material.

C. Any submittals required for trench safety plan, dewatering and drainage plans, and similar temporary facilities, will be for reference purposes only and maintained for record purposes in the Engineer files. Submittal of these items will not relieve the Contractor of any responsibility for the adequacy of support, safety, dewatering, and drainage systems.

1.4 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials
   1. AASHTO T-180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 10-lb Rammer and a 18-in. Drop

B. American National Standards Institute/American Society for Testing and Materials (ANSI/ASTM) latest version.
   1. ASTM C33 - Standard Specification for Concrete Aggregate.
   2. ASTM C40 - Standard Test Method for Organic Impurities in Fine Aggregates for Concrete.
   3. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregate.
   4. ASTM C150 - Standard Specification for Portland Cement.
   5. ASTM D75 - Sampling Aggregates.
   6. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lb/ft^3 (600 kN-mm/m^3))
   7. ASTM D1557 - Standard Test Methods for Laboratory Compacion Characteristics of Soil Using Modified Effort (56,00 ft-lb/ft^3 (2,700 kN-m/m^3))
   8. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
   9. ASTM D4253 - Maximum Index Density of Soils Using a Vibratory Table

10. ASTM D4254 - Minimum Index Density of Soils and Calculation of Relative Density.
11. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils.

C. ODOT Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (2014) - Oklahoma, Department of Transportation (ODOT).

1.5 QUALITY ASSURANCE

A. Materials shall be tested and observed as described in the following paragraphs. Allow free access to the work for selection of materials and observation.
1. Before and during placement of fill and backfill, the soils testing laboratory shall provide at least one density and moisture content test for each 2,500 ft^2 of surface area of trench/backfill for each compacted lift of fill or more stringent as may be stated elsewhere.

B. All work outlined in accordance shall be in full conformance with the approved Stormwater Pollution Prevention Plan (SWPPP). See Section 00_01_01 – Basic Requirements.

1.6 SPECIAL DESIGN REQUIREMENTS

A. Earthen backfill material shall be Class III or Class IV as outlined in Table 2 of ASTM D2321.

B. Pipe bedding materials shall be Class II as outlined in Table 2 of ASTM D2321.

1.7 INSPECTION OF EXCAVATIONS

A. Do not place reinforcing steel or concrete in the excavation prior to inspection unless the Engineer’s Representative has given approval to proceed without inspection.

1.8 DESIGN REQUIREMENTS

A. Plans indicate the grades required for the construction of project. Contractor shall stake / layout work required.

1.9 PROTECTION OF FACILITIES

A. Existing utility lines (either overhead or underground) and pavement dictated to remain shall be kept free of damage from Contractor's operations. If damaged, any utilities or pavement shall be restored at the Contractor's expense.

B. Before the start of earthwork operations, adequately protect utilities, trees, shrubs, and other permanent objects. Repair costs resulting from damage to permanent facilities will be borne by the Contractor.

C. Provide surface drainage during the period of construction to protect the work and to avoid nuisance to adjoining property.

D. The Contractor shall conduct his operations in such fashion that trucks and other vehicles do not create a dirt nuisance in the streets. The truck beds shall be sufficiently tight, and shall be loaded in such a manner that objectionable materials will not be spilled onto the

streets. Any dirt, mud, or other materials that are spilled onto the streets or deposited onto the streets by the tires of vehicles shall be promptly cleared away by the Contractor.

1.10 PROTECTION AND/OR REMOVAL OF UTILITY LINES

A. The Contractor shall anticipate all underground and above ground obstructions such as, but not limited to, water mains, gas lines, storm and sanitary sewers, telephone or electric light or power ducts, concrete, and debris.
   1. It shall be the responsibility of the Contractor to verify the existence and location of all underground and above ground utilities along the route of the work.
   2. Any such lines or obstructions indicated on the Drawings show only the approximate locations and shall be verified in the field by the Contractor.
   3. The Owner and Engineer will endeavor to familiarize the Contractor with all known utilities and obstructions, but this shall not relieve the Contractor from full responsibility in anticipating all underground and above ground obstructions whether or not shown on the Plans.
   4. The omission from or the inclusion of utility locations on the Drawings is not to be considered as the non-existence of, or a definite location of existing utilities.

B. The Contractor shall, at his own expense, maintain in proper working order and without interruption of service all existing utilities and services which may be encountered in the work.
   1. With the consent of the Engineer and utility owner such service connections may be temporarily interrupted to permit the Contractor to remove designated lines or to make temporary changes in the locations of services.
   2. The cost of making any temporary changes shall be at the Contractor's expense.

C. The Contractor will take the necessary precautions to protect existing utilities from damage due to his operations.

D. Any damage to the utilities will be repaired at the Contractor's expense.

E. Notify all utility companies involved to have their utilities located and marked in the field.
   1. All underground utilities shall then be uncovered to verify location and elevation before construction begins.
   2. The Contractor shall obtain all necessary permits.

F. Utility Spacing: The spacing for utility lines shall meet the installation requirements and the requirements of ODEQ.

1.11 SUBSURFACE UTILITY ENGINEERING

A. Provide Subsurface Utility Engineering in accordance with 02_21_20 Subsurface Utility Engineering

1.12 MAINTENANCE

A. Following completion of pipe laying, maintain paved surfaces, unpaved trench surfaces, fences, curbs, sidewalks, and gutters, for a period of twelve (12) months from final acceptance. Material and labor required for the maintenance shall be supplied by the Contractor, and the work shall be done in a manner satisfactory to Owner. Maintenance

shall include repair of any trench settlement and any damages to structures or paving due to trench settlement or workmanship.

PART 2 PRODUCTS

2.1 WATER

A. Use water from a source acceptable to Engineer in accordance with Basic Requirements.

2.2 MATERIALS

A. Crushed Rock Material (#57 & fine)

1. Crushed rock shall consist of sound and durable particles free from injurious amounts of salt, alkali, vegetable matter, or other material either free or as adherent coating.
2. Wear shall not exceed 40 percent when tested in accordance with ODOT testing standards.
3. Crushed rock size shall be Class I per ASTM D1487. ASTM C33, size No. 57 or 67 shall be considered Class I material.
4. Gradation shall meet the following requirements for percentage by weight when tested in accordance with ASTM C136:

a. #57 Crushed Rock

Passing 38.1 mm (1-1/2") sieve	100%
Passing 25.4 mm (1") sieve	95-100%
Passing 12.7 mm (1/2") sieve	25-60%
Passing No. 4 sieve	0-10%
Passing No. 8 sieve	0-5%

b. #67 Crushed Rock

Passing 25.4 mm (1") sieve	100%
Passing 19.0 mm (3/4") sieve	90-100%
Passing 9.53 mm (3/8") sieve	20-55%
Passing No. 4 sieve	0-10%
Passing No. 8 sieve	0-5%

c. Fine Crushed Rock

Passing 12.7 mm (1/2") sieve	100%
Passing 9.53 mm (3/8") sieve	95-100%
Passing No. 4 sieve	40-65%
Passing No. 8 sieve	0-10%

d. Coarse Crushed Rock

Passing 38.1 mm (1-1/2") sieve	100%
Retained on 19/1 (3/4") sieve	100%

e. Fine crushed rock shall be rounded or sub rounded particles. Fine crushed rock with sharp edges will not be accepted.

B. Flowable Fill

1. N/A

C. Intial Backfill / Select Excavated Material
   1. From pipe haunch to 12-inches above the top of the pipe or conduit, the trench or excavation shall be backfilled with material as specified in details free from rocks with any dimension greater than one inch in diameter unless otherwise specified or required elsewhere.
   2. Unless otherwise indicated on the drawings, no material of a perishable, spongy, or otherwise unsuitable nature, or excessively large rock (largest dimension greater than 1 inches), shall be used in initial backfilling.

D. Final Backfill / Select Excavated Material
   1. From 12-inches above the top of the pipe or conduit, the trench or excavation shall be backfilled with material as specified in details free from rocks with any dimension greater than four inches unless otherwise specified or required elsewhere. The top 6-inches shall be the topsoil which has been placed separately.
   2. Unless otherwise indicated on the drawings, no material of a perishable, spongy, or otherwise unsuitable nature, or excessively large rock (largest dimension greater than 4 inches), shall be used in final backfilling.

E. Select Backfill Material / Select Fill
   1. Where select material is shown or specified, use an approved material, free of organic matter and foreign substances, obtained from an approved off-site source. The material shall have a plasticity index between 7 and 15 and a maximum liquid limit of less than 30 as determined by ASTM D4318, and a maximum of 70 percent passing the No. 200 sieve. Prior to bringing any of the proposed material to the site, submit for review by the Engineer, an analysis of the proposed material, including a moisture-density relationship curve prepared in accordance with ASTM D698 by a certified independent testing laboratory employed and paid by the Contractor.

F. Pea Gravel
   1. Natural stone; washed, free of clay, shale, organic matter; graded in accordance with ASTM C136 to the following limits:
   2. Minimum Size: ¼ inch
   3. Maximum Size: ⅝ inch

G. Sand
   1. Sand shall consist of clean, hard, durable, uncoated grains, free from lumps, and organic material.
   2. Gradation shall meet the following requirements for percentage by weight when tested in accordance with ASTM C136:

Passing No. 4 sieve	80-100%
Passing No. 8 sieve	65-100%
Passing No. 16 sieve	40-80%
Passing No. 50 sieve	7-40%
Passing No. 100 sieve	2-20%
Passing No. 200 sieve	0-10%

H. Top Soil:

1. Soil suitable for growth of surface cover. Material stripped and stockpiled from site or borrowed from off site.
2. Free from roots, brush, rocks, and other extraneous matter exceeding 1 inch in any direction. Free from weeds
3. Minimum 60% sand, Maximum 30% silts, Maximum 10% clay, no less than 6% and no more than 20% organic matter.
4. Liquid limit range from 15 to 30 and plasticity index from 5 to 40.
5. Submit test data showing compliance with this specification. Include percent weight of constituent material, material particle size, and pH.
6. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D698.

I. Aggregate Base
1. Blended aggregate base course meeting the requirements of Oklahoma Department of Transportation (Type "A")

2.3 COMPACTION EQUIPMENT

A. Provide compaction equipment of suitable type and adequate to obtain the densities specified.

B. Operate compaction equipment in strict accordance with the manufacturer's instructions and recommendations.

C. Hand-operated equipment shall be capable of achieving the specified densities.

2.4 MOISTURE CONTROL EQUIPMENT

A. Provide equipment for applying water of a type and quality adequate for the work; it shall not leak; and be equipped with a distributor bar or other approved device to assure uniform application.

B. Provide equipment for mixing and drying out material consisting of blades, discs, or other approved equipment.

2.5 WATER REMOVAL EQUIPMENT

A. Provide and operate equipment adequate to keep excavation and trenches free of water as outlined in Section 01_00_01 Basic Requirements.

PART 3 EXECUTION

3.1 EXCAVATION SUPPORT SYSTEMS

A. Protection of the excavation against caving or settling of the banks shall be the sole responsibility of the Contractor. The Contractor shall protect the sides of the excavation by sheeting and bracing as may be necessary. No actions or instructions by the Engineer shall be regarded as the responsibility for security of the surrounding areas. Furnish, put in place, and maintain sheeting and bracing required to support the sides of the excavation and prevent loss of ground which could damage or delay the work or endanger workers,

adjacent structures or vehicular traffic. If the Engineer is of the opinion that at any points sufficient or proper supports have not been provided, he may order additional supports put in, and compliance with such order shall not relieve or release the Contractor from the responsibility for the sufficiency of such supports.

B. Sheeting, Shoring and Bracing:
   1. Provide sheeting, shoring, and bracing of excavations where required to properly and safely complete the work. Construct sheeting, shoring, and bracing to prevent the excavation from extending beyond specified or indicated limits, to protect adjacent structures or improvements and to protect workmen and the public. The design of sheeting, shoring, and bracing shall be the responsibility of the Contractor.
   2. Care shall be taken to prevent voids outside the sheeting. If voids are formed, they shall immediately be filled and compacted.
   3. After completion of the structure, all sheeting, shoring, and bracing shall be removed unless approval has been granted by the Engineer, in writing, to leave any or all of it in place. The sheeting, shoring, and bracing shall be removed as excavations are backfilled in a manner that will prevent injurious caving of the excavation or damage to the structure.
   4. Voids left or caused by removal of sheeting shall immediately be filled with suitable material and compacted.

C. Sheeting and bracing not left in place shall be carefully removed in such manner as not to endanger the construction or other existing structures, utilities, or property. Voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as may be directed.

D. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so, shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure on the part of the Contractor to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.

3.2 CLEARING, GRUBBING & SITE PREP

A. Remove all building foundations, slabs, fences, and other structure from within the project limits as required by the plans. Vegetation and all underbrush shall be stripped and removed from the site. Remove all trees that are required for construction. Trees that will not conflict with construction shall remain, as directed by the Engineer. All underbrush shall be removed.

B. Roots, stumps and other debris shall be removed from site. Depressions resulting from removal of stumps, roots and debris shall be filled with suitable materials and compacted to make surface conform to surrounding ground.

C. Timber, logs, stumps, roots, brush and other refuse from clearing and grubbing operations shall be disposed of by the Contractor in a manner approved by the Engineer.

3.3 STRIPPING TOPSOIL

A. Remove existing grass and overburden before excavating topsoil.

B. Prior to beginning excavation or fill, strip the topsoil to a depth of at least 6 inches or to a depth sufficient to remove organic material and stockpile for future use.

C. In general, remove topsoil where structures are to be built, trenches dug, and roads, parking lots, walks, and similar improvements constructed within the area presently covered with topsoil.

D. Store topsoil clear of the construction area.

E. Take reasonable care to prevent the topsoil from becoming mixed with subsoil or eroding.

F. Do not remove topsoil until scalping is completed.

G. Do not remove subsoil with topsoil.

H. Stockpile topsoil in sufficient quantity to meet Project needs. Stockpile excess stripping material in an onsite location approved by the Engineer. All excess topsoil at the end of the project shall be disposed of onsite or removed from site if inadequate area exists for onsite disposal.

3.4 TRENCH EXCAVATION:

A. Trenches shall be excavated to the lines and grades shown on the Drawings with the centerlines of the trenches on the centerlines of the pipes. Measure for grade at the pipe invert, not at the top of the pipe, because of permissible verification in pipe wall thickness.

B. The sides of all trenches shall be vertical to a point one foot above the top of the pipe. Unless otherwise indicated on the Drawings, the trench width shall be as shown on the drawings within a tolerance of +3 inches. Trench width will be measured at an elevation in the trench which is 12-inches above the top of the pipe when laid to grade.

C. Where the normal trench width below the top of the pipe is exceeded for any reason, the Contractor shall, unless the Engineer determines that the pipe being used is strong enough for the actual trench width, furnish an adequate support for the pipe. This may be accomplished by furnishing a stronger pipe or a concrete cradle, next higher-class embedment or encasement, cap or envelope as approved.

D. The trenches shall be excavated to the required depth allowing for the placement of pipe bedding to the thickness shown on the Drawings. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between bell holes, except that the grade may be disturbed for the removal of lifting tackle.

E. Should the bottom of the trench become an unstable foundation for the pipe through the failure of the Contractor to adequately perform, the Contractor shall remove the unstable material and fill the trench to the proper subgrade with standard crushed rock.

F. Should the undisturbed material encountered at the grade depth constitute, in the opinion of the Engineer, an unstable foundation for the pipe, the Contractor is required to remove such unstable material and fill the trench to the proper subgrade with standard crushed rock. Depth of the standard crushed rock will be determined by the Engineer.

G. Bell (Joint) Holes: At the location of each joint, dig bell (joint) holes of ample dimensions in the bottom of the trench and at the sides where necessary to permit easy visual inspection of the entire joint.

H. Minimum pipe burial to the top outside surface of the pipe barrel shall be 3 feet unless otherwise noted.

I. Procedure: Excavate to indicated or specified depths.
   1. Excavate by open cut method.
   2. Dispose of unacceptable backfill material and provide suitable material for backfill without additional expense.
   3. During excavation, stockpile material suitable for backfilling in an orderly manner far enough from the bank of the trench to avoid overloading, slides, or cave-ins.
   4. Grade as necessary to prevent surface water from flowing into trenches or other excavations.
   5. Cut banks of trench as nearly vertical as practical.
      a. Remove stones as necessary to avoid point-bearing.
      b. Over-excavate wet or unstable soil from the trench bottom to permit construction of a more stable bed for pipe.
      c. Over excavation shall be filled and tamped with clean dry sand or other approved material to the required grade.
   6. Excavate the trench to the proper width as shown.
      a. If the trench width below the top of pipe is wider than specified in this Section or shown, install additional backfill.
      b. No additional payment will be made for additional material or work required for installation.
   7. Accurately grade the trench bottom to provide proper bedding as required for pipe installation.
   8. If any excavation is carried beyond the lines and grades required or authorized, the Contractor shall, at his own expense, fill such space with concrete or other suitable material as directed by the Engineer. No additional payment will be made.
   9. Construct trench in accordance with Trench Safety Plan.

J. Sheeting and Bracing:
   1. Refer to Section 31_41_33 Trench Shielding

K. Water in Excavation:
   1. Keep work free from ground or surface water at all times.
   2. Provide pumps of adequate capacity or other approved method to remove water from the excavation in such a manner that it will not interfere with the progress of the work or the proper placing of other work.
   3. There shall be no additional compensation dewatering.

L. Trenching Progress:
   1. Trenching operations shall not be in excess of 100 feet ahead of pipe laying.

2. In rural areas trenching operations may be extended to 300 feet ahead of pipe laying with approval of Engineer.
3. Not more than two (2) consecutive cross-streets may be closed to traffic at any given time.

M. Existing Lawns and Shrubbery:
1. The Contractor shall take particular care to preserve existing lawns and shrubbery.
2. Make minor pipe alignment changes as may be necessary with approval from the Engineer.

N. Existing Pavement:
1. Existing pavement over trenches shall be removed to a width of 6 inches outside of the trench on each side.
2. Remove to a neat line by sawing method.
3. Remove brick pavement by hand, deliver and stack as directed by the Owner.
4. Where no pay items is included on the Bid Form the payment removal shall be included in other items of work.

3.5 EMBEDMENT:

A. Embedment for coated steel pipe, polyethylene wrapped ductile iron pipe, fiberglass reinforced pipe, and all plastic pipe shall be fine crushed rock.

B. Provide pipe bedding material under all pipe for the full width of the trench. Minimum depth of bedding material below the pipe barrel shall be as shown on the Drawings or as specified.

C. Minimum depth of pipe bedding material under the pipe bell shall not be less than 6 inches under normal trench conditions and not less than 6 inches in rock excavation areas. Minimum depth of pipe bedding material below the pipe shall be as shown on the drawings.

D. Placement:
1. Place the pipe bedding or foundation stabilization material for the full width of the trench in layers not exceeding 6 inches deep and compact each layer, until the material does not yield or move to the grade established for the pipe bedding. Where the distance to stable ground is excessive (more than two (2) feet), the Owner reserves the right to order as an extra, in writing, such other types of foundation or pipe supports as deemed necessary.
2. Particular attention must be given to the area of the pipe zone from the flow line to the spring line of the pipe to ensure that firm support is obtained to prevent any lateral movement of the pipe during the final backfilling of the pipe zone.

E. Compaction:
1. Compact embedment materials using vibration or mechanical tamping. Vibration methods shall limit vibration frequency and amplitude to avoid disturbance of adjacent in-situ soils.
2. All embedment materials, which includes material placed in trench bottom for pipe foundation, and all material within the pipe zone shall be compacted to a minimum of 85% of maximum dry density defined by ASTM D698 for cohesive material. For

cohesionless material compact to a minimum of 75% of relative density as determined by ASTM D4253 and D4254, whichever is applicable.

3.6 UTILITY INSTALLATION:

A. Utility Lines: Provide a minimum cover over the top of the pipe as indicated. Avoid interference with other utilities. Provide class of bedding as shown. Install piping and appurtenances as specified.

B. Excavation for Appurtenances: Excavate sufficiently for valves, valve boxes, manholes, junction boxes, and similar structures to leave at least 2 feet clear distance between the outer surfaces and the embankment or timber that may be used to hold and protect the banks.

C. Over excavation: Any over-depth excavation below appurtenances not directed will be considered unauthorized and will be refilled with concrete or approved foundation material, as directed by the Engineer, at no additional cost to the Owner. Over excavation shall include over-depth and over-width excavation.

3.7 BACKFILLING:

A. From 12-inches above the top of the pipe, or as shown on the Drawings, the trench or excavation shall be backfilled with select material or excavated material approved by the Engineer. No excavated material or excessively large rocks (largest dimension greater than 4 inches) or debris of any sort are to be placed into the backfill. No appreciable weight of any sort, other than backfill, shall be allowed on the pipe until it has been covered to such a depth that damage to the pipe or joints will not occur. The top six (6) inches of backfill shall be topsoil free from rock outside of paved area.

B. Excavated material which is unsuitable for backfilling and excess material shall be disposed of.

C. Method of Consolidation:
1. The Contractor shall provide a method of consolidation of material 12-inches or more above the pipe. Backfill material shall be compacted in layers from six to eight inches in thickness of loose fill. This material may be placed mechanically or by other means to provide at least 95% ASTM D698 of maximum dry density at 0 to 4 percent above optimum moisture or the compaction indicated on the Drawings. Where the soil PI is less than 20, the compaction moisture content shall be within ± 4% of optimum. Such material shall be tested and approved by the Engineer before continuing.
    a. For areas not under structures, paving or other facilities where earthen embankments exists to surface, the compaction may be reduced to 85% ASTM D698.
2. The initial test section shall be a minimum of 100 lineal feet. Material not meeting required compaction shall be removed and replaced at no additional cost to the Owner. See Item 6 below for deep-fill requirements.
3. Jetting and flooding. Not allowed with the exception of cohesionless material where flooding as a means of compaction is acceptable.

4. Backfill under Road, Concrete Slabs, and Related Items. The backfill for trenches under roads, concrete slabs, and related items shall be flowable fill if no specific detail is included in the Drawings.
5. Fill depths between 15' to 25' shall be compacted to 95% ASTM D 698. Fill depths exceeding 25' shall be compacted to 100% ASTM D698.

D. Contractor shall backfill pipe to preclude floating of the placed pipe. Should floating occur, the Contractor shall remove and reinstall the pipe to a point beyond the area in question identified.

3.8 CONCRETE THRUST BLOCKING

A. Thrust blocking of concrete shall be provided at changes in pipe diameter (reducers), or direction (e.g., tees, bends, elbows, and crosses), plugs and valves on buried piping with unrestrained joints. Thrust blocking shall be placed against undisturbed trench walls and the pipe in such a manner that the blocking will prevent the pipe from moving when subjected to required test pressure.

B. Concrete thrust blocking shall be in place at least five days prior to testing the pipeline/conduit.

C. See Section 33_05_09.34 Concrete Thrust Block and Collars for additional requirements.

3.9 DISPOSAL OF EXCESS MATERIAL:

A. Remove waste and excess excavated material from the construction site as feasible.

B. Legally dispose of material at a licensed site or with written and notarized permission from the property owner for a private disposal site.

C. All cost associated with waste material removal and disposal shall be paid for by the Contractor.

3.10 SETTLEMENT AND FINAL GRADE REQUIREMENTS

A. The finished surface shall not vary more than 0.10 foot from the established grade and cross section and shall be free of depressed areas where water would pond.

B. Settlement in backfill, fill, or in structures built over the backfill or fill, that may occur within the 1-year guarantee period in the General Conditions shall be considered to be caused by improper compaction methods.

C. Restore structures damaged by settlement to original condition.

3.11 PROTECTION

A. Finish grades of backfills, cuts, excavations, and fills:
1. Protect newly graded areas from erosion and deterioration by action of the elements.

B. Ditches and gutters:

1. Maintain ditches and gutters free from detrimental quantities of debris that might inhibit drainage until final acceptance.

END OF SECTION

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SECTION 31_25_00

EROSION CONTROL

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This section includes implementation of the project's Storm Water Pollution Prevention Plan (SWPPP) and installation, maintenance and removal of erosion and sediment control devices.

B. The Contractor shall furnish all permits, preparation and implementation of a site specific Storm Water Pollution Prevention Plan, notice of intent, notice of termination, labor, equipment, materials, and pay all permit fees as necessary to meet the requirements of the Oklahoma Pollution Discharge Elimination System (OPDES) associated with construction activities under OPDES Construction General Permit for storm water pollution prevention as required by current Federal, State, and Local rules and regulations and any other local agency requirements regarding stormwater discharges and management.

C. The following items shall be submitted for record purposes only. These documents will not be reviewed for compliance with permit requirements. They are including, but not limited to:
1. Storm water pollution prevention plan,
2. Notice of Intent (NOI),
3. Photocopies of permit application fee payment(s), and
4. Notice of Termination (NOT).
5. Notice of Change.

D. The Contractor shall bear sole responsibility for the storm water pollution prevention provisions of this Contact as well as bear sole responsibility for development, implementation, and maintenance of the storm water pollution prevention plan, the best management practices, and the facilities utilized to meet the General Permit requirements. The storm water pollution prevention plan and Notice of Intent shall be completed prior to beginning any work or stockpiling of materials.

E. Regardless of acreage, coverage under the TPDES OPDES General Permit is not guaranteed by the submission of an NOI. The Director / staff of the program may require the Contractor to obtain an Individual or Alternative General Permit.

F. The Contractor shall pay all fees, including initial application and renewal fees, associated the OPDES permit application.

G. The Contractor shall pay all costs associated with the development of the storm water pollution prevention plan as well as the implementation, maintenance, monitoring, and inspection of the storm water pollution prevention plan facilities during the construction period.

H. The Contractor shall not begin any construction work until the Contractor has filed a complete Notice of Intent (NOI) with ODEQ. An NOI must be filed with ODEQ at least

seven days prior to commencing construction activities, or if utilizing electronic submittal, prior to commencing construction activities.

I. Upon closeout of the Project, the Contractor shall submit at Notice of Termination (NOT) to the ODEQ using the proper form and provide a copy to the Engineer for record purposes.

1.2 SUBMITTALS

A. Storm Water Pollution Prevention Plan (SWPPP)

B. Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the OPDES General Permit

C. Construction Site Notice

D. Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under the OPDES General Permit

E. Notice of Change (if applicable)

1.3 REFERENCED STANDARDS

A. Oklahoma Department of Environmental Quality (ODEQ) OPDES General Permit No. OKR10 or latest application permit

1.4 MATERIALS

A. The exact items, quantities, types and locations of the control measures shall be presented in the Storm Water Pollution Prevention Plan.

1.5 CONSTRUCTION METHODS

A. Prior to the start of the construction, the Contractor shall submit to the Engineer, for approval, schedules for accomplishment of the pollution control measures in accordance with the Storm Water Pollution Prevention Plan. The Contractor shall also submit, for approval, proposed methods of pollution control in areas which may be outside the construction limits such as construction and haul roads, field offices, equipment and supply areas, and material sources, as well as plan for disposal of waste materials. Work on the project shall not begin until the schedules for implementation of the controls and methods of operations have been reviewed and approved by the Engineer in writing.

B. The Contractor shall provide control measures to prevent or minimize impact to receiving waters as required by the Plans and/or in a manner approved by the Engineer.

C. In any disturbed area where construction activities have ceased, permanently or temporarily, the Contractor shall stabilize the area by the use of seeding, mulching, soil retention blankets or other appropriate measures within 14 days, unless construction activities are scheduled to resume within 21 days.

D. The Contractor shall effectively prevent and control erosion and sedimentation on the site at the earliest practicable time as outlined in the approved schedule. Control measures,

where applicable, will be implemented prior to the commencement of each construction operation or immediately after the area has been disturbed.

E. The Contractor shall limit the amount of disturbed earth to the areas shown on the Plans in a manner approved by the Engineer. If the Contractor is not able to effectively control soil erosion and sedimentation resulting from construction operations, every effort shall be made to limit the amount of disturbed area at any given time.

F. Should the control measures fail to function effectively, the Contractor shall act immediately to bring the erosion and sedimentation under control by maintaining existing controls or by providing additional controls as directed by the Engineer. When in the opinion of the Engineer the site is adequately stabilized, the control measures shall be removed and properly disposed of by the Contractor.

G. The Contractor shall also conform to the following practices and controls. All labor, tools, equipment and incidentals to complete the work will not be paid for directly but shall be considered as subsidiary work to the various items included in the contract.

1. Disposal areas, stockpiles and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed. Construction roads may not be located in or cross any waterbody or streambed without prior approval of the Engineer and shall be done in compliance with applicable rules and regulations.
2. Construction operations in rivers, streams, lakes, wetlands and other waterbodies shall be restricted to those areas where it is necessary to perform the work shown on the Plans. Wherever streams are crossed, temporary bridges, timber mats of other structures shall be used, as directed by the Engineer. The use of a work road within a stream channel shall be minimized to the greatest extent practicable.
3. Protected storage for paints, chemicals, solvents, fertilizers and other potentially toxic materials will be provided by the Contractor and on the location approved by the Engineer.
4. Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants and their location will be approved by the Engineer. The Contractor shall prevent pollution of receiving waters with petroleum products or other hazardous or regulated substances. When work areas of material sources are located adjacent to a waterbody, control measures such as dikes, gabions or rock berms shall be used to keep sediment and other contaminants from entering the adjacent waterbody. Care shall be taken during the construction and removal of such barriers to minimize down-gradient sedimentation.
5. All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.
6. Disturbance of existing vegetation shall be minimized and limited to only those areas approved by the Engineer.
7. Construction entrances shall be stabilized by the use of rock, timber matting or other acceptable techniques to minimize the off-site vehicle tracking of sediment.

H. The project will not be accepted until, in the opinion of the Engineer, the Contractor has established a uniform perennial vegetative cover with a density of 70 percent in all areas not covered by permanent structures, or that equivalent permanent or temporary

stabilization measures (such as riprap, gabions, soil retention blankets, mulching or geotextiles) have been employed.

1.6 MEASUREMENT AND PAYMENT.

A. Temporary erosion, sedimentation and stormwater pollution prevention and control will not be measured for payment but shall be included in other items of work unless a specific pay item is included in the bid schedule.

B. Removal of all control measures not incorporated as permanent control measures shall be performed subsidiary to the various bid items.

C. In case of failure on the part of the Contractor to prevent and control soil erosion, sedimentation and water pollution which may degrade receiving water, the Engineer reserves the right to employ outside assistance or to use State forces to provide the necessary corrective measures. Such incurred direct costs plus project engineering costs will be deducted from any monies due or to become due to the Contractor.

D. Pollution control measures may be applicable to construction work outside the right of way where such work is necessary as a result of roadway related construction such as material source operations, haul roads and equipment storage sites. Pollution control measures outside the right-of-way will not be measured for payment but shall be performed at the Contractor's expense.

PART 2 PRODUCTS

2.1 EROSION CONTROL PRODUCTS

A. Provide for construction, maintenance and removal of erosion control in accordance with SWPPP by a combination of the following installed per ODOT Standards and/or industry standards:
1. Temporary Sediment Control Slope Drains
2. Temporary Sediment Control Bale Barriers
3. Temporary Silt Fence
4. Temporary Silt Dike
5. Temporary Sediment Controls Filters
6. Temporary Sediment Control Basins
7. Nylon Erosion Control Mat
8. Ditch Liner Protection
9. Sodding & Sprigging
10. Mulch
11. Sandbags
12. Geotextile Fabric
13. Other items per approved submittal

PART 3 EXECUTION (NOT USED)

3.1 INSTALLATION

A. Storm Water Pollution Prevention Plan
   1. Develop and implement the project's Storm Water Pollution Prevention Plan (SWPPP) in accordance with the State's General Permit requirements. Prevent water pollution from storm water runoff by using and maintaining appropriate structural and nonstructural BMPs to reduce pollutants discharges to the MS4 from the construction site.

B. Provide for construction, maintenance and removal of erosion control in accordance with SWPPP and installed per ODOT Standards and/or industry standards.

C. Control Measures
   1. Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the Drawings or as directed.
   2. Control site waste such as discarded building materials, concrete truck washout water, chemicals, litter and sanitary waste at the construction site.
   3. If, in the opinion of the Engineer, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Engineer will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.
   4. Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.
   5. Upon acceptance of vegetative cover by the City, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.

D. Do not locate disposal areas, stockpiles, or haul roads in any wetland, water body, or streambed.

E. Do not install temporary construction crossings in or across any water body without the prior approval of the appropriate resource agency and the Engineer.

F. Provide protected storage area for paints, chemicals, solvents, and fertilizers at an approved location. Keep paints, chemicals, solvents, and fertilizers off bare ground and provide shelter for stored chemicals.

G. Installation and Maintenance
   1. Perform work in accordance with the current governing ODEQ General Permit
   2. When approved, sediments may be disposed of within embankments, or in areas where the material will not contribute to further siltation.
   3. Dispose of removed material in accordance with federal, state, and local regulations.
   4. Remove devices upon approval or when directed.
   5. Upon removal, finish-grade and dress the area.

6. Stabilize disturbed areas in accordance with the permit, and as shown on the Drawings or directed.
7. The Contractor retains ownership of stockpiled material and must remove it from the project when new installations or replacements are no longer required.

END OF SECTION

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SECTION 31_41_33

TRENCH SHIELDING

PART 1 GENERAL

1.1 SUMMARY

A. Trench and excavation safety system meeting appropriate requirements established in the Occupational Safety and Health Administration (OSHA) Safety and Health Regulations, Part 1926, Subpart P - Excavations, Trenching and Shoring, and other applicable regulations.

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. Section 01_33_01 General Submittal Requirements

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections if included.

B. Submit a plan for all excavations of a depth 5 feet or greater, with a bottom width less than twice the total depth of the excavation, where an existing structure or utility falls within a 2 horizontal to 1 vertical (2:1) slope from the bottom of the excavation.

1.4 QUALITY ASSURANCE

A. Engineers responsible for design of trench safety systems shall be Professional Engineers licensed in the state of Oklahoma.

B. Engineers must demonstrate experience in soil mechanics, structural engineering and design of trench safety systems with a minimum 5 years of experience on similar sized projects.

C. Engineers shall also submit to the Owner certification of professional liability insurance coverage of at least $1,000,000.00. Such coverage must not exclude structural design or trench safety design.

1.5 DESIGN REQUIREMENTS

A. After award, the Contractor shall have a trench and excavation plan prepared. This excavation plan must illustrate proposed trench safety and excavation requirements specifically designed for this project

B. The Contractor is responsible for obtaining additional soil borings and soil analysis as required for design. The trench and excavation plan is to be designed in conformance with OSHA standards and other applicable regulations.

C. No work in trenches or excavations in excess of five feet deep is to be performed until this plan is prepared and implemented.

D. The Contractor shall not deviate from the trench and excavation plan without written authorization from the engineer who prepared the trench and excavation plan. This written authorization shall be signed, dated and sealed by the engineer.

E. Any changes in the trench and excavation plan after initiation of construction will not be cause for extension of time or change order.

F. Contractor accepts sole responsibility for compliance with all applicable safety requirements.

G. The trench and excavation plan does not relieve Contractor from responsibility for any or all construction means, methods, techniques and procedures. Furthermore the Contractor shall indemnify the Owner and Consulting Engineer from any and all claims due to any property damage or bodily injury (including death) that arises from use or misuse of the trench safety and excavation plan, or from Contractor's negligence in performance of the contract work.

1.6 PROTECTION OF FACILITIES

A. Before the start of earthwork operations, adequately protect utilities, structures, trees, shrubs and other permanent objects. Costs resulting from damage to permanent facilities due to negligence or lack of adequate protection will be charged to the Contractor. Excavations near existing structures or utilities must be instrumented to verify no impact to existing facilities.

B. Provide surface drainage during the period of construction to protect the work and to avoid nuisance to adjoining property.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Trench safety system shall be constructed, installed and maintained in accordance with the details shown in the design prepared by the Contractor's licensed Professional Engineer to prevent death or injury to personnel or damage to structures or utilities in or near these trench excavations.

B. Unless otherwise specified elsewhere, materials excavated from trench to be stored no closer to the edge of trench than one-half the depth of the trench.

3.2 MAINTENANCE

A. The safety system shall be maintained in the condition as specified by the Contractor's Trench Safety Engineer.

B. The Contractor shall take all necessary precautions to ensure the safety systems are not damaged during their use. If at any time during its use a safety system is damaged, personnel shall be immediately removed from the trench or excavation area and the safety system repaired.

C. The Contractor shall take all necessary precautions to ensure no loads, except those included in the safety system design, are imposed upon the excavation.

3.3 INSPECTION

A. Contractor shall make daily inspection of trench safety and excavation system to ensure that the system meets OSHA requirements and the requirements of the trench safety plan.

B. Daily inspection is to be made by qualified personnel. If evidence of possible cave-ins, slides or other conditions of concern is apparent, all work in the trench shall cease until necessary precautions have been taken to safeguard personnel entering trench and protect adjacent structures and utilities.

C. Contractor shall maintain permanent record of daily inspections.

D. The Contractor's Trench Safety Engineer shall make periodic site visits (at the start of each new excavation and at least once per week for all open excavations). Within two (2) days after each visit, the Contractor's Trench Safety Engineer shall make a written report to the Owner certifying that the trench and excavation plan and safety construction practices are being followed. The Contractor's Trench Safety Engineer shall immediately report any unsafe construction practices to the Owner and Contractor.

3.4 REMOVAL

A. Backfilling and removal of trench supports shall progress together from bottom of trench upward.

B. Remove no braces or trench supports until all personnel have evacuated the trench.

C. Backfill trench to within five feet of natural ground prior to removal of entire trench safety system.

END OF SECTION

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SECTION 32_92_00

TURFS & GRASSES

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Preparing ground, fertilizing, mulching, seeding and/or sodding per the description on the drawings and as specified herein.

B. Turf & Grassing Schedule:
   1. All areas disturbed by construction activities (including Contractor's staging areas) shall be seeded/hydromulched or sodded as specified herein regardless of whether called out on Drawings as follows:
      a. All disturbed areas shall receive slab sod.

C. Limits of disturbed areas to be grassed include actual ground disturbance plus four (4') feet outside of disturbed area / trench / fenced area.

D. If no pay item(s) are included in the Bid Form, furnishing and installing of turfs and grasses as specified herein shall be included in associated items of work.

E. Grassing shall not be performed until underground utilities, storm drainage structures, surfacing and structures in or adjacent to areas to be planted have been installed, tested, inspected and approved.

F. It is the contractor's responsibility to accurately quantify the amount of each type of grassing to be included in the bid amount.

G. Any conflict in requirements for areas to be grassed the more stringent shall apply and be bid by the Contractor.

1.2 SUBMITTALS

A. Submit in accordance with Section 01_33_01 General Submittal Requirements

B. Certificates:
   1. Submit certification from supplier that each type of product conforms to this Section. Certificate shall accompany product delivery.
   2. Each delivery shall bear a certification tag and label.
   3. Herbicide shall be labeled with manufacturer's name, address and chemical analysis.

1.3 QUALITY ASSURANCE

A. Contractor shall make arrangements to obtain water as needed to supply the seeded and sodded areas with adequate moisture (3" to 4" penetration) for seed germination and plant growth until accepted. All costs for watering shall be borne by the Contractor.

B. Beginning immediately after each area is planted and continuing until final acceptance (6 weeks minimum maintenance regardless of acceptance date) maintain plantings to keep plants in a vigorous and healthy condition.
   a. Watering as necessary to keep top 3 inches of soil moist.
   b. Maintain a grass height less than 4 inches unless otherwise directed by the Owner.
   c. Remove weeds and foreign grass over plant areas at least once per week. Herbicides may be used for this purpose when approved by Owner.
   d. Clean and replace as necessary

1.4 DELIVERY, HANDLING AND STORAGE

A. Fertilizer shall be delivered to site in sealed containers bearing manufacturers' guaranteed statement of analysis.

B. Store fertilizer in weatherproof locations.

C. Furnish and deliver each variety of seed in separate bags or containers; or for native seed mixtures, each mixture should have original label from the supplier listing all species included and the percentage of mixture represented by each species.

D. Keep seed dry during storage.

E. Sod
   1. Delivered to the site well-watered and ready for placement without damage to the root system.
   2. Harvest & deliver sod only after laying bed is prepared for sodding.
   3. Roll or stack to prevent yellowing.
   4. Deliver and lay within 24 hours of harvesting.
   5. Keep moist and covered to protect from drying from time of harvesting to time of laying.

PART 2 PRODUCTS

2.1 MATERIALS

A. Seed
   1. Common Bermuda ("Cynodon Dactylon")
      a. The seed shall be harvested within one year prior to planting
      b. Free of Johnson grass, field bind weed, dodder seed, and free of other weed seed to the limits allowable under the Federal Seed Act and applicable seed laws
      c. The seed shall not be a mixture
      d. The seed shall be hulled, extra fancy grade, treated with fungicide and have a germination and purity that shall produce a pure live seed content of not less than 95 percent.
      e. Germination rate shall be 85 percent or better
      f. Seed shall be labeled in accordance with U.S. Department of Agriculture rules and regulations.
      g. Weed content shall be less than 2 percent

h. Seed furnished shall have date of analysis shall within 9 months of the time of delivery to the Project.

2. Italian Ryegrass Seed ("Lolium multiflorum")
   a. Seed shall be harvested within 1-year prior to planting and shall be free of perennial ryegrass seed, other grass seed and weed seed.
   b. Rye grass seed shall have purity of 95 percent or better, treated with fungicide
   c. 90 percent minimum germination rate.

B. Sod
1. Sod shall be alive, healthy and free of insects, disease, stones, undesirable foreign materials and weeds and grasses deleterious to its growth or which might affect its subsistence or hardiness when transplanted.
2. The sod shall be free of yellowed areas.
3. The sod shall be obtained from state certified commercial groves, and harvested no earlier than 24 hours prior to planting.
4. Minimum sod thickness and maximum grass height shall be ¾-inch and 2-inches respectively.
5. Sod shall be machine cut to uniform soil thickness and shall be of equal width and of a size that permits the sod to be lifted, handled and rolled without breaking.
6. Broken or torn sod with uneven ends will be rejected.

C. Fertilizer
1. Fertilizer shall be of an organic or chemical base.
2. Fertilizer shall be a commercial product, uniform in composition, free flowing, with uniform particle size, and minimal dust.
3. Fertilizer which has been exposed to high humidity and moisture or has become caked will not be accepted.

D. Mulch
1. Cellulose Fiber Mulch
   a. Mulch shall be natural cellulose fiber mulch produced from grinding clean, whole wood chips, refined specifically for hydromulch applications.
   b. Mulch fibers shall be free of abrasive or hard containments which would inhibit hydraulic pumping. The mulch fibers shall maintain uniform suspension in water under agitation and shall blend with grass seed, fertilizer, and other additives to form homogenous slurry. Upon application the mulch material shall form a strong, moisture-retaining mat without the need of an asphalt binder. This mat shall have the characteristics of moisture absorption and percolation and shall cover and hold grass seed in contact with the soil.
   c. The wood fiber mulch shall be dyed green to aid visual metering during application. The dye shall be biodegradable and not inhibit plant growth.
2. Straw or Hay Mulch
   a. Straw mulch shall be oat, wheat, or rice straw. Hay mulch shall be prairie grass, Bermuda grass, or other hay as approved by the Engineer. The mulch shall be free of Johnson grass or other noxious weeds and foreign materials. The straw mulch will be kept dry and shall not be rotted or molded. A minimum of 50% by weight of the herbage making up the hay shall be 10" in length or longer.

b. Use a tacking agent applied in accordance with the manufacturer's recommendations or a crimping method on all straw or hay mulch operations.
c. Straw or hay mulch shall not be used for hydromulching

E. Tacking Agent (Tackifier)
1. Natural vegetable gum containing gelling and hardening agents that when mixed with water and properly cured, shall form an insoluble network.

F. Herbicide
1. Contractor shall be responsible for using herbicides in a manner consistent with label requirements and precautions.
2. Contractor shall adhere to all Federal, State, and local laws governing herbicide usage.
3. Only registered herbicides having a minimal residual effect shall be used.
4. Adjacent to streams or other aquatic environments only herbicides approved for aquatic environments shall be used.
5. Written authorization of the Engineer is required prior to use of any herbicide.
6. Herbicide used shall be an easy to apply, effective in a short term, chemical agent to inhibit or destroy weed growth, while being harmless to seed and grass being implanted.

PART 3 EXECUTION

3.1 PREPARATION OF SEEDBED

A. Place topsoil (if in area where it has been previously stripped)

B. Scarify existing subgrade to minimum depth of four (4) inches and roll lightly with appropriate roller to consolidate topsoil. Protect topsoil from wind and water erosion until planting is completed.

C. Rake areas to be sodded smooth, free from unsightly variations, bumps, ridges or depressions. Do not vary final grades more than 0.1 feet from finish elevations. No areas shall pond water.

D. Apply fertilizer at specified rate. Apply after raking soil surface and not more than 48 hours prior to grassing. Lightly water to aid in dissipation of fertilizer.

E. Receive acceptance of fine grading from Owner or Engineer prior to grass planting.

3.2 SODDING

A. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying sod.

B. Plant sod specified after the area has been completed to the lines and grade as shown on the Drawings with topsoil.

C. Use care to retain native soil on the roots of the sod during the process of excavating, hauling and planting.

D. Keep sod material moist from the time it is dug until planted.

E. Pitchforks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas.

F. Where the sod may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treated planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass.

G. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

H. Lay sod with closely fitted joints having no voids and with ends of sod strips staggered. Lay sod within 48 hours of harvesting. Place sod so that the entire area designated for sodding is covered.

I. Fill voids left in the solid sodding with additional sod and tamp.

J. On slopes 2:1 and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at maximum 2 feet on center. Drive pegs flush with soil portion of sod.

K. Prior to placing sod, on slopes greater than 3:1 or where indicated, place Hold/Gro or Roll Lite or approved equal over topsoil. Securely anchor in place with posts sunk firmly into ground at maximum 16 feet on center along pitch of slope and equal to width of wire mesh horizontally across slopes.

L. Roll and tamp sod so that sod is in complete contact with topsoil at a uniform slope.

M. Watering
1. After sod is laid, irrigate thoroughly to secure six (6) inch minimum penetration into soil below sod.
2. Water lawn areas once a day with ½-inch water for first three (3) weeks after area is sodded.
3. After three (3) weeks period, water twice a week with ¾-inch of water each time unless comparable amount has been provided by rain.
4. Make weekly inspections to determine moisture content of soil.

5. Continue watering until fully grown in and approved by Engineer.

3.3 SEEDING

A. Seeding will be required on all disturbed or excavated areas not receiving sod as outlined in the Turfs and Grassing schedule.

B. The Contractor shall employ a satisfactory method of sowing by use of either approved mechanical hand seeders or mechanical power-driven drills. When delays in operation carry the work beyond the specified planting seasons, or when conditions are such that by reason of drought, high winds, excessive moisture, or other factors, satisfactory results are not likely to be obtained, seeding shall stop. It will be resumed only where the desired results are probable or when approved alternate procedures have been adopted.

C. Broadcast Seeding
1. Broadcast seed in two directions at right angles to each other.
2. Harrow or rake lightly to cover seed.
3. All varieties of seed as well as fertilizer shall be distributed simultaneously provided that each component is uniformly applied with mechanical equipment.
4. Seed and fertilizer mixture distributed as a water slurry, shall be applied within 30 minutes after components are placed in the equipment.
5. After planting, the planted area shall be rolled with a light roller. All rolling of the sloped areas shall be along the contour of the slopes.

D. Drill Seeding
1. All varieties of seed and fertilizer shall be distributed at the same time provided that each component is uniformly applied at the specified rate.
2. Drill seed at a depth of ¼-inch to ⅜-inch utilizing a pasture or rangeland type drill.
3. All drilling shall be along the contour of the slope.
4. The distance between drill rows shall not exceed 12 inches.
5. After planting, the area shall be rolled with a roller integral to the seed drill, or a light drum roller. All rolling of the sloped areas shall be on the contour of the slopes.

E. Mulch
1. Spread mulch material on areas to be planted where construction was completed too late for planting a temporary fall crop or insufficient residues are produced by the fall planting. Mulch the planting areas to control soil erosion and seed loss by wind and water and to promote grass establishment. Apply mulch hay at the rate of 2 tons per acre and spread uniformly so that about 25% of the ground surface is uniformly visible through the mulch. Anchor the mulch hay by treading into the soil with a straight disk type mulch tiller. Perform disking across the slope along contours.

F. Hydromulching
1. At time of seeding, soil to be moist but not muddy and wind velocity shall not exceed 10 miles per hour. Add water if required to moisten soil.
2. Hydraulic mulching shall consist of the mixing of wood fiber mulch, grass seed, fertilizer and other additives with water. It shall be mixed in standard hydraulic mulching equipment to form homogeneous slurry. This slurry shall be sprayed, under pressure, uniformly over the soil surface. The hydraulic mulching equipment

shall contain a continuous agitation system that keeps all materials in uniform suspension throughout the mixing and distribution cycles.

3. Using standard hydraulic mulching equipment, the wood fiber mulch, seed and fertilizer slurry shall be applied evenly over the soil surface in a one-step operation. The mixture shall be applied to the area to be seeded within 30 minutes after all components are placed in the equipment.
4. Complete final grading and hydromulch Rye grass seed evenly at rate of 5 pounds per 1,000 square feet with wood cellulose fiber at rate of 50 pounds per 1,000 square feet and fertilizer at the rate of 18 pounds per 1,000 square feet.
5. Complete final grading and hydromulch Bermuda grass seed evenly at rate of 3 pounds per 1,000 square feet with wood cellulose fiber at rate of 50 pounds per 1,000 square feet and fertilizer at the rate of 18 pounds per 1,000 square feet.
6. Add tackifier to mix for slopes steeper than 4:1 at rate of 1 pound per bag of mulch.

3.4 FERTILIZING

A. Pre-Planting Application
   1. Uniform application of 10-20-10 (N-P-K) fertilizer at a rate of 25 lbs. per 1,000-sq. ft. will be required for all areas to be seeded.

B. Post Planting Applications
   1. For autumn applications a complete fertilizer with 4-1-2 to 3-1-2 (N-P-K) ratio shall be applied. Fertilizer shall contain 30 to 50 percent slow-release nitrogen unless noted otherwise.
   2. Seeds: As soon as new growth starts after seeding, grass shall be fertilized every 10 to 14 days with 0.75 to 1.0 lb. nitrogen per 1,000-sq. ft. Applications shall alternate between nitrogen only fertilizer whose analysis is, by weight 21-0-0 or 45-0-0 and a complete fertilizer with a 3-1-2 or 4-1-2 (N-P-K) ratio.

C. Sod:
   1. Fertilizer shall be applied every 4 weeks until acceptance at 1.0 lb. nitrogen per 1,000-sq.ft.
   2. Apply fertilizer at application rate recommended by soil analysis.
   3. Apply fertilizer after smooth raking of topsoil and prior to installation of sod.
   4. Apply fertilizer no more than 48 hours before laying sod.
   5. Mix fertilizer thoroughly into upper 4 inches of topsoil.

D. Water: Immediately water in fertilizer after each application.

3.5 PLANTING SEASON AND APPLICATION RATE

A. All planting shall be done between the dates specified for each grass type except when specifically authorized in writing by the Owner.

B. Application Rates & Dates

Type	Application Rate (Pounds per acre)	Planting Date
Hulled Bermuda	120	April 1 - Oct. 1
Mixed Bermuda & Rye (Bermuda Hulled)	120 (Each)	Oct. 1 - April 1
Rye	200	Oct. 1 - April 1

C. The location, planting season, seed type and seeding rate is as follows:
   1. Fall planting
      a. Temporary only
      b. To be followed by spring planting of perennial vegetation as outlined in 1.1
   2. Spring planting
      a. Permanent
      b. Soil temperatures for spring planting should be above 65 degrees Fahrenheit
      c. Cover grass seed by ⅛ to ¼ inches of soil
      d. Seed bed should be rolled with a flat roller weighing from 20 to 40 pounds per square inch following seeding

D. If the schedule is such that Annual Rye Grass is planted, the rye grass shall be removed and an undamaged complete stand of specified grass shall be achieved prior to acceptance.

E. Seeding outside the specified seeding periods may be permitted at the Engineer's option, provided the Contractor is willing to make appropriate modifications to his seeding operations, and will guarantee the crop.

3.6 PROTECTION AND MAINTENANCE OF LAWN AREAS

A. For residential areas, facility sites, or areas designated to be lawn. Establish a dense lawn of permanent Bermuda grass, free from lumps and depressions. It shall be the responsibility of the Contractor to maintain planted areas until an approved stand is established but not less than 45 calendar days. Maintenance shall consist of watering, replanting, mowing, weeding, maintaining existing grades and repair of erosion damage.

B. Mow and edge lawn each time after the lawn has reached a height of 2-1/2 inches to 3 inches. Mow to a height of 2 inches returning the clippings to lawn.

C. Reseed any bare areas within the utility corridor that are greater than 36” across or areas greater than 36” across that contain only weed species. Prior to reseeding, remove all weed species with approved contact herbicide or by mechanical means.

D. Maintain the grassed areas until final acceptance of the project. Maintenance includes, but is not limited to, fertilizer, weed control, reseeding, watering, and mowing. Fertilize and perform weed control when necessary or at least three (3) times annually. Water and mow

areas when necessary. Maintain a grass height less than 8 inches within the utility corridor until accepted or otherwise directed by the Engineer.

E. Provide surface repair to ruts, ridges, tracks. Replant areas required for final acceptance.

3.7 WEEDING

A. Keep all seeded areas free from weeds and undesirable grasses until grass is established.

3.8 DISEASE AND INSECT PEST CONTROL

A. Upon discovery of any disease or insect pest infestation, identify or have identified the nature or species of infestation and submit the proposed method of control for approval prior to application of control measures.

3.9 ACCEPTANCE

A. Engineer will determine that a grassed area is established upon fulfillment of the following conditions:
   1. The permanent grass stand uniformly covers the planting area, with no exposed soil areas more than 36" across in any dimension.
   2. The permanent grass stand is free of over-topping weed species which would compete for sunlight, moisture, and nutrients. In addition, no area of pure weed species greater than 36" across in any dimension shall occur within the permanent grass stand.
   3. The majority of the grass plants in a stand shall have a well-established root system (i.e., dense fibrous roots extending to greater than 3 inches in depth below the soil surface) to survive if irrigation is discontinued.

B. At the completion of the maintenance period, the Engineer shall make a final inspection of plants, seeded, and sodded areas. Any areas not found to be in a healthy, growing condition shall be replaced at no charge to the Owner. Grass shall be healthy and growing with close stands.

C. Establish the permanent grass stand before September 1 to preclude having to perform a temporary Fall seeding. In the event a Fall seeding must be performed, follow-up the temporary seeding with a permanent seeding as specified.

3.10 CLEAN UP

A. Remove trash and debris resulting from lawn preparation from site daily as work progresses. Leave paved areas in a broom clean condition by sweeping or hosing.

END OF SECTION

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SECTION 33_01_10.58

DISINFECTION OF WATER UTILITY PIPING SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Cleaning and disinfection requirements for new and existing facilities affected by the Work.

1.2 SUBMITTALS

A. Submit disinfection test plan which details procedure to be utilized to disinfect the facilities including:
1. Method and locations of disinfectant application.
2. Locations of sampling points.
3. Method of flushing and location of flushing ports (as appropriate for method of chlorination).
4. Method of dechlorination (as appropriate for method of chlorination).
5. Disposal location for chlorinated water (as appropriate for method of chlorination).

B. Submit disinfection reports and include the following:
1. Date issued.
2. Project name and location.
3. Treatment subcontractor's name, address, and phone number.
4. Type and form of disinfectant used.
5. Time and date of disinfectant injection start.
6. Time and date of disinfectant injection completion.
7. Test locations.
8. Initial and 24-hour disinfectant residuals in milligrams per liter for each outlet tested.
9. Time and date of flushing start.
10. Time and date of flushing completion.
11. Disinfectant residual after flushing in milligrams per liter for each outlet tested.

C. Submit bacteriological reports and include the following:
1. Date issued.
2. Project name and location.
3. Laboratory's name, certification number, address, and phone number.
4. Time and date of water sample collection.
5. Name of person collecting samples.
6. Test locations.
7. Time and date of laboratory test start.
8. Coliform bacteria test results for each outlet tested.
9. Certification that water conforms or fails to conform to bacterial standards of SDWA.
10. Bacteriologist's signature and bacteriological laboratory's evidence of certification.

1.3 REFERENCE STANDARDS

A. American Water Works Association (AWWA):
1. C651 - Disinfecting Water Mains.
2. C652 - Disinfection of Water Storage Facilities.
3. C653 - Disinfection of Water Treatment Plants.

1.4 DELIVERY, HANDLING AND STORAGE

A. Protect chlorine and bacteriological samples against damage and contamination.

B. Maintain caution labels on hazardous materials.

C. Maintain storage room dry and with temperatures as uniform as possible between 60 degrees Fahrenheit and 80 degrees Fahrenheit.

PART 2 PRODUCTS

2.1 MATERIALS

A. Disinfectant: Free chlorine in liquid, powder, tablet, or gas form in accordance with AWWA C653.

B. Dechlorination agent: Sulfur dioxide, sodium bisulfate, sodium sulfite, or sodium thiosulfite in accordance with AWWA C653.

PART 3 EXECUTION

3.1 PRELIMINARY CLEANING

A. Complete hydrostatic/leakage tests prior to disinfection.

B. Clean all newly constructed and/or modified facilities, including filters and conveyance facilities, such as pipes and channels at the plant, in accordance with AWWA C653 and the following:
1. Remove all debris and material not associated with the structure or process prior to disinfection.
2. Clean all wall, floor, ceiling, and attached surfaces by use of high-pressure water jet, sweeping, scrubbing, or equally effective means.
3. Remove all water, paint flakes, sediment, dirt, and foreign material accumulated during cleaning.
4. Remove by flushing or other means, soil and debris from water pipes and channels in accordance with AWWA C651.
5. Protect surfaces from adverse environmental exposure between the preliminary cleaning and the disinfection stages.

C. Prior to chlorination, clean all newly constructed and/or modified facilities to be disinfected in accordance with AWWA C651, C652, or C653, as applicable.

3.2 DISINFECTION OF WATER LINES

A. Cleaning:
   1. Remove by flushing or other means, soil and debris from the potable water lines in accordance with AWWA C652 prior to chlorination.

B. Inspection:
   1. Verify that water system is completed and cleaned of soil and debris prior to chlorination.
   2. Start disinfection when conditions are satisfactory.

C. System treatment:
   1. Perform disinfection of water lines and structures in accordance with AWWA C651, C652, and C653, and as specified in this Section.
   2. Starting at outlet closest to water source, bleed water from each outlet until water produces odor of disinfectant. Repeat process at each outlet throughout system.
   3. Test for disinfectant residual at each of following locations and other locations in accordance with submitted disinfection test plan:
      a. Ends of piping runs.
      b. Remote outlets.
      c. Tanks.
      d. At least 2 outlets on each building floor where directed.
      e. Drain lines.
      f. Filters and effluent channels and piping.
   4. Maintain disinfectant in system for appropriate 6-hour or 24-hour interval in accordance with AWWA C652.
   5. When disinfectant residual is less than 10 milligrams per liter after 24 hours, repeat system treatment

3.3 REPAIRS OR CONNECTIONS TO EXISTING LINES

A. Clean and sterilize the interior surfaces of new piping, fittings, equipment, and appurtenances to be installed in an existing potable water system or connected to an existing system.

B. Clean and sterilize the existing pipe or facilities for a minimum distance of 3 pipe diameters back from the ends of the pipe. Plug the ends of the line when work is not being performed on the pipe.

C. Perform sterilization by swabbing each item with a concentrated chlorine solution.
   1. Each piece is to be disinfected prior to being assembled for installation in the existing pipe.
   2. Disinfect each piece just prior to assembly to help prevent recontamination.
   3. Plug the ends of the assembly until a new item is to be added to the assembly.
   4. Store disinfected materials on blocks to prevent contact with the ground.

3.4 FLUSHING

A. Remove disinfection water from the facilities as appropriate for the type of disinfectant and method used for disinfection.

B. Flush facilities with potable water containing no more disinfectant residual than the active distribution system or 1.0 milligrams per liter, whichever is greater (as appropriate for method of chlorination).

C. Continue flushing until water at designated flushing ports contains disinfectant residual equal to concentration specified above.

3.5 DISPOSAL OF CHLORINATED WATER

A. Dispose of chlorinated water in accordance with the submitted disinfection test plan and applicable requirements of federal, state, county, and city having jurisdiction over disposal of hazardous wastes in location of the Project and disposal site.

B. Chlorinated water may only be disposed of in a sanitary sewer system with the written permission of the Owner. If allowed, discharge the chlorinated water at a low rate so it does not surcharge the sewer line.

3.6 BACTERIOLOGICAL TEST

A. Instruct bacteriological laboratory to collect a minimum of two water samples on two consecutive days no sooner than 24 hours after start of disinfection of each facility.

B. A minimum of 24 hours after flushing system and within 48 hours before the water main is placed in service, collect bacteriological quality samples at each of following locations and other locations in accordance with the submitted disinfection test plan and Standard Methods for the Examination of Water and Wastewater:
1. Where water enters system.
2. Inlet piping
3. Ends of piping runs
4. Drain lines.
5. Remote outlets.
6. Tanks.
7. At least 2 outlets on each building floor.

C. Analyze water samples in accordance with Standard Methods for Examination of Water and Wastewater.

D. When bacteriological test proves water quality to be unacceptable, repeat disinfection treatment process until water meets quality standards for disinfection.

END OF SECTION

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SECTION 33_05_05.17

MECHANICAL JOINT RESTRAINT

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Restraint devices for mechanical joint fittings and appurtenances conforming to either ANSI/AWWA C111/A2 or ANSI/AWWA C 153 shall conform to the following specifications.

1.2 SUBMITTALS

A. Submit in accordance with Section 01_33_01 General Submittal Requirements

1.3 SYSTEM DESCRIPTION/DESIGN REQUIREMENTS

A. Restraint devices for nominal pipe sizes 3 inch through 48 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of AWWA C110

B. The devices shall have a working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Restraint devices shall be listed by Underwriters Laboratories (3" through 24" inch size) and Approved by Factory Mutual (3" through 12" inch size).

B. Mechanical joint restraint shall be Megalug Series 1100 produced by EBAA Iron Inc. or approved equal.

2.2 MATERIALS

A. Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.

B. Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN.

2.3 COATING SYSTEM

A. Coating for restraint devices shall be MEGA-BOND by EBAA Iron, Inc. or approved equal.
   1. All wedge assemblies and related parts shall be processed through a phosphate wash, rinse and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat.

2. All casting bodies shall be surface pretreated with a phosphate wash, rinse and sealer before drying. The coating shall be electrostatically applied and heat cured. The coating shall be a polyester-based powder to provide corrosion, impact and UV resistance.

PART 3 EXECUTION

3.1 INSTALLATION

A. Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly.

B. Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts.

C. Installation shall be per manufacturer's requirements

END OF SECTION

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SECTION 33_05_05.31

HYDROSTATIC TESTING

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This section covers hydrostatic testing of pressure pipe appurtenances and piping.

B. Pump, water source, and method of measurement for both pressure and gallons of water addition will be required to verify compliance.

1.2 REFERENCE STANDARDS

A. AWWA C600 – Installation of Ductile-Iron Mains and Their Appurtenances (latest edition)

B. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water (latest edition)

PART 2 PRODUCTS

A. The Contractor shall furnish pump, pipe connections and all necessary apparatus (including gauges and meters) to hydrostatically test the water lines and pressure sewer lines in accordance with this Specification.

B. Water for testing will be furnished by the Contractor, but can be supplied at no charge from an Owner's watermain where available. All connections of new pipeline must be isolated from existing potable water lines until a negative coliform test report has been received by Engineer.

C. Install temporary test plugs for hydrostatic testing or blind flanges as necessary. Testing against closed valves will not be acceptable. No exceptions.

PART 3 EXECUTION

3.1 FLUSHING

A. Upon completion of installation, thoroughly clean new pipe.
   1. Flush with water to remove dirt, stones, pieces of wood, or other obstructions that may have entered pipe during construction.
   2. Flush pipelines at a minimum rate of 2.5 feet per second for a duration suitable to fully flush pipe

3.2 HYDROSTATIC TESTING

A. The Contractor shall perform a hydrostatic test in accordance with AWWA C600, for ductile iron pipe, and C605, for PVC pipe, on all completed lines constructed. Upon completion

and approval of the disinfecting of the lines, the Contractor shall open the necessary valves to allow system pressure to be exerted on the newly constructed lines. Care shall be exercised to remove all entrapped air from the lines by draining the entire segment being tested. This can be accomplished by opening the relief valves, fire hydrants or bleed valves located at the highest elevations along the lines. Once the Contractor has removed all air from the lines and closed the valves, he shall then measure the working line pressure with a gauge applied to a fitting at or near the highest and lowest elevations along the line. He shall then close all valves required to isolate the segment being tested. With the test segment isolated, the Contractor shall, by means of an external pump and potable water supply, increase the test segment pressure. When hydrants are in the test section, the test shall be made against the main valve in the hydrant.

B. For ductile iron pipe conforming to AWWA C150 and C151 the test pressure shall not be less that 1.25 times the working pressure at the highest elevation along the test section and not less than 1.5 times the working pressure at the lowest elevation of the test section. Test pressure shall not exceed thrust restraint design pressures or 1.5 times the pressure rating of the pipe or joint, whichever is less.

C. For PVC pipe conforming to AWWA C900, C905 and C909 the test pressure shall not be less that 1.25 times the working pressure at the highest elevation along the test section unless the pressure exceeds the design pressure limit for any pipe, thrust restraint, valve, fitting or other appurtenance of the test section. Test pressure shall not exceed the design pressure limit for any pipe, thrust restraint, valve, fitting or other appurtenance of the test section.

3.3 TEST RESTRICTIONS

A. Test pressure shall be a minimum of 150 psi (regardless of working pressure)

B. Test pressure shall not exceed pipe or thrust restraint design pressures

C. The hydrostatic test shall be at least a 2-hour duration.

D. Test pressure shall not vary by more than ± 5 psi (34.5 kPa) for the duration of the test. Water shall be added with pumps to maintain pressure during test period.

E. Valves shall not be operated in either direction at a differential pressure exceeding the rated valve working pressure. Use of a test pressure greater than the rated valve pressure can result in trapped test pressure between the gates of a double-disc gate valve. For tests at these pressures, the test setup should include a provision, independent of the valve, to reduce the line pressure to the rated valve pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or fully opened if desired.

F. The test pressure shall not exceed the rated pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves or butterfly valves.

G. Water source for the pump suction shall be potable water from the Owner's distribution system; vessel used shall be approved by the Engineer.

H. Prevent contamination of the Owner's water distribution system.

I. After pipelines or isolated sections of pipelines have been filled with water, increase the pressure to test pressure by means of a pump

J. Open interior valves, including fire hydrants and other appurtenances, during tests.

K. After the specified test pressure has been applied, the entire pipeline shall be checked in the presence of the Engineer giving particular attention to parts of the pipeline and the appurtenances that are exposed.

L. If leaks are apparent, perform corrective work and replace material that is required to remedy the defect and stop the leaks at no extra cost to the Owner.

M. If no leaks were apparent or after corrective work has been completed, the pipelines shall be subjected to a leakage test at the pressure specified with a meter inserted in the test pump discharge line.

N. Upon completion of test duration, water shall be added to the test section to bring the pressure up to the original test pressures and measured by approved flow meter.

O. Any corrective work shall be approved by the Engineer.

3.4 PRESSURIZATION

A. After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure as outlined at the point of testing. Each valved section of pipe shall be slowly filled with water, and the specified test pressure (based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge) shall be applied by means of a pump connected to the pipe. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. It is good practice to allow the system to stabilize at the test pressure before conducting the leakage test.

3.5 AIR REMOVAL

A. Before applying the specified test pressure, air shall be expelled completely from the section of piping under test. If permanent air vents are not located at all high points, corporation cocks shall be installed at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged or left in place as required by the specifications.

3.6 TESTING ALLOWANCE

A. The testing allowance shall be defined as the quantity of water that must be supplied to the pipe section being tested to maintain a specified hydrostatic test pressure. No installation will be accepted if the quantity of makeup water is greater than that determined by the following formula:

$$Q = (LD\sqrt{P})/148{,}000$$

Where:

Q = quantity of makeup water, in gallons per hour

L = length of pipe section being tested, in feet

D = nominal diameter of the pipe, in inches

P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

This formula is based on a testing allowance of 10.5 gallons per day per mile of pipe per inch of nominal diameter at a pressure of 150 psi. The duration of the test shall be a minimum of 2 hours.

B. Any line segment being tested that fails to meet the allowable pressure loss or leakage requirements established herein and by the AWWA C600 and C605 Specification shall be rejected. The Contractor shall repair any rejected segment, re-disinfect the segment and retest the segment at no additional costs. **The Engineer or approved Engineer's representative shall be present during any and all tests. No exceptions.**

END OF SECTION

Project:		
Contractor:		
Pipe Diameter:	Location:	Date:
From Station:	To Station:	

TEST EQUIPMENT: (list)

SPECIFIED TEST PRESSURE: _____ psi Specified Duration:
Time (gauge on): _____
Pressure (start):

Time (check): _____ Pressure (check):	Pressure Drop: _____ Water Added:	
Time (check): _____ Pressure (check):	Pressure Drop: _____ Water Added:	
Time (check): _____ Pressure (check):	Pressure Drop: _____ Water Added:	Time (gauge off): _____ Pressure (finish):

REMARKS:

WITNESSING SIGNATURES:

Contractor: _____ _____ _____
Signature Title Date

Engineer: _____ _____ _____
Signature Title Date

Owner: _____ _____ _____
Signature Title Date

SECTION 33_05_07.33

UTILITY BORING & JACKING

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Utility line crossings roadways, railroads or other items specified using bore, tunneling, or open cut.

B. Length of boring shown on the Drawings is approximate. Contractor to verify actual lengths required based on field conditions (requirements of bore pit locations, angle of bore, clearances, etc) prior to bidding. No additional payment will be made for any lengthening of bore and the bores will be paid based on quantities shown on Drawings.

C. There shall be no additional payment made for ANY MATERIAL encountered during boring operations. No exceptions.

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. Section 01_33_01 General Submittal Requirements

C. Section 33_05_25 Steel Casing Pipe

D. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections and provisions of the Contract Documents.

B. The Contractor shall submit a list of previous projects completed showing that the Contractor meets the experience requirements of this Specification. The list of projects supplied to demonstrate experience requirement shall include:
1. The Owner of the project.
2. Type of line installed (e.g. – water, sewer, etc.).
3. Pipe material, size, and length installed by horizontal directional drilling.
4. Dates of installation.

C. Product data sheets on the materials to be used shall be submitted to the Engineer. Material shall include the pipe, fittings, and any other item that is to be an installed component of the project.

D. Material Safety Data Sheets for all drilling fluid additives shall be submitted to the Engineer.

E. The Contractor shall submit a daily project log of drilling operations at the completion of the project.

1.4 REFERENCE STANDARDS

A. AWWA C-206 – "Field Welding of Steel Water Pipe"

B. AWWA C-210 – "Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines"

C. AASHTO M-190 – "Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches"

D. AASHTO – Standard Specifications for Highway Bridges, 1989.

E. ASTM A-36 – "Structural Steel"

F. ASTM A-123 – "Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Productss

G. ASTM A-135 – "Electric - Resistance - Welded Steel Pipe"

H. ASTM A-139 – "Electric - Fusion (Arc) - Welded Steel Pipe"

I. ASTM A-153 – "Zinc Coating (Hot Dip) on Iron and Steel Hardware"

J. ASTM A-307 – "Carbon Steel Bolts and Studs, 60,000 PSI Tensile"

K. ASTM A-449 – "Quenched and Tempered Steel Bolts and Studs"

L. ASTM A-569 – "Steel, Carbon, Hot-Rolled Sheet and Strip, Commercial Quality"

M. ASTM A-570 – "Hot Rolled Carbon Steel Sheet and Strip, Structural Quality"

N. ASTM C-76 – "Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe"

O. ASTM D-4254 – "Test Methods for Minimum Index Density of Soils and Calculation of Relative Density"

1.5 QUALITY ASSURANCE

A. Installer's Qualifications:
   1. Installation shall be by a competent, experienced Contractor or sub-contractor.
   2. The Contractor shall submit a list of previous projects completed showing that the Contractor meets the experience requirements of this section. The list shall include:

a. The Owner of the project.
b. Type of line installed (e.g. – water, sewer, etc.).
c. Pipe material, size, and length installed by horizontal directional drilling.
d. Dates of installation.

B. Performance Requirements:
1. Lateral or vertical variation in the final position of the pipe casing or tunnel liner from the line and grade established by the Engineer shall be acceptable only to the extent that it does not impact the line and grade of the carrier pip shown on the Plans.

1.6 SYSTEM DESCRIPTION/DESIGN REQUIREMENTS

A. No blasting shall be allowed.

B. Existing pipelines are to be protected.

1. The Contractor shall verify location and elevation of any pipelines and telephone cable before proceeding with the construction and plan his construction so as to avoid damage to the existing pipelines or telephone cables.

2. Verification of location of existing utilities shall be the complete responsibility of the Contractor.

C. Casing Material:

1. Unless specified otherwise, the Contractor shall use steel pipe for all casing pipe.

2. The material specification for casing pipe and tunnel liner are the minimum acceptable.

3. The Contractor shall be fully responsible to insure the materials used are of sufficient strength for the installation method chosen and the soil conditions encountered.

D. Bore And Tunnel Methods:

1. Unless specified otherwise, the Contractor may use boring, and jacking for the installation method of casing material.

2. The Contractor shall be fully responsible to ensure the methods used are adequate for the protection of workers, pipe, property, and the public. Provide a finished product as required.

PART 2 PRODUCTS

2.1 MATERIALS

A. Steel Pipe:

1. Steel casing pipe shall have a minimum yield strength of 35,000 psi.
2. Steel casing pipe to be shall be coated with coal tar epoxy meeting the requirements of Corp of Engineers Specification C-200A. Coal tar epoxy shall be installed in two 8 mil coats for a total DFT of 16 mils. Welded joints shall be field coated. All other casing installed outside of Union Pacific Railroad Right-of-way may be uncoated.
3. For additional information see Section 33_05_25 Steel Casing Pipe.

2.2 MIXES

A. Cement Mortar:
1. Consisting of one (1) part cement to two (2) parts clean sand with sufficient water to make a thick workable mix.

B. Pressure Grout Mix:
1. Comprised of 1 cubic foot of cement and 3.5 cubic feet of clean fine sand with sufficient water added to provide a free-flowing thick slurry.
2. If desired to maintain solids in the mixture in suspension, one cubic foot of commercial grade bentonite may be added to each 12 to 15 cubic feet of the slurry.

2.3 MANUFACTURED PRODUCTS

A. Casing Insulators:
1. Use casing insulators for all types of carrier pipe.
2. Insulators shall consist of pre-manufactured steel bands with plastic lining and plastic runners.
3. Insulators shall fit snug over the carrier pipe and position the carrier pipe approximately in the center of the casing pipe, to provide adequate clearance between the carrier pipe bell and the casing pipe.
4. Fasteners for insulators shall be stainless steel.
5. Insulators shall be as manufactured by Advanced Product and Systems, Inc., Model #SSI, or Engineer approved equal.

B. End Seals:
1. All casing shall be sealed.
2. Seals shall be one-piece rubber with stainless steel bands.
3. End seal shall be molded to fit the casing pipe and carrier pipe.

2.4 Advanced Product and Systems, Model #AC or Engineer approved equal.

PART 3 EXECUTION

3.1 GENERAL CONSTRUCTION PROCEDURES

A. Excavation And Backfill of Access Pits
1. Do not allow excavation over the limits of the bore or tunnel as specified.
a. Trench walls of access pits adjacent to the bore or tunnel face shall be truly vertical
b. Shore the trench walls as necessary to protect workmen, the public, structures, roadways, and other improvements.

2. Excavations within the right-of-way and not under surfacing shall be backfilled and consolidated by tamping in 6" horizontal layers to 95% of maximum density as measured by ASTM D-698.
    a. Surplus material shall be removed from the right-of-way and the excavation finished to original grades.
    b. Backfill pits immediately after the installation of the carrier pipe is completed.
    c. If carrier pipe is not installed immediately after casing pipe installation, the Right-of-Way Owner may require the access pits be temporarily backfilled until installation of carrier pipe.
3. Where seeding or sodding is disturbed by excavation or backfilling operations, such areas shall be replaced by seeding or sodding as specified.

B. Installing Carrier Pipe in Casings
1. Pipe to be installed within the casing or tunnel liner shall meet the requirements for this type of pipe as specified.
    a. Where indicated, place, align, and anchor guide rails and/or casing insulators inside the casing.
    b. If guide rails are used, place cement mortar on both sides of the rails.
2. Pull or skid pipe into place inside the casing.
    a. Lubricants such as flax soap or drilling mud may be used to ease pipe installation.
    b. Do not use petroleum products, oil or grease for this purpose.
    c. If guide rails are used, install pipe and hold down jacks after installation of carrier pipe.
3. After installation of the carrier pipe, mortar inside and outside of the joints as applicable.
4. After carrier pipe installation is complete, install required end seals at each end of the casing.

C. Free-Air System:
1. If required by OSHA standards, free-air systems shall be installed and maintained.

D. Installation of Pressure Grout Mix
1. Install pressure grout mix in the void space between the outside of the casing pipe or tunnel liner and the excavation.
2. For bore or jacks with casing pipe, install pressure grout mix immediately upon completion of setting casing pipe.

3.2 CROSSINGS INSTALLED BY BORING

A. Perform the boring from the low or downstream end unless specified otherwise.
1. The casing bore shall be done by auger type boring method. The casing bore shall not be done by directional drilling unless approved by the Engineer prior tobidding.
2. Place excavated material near the top of the working pit and dispose of material as required.
3. The cutter head shall not extend outside the leading end of the pipe. There shall not be extended pauses during the installation of casing below roadways and/or railroads.
4. Jetting shall not be permitted.

B. In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% of high grade carefully processed bentonite may be used to consolidate cuttings of the bit, seal the walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of the pipe immediately thereafter.

C. In locations where the soil formation is other than consolidated rock, insert the casing pipe simultaneously with the boring operation.
   1. This requirement applies to all bored holes of 18" or greater in diameter.
   2. For smaller diameter bored holes, it is desirable that the casing be installed as the boring progresses, but because of differences in soil formations, the time for inserting the casing shall be the Contractor's responsibility.
   3. In the event that caving sand or water bearing materials are encountered, insert the casing pipe simultaneously with the boring operation regardless of the diameter of the bored hole.
   4. In all cases, the security and integrity of the roadway/railroad is the primary concern.
   5. The Contractor shall be held fully responsible for the continued integrity of the structure of the roadway/railroad being crossed, whether or not a casing pipe is inserted simultaneously with the boring operation.

3.3 CROSSINGS INSTALLED BY TUNNELING AND JACKING

A. Jack the pipe from the low or downstream end, unless specified otherwise.
   1. Provide heavy-duty jacks suitable for forcing the pipe through the embankment.
   2. In operating jacks, apply even pressure to the jacks used.
   3. Provide a suitable jacking head and bracing between jacks so that pressure will be applied to the pipe uniformly around the ring of the pipe.
   4. Provide a suitable jacking frame or backstop.
   5. Set the pipe to be jacked on guides, properly braced together, to support the section of the pipe and to direct it in the proper line and grade.
   6. Place the whole jacking assembly so as to line up with the direction and grade of the pipe.
   7. In general, excavate embankment material just ahead of the pipe and material removed through the pipe.
   8. Force the pipe through the embankment with jacks into the space provided.

B. The excavation for the underside of the pipe, for at least 1/3 of the circumference of the pipe, shall conform to the contour and grade of the pipe.
   1. Provide a clearance of not more than 2" for the upper half of the pipe.
   2. This clearance shall be tapered off to zero at the point where the excavation conforms to the contour of the pipe.
   3. Extend the distance of the excavation beyond the end of the pipe depending on the character of the material, but do not exceed 2' in any case.
   4. Decrease the distance if the character of the material being excavated makes it desirable to keep the advance excavation closer to the end of the pipe.

C. If desired, use a cutting edge of steel plate around the head end of the pipe extending a short distance beyond the end of the pipe with inside angles or lugs to keep the cutting edge from slipping back onto pipe.

D. When jacking of pipe has begun, carry on the operation without interruption to prevent the pipe from becoming firmly set in the embankment.
   1. Remove and replace any pipe damaged in the jacking operations.
   2. The Contractor shall absorb the entire expense.

3.4 CROSSINGS WITH CASING INSTALLED BY OPEN CUT

A. This article covers the requirements for the construction of crossings where pipe casing is required for installation by the open cut method.

B. Excavation, backfill, and embedment of casing pipe shall be as specified.

C. Casing shall be bedded in gravel material to the springline of the casing.

D. Contractor shall backfill with select fill material compacted in 8-inch lifts.

E. Contractor shall complete the backfill and repair the pavement section as shown.
   1. If settlement occurs, the pavements shall be removed and the trench recompacted at the Contractor's expense.

END OF SECTION

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SECTION 33_05_09.34

CONCRETE THRUST BLOCKS & COLLARS

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Concrete blocking or anchorage for thrust resistance placed at bends, tees, crosses, fire hydrants, plugs, blow-offs, etc. in the supply line.

B. For all pressure lines exceeding 12", the contractor shall present a blocking plan outlining a "standard" block for all fittings anticipated. Blocking plan shall be stamped by a registered Professional Engineer and state that the blocking design meets Thrust Restraint for Ductile Iron Pipe, (DIPRA, latest Edition.)

PART 2 PRODUCTS (NOT USED)

2.1 MATERIALS

A. Concrete strength shall be at least 3,000 psi at twenty-eight (28) days.

B. 3,000 psi sack-crete may be used but must be hydrated prior to placement.

PART 3 EXECUTION

3.1 CONSTRUCTION METHODS

A. Concrete thrust blocks and anchors shall be provided along pipelines subject to internal water pressures in accordance with Thrust Restraint for Ductile Iron Pipe, (DIPRA, 3rd Edition, 1992), the construction details, plan drawings, or as directed by the Engineer. The concrete mix shall be in accordance with ACI 318, 3,000 psi, for thrust collars and thrust blocks. Admixtures are not to be used without the approval of the Engineer.

B. Concrete for thrust blocks shall be placed against undisturbed soil. The excavation shall be hand shaped and free of loose material and water before concrete is placed. Forms shall be used to confine the concrete in areas other than that part that is in contact with undisturbed soil in the direction of the thrust. Steel reinforcement shall be placed as specified on the Plans. No concrete shall be placed around any part of a joint or placed so that it interferes with the removal of any joint accessories such as bolts, followers, threads, collars, couplings, etc. Fire hydrant drains shall not be restricted. The pipe or appurtenances shall be cleaned before placing concrete when the concrete is to be in direct contact with the pipe or appurtenances.

C. The top of the concrete thrust block or collar shall be struck off with a wood straight edge or float. Concrete shall not be placed when the temperature is below 40° F, or below 35° if the temperature is rising unless approved by the Engineer.

D. All placement of concrete must be in the presence of the Engineer or his representative. TheContractor is cautioned that he may be required to remove any concrete placed in the absence of the Engineer or his representative without compensation.

E. Backfill over concrete thrust blocks or collars shall not be placed before the concrete has attained initial set.

F. The area of contact of the thrust blocks and collars shall be sufficient to resist the thrust. This area will vary, depending on the safe bearing value of the soil. No thrust blocks shall be less than eighteen (18) inches thick between the pipeline or appurtenances and undisturbedsoil in the direction of the thrust. Suggested safe bearing values are as follows:

Soil Bearing Capacities

Soil	Bearing Load (lb./sq. ft.)
Muck	0
Soft Clay	1000
Silt	1500
Sandy Silt	3000
Sand	4000
Sandy Clay	6000
Hard Clay	9000

The above values are approximate and will vary considerably and are intended to be used only as a guide. The Contractor is responsible for determining the soil bearing value or taking other action to assure that the bearing area is adequate to restrain the pipe or appurtenances.

G. Where the soil is unstable or in the case of recent fill areas, the following procedures shall apply either singly or in a combination:
1. Thrust blocks shall be of adequate size to restrain pipe or appurtenances by mass alone without depending on horizontal bearing of the soil.
2. The excavation shall extend deep enough to contact firm soil and the block brought up to the pipe or appurtenances and constructed so that the block acts as a beam and will provide restraint required. Such blocks shall be reinforced with steel reinforcing bars.
3. Anchor blocks shall be constructed in a firm soil and tie rods extended to the pipe orappurtenances.

H. Thrust blocks for vertical bends shall be adequate to resist the thrust by mass alone when the thrust is upward.

I. Thrust blocks and collars shall be adequate to restrain the pipeline and appurtenances atthe specified test pressure. The following table lists the resultant thrust at certain fittings at pressure of 100 psi. In order to determine the thrust at the test pressure, these values are tobe multiplied by a factor equal to the test pressure divided by 100.

Resultant Thrust at Fittings at 100 psi Water Pressure

Total Pounds					
Nom. Pipe Dia. (in.)	Dead End	90° Bend	45° Bend	22½° Bend	11¼° Bend
3	1,232	1,742	943	481	241
4	1,810	2,559	1,385	706	355
6	3,739	5,288	2,862	1,459	733
8	6,433	9,097	4,923	2,510	1,261
10	9,677	13,685	7,406	3,776	1,897
12	13,685	19,353	10,474	5,340	2,683
14	18,385	26,001	14,072	7,174	3,604
16	23,779	33,628	18,199	9,278	4,661
18	29,865	42,235	22,858	11,653	5,855
20	36,644	51,822	28,046	14,298	7,183
24	52,279	73,934	40,013	20,398	10,249
30	80,425	113,738	61,554	31,380	15,766
36	115,209	162,931	88,177	44,952	22,585
42	155,528	219,950	119,036	60,684	30,489
48	202,683	286,637	155,127	79,083	39,733

END OF SECTION

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SECTION 33_05_25

STEEL CASING PIPE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes minimum requirements for manufacturing, furnishing and transporting Steel Casing Pipe at the locations shown on the Drawings

1.2 RELATED SECTIONS

A. Section 01_00_01 Basic Requirements

B. 33_05_07.33 Utility Boring & Jacking

C. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections and provisions of the Contract Documents.

1.4 REFERENCES

A. The Contractor and/or Manufacturer shall follow the standards listed below, except as otherwise specified herein. The latest revision or edition in effect at the time of bid opening shall be utilized.

B. ASTM International (ASTM):
1. A139, Standard Specification for Electric-Fusion (Arc)-Welded Steel Pipe (NPS Sizes 4 and Over).

C. American Water Works Association (AWWA):
1. C203, Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot Applied.

D. Occupational Safety and Health Administration (OSHA)
1. OSHA Regulations and Standards for Underground Construction, 29 CFR Part 1926, Subpart S, Underground Construction and Subpart P, Excavation.

PART 2 PRODUCTS

2.1 EQUIPMENT, PRODUCT TYPES AND MATERIALS

A. Manufacturers
1. The manufacturer must comply with this Specification and related Sections.

B. Design Criteria
1. The Contractor is fully responsible for the design of Steel Casing Pipe that meets or exceeds the design requirements of this Specification and that is specifically designed for installation by the intended trenchless method.
2. For Steel Casing Pipe utilized for tunneling projects, consider the following:
   a. Design of the casing pipe shall account for all installation and service loads including:
      1) Jacking loads
      2) External groundwater and earth loads
      3) Traffic loads
      4) Practical consideration for handling, shipping and other construction operations
      5) Any other live or dead loads reasonably anticipated
   b. Design shall be sealed and signed by a registered Professional ENGINEER licensed in the State of Oklahoma.
   c. The allowable jacking capacity shall not exceed 50 percent of the minimum steel yield stress.
3. Steel Casing Pipe shall have a minimum wall thickness as follows:

Casing Diameter	Wall Thickness
<12”	0.25”
14” - 18”	0.3125”
19” - 22”	0.375”
23” - 28”	0.4375”
29” - 34”	0.50”
35” - 42”	0.5625”
43” - 48”	0.625”

4. Wall thicknesses exceeding the table above may be used at the sole expense of the Contractor.
5. Steel Casing Pipe shall be provided with inside diameter sufficient to efficiently install the required carrier pipe with casing spacers as required.
   a. Allowable casing diameters are shown on the Drawings for each crossing.
6. Furnish in lengths that are compatible with Contractor’s shaft sizes and allowable work areas.
7. Random segments of pipe will not be permitted for straight runs of casing.
   a. Closing piece segments, however, shall be acceptable.
8. When required by installation method, provide grout/lubricant ports along the pipe at intervals of 10 feet or less.
   a. Ports and fittings shall be attached to the pipe in a manner that will not materially affect the strength of the pipe nor interfere with installation of carrier pipe.

b. Plugs for sealing the fittings shall be provided by the Contractor and shall be capable of withstanding all external and internal pressures and loads without leaking.

C. Materials
1. Provide new, smooth-wall, carbon steel pipe conforming to ASTM A139, Grade B.
2. Dimensional Tolerances
a. Furnishing and installing Steel Casing Pipe with dimensional tolerances that are compatible with performance requirements and proposed installation methods that meet or exceed the specific requirements below:
1) Minimum wall thickness at any point shall be at least 87.5 percent of the nominal wall thickness.
2) Outside circumference within 1.0 percent or 3/4 inch of the nominal circumference, whichever is less.
3) Outside diameter of the pipe shall be within 1/8 inch of the nominal outside diameter.
4) Roundness such that the difference between the major and minor outside diameters shall not exceed 0.5 percent of the specified nominal outside diameter or 1/4 inch, whichever is less.
5) Maximum allowable straightness deviation of 1/8 inch in any 10-foot length.
3. All steel pipe shall have square ends.
a. The ends of pipe sections shall not vary by more than 1/8 inch at any point from a true plane perpendicular to the axis of the pipe and passing through the center of the pipe at the end.
b. When pipe ends have to be beveled for welding, the ends shall be beveled on the outside to an angle of 35 degrees with a tolerance of ± 2½ degrees and with a width of root face 1/16 inch ± 1/32 inch.
4. Steel Casing Pipe shall be fabricated with longitudinal weld seams.
a. All girth weld seams shall be ground flush.

D. Finishes
1. Provide inside and outside of Steel Casing Pipe with a coal-tar protective coating in accordance with the requirements of AWWA C203.
a. Touch up after field welds shall provide coating equal to those specified above.

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 33_05_97.23

UNDERGROUND UTILITY WARNING TAPE

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Buried tape for utility marker as detailed on the Drawings.
   1. Provide detectable warning tape for all non-metallic pipelines
   2. Provide non-detectable warning tape for all metallic pipelines.

B. Install buried tape for utility marker as described herein to be used for locating pipe. Buried tape shall be installed on all water mains and services, all wastewater lines and sewer mains and all wastewater force mains whether or not specifically detailed in the Drawings.

C. There is no separate payment for the supply and installation of underground utility warning tape and it shall be considered subsidiary to the item for which they pertain.

D. Surface markers are not outlined on the drawings but should be installed in all located as indicated in this section.

1.2 REFERENCE STANDARDS

A. American Public Works Association (APWA):
   1. Uniform Color Code

PART 2 PRODUCTS

2.1 MATERIALS

A. Materials
   1. Detectable Buried Markers
      a. Provide detectable warning tape as follows:
         1) 5.0 mil overall thickness
         2) Width – 3 inch minimum
         3) Weight – 27.5 pounds per inch per 1,000 square feet
         4) Triple Layer with:
            a) Minimum thickness 0.35 mils solid aluminum foil encased in aprotective inert plastic jacket
               (1) 100 percent virgin low density polyethylene
               (2) Impervious to all known alkalis, acids, chemical reagents andsolvents within soil
               (3) Aluminum foil visible to both sides
         5) Locatable by conductive and inductive methods
         6) Printing encased to avoid ink rub-off
         7) Color and Legends
            a) Potable water lines

(1) Color – Blue (in accordance with APWA Uniform Color Code)
(2) Legend – Caution Potable Water Line Below (repeated every 24inches)

b) Raw water lines / sewer lines
(1) Color – Green (in accordance with APWA Uniform Color Code)
(2) Legend – Caution Raw Water Line Below (repeated every 24inches)

2. Non-Detectable Buried Markers
a. Provide non-detectable warning tape as follows:
1) 4.0 mil overall thickness
2) Width – 3 inch minimum
3) Weight – 20 pounds per inch per 1,000 square feet
4) 100 percent virgin low density polyethylene
5) Impervious to all known alkalis, acids, chemical reagents and solventswithin soil
6) Printing encased to avoid ink rub-off
7) Color and Legends
a) Potable water lines
(1) Color – Blue (in accordance with APWA Uniform Color Code)
(2) Legend – Caution Potable Water Line Below (repeated every 24inches)
b) Raw water lines / sewer lines
(1) Color – Green (in accordance with APWA Uniform Color Code)
(2) Legend – Caution Raw Water Line Below (repeated every 24inches)

3. Surface Markers
a. Provide as follows:
1) 4-inch diameter, 6-feet minimum length, polyethylene posts, or equal
2) White posts with colored, ultraviolet resistant domes as follows:
a) Water Lines
(1) Color – Blue (in accordance with APWA Uniform Color Code)
(2) Legend – As shown on the Drawings. If none is show on drawings coordinate with Engineer.

PART 3 EXECUTION

A. Buried Markers (Warning Tape)
1. Provide detectable warning tape for all non-metallic pipelines.
2. Provide non-detectable warning tape for all metallic pipelines.
3. Install in accordance with manufacturer's recommendations below natural ground surface and directly above the utility for which it is marking.
a. Allow 18 inches minimum between utility and marker.
b. Bury to a depth of 3 feet or as close to the grade as is practical for optimum protection and detectability.

B. Surface Markers
   1. Bury a minimum of 2.0 feet deep, with a minimum of 4 feet above ground
   2. The warning sign for all surface markers shall be 21 inches (not including post cap).
   3. Where possible or as shown on plans, place surface markers near fixed objects.
   4. Place Surface Markers at the following locations:
      a. Buried Features
         1) Place directly above a buried feature.
      b. Above-Ground Features
         1) Place a maximum of 2 feet away from an above-ground feature.
            a) Access Manholes
            b) Valves (including pressure reducing, air/vac, etc)
      c. Water lines 12-inches and larger
         1) Each right-of-way line (or end of casing pipe) for:
            a) Highway crossings
            b) Railroad crossings
         2) Other locations shown on the Drawings, or directed by the Engineer.
         3) Fence Crossing
            a) Place Surface Markers at every fence crossing

END OF SECTION

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SECTION 33_05_97.24

UTILITY LOCATION SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Install electrically continuous tracer wire with access points as described herein to be used for locating pipe with an electronic pipe locator after installation. Tracer wire shall be installed on all water mains and services, all wastewater lines and sewer mains and all wastewater force mains.

B. There is no separated payment for the supply and installation of the underground utility locator system. Tracer wire and system appurtenances shall be considered subsidiary to the item for which they pertain.

C. Regardless of pipe material, a trace wire shall be laid on top of the pipe and shall be looped around the pipe at least once every 10-feet and connected to all valves and fittings.

D. At valves, the trace wire shall be brought up into the valve box between the valve box halves. Provide enough loose tracer wire to be pulled 36” above finished grade.

E. Tracing test of trace wire will be required prior to final acceptance.

PART 2 PRODUCTS

2.1 TRACER WIRE MATERIAL

A. Tracer wire shall meet minimum State requirements (where applicable.)

B. Tracer wire to be twelve-gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors to be 3M DBR, Copperhead SnakeBite or approved equal, and shall be watertight to provide electrical continuity.

C. Tracer wire color shall be blue for all water construction and green for all wastewater construction.

2.2 TRACER WIRE ACCESS BOXES

A. For locations where valve boxes are not present or as shown on Drawings, the tracer wire access point shall be composed of one SnakePit Tracer Wire Two Terminal Access Box, or approved equal, installed at eachproposed access point.

2.3 TESTING REQUIREMENTS

A. Contractor shall perform a continuity test on all tracer wire in the presence of the Owner’s representaitive. If the tracer wire is found to be not continuous aftertesting, Contractor shall repair or replace the failed segment of the wire at their own expense.

PART 3 EXECUTION

3.1 INSTALLATION

A. Tracer wire shall be installed on all water and sewer mains and services. The wire shall be installed in such a manner as to be able to properly trace all mains without loss or deterioration of signal or without the transmitted signal migrating off the tracer wire.

B. Marking tape shall be installed in the same trench pipe during pipe installation. It shall be laidin the trench 18" inches above the utility, or as shown in the Drawings, to ensure that it is not damaged during future repair operations. See Section 33_05_97.23 Underground Warning Tape.

C. The tracer wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity, and it shall be accessible at all tracer wire access points.

D. Tracer wire access points shall in general be no more than five-hundred feet and at every proposed concrete valve box collar (or manhole). Concentrations of multiple proposed valvesnear pipe intersections, i.e. tees or crosses, may require more than one access point assembly in each concrete valve box collar. Tracer wire access points shall be within public right-of-way or public utility easements.

E. At each valve location, (including fire hydrant isolation valves), a loop of wire is to be broughtup the outside of the valve box and looped inside the box through a hole drilled 2-inch belowthe bottom of the lid.

F. At the point of connection between cast or ductile iron mains, with any non-iron main, the tracer wire shall be properly connected to the iron pipe with a cad weld or approved equivalent. Tracer wire welds shall be completely sealed with the use of an approved mastic type sealer specifically manufactured for underground use. Mastic shall be applied in a thickcoat a minimum of 2 inches thick and shall be protected from contamination by the backfill material with the use of a plastic membrane.

G. Tracer wire shall be laid flat and securely affixed to the pipe at 10-foot intervals. The wire shall be protected from damage during the execution of the Work. No breaks or cuts in thetracer wire or tracer wire insulation shall be permitted. At service saddles, the tracer wire shall not be allowed to be placed between the saddle and the main.

H. Except for approved spliced-in connections, tracer wire shall be continuous and without splices from each tracer wire access point. Where any approved spliced- in connections occur, 3M DBR water tight connectors, Copperhead SnakeBite, or approved equal, shall be used to provide electrical continuity.

I. At all main end caps, a minimum of 6 feet of tracer wire shall be extended beyond the end ofthe pipe, coiled and secured for future connections. The end of the tracer wire shall be spliced to the wire of a six pound zinc anode and is to be buried at the same elevation as thewater main.

J. For directional drilling, auguring or boring installations, two #12 tracer wires shall be installed with the pipe and connected to the tracer wire at both ends, or cad welded to the existing iron pipe at both ends or cad welded to the steel casing pipe at both ends.

K. Spliced connections between the main line tracer wire and branch connection tracer wire shall only be allowed at water main tees, crosses or at iron or copper water services where a portion of the branch connection water main or water service is replaced with non-iron or non-copper material. The branch connection tracer wire shall be a single tracer wire properly spliced to the main line tracer wire. Where the existing branch connection is neither iron nor copper, then the new branch connection tracer wire shall be properly spliced to the existing tracer wire on the branch connection.

L. At all repair locations where there is existing tracer wire, the tracer wire shall be properly reconnected and spliced as outlined above.

END OF SECTION

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SECTION 33_14_13.13

PVC WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, equipment, implements, transportation, supplies and supervision for performing all operations in connection with the installation of PVC water distribution system including lines, fittings and appurtenances. All items shall be completed in strict accordance with this section of the specifications and the applicable drawings.

1.2 RELATED WORK

A. Section 01_00_01 Basic Requirements

B. Section 31_23_24 Utility Earthwork & Backfill

C. Section 32_92_00 Turfs & Grasses

D. Section 33_14_19.10 Water Distribution Valves

E. Section 33_05_09.34 Concrete Thrust Blocks & Collars.

F. Section 33_05_97.24 Utility Location System

G. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. All materials to be submitted in accordance with Section 01_33_01 General Submittal Requirements

1.4 REFERENCE STANDARDS (NOT USED)

A. American Society of Testing and Materials (ASTM)
   1. ASTM D1784 – Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
   2. ASTM D1785 – Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.
   3. ASTM D2122 – Standard Test Method for Determining Dimensions of ThermoplasticPipe and Fittings
   4. ASTM D2241 – Standard Specifications for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).

5. ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
6. ASTM D2464 – Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.
7. ASTM D2466 – Standard Specifications for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40 (SDR Series).
8. ASTM D2467 – Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.
9. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes(Unified Soil Classification System)
10. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping
11. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
12. ASTM F1483 – Standard Specification for Oriented Poly (Vinyl Chloride), (PVCO)Pressure Pipe

B. American Water Works Association (AWWA)
1. AWWA C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings
2. AWWA C105 – Polyethylene Encasement for Ductile Iron Pipe Systems
3. AWWA C110 – Ductile-Iron and Gray-Iron Fittings
4. AWWA C111 – Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings
5. AWWA C153 – Ductile-Iron Compact Fittings, 3in. through 24 in. and 54 in. through64 in. for Water Service
6. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipeand Fittings for Water
7. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4Inches through 12 Inches, for Water Transmission and Distribution
8. AWWA C905 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14Inches through 48 Inches, for Water Transmission and Distribution
9. AWWA C909 – Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 Inches through 24 Inches, for Water Distribution.

C. NSF International (NSF):
1. 61 - Drinking Water System Components - Health Effects.

1.5 QUALITY ASSURANCE

A. Inspection of the pipe will be made by the Engineer after delivery. The pipe shall be subject to rejection on account of failure to meet Specification requirements, even though pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and shall immediately be removed from the job.

B. Materials used in manufacture of the pipe shall be tested in accordance with the requirements of the referenced standards, as applicable.

C. Pipe shall be kept clean of all foreign matter.

D. Jointing shall be by trained employees.

1.6 DELIVERY, HANDLING AND STORAGE

A. Pipe, fittings and accessories shall be carefully inspected before and after installation and those found defective shall be rejected. Pipe and fittings shall be free from fins and burrs. Before being placed in position, pipe, fittings, and accessories shall be cleaned, and shall be maintained in a clean condition. Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe, fittings or any other material be dropped or dumped into trenches.

B. Store pipe, fittings, and accessories at the site in unit packages provided by the manufacturer. Exercise caution to avoid damage or deformation of the pipe. Store pipe in such a way as to prevent sagging or bending and be protected from exposure to direct sunlight by covering with an opaque material while permitting adequate air circulation above and around the pipe. Store gaskets in cool, dark place out of the direct rays of the sun, preferably in original cartons.

C. Protect from sunlight, scoring, and distortion.

D. Do not allow surface temperatures to exceed 120 degrees Fahrenheit.

E. Store and handle as recommended by manufacturer in published instructions.

F. Pipe transported without adequate protection shall be rejected and removed immediately from the job site.

G. If requested by the Engineer, randomly selected samples of the pipe shall be forwarded immediately to an approved testing laboratory with instructions to check the pipe for compliance with applicable product standards, ASTM Specifications, and other applicable specifications.

H. If the testing laboratory reports concur that the pipe does not meet specifications, the defective pipe shall be removed immediately from the job site by the Contractor.

I. If the pipe is defective, all costs for shipping of samples, laboratory testing, removal of defective pipe, and replacement pipe shall be the sole responsibility of the Contractor. If the pipe is not defective, the Owner shall pay for shipping of samples, laboratory testing, and replacement of samples.

PART 2 PRODUCTS

2.1 GENERAL

A. Piping for water lines shall be of types and materials specified herein and shall conform to ANSI/NSF Standard 61.

B. Each length of pipe shall be marked to identify size, material type and grade, pressure rating, ASTM or AWWA designation, manufacturer and NSF approval.

2.2 PVC WATER MAIN

A. Blue colored Polyvinyl chloride (PVC) pipe having a cast iron outside diameter and conforming to all the requirements set forth in AWWA C900, C905 or C909, as shown on the Plans.

B. PVC pipes 12" and smaller shall have a dimension ratio of 14. PVC pipes larger than 12" shall have a dimension ratio of 18. The pipe shall be fabricated from virgin PVC resin that has been compounded to provide physical and chemical properties that equal or exceed cell Class 12454-B as defined in ASTM D1784. Each pipe length shall be marked with the Manufacturer's name or trademark, size, material code, pressure rating, AWWA designation number and seal of test agency that verified pipe material for potable water service.

C. The pipe shall be manufactured with integral bell and spigot joints. An elastomeric ring complying with ASTM D3139 and ASTM F477 shall be a ReiberLok style locked in place gasket in the bell end of the pipe. The wall thickness of the bell shall be at least as great as that of the pipe barrel.

2.3 FITTINGS

A. All fittings for PVC water pipe shall be ductile iron and of the size shown on the Plans or as directed by the Engineer.

B. Fittings for PVC pressure pipe 3-inch through 16-inch shall be compact fittings in accordance with AWWA C153, mechanical joint unless otherwise detailed on the drawings.

C. Fittings for PVC pressure pipe larger than 16-inch shall be in accordance with AWWA C110, mechanical joint unless otherwise detailed on the drawings.

D. All fittings shall be asphaltic coated outside per AWWA C151 and be cement lined in accordance with AWWA C104

E. Minimum class of fittings shall be 350 for 10" and smaller and 250 for 12" and larger

F. Ductile iron fittings shall have rubber gasket joints in accordance with the latest revision of ANSI/AWWA C111.

G. Bolts and nuts for mechanical joints will be of high strength corrosion resistant low-alloy steel and shall conform to AWWA C111.

H. Joints at fittings shall be compression-type resilient joints. All mechanical joint ductile iron fittings shall utilize MEGALUG mechanical joint restraints as manufactured by EBAA Iron, Inc. or approved equal.

I. Concrete thrust blocking shall be required on all buried bends, valves, tees and reducers.

J. All ductile iron fittings shall be polyethylene wrapped / encased and shall conform to AWWA C105. Joint tape shall be self-sticking PVC or 8-mil polyethylene.

K. Any fittings not shown on the plans but required for the installation shall be installed at the Contractors sole expense and shall be considered subsidiary to the installation of the pipe.

2.4 COUPLINGS

A. Supply couplings with a steel center band, steel gland rings, gaskets, and bolts.

B. Couplings shall be rated for 1.25 times the maximum operating pressure of the line to be connected.

C. All couplings near bends, fittings, or valves shall be restrained with an Engineer approved mechanical restraint system.

D. Pre-approved Manufacturers
1. Dresser Industries, Style 128
2. Smith-Blair, Style 912

2.5 FLANGE ADAPTORS

A. Restrained flange adaptors shall be used in place of threaded or welded flange pieces only where specified or shown on the plans.

B. Restraint for the flange adaptor shall consist of a number of individual gripping wedges. Torque limiting actuating screws shall be used to insure proper initial set of the gripping wedges.

C. For PVC pipe, the flange adaptor shall have a pressure rating equal to that of the pipe. For ductile iron pipe, the flange adaptor shall have a safety factor of 2:1 minimum.

D. The flange adapter shall be the Series 2100 Megaflange adaptor as manufactured by EBAA Iron, Inc. or engineer approved equal.

2.6 VALVES

A. See Section 33_14_19.10 Water Distribution Valves

2.7 FIRE HYDRANTS

A. N/A

2.8 VALVE BOXES

A. See Section 33_14_19.10 Water Distribution Valves.

2.9 ACCESSORIES

A. Valve Box Aligner: High-strength plastic device designed to automatically center valve box base and to prevent it from shifting off center during backfilling.

2.10 TRACER WIRE

A. See section 33_05_97.24 Utility Location System

2.11 DETECTABLE UNDERGROUND WARNING TAPE

A. See section 33_05_97.23 Underground Utility Warning Tape

2.12 TAPPING SLEEVES

A. Sleeves shall be designed for a working pressure of at least 150 psi and furnished with a brass or stainless steel test plug through the body for hydrostatic pressure testing.

B. The outlet shall conform to ANSI B16.1, Class 125 flanges designed to accept tapping valves.

C. Sleeves shall be designed to properly fit the type and class of pipe on which they will be used. Sleeves may be cast iron, ductile iron, or welded steel.

D. Tapping sleeves, unless otherwise specified, shall be stainless steel or epoxy coated with stainless steel nuts and bolts.

E. Sleeves which are designed in such a manner that the watertight seal around the outlet is achieved by a gasket placed between the sleeve body and the pipe barrel shall be provided with a recess in the sleeve body to accommodate the gasket.

F. Body
1. Body: Carbon Steel per ASTM A283 Grade C, ASTM A285 Grade C, ASTM A36 Steel or equal.
2. Finish: fusion bonded epoxy coating to an average 12 mil thickness. Fusion applied per AWWA C213.
3. All buried tapping sleeves shall be provided with polyethylene encasement in accordance with AWWA/ANSI C105/A21.5.
4. Polyethylene encasement shall be in accordance with Section 33 11 10 – Ductile Iron Pipe.

G. Flange
a. Carbon Steel per ASTM A36 in accordance with AWWA C207 and ASME B16.1 Class 125.
b. Recessed for tapping valve per MSS SP-60.

H. Bolts and Nuts
a. Flanged Ends
1) Meet requirements of AWWA C115 or AWWA C207 depending on pipematerial.
2) Provide bolts and nuts in accordance with Section 33 04 10 – CathodicProtection Systems.

I. Gaskets
a. Provide gaskets in accordance with Section 33 04 10 – Cathodic ProtectionSystems.

J. Test Plug
   a. 3/4-inch NPT carbon steel with square head and fusion bonded epoxy coating.

K. Pre-approved Manufacturers
   1. Mueller.
   2. Smith Blair.
   3. U.S Pipe Valve & Hydrant Company

2.13 SERVICE LINES

A. N/A

2.14 WATER METERS

A. N/A

PART 3 EXECUTION

3.1 INSTALLATION

A. Trench excavation and backfill shall conform to the requirements of Drawings and other related specifications

B. Hand trim for accurate placement of pipe to elevations as indicated on Drawings.

C. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.

D. PVC pipe shall be installed in accordance with the requirements of AWWA Manual M23 and the manufacturer's installation guide. Whenever the provisions of this Section and the requirements of referenced standards are in conflict, the more stringent provision will apply.

E. Bell and spigot pipe shall be laid with the bell end pointing in the direction of laying. Pipe shall be graded in straight lines, taking care to avoid the formation of any dips or low points. Pipe shall not be laid when the conditions of trench or weather are unsuitable. At the end of each work day, open ends of pipe shall be closed temporarily with wood blocks or bulkheads.

F. Pipe shall be laid at its designed elevation and grade. Care shall be taken to support the pipe uniformly. The entire length of the pipe and fittings shall rest firmly on the pipe bed, with recessed excavation to accommodate bell joints.

G. Do not drive pipe down to required grade by striking with shovel handle, timber, or the like.

H. Short lengths of pipe shall be used in and out of each rigid joint or rigid structure.

I. Pipe shall be cut by means of saws, power driven abrasive wheels, or pipe cutters which will produce a square cut. After cutting, the end of the pipe shall be beveled using a beveling tool, portable sander, or abrasive disc.

J. Prior to installation, each pipe length shall be carefully inspected, flushed clean of any debris or dust, and straightened, if not true. All pipe fittings shall be equally cleaned before assembly.

K. Prevent pipe flotation in trench.

L. Protect pipe line by closing open ends of pipe and branches with watertight temporary PVC stoppers when pipe installation not in progress and at the end of each day's work.

M. If water exists in trench, do not remove plug until making provisions to prevent water, earth, or other substances from entering pipe; then resume work.

N. Support pipe on compacted bedding material. Do not permanently support on saddles, blocking or stones.

O. Excavate bell and coupling holes so that only pipe barrel receives bearing pressure.

P. Clear pipe units of debris and dirt before installation and keep clean until acceptance

Q. Do not use pipeline as conductor for trench drainage.

R. High Points:
   1. Install pipe with no high points.
   2. If unforeseen field conditions arise that necessitate high points, install air- release valves after Engineer approval.
   3. Bearing:
      a. Maintain bearing along entire length of pipe.
      b. Excavate bell holes to permit proper joint installation.
      c. Do not lay pipe in wet or frozen trench.

S. Allow for expansion and contraction without stressing pipe or joints.

T. Close pipe openings with watertight plugs during Work stoppages.

U. Install pipe locating tape as specified herein

V. Install valves and hydrants in conjunction with pipe laying.

W. Provide buried valves with valve boxes installed flush with finished grade.

X. Provide support blocking and drainage gravel while installing fire hydrants; do not block drain hole.

Y. Orientation:
   1. Set valves and hydrants plumb.
   2. Set fire hydrants with pumper nozzle facing roadway.

3. Set fire hydrants with centerline of pumper nozzle 18 inches minimum above finished grade and with safety flange not more than 6 inches nor less than 3 inches above grade.

Z. After main-line pressure testing, flush fire hydrants and check for proper drainage.

3.2 PIPE JOINTS

A. Push-on Joints: Joints shall be made in strict compliance with the manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. The gasket and spigot shall be cleaned and lubricant shall be properly applied. A rubber gasket shall be inserted in the groove of the bell end of the pipe, and the joint surfaces cleaned and lubricated. The plain end of the pipe to be entered shall than be inserted in alignment with the bell of the pipe to which it is to be joined, and pushed home with a come-along or by other means. Check that the reference mark on the spigot end is flush with the end of the bell. Over insertion is not allowed.

B. Mechanical Joint Fittings: Mechanical joints at valves, fittings, and where designated shall be installed in accordance with the "Notes on Method of Installation" under AWWA C111 and the instructions of the manufacturer. Suitable PVC to cast iron adaptors shall be installed prior to installing fittings. PVC beveled spigot shall be cut flush prior to insertion in mechanical joints. To assemble the joints in the field, the Contractor shall thoroughly clean the joint surfaces and rubber gasket with soapy water before tightening the bolts. Bolts shall be tightened to the specified torques. Under no condition shall extension wrenches be used to provide greater leverage.

3.3 SERVICE CONNECTIONS

A. Direct tapping will not be allowed for service connections. Service clamps shall have a bearing area of sufficient width along the axis of the pipe, so that the pipe will not be distorted when the saddle is made tight. An internal shell cutter shall be used to drill through the corporation stop to minimize PVC shavings, retain the coupon, and reduce stress. Lubricate the cutting and tapping edges of the tool with cutting lubricant. Make the cuts slowly and use the follower very lightly. Do not force cutter through pipe wall. Shell cutter shall have sufficient throat depth to handle the heavy wall PVC pipe. Maximum outlet size permitted with service clamps or saddle is 2-inch.

3.4 THRUST BLOCK

A. See standard detail sheet and Section 33_05_09.34 Concrete Thrust Blocks & Collars.

3.5 CONNECTIONS TO EXISTING PIPELINES

A. Connections to existing pipes shall be made using suitable joints and fittings for the conditions encountered. Each connection with an existing pipe shall be made at the time and under conditions which will least interfere with normal operation. Connections with buried existing flanges shall require removal of grout from the flanges. Remove concrete thrust block when encountered for connections to the existing pipes.

B. Facilities shall be provided for proper dewatering and for disposal of all water removed from the dewatering lines and excavations without damage to adjacent property.

C. Existing valves will leak when in closed position. Contractor shall provide whatever means and equipment necessary to control water during construction.

3.6 TESTING & DISINFECTION

A. All piping systems shall be pressure tested in accordance with specifications and/or as indicated on the Drawings.

B. All piping systems shall be disinfected in accordance with specifications and/or as indicated on the Drawings.

END OF SECTION

SECTION 33_14_19.10

WATER DISTRIBUTION VALVES

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This Section includes the following:
1. Resilient Seated Gate Valves
2. Butterfly Valves
3. Pressure Reducing Valves
4. Valve Boxes
5. Valve Vaults
6. Tracer Wire Boxes
7. Air-Vacuum Release Valve
8. Temporary Blow-off Assembly
9. Permanent Blow-off Assembly

1.2 RELATED WORK

A. Section 01_00_01 Basic Requirements

B. Section 33_05_97.24 Utility Location System

C. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submit on all materials in accordance with Section 01_33_01 General Submittal Requirements.

B. Submit certified shop drawings, manufacturer's specifications, catalog data, descriptive literature, illustrations, and other materials as may be deemed necessary for proper appraisal of quality and function. Submission includes factory work sheets which identify each piece of equipment as specified hereinafter.

C. Submit operating and maintenance instructions and separate parts lists. Operating instructions shall also incorporate a functional description of entire system including system schematics which reflect "as-built" modifications. Clearly define special maintenance requirements particular to system along with special calibration and test procedures, and safety and material handling considerations.

1.4 QUALITY ASSURANCE

A. The Engineer or its representative may inspect materials for conformance to AWWA valve standards.

B. Valve type, material make-up and equipment shall be reviewed for satisfying the specified functions and quality for the work indicated.

C. Equipment supplied shall be of manufacturer's latest and proven design, compatible with functions required. Supplier shall be regularly engaged in the manufacture of pilot operated control valves having similar service and size. The valves covered by this specification are intended to be standard equipment that has proven ability and shall be new and free from defects or contamination.

1.5 DELIVERY, HANDLING AND STORAGE

A. The Contractor is expressly directed to make himself, his workers, and his subContractors familiar with the hazards involved in handling the equipment and all components, and to cause all safety precautions to be taken.

B. Packing:
1. All parts shall be property protected so that no damage or deterioration will occur duringa prolonged delay from the time of shipment until installation is completed and the equipment is read for operation, including periods of storage on the site.
2. The packing and protection shall be accomplished in such a way as to allow easy identification of the individual components without damaging the protection of those components.
3. Exposed finished surfaces, such as flanges, shall be protected by wooden blank flanges orsimilar, strongly built and securely bolted thereto.
4. Finished iron or steel surfaces not painted shall be properly protected to prevent rust and corrosion.
5. Plastic and other materials that are brittle or subject to degradation shall be protected for direct exposure to the sun, extremes in temperature, or any other condition that may causedamage, degradation, or deformation.

C. Shipping:
1. Ship equipment, material, and spare parts complete except where partial disassembly is required by transportation regulations or for protection of components.
2. Pack spare parts in containers bearing labels clearly designating contents and pieces ofequipment for which intended.
3. Deliver spare parts at same time as pertaining equipment. Deliver to Owner after completion of work.

D. Receiving:
1. All material shall be checked immediately on receipt to ensure no damage has occurred during shipment. In the event of damage, Contractor shall obtain replacement components at no additional cost to Owner and in a prompt manner to prevent delays to the schedule.
2. Following receipt Contractor shall store all equipment in a secure manner to prevent loss or damage.

PART 2 PRODUCTS

2.1 RESILIENT SEATED GATE VALVE

A. Manufacturer
1. American AVK Company
a. Series 45
b. No approved equal or alternates will be accepted.

B. General
1. Gate valve shall be in conformance with AWWA Standard C-509, or latest revision thereof.
2. Gate valve shall be rated to 300 psi test pressure applied to the body of valve with no leakage through the metal flange joints or stem seals. Valve shall be rated at a 200 psi working pressurewith no leakage.
3. Valve shall contain a sealing mechanism providing zero leakage at the working pressure against line flow from either direction and be designated such that no exposed metal seams, edges, screws, etc. are within the waterway in the closed position (all rubber surfaces). The rubber covered gate shall not be wedged into a pocket nor slide across the seating surface to obtaintight closure.
4. The valve shall be a ductile or gray iron body and bonnet as specified. The valve shall be non-rising stem (NRS), open left, resilient seated, with an AWWA standard 2" square operating nut.
5. Valves shall comply with AWWA C509 except where modified and/or augmented in these specifications.
6. All bolting shall be stainless steel AISI grade 304. If nuts are used on the bolts the nuts shall be 304 stainless steel and the bolt threads shall be coated with an anti-galling compound.
7. Valves shall comply with the requirements of ANSI/NSF 61.
8. All internal and external ferrous surfaces of the valve, including the interior of the gate, shall be coated with epoxy / EPDM rubber having a minimum thickness of 8 mils. Coating to be applied to castings prior to assembly to insure all exposed areas, including bolts holes and flange face surfaces will be covered.
9. There shall be no flat gaskets used in the valve construction to minimize corrosion for valves used underground. Inside screw valves may be fitted with bonnet flange for mounting indicator post if desired.
10. Valves shall be available with various ends designed for connection to piping specified. Mechanical joints are to be per ANSI A21.11 and include MJ accessories. Flange connections can be specified for above ground applications. Tapping valves shall have inlet flanges conforming to MSS SP-60 with bolt holes drilled per ANSI B16.1 Class 125.
11. All exposed nuts and bolts on valve body shall be stainless steel.

C. Resilient gate
1. The valve gate shall be ductile iron, fully encapsulated with EPDM rubber, and shall be capable of a drip-tight shutoff with flow in either direction.
2. The EPDM shall be permanently vulcanized to the gate.

D. Stems
1. Valve stems shall be made of stainless steel or bronze with minimum yield strength of 40,000psi.

2. Stems shall be provided with separate or integral bronze thrust collars.
3. Bronze valve stems shall contain no more than 5% zinc, no more than 2% aluminum, and no more than 1% lead.
4. Stainless steel stems shall contain a minimum of 16% chrome.

E. Seals and Gaskets
1. Valve stem seals shall be an a-ring type with not less than one a-ring below the thrust collars and two a-rings above the thrust collars.
2. If an a-ring groove is cut into the stem the diameter of the groove shall not be less than the root diameter of the stem threads.
3. 0-rings and gaskets shall be made of an NBR rubber to help prevent the effects of permeation.
4. Bonnet gaskets shall be an a-ring type that completely encircles each individual bonnet bolt so that the bolts are isolated from internal or external water sources.

F. Protective Coatings
1. The exposed ferrous surfaces shall be coated with a fusion bonded epoxy in accordance with AWWA C55O.

G. End Connections
1. End Connections shall be either Mechanical Joint, Push On Joint, or Flanged.
2. Mechanical and Push-On joints shall comply with the requirements of AWWA C111.
3. Flanged ends shall comply with ANSI/ASME B16.1, class 125 flanges.

2.2 BUTTERFLY VALVE

A. Unless otherwise noted, all butterfly valves shall conform to the current AWWA Standard C- 504, Class 150B.

B. Valves shall be the short body design and shall have flanged connections on both ends unless otherwise noted.

C. Valves shall be of such design that the valve discs will not vibrate or flutter when operated in a throttled position. Valve disc shall be secured to the shafts by means of keys or pins so arranged that the valve discs can be readily removed without damage thereto. All keys and pins used in securing valve discs to shafts shall be stainless steel or monel. Valve discs shall be stainless steel or ductile iron, ASTM A 536, Grade 65-42-12 (448-310-12); seating edge shallbe stainless steel or other corrosion resistant material.

D. Valve shafts shall be constructed of wrought stainless steel or monel. The ends of the shaft shall be permanently marked to indicate the position of the disc on the shaft.

E. All buried valves shall have approved manufacturer's O-ring type. There shall be at least two O-rings in contact with the valve shaft where it penetrates the valve body.

F. Rubber sets located on the valve disc shall be mechanically secured with stainless steel retainer rings and fasteners.

G. Unless otherwise noted, valves shall be provided with manual operators with vertical stems and 2-inch square operating nut turning clockwise to close and equipped with a valve disc position indicator. All keys and pins shall be stainless steel or monel. Buried valves shall

have the valvestems extended or adjusted to locate the top of the operating nut no more than 24-inches below finish grade.

H. Unless otherwise noted, valve operators shall be sized to seat, unseat, open and close the valve with 150 psi shutoff pressure differential across the disk and allow a flow velocity of 16 feet persecond (fps) past the disc in either direction.

2.3 PRESSURE REDUCING VALVE

A. Contractor to provide an integrated system with components supplied by one manufacturer who provides all equipment and appurtenances and is responsible to Contractor for operation.

B. The Contractor shall furnish and install control valves, tubing, solenoid valves(if applicable), controls, wiring, and appurtenances, complete and operable, in accordance with these Contract Documents.

C. Construction of pressure reducing valves shall conform to the following requirements:
1. Valves shall be a hydraulically operated, single diaphragm, control valve with full size internal port. Either globe or Y-pattern configuration is acceptable for installation in horizontal runs of pipe. Angle configuration is acceptable where indicated in the plans.
2. The valve body shall consist of three major components: the body (with seat installed),the cover, and the diaphragm assembly (including the diaphragm, shaft, and seal). A separate pilot system shall also be incorporated to provide necessary control of the valve.
3. The diaphragm assembly shall form a sealed chamber in the upper portion of the valve, and be guided by means of bushing(s) or guides. Packing glands and/or stuffing boxes arenot permitted, and there shall be no pistons operating the main valve.
4. The diaphragm assembly shall be the only moving part and shall be securely mounted on a stem of sufficient diameter to withstand high dynamic pressures.
5. When closed the valve shall form a drip-tight seal between the stationary seat ring andthe resilient disk.
6. Valve shall operate with non-slam closing under all conditions.
7. Valve body and cover shall be manufactured of cast material; no fabrication or weldingshall be used in the manufacturing process.
8. Valve assembly and all wetted components shall have NSF 61 certification.
9. Materials of construction:
    a. Valve Body & Cover: Cast Ductile Iron (ASTM A536)
    b. Stem: 316 SS
    c. Seat Ring: 316 SS
    d. Trim: 316 SS
    e. Bolts: 316 SS
    f. Tubing & Fittings: 316 SS
    g. Resilient Disk: Buna-N (NBR) or EPDM
10. Pressure Rating: adequate to meet the working and transient / test pressures as shown onthe drawings.
11. Ambient Temperature Range: -40 to + 180 °F
12. Operating Fluid: Potable Water
13. Installation Location: Suitable for outdoors and within a concrete vault

14. End Connections: ASME B16.42 Class 150 flanges
15. Valves shall have a protective fusion bonded epoxy coating internally and externally, 10 mil thick, and consistent with Division 9 (if included) or standard industry practices. The epoxy coating shall conform to the AWWA C550 and NSF 61. No machining of any external parts after final coating will be acceptable to ensure a continuous coating surface throughout the entire valve.
16. Diaphragm shall be of flexible, non-wicking, FDA/NSF approved material consisting of synthetic rubber compatible with the operating fluid. The diaphragm shall be fully supported in the valve body and cover by machined surfaces in the fully open and closed positions.
17. The seat ring shall be easily replaceable without special tools.
18. The resilient disk shall have a rectangular cross-section. No O-ring type disks (circular, square, or quad-type) shall be permitted as the seating surface. The disk retainer shall be of a sturdy one-piece design capable of withstanding opening and closing shocks.
19. All repairs and maintenance shall be possible without removing the valve from the line. To facilitate easy removal and replacement of the diaphragm assembly and to reduce unnecessary wear on the guide, for globe and angle configurations the stem shall be vertical when the valve is mounted in a horizontal line. For Y-pattern valves the stem shall be in a comparable position.
20. Each valve shall be air or hydraulically tested prior to shipment. The standard test shall include leakage test, seat leakage test, and stroke test. Where the set-point is provided, manufacturer will preset the pilot.

D. Pressure reducing valves supplied shall be capable of operation by hydraulic means, independently & manually, where so indicated in the plans.

E. The equipment supplied shall be the latest standard product of a manufacturer regularly engagedin the production of pilot operated control valves, and shall be as manufactured by:
1. Cla-Val
2. Other approved equivalent manufacturers

F. All control valves shall have the following accessories, where included as standard or options:
1. Opening Speed Control
2. Closing Speed Control
3. Tubing Isolation Valves
4. Stainless Steel Tubing & Fittings
5. Valve must vent to atmosphere
6. Y-Strainer(s) on tubing
7. Local Visual Position Indicator
8. Valve Position Limit Switches (one (1) open, one (1) closed)
9. Valve and fittings shall be configured with Heat Tracing & Insulation for outdoor installation when outdoor installation is indicated in the drawings

G. Back pressure / Pressure reducing valves serve to control pressures between upper & lower pressure zones and prevent over pressurization due to topography within the established pressure zones. They will normally be in operation, and have two simultaneous functions:
1. Maintain a minimum back pressure (pressure in the upstream side of the valve) defined below. This function ensures an acceptable minimum pressure (20 psi)

during times where demand is high for fire flow and 35 psi for normal working pressures.

2. Reduce the incoming pressure such that the pressure on the downstream side of the valve does not exceed a maximum pressure defined below. This function ensures the distribution system is not over pressurized, and decrease the potential for breaks or ruptures of pipelines and service lines.

H. Set Points:
   1. Minimum Upstream Pressure: Coordinate w/ Engineer
   2. Maximum Downstream Pressure: Coordinate w/ Engineer

I. Control of valve will be achieved hydraulically through the pilot system of the valve. Each valve shall have a manual bypass valve to allow local manual operation.

J. The valve shall automatically vary the percentage open between full open and full close to meet the set points.

K. The valve will be Normally Open, with the automatic operation determining the percent open based on operating conditions.

L. Valve will fail OPEN in the event pilot system fails.

2.4 VALVE BOXES

A. Valve boxes shall be cast iron material where subject to vehicular traffic, rated H-20.

B. Boxes shall be of the extension type with slide type adjustments and flared base. The minimum thickness of metal shall be 5 mm.

C. The word "WATER" shall be cast in the cover.

D. Valve box shall be set flush with the surrounding surface, finished pavement or as shown on the Drawings. Concretecollar, 2'x 2', 6" thick, shall be provided around valve box and cover in areas where subject to vehicular traffic.

E. Valve box shall be located so that the valve operating nut is readily accessible for operation.

2.5 VALVE VAULTS

A. Valve vaults shall be constructed at locations indicated for readily access. Valve vaults shall conform to details shown in plans and/or submittals of pre-manufactured vaults shall be submitted for approval.

2.6 TRACER WIRE BOXES

A. Tracer wire boxes shall be H-20 rated where subject to vehicular traffic and conform to ASTM A-48, Class 30.

B. Wire boxes shall be spaced with fire hydrant intervals, near fire hydrant assembly valve, or as shown on the Drawings.

C. Wire boxes shall contain a lid with SS terminals to connection tracer wire for location of pipeline.

D. Additional requirements see Section 33_05_97.24 Utility Location System

2.7 AIR-VACUUM RELEASE VALVE

A. Valve shall be combination of air-release, air-vacuum units having small and large orifice units contained and operation within a single body or assembled units. Combination air-vacuum release valve shall be manufactured by Apco or approved equal.

B. The small orifice system shall automatically release small volumes of air while the pipe is operating under normal conditions. The large orifice system shall automatically exhaust large volumes of air while the pipe is being filled and shall permit immediate re-entry of air while being drained.

C. Valves shall be rated at least to 150 psi service pressure.

D. Valve body shall be of cast iron with bronze trim and stainless steel float (rate at 1000 psi). Internal bushings, hinge pins, float guide and retaining screws, pins, etc., shall be stainless steel or bronze. Orifice seats shall be Buna N rubber.

2.8 TEMPORARY BLOW-OFF ASSEMBLY

A. Blow-off assembly shall consist of 2-inch gate valves, fittings, pipe, plug and box. Assemblyshall be located in locations noted on plans or as needed for releasing air and vacuums.

2.9 PERMANENT BLOW-OFF ASSEMBLY

A. Blow-off assembly shall consist of 2-inch gate valves, fittings, pipe, plug and box. Assembly shall be located at the dead ends of water mains. Install 2-inch assemblies on 8-inch or less water mains; install 4-inch assemblies on 12-inch or greater water mains.

PART 3 EXECUTION

3.1 RESILIENT SEATED GATE VALVE

A. Install gate valves according to the following requirements and in conformance with manufacture’s recommendations.

B. Construction of gate valves includes valve, joint restraint system, valve box, concrete collar and valve box lid.

C. Valve box shall be installed in such a manner to prevent shock or stress being transmitted to the valve.

D. All valves located 6 feet and deeper shall include valve key extension inside the valve box.

E. Valves and valves boxes subjected to vehicular traffic shall contain a 2' x 2', 6" thick concrete collar, formed and finished off neatly, flush with surrounding pavement.

3.2 BUTTERFLY VALVE

A. Install butterfly valves according to the following requirements and in conformance with manufacture's recommendations.

B. Construction of butterfly valves include valve, steel pipe nipple, couplings, coupling adapters, joint restraint system, valve box, concrete collar and valve box lid.

C. Valve box shall be installed in such a manner to prevent shock or stress being transmitted to the valve.

D. All valves located 6 feet and deeper shall include valve key extension inside the valve box.

E. Valves and valves boxes subjected to vehicular traffic shall contain a 2' x 2', 6" thick concrete collar, formed and finished off neatly, flush with surrounding pavement.

F. Butterfly valve assembly shall contain DI nipples and MJ solid long sleeves, all MJ restrained,to readily access valve. See Butterfly Valve Assembly details in plans for more details.

3.3 PRESSURE REDUCING VALVE

A. Install all equipment in accordance with manufacturer's instructions and as indicated in plans.

B. Prior to testing and start-up, inspect the installation to verify the system is ready for complete testing and calibration. Manufacturer factory representative to check and approve installation. On approval of installation, representative shall address a letter to the Engineer stating that the valves are installed per the manufacturer's recommendations, and outlining all installation and start-up procedures.

C. Carefully clean all installed equipment in a manner consistent with potable water service.

D. Dismantle and clean new valves and other equipment before use. If packings are oily or dirty, repack valves with manufacturer's recommended packing.

E. Clean all piping in a manner acceptable by the Engineer prior to testing.

F. Coordinate with Engineer regarding all modifications to the existing facilities or distribution system.

G. After installation, and in presence of the Engineer, test all components for tightness in acceptable manner. Furnish suitable testing plugs or caps, all necessary pipe connections, test fluids,gauges, other equipment and all labor required for these tests.

H. Remove or isolate (valve off) from lines all instrumentation and appurtenant equipment whichis incapable of withstanding the test pressures (e.g. rotometers).

I. At the time of the tests make all adjustments necessary to place equipment in satisfactory working order.

J. Repair or replace as necessary and retest all items failing to pass required tests at no additional cost to Owner.

K. Clean, repair to satisfaction of the Engineer, or replace all equipment or property damaged by testing procedures at no additional cost to the Owner.

L. Furnish training to Owner's personnel on operation and maintenance of all installed components, to be provided by manufacturer's representative and at a time and place to be coordinated with Owner.

M. After installation of equipment in the presence of the Engineer, operate each unit to demonstrateits ability to operate without leakage and to perform its specified functions satisfactorily.

3.4 VALVE BOXES

A. Valve boxes shall be placed in such a manner to prevent shock or stress from being transmitted to the valve. It shall be centered and plumb over the operating nut of the valve with the box cover flush with the surface of the finished pavement or surrounding final grade specified.

B. Valve boxes located in streets or other areas where subject to vehicular traffic shall be provide with concrete collars, 2' x 2', 6" thick with #4 rebar or 6" x 6" woven wire mesh, 3000 psi concrete.

3.5 TRACER WIRE BOXES

A. Place at fire hydrant intervals, near fire hydrant assembly valve, for connection of tracer wire and locating pipeline.

B. Where subject to vehicular traffic, provide with concrete collars, 2' x 2', 6" thick with #4 rebar or 6" x 6" woven wire mesh, 3000 psi concrete.

C. Additional requirements see Section 02509 Utility Location System

3.6 AIR-VACUUM RELEASE VALVE

A. Air-vacuum release valve shall be installed at the locations shown on plans or as directed by the Engineer. Typical installation is outside of curb, as close to the right-of-way line as to not be anobstruction to the surrounding area.

B. Valve assemblies shall include valve, valve box, tapping saddle, pipe, fittings, accessories and appurtenances. It shall also include the service line and tap to the main water line.

C. Two - No. 2 meter boxes shall be used for housing the air-vacuum release valve with a standard meter box lid.

D. Valve marker shall be used in rural areas if needed for physical protection of housing where outlet pipe is found. See Air-Vacuum Release Assembly details in plans for more details

END OF SECTION

SECTION 40_05_33

HIGH DENSITY POLYETHYLENE (HDPE) PIPE

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This specification covers the material (pipe and fittings), joining methods and general installation practice for high density polyethylene pipe (HDPE) piping systems for use as indicated on the Drawings.

1.2 RELATED WORK

A. Section 01_00_01 Basic Requirements

B. Section 01_33_01 General Submittal Requirements

C. The Contract Documents are a complete unit and complementary to each other. The individual Specification sections and other Contract Documents do not contain all cross references to "related work" or "related sections." It is the Contractor's responsibility to review the complete Contract Documents in order to properly scope, schedule and coordinate the work of any/all subcontractors, suppliers, and others on this project. Anything called out in one location of the Contract Documents is binding as if it were called out in all sections of the Contract Documents.

1.3 SUBMITTALS

A. Submittals for products and miscellaneous items in this specification section shall be submitted in accordance with Section 01_33_01 General Submittal Requirements and related submittal sections and provisions of the Contract Documents.

B. The Contractor shall submit the pipe manufacturer's certification of compliance with the applicable sections of the Specifications prior to installation. This certification shall be in the form of a written document from the manufacturer attesting to the manufacturing process meeting the standards.

C. The Contractor shall submit shop drawings showing installation method and the proposed method and specialized equipment to be used.

D. Manufacturer's recommended fusion procedures for the products.

E. Lay Schedule/drawing
   1. Prior to installation the contractor shall submit a lay schedule sealed by a Professional Engineer licensed in the State of Oklahomaand must include:
      a. Pipe Dimension Ratio and rated pressure
      b. Fittings – bends, tees, services, connections, MJ adapters or flange adapters
      c. Stationing
      d. Transitions

e. Deflection

2. Note that lay schedule does not need to indicate location of butt fusion joints, as these will be determined in the field based on available pipe lengths and field conditions.

F. Data Logger Records

1. Provide electronic data logger record to the Engineer daily or on request of Engineer.

G. Certified dimensional as-built drawings/profile of all installed pipe, specials and fittings.

H. Details of fittings and specials such as elbows, tees, outlets, connections, test bulkheads, nozzles or other special items where shown on the Construction Drawings. All connections to jointed gasketed pipe materials, valves or fire hydrants must be restrained and supported independently to withstand the pressure transients, soil settlement, and external loading conditions.

I. The Supplier of the material shall submit, through the Contractor, a Certificate of Compliance that the HDPE pipe and fittings furnished for this project meet or exceed the standards set forth in this specification. The Contractor shall submit these certificates to the Engineer prior to installation of the pipe materials.

J. Provide a certification that personnel responsible for fusing the pipe have been trained and qualified per ASTM F3190

1.4 REFERENCE STANDARDS

A. The Contractor and/or Manufacturer shall follow the standards listed below, except as otherwise specified herein. The latest revision or edition in effect at the time of bid opening shall be utilized.

B. In the event of a conflict with referenced standards the most stringent requirements prevail.

1. ANSI/AWWA:
   a. AWWA M55 Manual of Water Supply Practices, PE Pipe–Design and Installation
   b. ANSI/AWWA C111/A21.11-12 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
   c. AWWA C207-13 Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm)
   d. ANSI/AWWA C651 Standard for Disinfecting Water Mains
   e. ANSI/AWWA C800 Underground Service Line Valves and Fittings
   f. ANSI/AWWA C901-08 Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13mm) Through 3 In. (76 mm) for Water Service
   g. ANSI/AWWA C906-15 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. Through 65 In. (100 mm to 1,650 mm), for Waterworks
2. Plastics Pipe Institute (PPI):
   a. PPI Handbook of Polyethylene Pipe – 2009 (2nd Edition)
   b. PPI TR-33 Generic Butt Fusion Joining Procedure for Polyethylene Gas Pipe
   c. PPI TR-34 Disinfection of Newly Constructed Polyethylene Water Mains

d. PPI TN-34 Installation Guidelines for Electrofusion Couplings 14-inch and Larger
e. PPI TN-38 Polyethylene Flanged Joints
f. PPI TR-41 Generic Saddle Fusion Joining Procedure for Polyethylene Gas Piping
g. PPI TN-42 Recommended Minimum Training Guidelines for PE Pipe Butt Fusion Joining Operators for Municipal and Industrial Projects (2009)
h. PPI TR-46 Guidelines for Use of Mini-Horizontal Directional Drilling for Placement of High Density Polyethylene Pipe
i. Municipal Advisory Board Generic Electrofusion Procedure for Field Joining of 12 Inch and Smaller Polyethylene (PE) Pipe

3. National Sanitation Foundation (NSF):
   a. NSF / ANSI 61 Drinking Water System Components–Health Effects
4. ASTM:
   a. ASTM A 240 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
   b. ASTM D 2239 Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR- PR) Based on Controlled Inside Diameter
   c. ASTM D 2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
   d. ASTM D 2774 Standard Practice for Underground Installation of Thermoplastic Pressure Piping
   e. ASTM D 3035 Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
   f. ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
   g. ASTM D 3350-08 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
   h. ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR) Based on Outside Diameter
   i. ASTM F 905 Standard Practice for Qualification of Polyethylene Saddle-FusedJoints
   j. ASTM F 1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
   k. ASTM F 1290 Standard Practice for Electrofusion Joining Polyolefin Pipe andFittings
   l. ASTM F 1668 Standard Guide for Construction Procedures for Buried PlasticPipe
   m. ASTM F 2164 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
   n. ASTM F 2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock
   o. ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipeand Fittings
5. International Organization for Standardization:
   a. ISO 12176-2 Plastics pipes and fittings -- Equipment for fusion jointing polyethylene systems
   b. ISO/TR 13950 Plastics pipes and fittings -- Automatic recognition systems forelectrofusion joints

6. Plastic Pipe Institute
   a. TR-41 Generic Saddle Fusion Joining Procedure for Polyethylene Gas Piping

1.5 QUALITY ASSURANCE

A. Qualifications
   1. Manufacturers
      a. Finished pipe shall be the product of one manufacturer.
         1) Materials for change orders, specials, and field changes may be provided bya different manufacturer upon Engineer approval.
      b. Submit written verification that the pipe manufacturer has been manufacturingASTM F714 pipe of similar design pressure and size to the specified pipe for no less than five (5) years.

B. Pipe manufacturing operations (pipe, lining, and coatings) shall be performed under the control of the manufacturer.

C. Pipe, fittings, and appurtenances shall meet all requirements of NSF 61.

D. Furnish affidavits of compliance with referenced standards when requested.

E. Each pipe size to be furnished on this project shall be tested by the manufacturer, in accordance with the governing product standard, latest revision. Results of these tests shall be submitted to the Engineer. Tests required shall include Load Bearing, Material, Cell Class, Acetone, Dimensional and Hydrostatic tests.

F. Large diameter pipes shall be tested in accordance with the physical, dimensional, and performance requirements of AWWA C906. It shall be listed by Underwriter's Laboratories. Each pipe will be hydrostatically proof tested using AWWA C906 before being shipped.

G. Pipe and fittings shall be clearly marked by the manufacturer with the following information in such a manner that will remain legible after inspection:

H. The pipe manufacturer shall provide certification that the pipe supplied conforms to these specifications and shall include laboratory test results that support such certification. If the Manufacturer is unable to provide the certification, an independent testing facility shall be utilized and retained at no cost to the Owner. The pipe supplied shall be permanently marked with the Manufacturer's name, the date of manufacture, and identification with the tests performed to warrant its certification as being in conformance with this standard.

I. An inspection of the pipe after delivery to the project shall be made by a representative of the Owner. Pipe with visible defects which are indicative of poor structural condition or poor workmanship shall be rejected and replaced without cost to the OWNER. Visible defects shall include cracks of any type damage, delamination, splitting, honeycombs, or any other defects of poor workmanship. Any pipe rejected shall not be returned under any condition to the project.

1.6 DELIVERY, HANDLING AND STORAGE

A. Storage and Handling Requirements

1. Handle the pipe in accordance with the PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2 using approved strapping and equipment rated for the loads encountered. Do not use chains, wire rope, forklifts or other methods or equipment that may gouge or damage the pipe or endanger persons or property. Field storage isto be in compliance with AWWA Manual of Practice M55 Chapter 7.
2. 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.
3. If any gouges, scrapes, or other damage to the pipe results in loss of 10% of the pipe wall thickness, cut out that section or do not use. Damages resulting from improper delivery, storage, or handling are the responsibility of the Contractor, and no additional payment will be made.
4. Pipe and fittings shall be delivered to the job site from the factory and stored at the job site in palletized units or bundles to prevent unnecessary deflection prior to installation. Each palletized unit shall be sized to limit the stacking of pipe to not more than 60 inches high.
5. If pipe is to be loose stacked at any point it should comply with the following row height:

Size	Row Stacking Height
4″ – 8″	6
10″ – 20″	3
22″ – 32″	2
36″+	1

6. Care shall be taken during the transporting of the pipe to ensure that the binding and tie down methods do not damage or deflect the pipe in any manner.
7. Pipe bent, deflected, discolored or otherwise damaged during shipping will be rejected.
8. Pipe stored on the job site shall be covered with canvas or other opaque material to protect it from the sun's rays if it is intended to be stored more than 6 months.
9. 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. The open ends of all sections of joined and/or installed pipe (not in service) shall be plugged to prevent insects, 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. Use waterproof nightcaps to prevent the entrance of any type of natural precipitation into the carrier or containment pipe and secure to the pipe in such a manner that the wind cannot blow them loose. 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.
10. In addition to these specifications, all pipe and fittings shall be delivered and stored per manufacturer’s recommendations and specifications.

PART 2 PRODUCTS

2.1 MATERIALS

A. Only the pipe manufacturers as listed below are allowed. Other manufacturers may be considered as equals on a project basis.

1. Performance Pipe
2. Georg Fischer
3. JM Eagle
4. Driscoplex
5. WL Plastics
6. ISCO Industries

B. Only the electrofusion fittings manufacturers as listed below are allowed. Other manufacturers may be considered as equals on a project basis.
   1. Agru America
   2. Georg Fischer Central Plastics
   3. Integrity Fusion Products
   4. IPEX, Inc.
   5. M.T. Deason Company
   6. Nupi Americas
   7. Plasson, USA
   8. Strongbridge-Tega

C. Only the butt fusion fittings manufacturers as listed below are allowed. Other manufacturers may be considered as equals on a project basis.
   1. ISCO
   2. IPEX
   3. Georg Fisher

D. Only the fusion equipment manufacturers as listed below are allowed. Other manufacturers may be considered as equals on a project basis.

E. Any product that is not listed on the Standard Products List is considered a substitution and shall be submitted in accordance with Substitution Request Section of the Project Manual.

F. HDPE Pipe
   1. Pipe shall have a manufacturing standard of ASTM D3035 and meet AWWA C901. Pipe shall be DR 11 unless otherwise specified on the plans. The pipe 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
   2. For diameters from 1/2-inches through 3-inches, HDPE pipe and fittings shall meet the requirements of AWWA C901.
   3. For diameters from 4-inches through 32-inches, HDPE pipe and fittings shall meet the requirements of AWWA C906.
   4. The outside diameter of the pipe shall be based on the Ductile Iron Pipe Size(DIPS) sizing system (unless connecting to distribution piping that is Iron Pipe Sizing (IPS) or detailed on the Drawings.)
   5. HDPE pipe shall be rated for use at a working pressure shown on the Drawings.
   6. Polyethylene pipe shall be made from HDPE resin having a material designation code of PE4710 or higher.
   7. The material shall meet the requirements of ASTM D 3350 and shall have a minimum cell classification of PE445474C.
   8. HDPE Pressure Pipe for potable water shall meet the requirements of NSF 61.
   9. Pipe Markings

a. Meet the minimum requirements of AWWA C906. Minimum pipe markings shall be as follows:
   1) Manufacturer's Name or Trademark and production record
   2) Nominal pipe size
   3) DIPS
   4) Dimension Ratio
   5) AWWA C906
   6) Resin type (PE4710)

b. Color identification to identify pipe service is required.
   1) Stripes or colored exterior pipe product shall be blue for potable water and green for sewer.
   2) Permanent identification of piping shall be provided by co-extruding multiple equally spaced color stripes into the pipe outside surface or bysolid colored pipe shell.
   3) The striping material shall be the same material as the pipe material exceptfor the color.
   4) Plain Black HDPE Pipe without color code markings may not be used.
   5) Only smooth wall HDPE will be permitted.

10. Socket fusion is not allowed.
11. Pipe shall be manufactured by an ISO 9001 certified manufacturer. The pipe manufacturer shall have an ongoing Quality Control program for incoming and outgoing materials, and shall assure that the pipe will meet the material requirements of this specification. HDPE resins for manufacturing of pipe shall be checked for density, melt flow rate, and contamination. The facility shall have the necessary testing equipment to verify that pipe meets the AWWA and NSF standards. Pipe shall be checked for outside diameter, wall thickness, length, and surface finish on the inside and outside. The Manufacturer's production facilities shall be open for inspection by the Owner or Engineer.
12. All pipe may be color coded for the intended service. When required, the color coding shall be permanently co-extruded stripes on the pipe outside surface as part of the pipe's manufacturing process. Painting HDPE pipe to accomplish color coding is not permitted.
13. HDPE pipe must be manufactured in the United States.

G. HDPE Butt Fusion Fittings:
1. Butt Fusion Fittings shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification equal to the HDPE pipe.
2. Butt Fusion Fittings shall have a minimum pressure rating equal to or greater than the pipe to which they are joined.
3. Butt Fusion Fittings shall meet the requirements of ASTM D3261. Molded and fabricated fittings shall have a pressure rating equal to or greater than the pipe unless otherwise specified on the plans.
   a. Pipe stock used to manufacture fabricated fittings shall meet requirements ofAWWA C906 and meet the material designation code of PE4710.
   b. Fabricated Fittings typically require a lower DR rating than the pipe to meet orexceed the pipe pressure rating. Calculate the difference for a fabricated fittingbased on a published rerating percentage.
   c. Fabricated bend and tee fittings shall have a minimum of 3 segments.

d. Fabricated 45 degree bend fittings shall have 2 segments and 90 degree bendsshall have 3 segments.
e. Field fabricated fittings are not allowed.

4. All fittings shall meet the requirements of AWWA C906.
5. Markings for molded fittings shall comply with the requirements of ASTM D 3261.
   a. Standard Designation (ASTM D 3261)
   b. Manufacturer's name or trademark
   c. Material designation (PE4710)
   d. Date of manufacture or manufacturing code
   e. Size
   f. Dimension Ratio
6. Fabricated fittings shall be marked in accordance with ASTM F 2206.
   a. Standard Designation (ASTM F 2206)
   b. Manufacturer's name or trademark
   c. Material designation (PE4710)
   d. Date of manufacture or manufacturing code
   e. Size
   f. Equivalent Dimension Ratio
7. Socket fittings shall meet ASTM D2683.

H. Flanges and Mechanical Joint Adapters (MJ Adapters):
1. Flanges and Mechanical Joint Adapters shall have a material designation code of PE4710 or higher and a minimum Cell Classification equal to the HDPE pipe.
2. Flanged and Mechanical Joint Adapters can be made to ASTM D 3261 or, if machined, must meet the requirements of ASTM F 2206.
3. The outside diameter of Flanges shall be based on Ductile Iron Pipe Size (DIPS).
4. Flanges and MJ Adapters shall have a pressure rating equal to the pipe unless otherwise specified on the plans.
5. Markings for molded or machined flange adapters or MJ Adapters shall be per ASTM D 3261.
   a. Manufacturer's name or trademark
   b. Material designation (PE4710)
   c. Date of manufacture or manufacturing code
   d. Size
   e. Where recessed marking is used, take care not to reduce the wall thickness below the minimum specified.
6. Fabricated (including machined) flange adapters shall be per ASTM F 2206.
7. Metal gland for MJ Adapter may be either AWWA C110 (heavyweight) or AWWA C153 (lightweight).
8. Low alloy steel bolts shall comply with AWWA C 111.4. Bolts, rods and hex nuts shall be manufactured from 304 stainless steel as per ANSI/ AWWA C111/A21.11.
9. Van-Stone style, metallic, convoluted or flat-plate, back-up rings and bolt materials shall follow the guidelines of Plastic Pipe Institute Technical Note # 38, and shall have the bolt-holes and bolt-circles conforming to one of these standards: ASME B-16.5 Class 150, ASME B-16.47 Series A Class 150, ASME B-16.1 Class 125, or AWWA C 207 Class 150 Series B, D, or E.
10. The stainless steel back-up ring shall provide a long-term pressure rating equal to or greater than the pressure class of the pipe with which the flange adapter assembly will be used, and such pressure rating shall be marked on the back-up ring. The back-up ring, bolts, and nuts shall be Type 304 stainless steel.
11. Mechanical Joint Wedge Action Restraint are not allowed.

12. Where shown on the drawings, 4" and larger transitions to mechanical joint fittings and valves shall be accomplished using a MJ Adapter with kit. The D.I./HDPE mechanical joint adaptor shall consist of:
    a. A molded or fabricated HDPE mechanical joint transition fitting.
    b. A rubber gasket.
    c. A mechanical joint backup drive ring.
    d. Corten mechanical joint tee bolts, or approved equal.

I. Pipeline Markers:
1. Provide tracer wire system & markers on ALL HDPE piping in accordance with Section 33_05_97.24 - Utility Locator System
2. Provide Tracer wire on ALL HDPE piping in accordance with Section 33_05_97.23 – Underground Utility Locator System

J. Stiffening Insert (Stiffener)
1. Provide Stiffeners at each MJ adapter and coupling.
2. Stiffening inserts shall be specially designed for use on the inside of HDPE pipe in conjunction with AWWA C111 mechanical joints.
3. Provide stainless steel per ASTM A 240, type 304 or 316.
4. Stiffener shall be manufactured within the pipe or MJ adapter by the factory.
5. Field installed stiffeners may be allowed upon approval of the Engineer. Wedge style stiffeners are allowed.
6. Stiffener length must be sufficient to fully encompass the area of the pipe being restrained.
7. Inserts must be designed for underground pressurized fluid service and are pressurerated to match the pipe DR pressure rating, derated as appropriate for service temperature. Maximum test pressure limited to pipe rated pressure.
8. Stiffener design shall prevent movement causing fitting to slide or rotate on the pipe.

K. Fusion Unit Requirements
1. All Fusion Equipment, whether new or used, rented or owned, shall comply with the requirements of ISO 12176-1 "Equipment for Fusion Jointing Polyethylene Systems".
2. Butt fusion equipment must be in satisfactory working order and the hydraulic system must be leak free. Heater plates shall be free from scrapes, gouges, and have a consistent clean coated surface. The pressure gauge and thermometer should be properly calibrated.
3. Rental Butt Fusion Equipment must be maintained by a McElroy Authorized Service and Repair Center with at least one McElroy Certified Master Mechanic on staff. When requested by owner or his authority, an inspection report detailing the components inspected within 3 months prior to arrival at jobsite will be provided.
4. For 16" and larger pipe sizes, the butt fusion machine shall be capable of autonomously calculating the drag pressure and perform the shift sequence autonomously.
5. Electrofusion Processors shall be maintained and calibrated per manufacturer's requirements and recommendations.

PART 3 EXECUTION

3.1 INSTALLERS

A. 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. Only formally trained and certified fusion technicians may conduct fusions. Qualification of the fusion technician shall be demonstrated by certification in fusion training within the past year for the type of fusion and size of the pipe, and on the specific equipment to be used for the Work. Provide documentation showing current and up-to-date qualification of training obtained to fuse PE pipe in the appropriate sizesand equipment types for the job.

C. Training in accordance with ASTM F 2620 for butt fusion.

D. Training in accordance with ASTM F 1055 for electrofusion.

E. Fusion joints shall be made by qualified fusion technicians per ASTM F3190-21.

F. Qualified technician has documented prior experience in performing HDPE pipe installations, head fusion procedures, and testing methods.

3.2 FUSION AND JOINING

A. Fusion Joining Requirements:
1. All HDPE pipe shall be joined to by the heat fusion process which produces homogeneous, sealed, 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 F2620 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 ASTM F3190. A record or certificate of training for the fusion operator must be provided that documents training to the fundamentals of ASTM F2620. 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. The use of a controlled cooling cycle procedure to reduce cooling time is acceptable only as part of a controlled cooling cycle procedure where testing demonstrates that acceptable joints are produced using the controlled cooling cycle procedure.
3. Electrofusion: Electrofusion joining shall be done in accordance with the manufacturers recommended procedure. Other sources of electrofusion joining information are PPI TN 34 and PPI Municipal Advisory Board (MAB) Generic Electrofusion Procedure for Field Joining of 12 Inch and Smaller Polyethylene (PE) Pipe. The process of electrofusion requires an electric source, commonly called an electrofusion processor that has wire leads and a method to read electronically (by laser) or otherwise input the barcode of the fitting. The electrofusion processor must be capable of reading and storing the input parameters and the fusion results for later download to a record file. Qualification of the fusion technician shall be demonstrated by evidence electrofusion training within the past year on the equipment to be utilized for this project.

B. 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 training and qualification records for that individual, including compliance to any code requirements for fusion/bonder operators.
   2. All HDPE fusion equipment operators shall be qualified to the procedure used to perform pipe joining. 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.
   4. When the fusion machine operator is employed by the HDPE pipe and fusion machine supplier, the supplier shall maintain an ISO 9001 Certified Quality Management System.

C. 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 of appropriate gauge (25' minimum), and hydraulic extension hoses (minimum of four). The butt fusion machine will be McElroy, or approved equivalent.
   2. For 16" and larger pipe sizes, the butt fusion machine shall be capable of autonomously calculating the drag pressure and perform the shift sequence autonomously.
   3. In areas where there may be insufficient space for layout of 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.

D. 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 F3124, "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, measure with a pyrometer and manually enter 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 name and a unique operator ID number, along with the date and time of each weld.
3. Records showing the device is up to date on all required calibration should 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. A weld location map may be requested, prior to commencement of work, by the owner or owner's representative.

E. 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 F2620. 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 of section 3.04.D.1 can be used as additional verification of visual indicators.
b. Fusion Data Record Review
1) The fusion date record for each fused joint shall be compared to the approved fusion procedure. The reviewer shall verify the following:
a) That all data required by section 3.04.D.1 was recorded
b) Interfacial pressure was within the acceptable range
c) Heater surface temperature was within the acceptable range
d) 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.
e) Butt fusing pressure was reduced to a value less than or equal to drag pressure at the beginning of the heat soak cycle.
f) 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

g) Cooling time at butt fusing pressure met the minimum time specified

c. If the recorded data in section 3.04.D.1 is outside the limits of the acceptable range, the joint is unacceptable, and must be removed and replaced.

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. Contractor shall mechanically test the first fusion of each operator and each machine used on the project. Installation shall not continue until a fusion test has passed the test. Additional mechanical test are not required as long as long as the fusion are reviewed with the frequency specified in section 3.04.E.1.iv. Testing of fusion joints with no fusion data record review shall be at a frequency specified by the Owner or Engineer.

b. The fusion shall be allowed to cool completely, then fusion test straps shall be cut out.

c. 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.

d. 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:

1) Reverse Bend Test are allowed for pipe sizes 4" IPS or smaller. The specimens shall be prepared and tested in accordance with ASTM F2620, Appendix X4.

2) Guided Side Bend Test are allowed for all wall thicknesses of 1" or greater. The specimens shall be removed and tested in accordance with ASTM F3183.

3) 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.

e. Results of any mechanical test should be documented. Information on the weld and operator should be transferred from the sample to the testing record.

3.3 INSTALLATION

A. Backfill

1. Excavate and backfill trenches in accordance with the Standard Details.

B. Pipe Handling

1. At the close of each operating day, when work is stopped for more than 30 minutes, or when the trench is unsupervised:

2. Keep the pipe clean and free of debris, dirt, animals, and trash – during and after the laying operation.
3. Effectively seal the open end of the pipe using a gasketed night cap.

C. Mechanical
1. Mechanical connection of HDPE to auxiliary equipment such as valves, pumps, and fittings shall use mechanical joint adapters and other devices in conformance with this specification.
2. Unless specified by the fitting manufacturer, a restraint harness or concrete anchor is recommended with mechanical couplings to prevent pullout.
3. Mechanical coupling shall be made by qualified technicians.

D. Joint Recording
1. Butt Fusion: The butt fusion equipment must be capable of reading and storing the input parameters (including GPS location) and the fusion results for later download to a record file.
2. Electrofusion: The electrofusion equipment must be capable of reading and storing the input parameters (including GPS location) and the fusion results for later download to a record file.
3. The critical parameters of each fusion joint, as required by the manufacturer and these specifications, shall be recorded by an electronic data logging device. All fusion joint data shall be included in the Fusion Technician's joint report.

E. Direct Burial
1. Buried HDPE pipe and fittings shall be installed per engineering drawings and ASTM D2774, ASTM D2321 and AWWA Manual of Water Supply Practices 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.
2. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the backfill. Trench boxes, moveable sheeting, shoring or plates shall not be allowed to extend below top of the pipe. As trench boxes, moveable sheeting, shoring or plates are moved, pipe bedding shall be placed to fill any voids created and the backfill shall be re-compacted to provide uniform side support for the pipe.
3. Pipe embedment - Embedment material should be Class I, Class II, or Class III materials as defined by ASTM D-2321 Section 6. The use of Class IV or Class V materials is not recommended, however, they may be used only with the evaluation and approval of the engineer at a demonstrated achievable compaction
4. Bedding: Pipe bedding shall be in conformance with ASTM D2321 Section 8. Compaction rates should be as specified in ASTM D2321. Deviations shall be approved by the engineer.
5. Haunching and backfill shall be as specified in ASTM D2321 Section 9 with Class I, II, or III materials. Compaction shall be in excess of 85% Proctor, providing a minimum modulus of 1000 psi or greater.

F. Pull-In Installation
1. Per ASTM F1804 and/or www.HDPEapp.com, the contractor shall determine and document the maximum proposed pull-in length and pull-in force for the pressure class and pipe diameter to be pulled into an open trench. Pull-in lengths will not

exceed the maximum lengths for the class and diameter pipe. A commercially available load limiter (weak link) approved by the Engineer shall be used between the puller and the pipe.

2. Prior to pulling the pipeline, contractor shall place rollers or other approved devices beneath the pipe to avoid unnecessary damage and to reduce pipe drag.
3. Trenchless installations:
4. For Horizontal Directional Drilling (HDD), refer to ASTM F1962, PPI TR-46, PPI PE Handbook (Chapter 12) and www.PPIBoreAid.com
5. For sliplining, refer to ASTM F585, PPI PE Handbook (Chapter 11) and www.HDPEapp.com
6. For pipe bursting, refer to PPI PE Handbook (Chapter 16)

G. Appurtenances

1. All appurtenances (tees, elbows, services, valves, air relief valves, fire hydrants, etc.), must be independently supported and shall not rely on the pipeline and its connections for this support. Excessive stresses may be encountered when appurtenances are inadequately supported.
2. Hydrant Assemblies shall be installed and field tested according to the requirements of AWWA M17.
3. Installation of Tracer Wire. When tracer wire is required, the Contractor shall install along the entire section of pipeline and along all service connections as listed below. The tracer wire shall be installed simultaneously with the polyethylene piping system. Tracer wire shall be installed by the Contractor once backfill has been placed and compacted to at least 12 inches above the top of the pipe and not more than 18 inches above the top of the pipe. Tracer wire shall be properly spliced at each end connection and each service connection. Care should be taken to adequately wrap and protect wire at all splice locations. No bare tracer wire shall be accepted. Provide Magnesium alloy anode for cathodic protection that conforms to the requirements of ASTM B843. Install tracer wire per local and manufacturer's requirements.

3.4 PIGGING, FLUSHING, CLEANING, AND DISINFECTING

A. All mains shall be pigged, cleaned and flushed to remove all dirt, sand, debris and other foreign matter. The Contractor shall be responsible for developing a pigging and flushing plan to be submitted to the Engineer for approval prior to pigging and flushing.

B. Disinfection:

1. Cleaning and disinfecting of potable water systems shall be in accordance with AWWA C651 and AWWA M55 Chapter 10, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition).
2. The liquid disinfection chemical solution should be limited to less than 12% active chlorine. The time-duration of the disinfection should not exceed 24 hours. Chlorine tablets or powders are not permitted.
3. Upon completion, the system should be thoroughly flushed with fresh water, and retested to verify the disinfectant chlorine level has been reduced to potable drinking water concentrations in all service water tubing and branch lateral pipes

3.5 TESTING AND LEAKAGE

A. The contractor shall ensure testing can be accomplished in a safe manner, including protection of personnel, equipment, and public in the event of a failure during testing. The contractor shall restrain pipe, components, and test equipment as required. All pumps, valves, temporary connections, 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 Engineer.

B. The pressure gauges or data recorders should be calibrated and sufficiently sized to provide mid-range data that result in easy reading, interpretation. Gauges shall be accurate to within 2% of full scale

C. The test pressure may be up to 1.5 times the system design pressure, based on the lowest point in elevation in the test section. The contractor shall ensure that the designated test pressure does not exceed the maximum allowable test pressure specified by the manufacturer for any component in the test section.

D. Test pressures require consideration of thermal conditions. Polyethylene piping materials are typically pressure rated at 73°F (23°C) and PE piping at temperatures greater than 80°F (26°C) require reduced test pressures. (Note that higher pipe temperatures should consider both ambient temperatures and radiant solar heating of exposed black HDPE pipe) Guidance for elevated temperatures can be found in the appendix of Chapter 3 (Material Properties) of the PPI Handbook of PE Pipe.

E. Gravity Pipelines-The Contractor shall perform a low-pressure air test for gravity flow pipelines to the requirements and specifications of ASTM F1417. Warning: All pneumatic test, regardless of pressure, can be dangerous and safety procedures shall be identified, documented, approved by the owner and engineer, and followed.

F. Pressure Pipelines-Pressure testing shall be conducted in accordance with requirements and recommendations of ASTM F2164 (Field Leak Testing of Polyethylene Pressure Piping Systems Using Hydrostatic Pressure), AWWA 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.
   1. The section of pipe to be tested shall be filled with potable or generally clean water (uncontaminated river/lake water) approved by the Owner/Engineer. While the system is being filled with water, air shall be carefully and completely exhausted.
   2. 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).
   3. 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.
   4. In accordance with section 9.8 of ASTM F2164, 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.

G. All pressure and leakage testing shall be done in the presence of a representative of the Owner and Engineer.

END OF SECTION

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STANDARD DETAILS GENERAL NOTES

1. STANDARD DETAILS ARE REFERENCED ON DRAWINGS BY THE DETAIL NUMBER

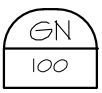
2. LOCATIONS WHERE DETAIL NUMBERS ARE REFERENCED ON DRAWINGS REFER TO SPECIFIC DETAILS FOR EXACT INSTALLATION REQUIREMENTS AT LOCATIONS SHOWN.

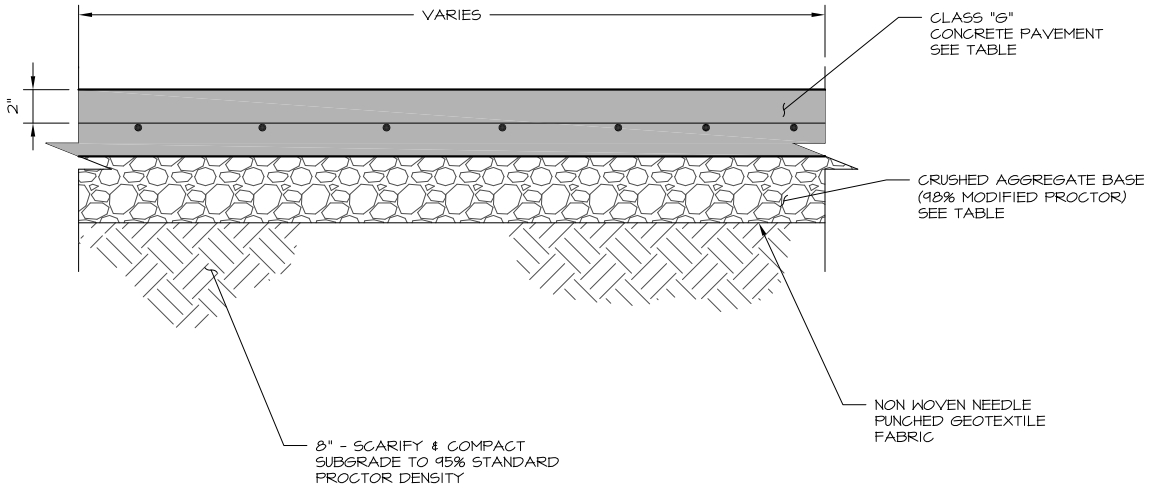
3. DETAILS SHOULD ALSO BE CONSIDERED TO BE GENERIC INSTALLATION REQUIREMENTS AND GOVERN INSTALLATION WHETHER SPECIFICALLY REFERENCED ON DRAWINGS OR NOT (I.E. PIPE BEDDING) AND SHOULD BE INCLUDED IN THE PRICE BID FOR ALL LOCATIONS. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

4. IT IS THE BIDDER'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE DETAILS AND CONSULT WITH THE ENGINEER FOR ANY CLARIFICATIONS NEEDED PRIOR TO BID.

5. SHOULD ANY DETAILS, SPECS, DRAWINGS OR ANY OTHER PROJECT DOCUMENT CONFLICT, THE CONTRACTOR SHOULD ASK FOR CLARIFICATION PRIOR TO BID. WHEN NO CLARIFICATION IS PROVIDED THE CONTRACTOR IS TO ASSUME THAT THE MORE RESTRICTIVE & EXPENSIVE PRODUCT/SYSTEM/ITEM APPLIES AND SHALL BE INCLUDED IN THE CONTRACTOR'S BID. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANY REASON.

6. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.





PAVEMENT DESIGN	CRUSHED AGGREGATE BASE(IN)	CLASS "G" CONCRETE PAVEMENT	REBAR O.C.E.W.
1	8"	12"	2 MAT - #4@8"
2	6"	8"	#4@8"
3	7"	6"	#4@8"
4	6"	6"	#4@8"
5	6"	5"	#4@10"
6	4"	5"	#4@12"
7	4"	4"	#4@18"
8	0"	6"	#4@12"

SC 101 CONCRETE PAVING SECTION
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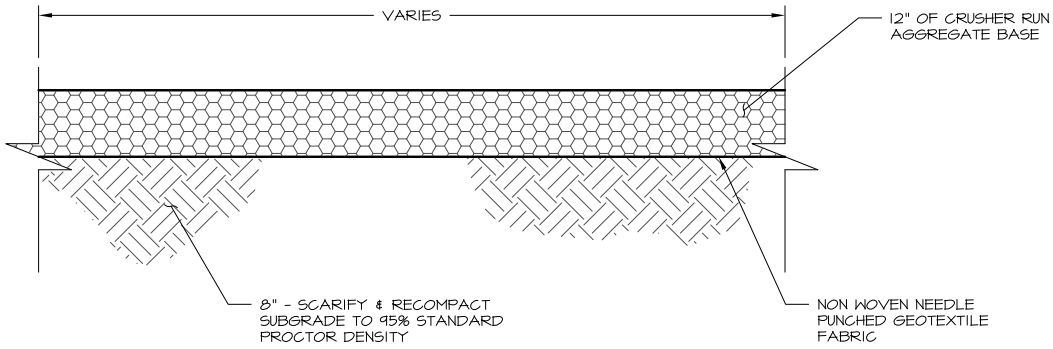

SC 105 GRAVEL SURFACE SECTION

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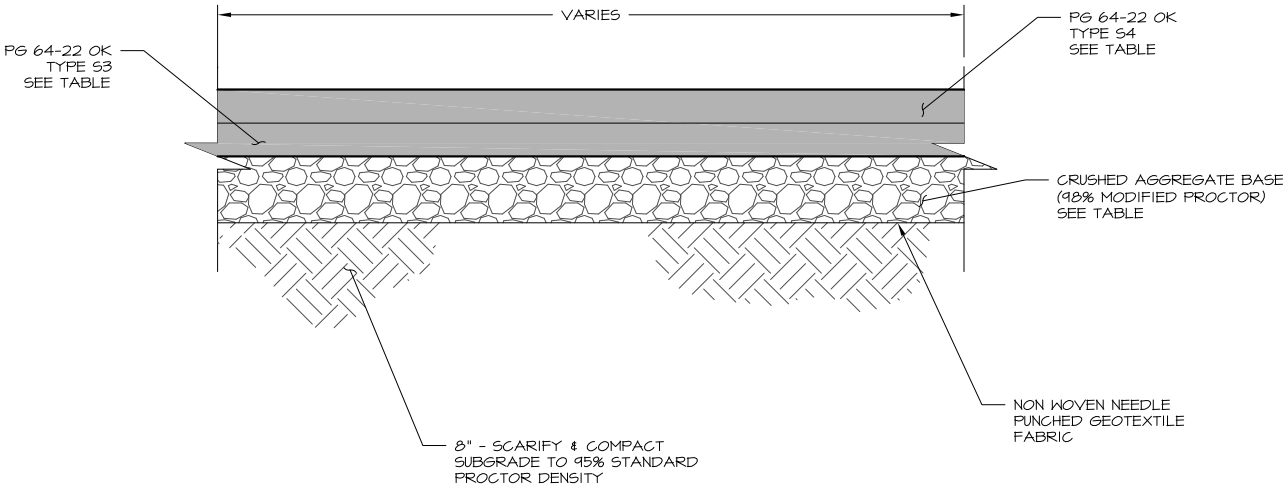
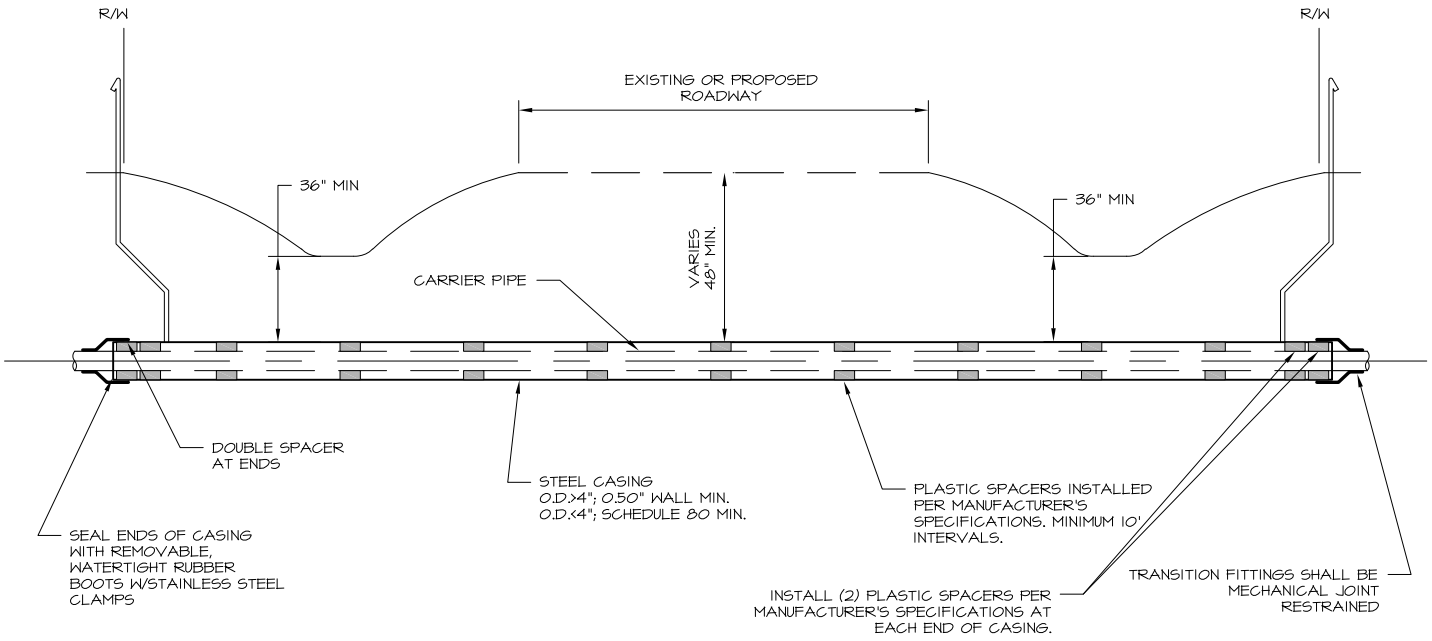


PAVEMENT DESIGN	CRUSHED AGGREGATE BASE(IN)	PG 64-22 OK TYPE S4 SURFACE(IN)	PG 64-22 OK TYPE S4 BOTTOM(IN)
1	6"	2"	3"
2	8"	2"	3"
3	6"	2"	4"
4	8"	2"	4"
5	6"	3"	4"
6	8"	3"	4"
7	6"	3"	5"
8	8"	3"	5"

SC 106 ASPHALT PAVING SECTION

SCALE: N.T.S.



NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF CITY/STATE PERMITS.
2. SEE PLAN SHEETS FOR CARRIER PIPE.

SP 261 ROAD CROSSING

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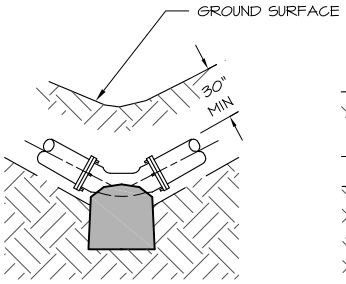
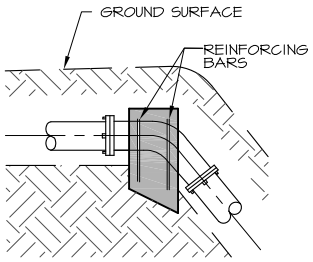
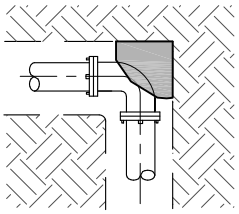
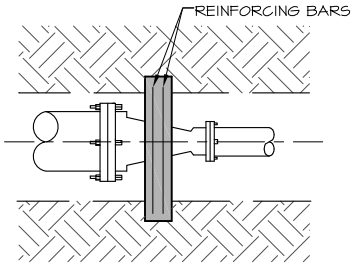


TYPICAL BLOCKING FOR VERTICAL BENDS

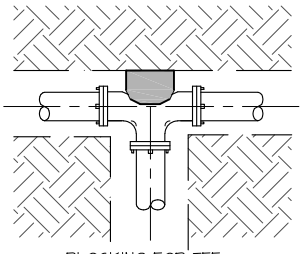




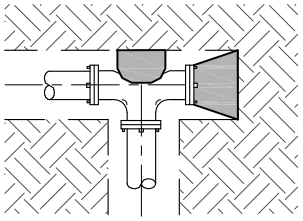
TYPICAL BLOCKING FOR HORIZONTAL BENDS



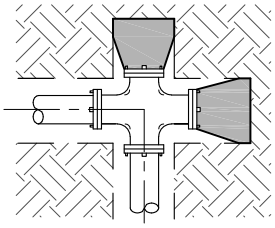
THRUST SUPPORT FOR REDUCER CONNECTION (SIZE TO BE DETERMINED BY ENGINEER)



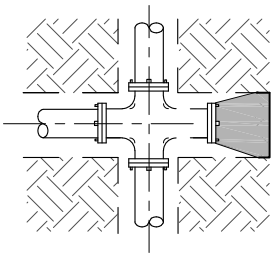
BLOCKING FOR TEE



SPECIAL BLOCKING FOR TEE WITH PLUG (WHEN DIRECTED BY ENGINEER)



TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING (WHEN DIRECTED BY ENGINEER)



TYPICAL SECTION OF CROSS & BLOCKING (WHEN DIRECTED BY ENGINEER)

NOTES

1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL AND SHALL BE CONCRETE HAVING A MINIMUM 28 DAY STRENGTH OF 3000 PER SQUARE INCH.

2. THRUST CALCULATORS TO BE BASED ON THRUST DUE TO WATER PRESSURE AT 100% OF TEST PRESSURE.

   THRUST = 2 AP SIN 1/2 Φ

   A = AREA OF PIPE
   P = WATER PRESSURE
   Φ = DEFLECTION ANGLE.

3. VERTICAL UPLIFT BLOCKS SHALL BE DESIGNED ON THE BASIS OF 150 LBS. PER CU. FT. FOR CONCRETE AND SOIL AT 120 LBS. PER CU. FT. OVER THE AREA OF BLOCK.

4. VERTICAL DOWN THRUST BLOCKS SHALL BE DESIGNED ON THE BASIS OF 2000 PER SQ. FT. ALLOWABLE SOIL BEARING PRESSURE. DIMENSIONS MAY BE DECREASED WITH APPROVAL OF THE ENGINEER IF MEASURED SOIL CONDITIONS PERMIT. IN POOR SOIL CONDITIONS, BLOCK DIMENSIONS SHALL BE INCREASED IN PROPORTION TO ALLOWABLE BEARING VALUE.

5. THRUST BLOCKS ON HORIZONTAL BENDS, TEES, CROSSES, AND REDUCERS SHALL BE SIZED BASED ON 24000 LBS. PER SQ. FT. OF BLOCKING SURFACE AREA IN CONTACT WITH UNDISTURBED SOIL, BLOCK DIMENSIONS MAY BE DECREASED WITH APPROVAL OF THE ENGINEER IF MEASURED SOIL CONDITIONS PERMIT. IN POOR SOIL CONDITIONS, BLOCK DIMENSIONS SHALL BE INCREASED IN PROPORTION TO THE ALLOWABLE BEARING VALUE.

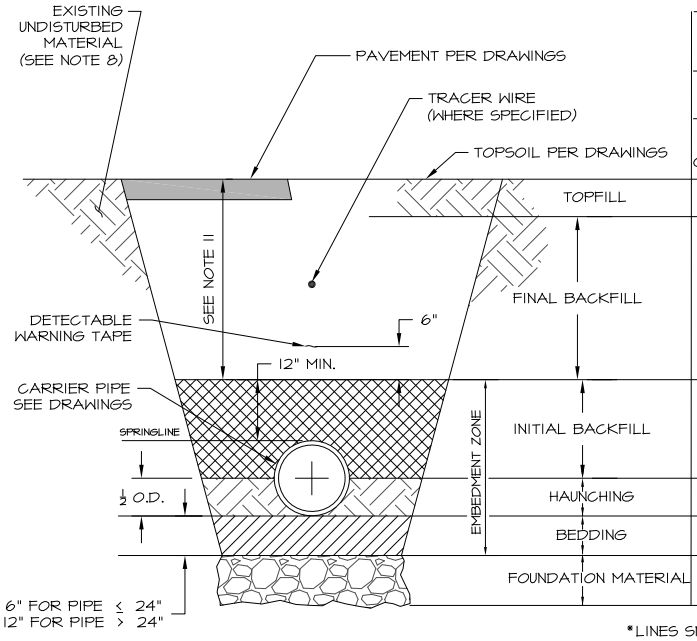
6. ALL BLOCKING SHALL HAVE A MINIMUM SOIL COVER OF 1 FT.

7. ADDITIONAL REINFORCING MAY BE REQUIRED FOR HORIZONTAL BLOCKING TO HANDLE UNUSUAL SHEAR LOADING CONDITIONS.

8. ANCHOR COLLARS SHALL BE REINFORCED IN ACCORDANCE WITH REINFORCING BAR SCHEDULE FOR REDUCED BLOCKS SHOWN ABOVE. STEEL ANCHOR RING IN ACCORDANCE WITH DIMENSIONS OF ANCHOR COLLAR.

9. SEE 33-05-09.34 FOR ADDITIONAL REQUIREMENTS AND THRUST VALVES

SP 263 **THRUST BLOCKING**
SCALE: N.T.S.



BEDDING / BACKFILL REQUIREMENTS AND MATERIAL DESIGNATIONS (SEE MATERIAL DESCRIPTIONS)	GRAVITY MAINS		PRESSURE MAINS		UNDER PAVED AREAS		STREET CROSSINGS	
	DI / CONC.	HDPE / PVC	DI / CONC.	HDPE / PVC	DI / CONC.	HDPE / PVC	DI / CONC.	HDPE / PVC
TOPFILL	8	8	8	8	11	11	11	11
FINAL BACKFILL	13	13	13	13	5/10	5/10	10	10
INITIAL BACKFILL	12	1/2/7 *	12	12	1/2	1/2/7 *	1/2	1/2/7 *
HAUNCHING	2	1/2/7 *	2	1/2/7 *	2	1/2/7 *	2	1/2/7 *
BEDDING	2	2	2	2	2	2	2	2
FOUNDATION MATERIAL	CRUSHED ROCK OR RIP RAP (WHEN REQ'D)							

*LINES SMALLER THAN 18" SHALL BE #67 BEDDING.
LINES 18" AND LARGER SHALL BE #57 BEDDING.
SAND MAY BE SUBSTITUTED FOR PVC/HDPE LINES 8" & SMALLER.

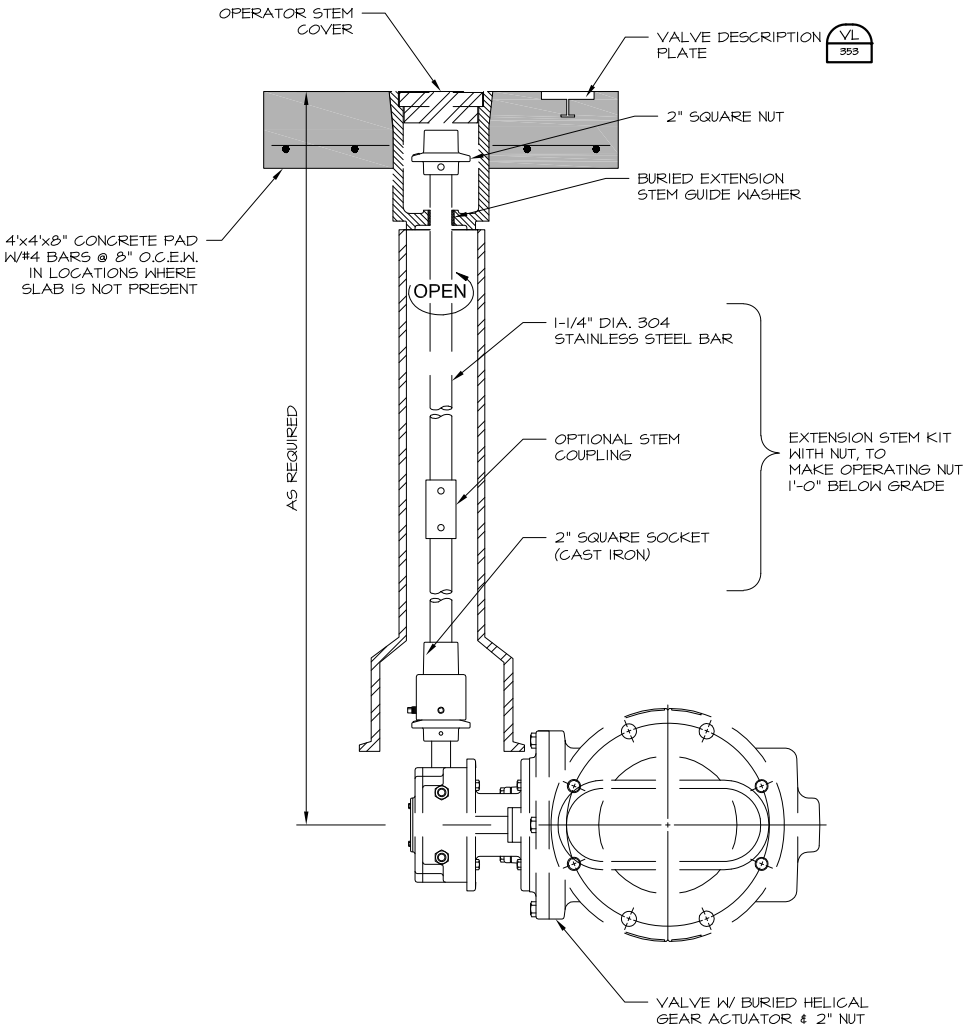
MATERIAL DESCRIPTIONS
(SEE SPECIFICATION SECTION 31_23_24)

1. #57 CRUSHED ROCK
2. #67 CRUSHED ROCK
3. FINE CRUSHED ROCK
4. FLOWABLE FILL
5. SELECT BACKFILL MATERIAL
6. PEA GRAVEL
7. SAND
8. TOPSOIL (NO STONES OR ROCKS)
9. SELECT FILL
10. AGGREGATE BASE OR FLOWABLE FILL
11. PAVEMENT MATCHING DRAWINGS
12. SELECT EXCAVATED MATERIAL (NO STONES LARGER THAN 1")
13. SELECT EXCAVATION MATERIAL (NO STONES LARGER THAN 4")

NOTES:

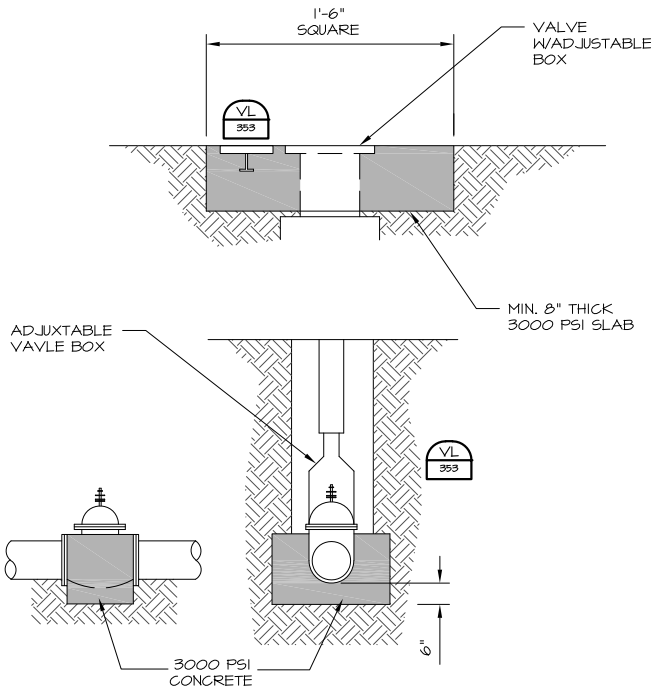
1. TRENCH SLOPE, SHORING, BENCHING, ETC TO BE DETERMINED BY THE CONTRACTOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR TRENCH SAFETY AND OSHA COMPLIANCE.
2. EXCAVATION FOR BELL HOLE REQUIRED FOR ALL PIPING <4". CONTRACTOR SHALL SELECT AND UTILIZE CONSTRUCTION METHODS SUCH THAT ALL AREAS UNDER THE PIPE HAUNCHES ARE FILLED WITH THE APPROPRIATE MATERIAL AND COMPACTED.
3. IF TRENCH BOTTOM IS OVER-EXCAVATED BELOW INTENDED GRADE, FILL THE OVER-EXCAVATION WITH EMBEDMENT MATERIAL AND COMPACT AT THE DENSITY SPECIFIED FOR THE EMBEDMENT MATERIAL.
4. ALL MATERIALS UNDER PAVING / STRUCTURES SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY AT 4% OPTIMUM MOISTURE CONTENT BY SHEEPSFOOT OR OTHER SUITABLE MECHANICAL COMPACTION METHODS AT SPECIFIED LIFT THICKNESSES. COMPACTION EQUIPMENT MUST NOT COME IN CONTACT WITH CARRIER PIPE NOR CASING PIPE.
5. EXCAVATION MAY BE WIDENED ABOVE THE EMBEDMENT ZONE AT THE CONTRACTOR'S OPTION AND EXPENSE.
6. MINIMUM TRENCH WIDTH AT SPRING LINE OF PIPE
   a. PIPES < 4" 18"
   b. PIPES 6" - 18" 12" + O.D.
   c. PIPES > 20" 24" + O.D.
7. EMBEDMENT/BACKFILL LIFT THICKNESS (MAXIMUM)
   a. FINAL BACKFILL 12" LIFTS TYPICAL
      6" LIFTS UNDER PAVING / STRUCTURES
   b. INITIAL BACKFILL 6" LIFTS
   c. HAUNCHING 4" LIFTS
   d. BEDDING 4" LIFTS
8. THE EXISTING NATIVE MATERIAL WITHIN THE LIMITS OF THE EMBEDMENT ZONE IS TO REMAIN UNDISTURBED OR REPLACED WITH SPECIFIED PIPE EMBEDMENT MATERIAL IF OVER-EXCAVATION TAKES PLACE. REPLACEMENT WITH ONSITE MATERIAL WILL NOT BE ACCEPTABLE.
9. IF BEDDING DETAIL CONFLICTS WITH ANY OTHER DETAIL THE MORE STRINGENT SHALL APPLY.
10. TRACER WIRE TO BE INSTALLED PER SPECIFICATIONS & MANUFACTURER RECOMMENDATIONS.
11. SEE DRAWINGS FOR COVER REQUIREMENTS. MINIMUM COVER FOR ALL PIPING 18" AND LARGER SHALL BE 48"; AND PIPE SMALLER THAN 18" SHALL HAVE A MINIMUM COVER OF 36" UNLESS OTHERWISE NOTED. PIPE SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO AVOID EXISTING PIPES, STRUCTURES, ETC. FURNISH ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE ROUTING CHANGES. INCLUDE COST IN PRICE BID.

SP 264 UTILITY BEDDING
SCALE: N.T.S.



VL 348 BURIED MANUAL VALVE

SCALE: N.T.S.

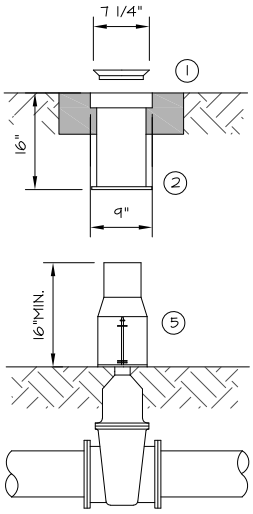


NOTE:

1. PROTECT FLANGE BOLTS FROM CONCRETE BLOCKING BY POLYETHYLENE WRAP.

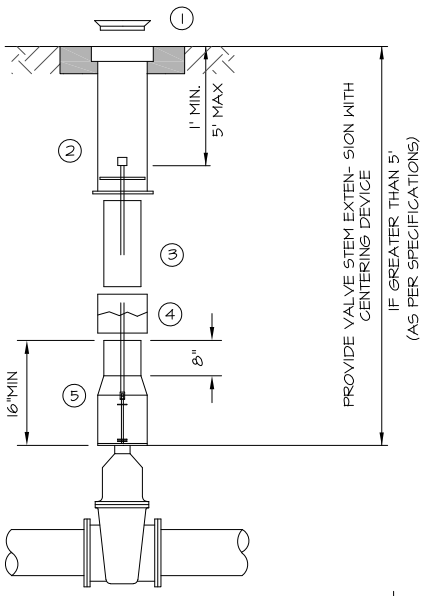
VL 352 STANDARD VALVE BLOCKING

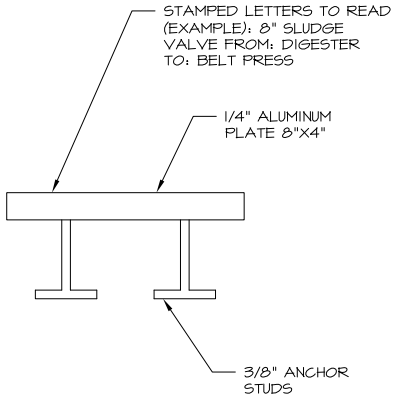
SCALE: N.T.S.



LIST OF MATERIALS

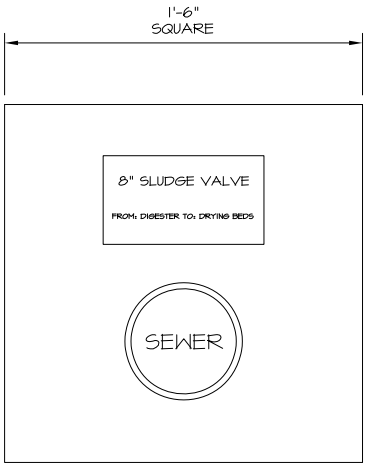
1. CAST IRON COVER
2. CAST IRON TOP SECTION
3. CAST IRON EXTENSION PIECE
4. CAST IRON EXTENSION COUPLING
5. CAST IRON BOTTOM SECTION





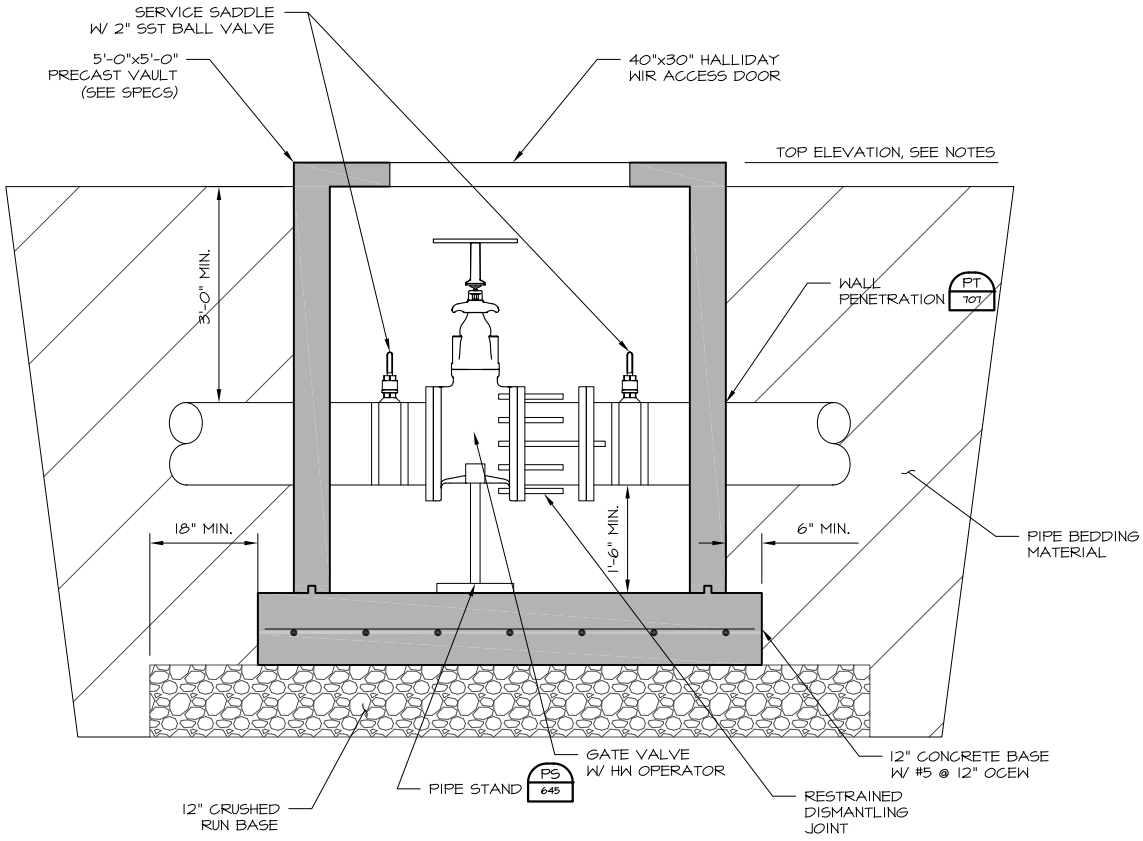
NOTES:

1. EXACT WORDING FOR VALVE DESCRIPTION PLATE SHALL BE DETERMINED BY THE ENGINEER PRIOR TO FABRICATION.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. PROVIDE 1'-6" X 1'-6" X 8" THICK CONCRETE AROUND TOP OF VALVE BOX UNLESS OTHERWISE NOTED.
4. FOR BLOCKING SEE VL 352



VL 353 VALVE BOX INSTALLATION

SCALE: N.T.S.

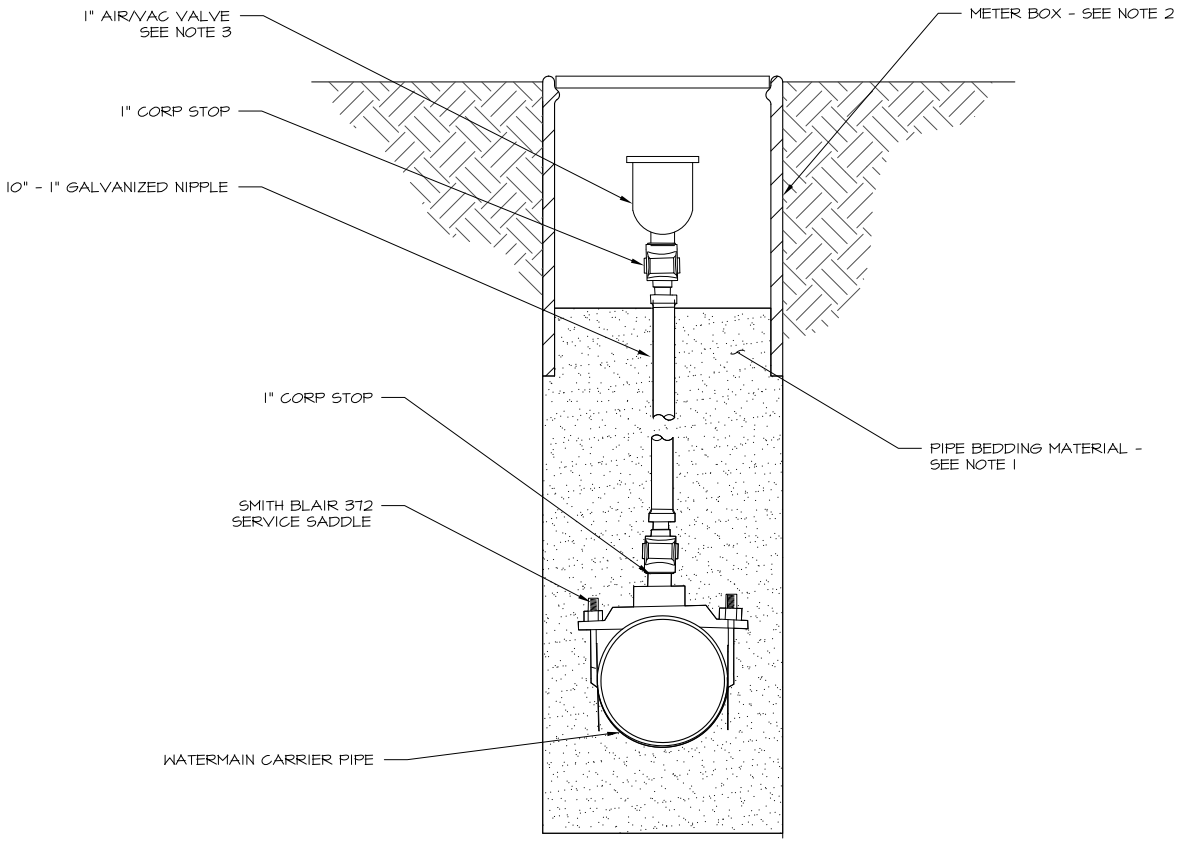


NOTE:

1. LENGTH OF SELECTED EQUIPMENT MAY VARY. COORDINATE WITH MANUFACTURER. ADJUST SPOOL LENGTHS AS NEEDED.
2. PRECAST VAULT TO BE SEALED AND WATERTIGHT. ALL JOINTS TO BE SEALED.
3. VALVE MAY BE POURED IN PLACE AT THE CONTRACTOR'S OPTION. PROVIDE ENGINEER STAMPED STRUCTURAL DRAWINGS FOR APPROVAL.
4. ELEVATION OF TOP OF VAULT TO BE FIELD ADJUSTED TO EXTEND 0'-6" ABOVE NATURAL GROUND.
5. SEE SPECIFICATIONS FOR ADDITIONAL VAULT REQUIREMENTS.

VL 355 VALVE VAULT W/ SAMPLING STATION

SCALE: N.T.S.



NOTES:

1. PIPE BEDDING MATERIAL TO EXTEND TO BASE OF CORP STOP.
2. METTER BOX TO BE DFW PLASTICS DFW1824F POLYMER OVAL METER BOX OR APPROVED EQUAL.
3. AIR/VAC VALVE SHALL BE DEZURIK APCO OR APPROVED EQUAL.

VL 362 — 1" WATER COMBINATION AIR/VAC VALVE

SCALE: N.T.S.

WALL ENGINEERING

223 N Washington Ave
Durant, OK 74701

Phone: (580) 924-1800
Fax: (580) 924-1801

October 14, 2025

City of Shawnee
16 W. 9th Street
Shawnee, OK 74801

RE: SW Watermain Loop – Project No. 25-1040-01
Bid Tabulation and Recommendation

Mayor and Commission:

The above referenced project was bid at 3:00 p.m. on October 7, 2025. Forty five (45) general contractors received plans and specifications for this project and sixteen (16) elected to submit a bid. Sooner Site Utility & Construction, LLC of Oklahoma City, OK was the apparent low bidder with a bid of: One Million Four Hundred Thirty Six Thousand Three Hundred Sixty Four Dollars and Zero Cents ($1,436,364.00). A Certified Bid Tabulation is enclosed.

The engineering estimate on this project was One Million Nine Hundred Forty Thousand Dollars and Zero Cents ($1,940,000.00).

We recommend award to Sooner Site Utility & Construction, LLC, in the amount of: One Million Four Hundred Thirty Six Thousand Three Hundred Sixty Four Dollars and Zero Cents ($1,436,364.00). A Notice of Award is attached.

Should you have any questions or require additional information, please do not hesitate to call us at (580) 924-1800.

Respectfully,

WALL ENGINEERING

Brandon Wall, P.E.
President

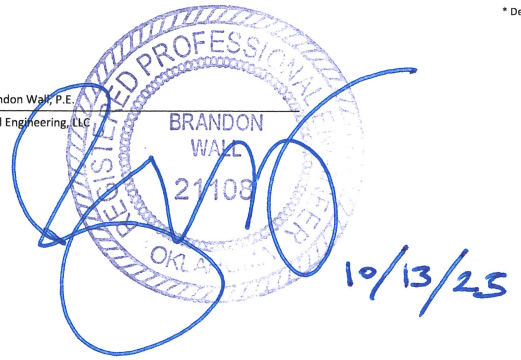
Enclosure(s)
Certified Bid Tabulation
Notice of Award

cc: Bidding Contractors
Wall Engineering File (SHN-25-01)

City of Shawnee
SW Watermain Loop
Wall Engineering Project: SHN-25-01
Bid Opening: October 7, 2025, 3:00 p.m.

#	Bid Item, Complete per Plans & Specifications	Unit	Quantity	Sooner Site Utility & Construction, LLC Oklahoma City, OK		Pinnacle Construction Services, LLC Muskogee, OK		Capital Underground Utilities, LLC Houston, TX		Davenport Construction, Inc. Edmond, OK		Civil Builders, LLC Oklahoma City, OK	
				Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost
1	Mobilization / Demobilitation	LS	1	$15,000.00	$15,000.00	$17,500.00	$17,500.00	$75,600.00	$75,600.00	$7,500.00	$7,500.00	$35,400.00	$35,400.00
2	Insurance, Bonding & General Conditions	LS	1	$36,000.00	$36,000.00	$20,000.00	$20,000.00	$85,000.00	$85,000.00	$14,000.00	$14,000.00	$63,000.00	$63,000.00
3	SWPPP and Erosion Control	LS	1	$20,000.00	$20,000.00	$15,000.00	$15,000.00	$4,500.00	$4,500.00	$2,500.00	$2,500.00	$24,000.00	$24,000.00
4	Traffic Control, barricades, and signage in accordance with the Manual of Uniform Traffic Control Devices	LS	1	$7,500.00	$7,500.00	$12,500.00	$12,500.00	$12,500.00	$12,500.00	$4,000.00	$4,000.00	$27,600.00	$27,600.00
5	Trench safety for all work outlined in the plans and specifications	LS	1	$10,000.00	$10,000.00	$18,000.00	$18,000.00	$2,500.00	$2,500.00	$35,000.00	$35,000.00	$16,800.00	$16,800.00
6	Clearing, Grubbing and Miscellaneous Incidental Removals of Structures and Obstructions	LS	1	$30,000.00	$30,000.00	$25,000.00	$25,000.00	$12,500.00	$12,500.00	$7,900.00	$7,900.00	$36,600.00	$36,600.00
7	Construction Survey and Layout	LS	1	$6,500.00	$6,500.00	$15,000.00	$15,000.00	$12,500.00	$12,500.00	$7,500.00	$7,500.00	$15,600.00	$15,600.00
8	Surface Restoration including grading, topsoil, grassing, driveway/surface repair, and any additional work needed to return project to original conditions prior to construction, minimum.	LS	1	$30,000.00	$30,000.00	$12,500.00	$12,500.00	$45,600.00	$45,600.00	$8,000.00	$8,000.00	$48,000.00	$48,000.00
9	8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	1858	$32.00	$59,456.00	$70.00	$130,060.00	$85.00	$157,930.00	$85.00	$157,930.00	$46.00	$85,468.00
10	12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	5348	$46.00	$246,008.00	$82.00	$438,536.00	$100.00	$534,800.00	$105.00	$561,540.00	$62.00	$331,576.00
11	Fire Hydrant Assemble including associated piping, valves, connections, box and appurtenances	EA	16	$12,000.00	$192,000.00	$8,000.00	$128,000.00	$9,200.00	$147,200.00	$10,000.00	$160,000.00	$9,780.00	$156,480.00
12	Bore & Install 8" Roadway Crossing including 14" Steel Encasement, 8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 120 LF. (Sheet 3)	LS	1	$45,600.00	$45,600.00	$40,000.00	$40,000.00	$45,000.00	$45,000.00	$30,600.00	$30,600.00	$55,440.00	$55,440.00
13	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 1500 LF. (Sheet 4-5)	LS	1	$307,500.00	$307,500.00	$425,000.00	$425,000.00	$220,000.00	$220,000.00	$420,000.00	$420,000.00	$466,200.00	$466,200.00
14	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 177 LF. (Sheet 8)	LS	1	$70,800.00	$70,800.00	$75,000.00	$75,000.00	$65,000.00	$65,000.00	$49,560.00	$49,560.00	$98,766.00	$98,766.00
15	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 400 LF. (Sheet 9)	LS	1	$82,000.00	$82,000.00	$115,000.00	$115,000.00	$125,000.00	$125,000.00	$112,000.00	$112,000.00	$126,240.00	$126,240.00
16	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 220 LF. (Sheet 9)	LS	1	$88,000.00	$88,000.00	$83,000.00	$83,000.00	$75,000.00	$75,000.00	$88,000.00	$88,000.00	$120,120.00	$120,120.00
17	Connect to existing 6" PVC Watermain and appurtnances	EA	2	$5,000.00	$10,000.00	$7,000.00	$14,000.00	$3,720.00	$7,440.00	$7,000.00	$14,000.00	$7,500.00	$15,000.00
18	Connect to 12" Watermain and appurtnances	EA	2	$4,000.00	$8,000.00	$5,000.00	$10,000.00	$7,200.00	$14,400.00	$12,000.00	$24,000.00	$8,880.00	$17,760.00
19	Valve Vault w/ 2" Sampling Tap including associated piping, valves, connections, box and appurtenances	EA	2	$10,000.00	$20,000.00	$3,500.00	$7,000.00	$28,900.00	$57,800.00	$31,000.00	$62,000.00	$21,240.00	$42,480.00
20	Combination Air Release Valve including associated piping, valves, connections, box and appurtenances	EA	6	$3,500.00	$21,000.00	$6,000.00	$36,000.00	$4,200.00	$25,200.00	$3,500.00	$21,000.00	$3,420.00	$20,520.00
21	Meter Vault w/ 8" meter including associated piping, valves, connections, box and appurtenances	LS	1	$125,000.00	$125,000.00	$45,000.00	$45,000.00	$85,000.00	$85,000.00	$97,000.00	$97,000.00	$117,600.00	$117,600.00
22	Cut & Abondon Existing Waterline Crossing including all associated appurtenances	LS	1	$2,500.00	$2,500.00	$3,500.00	$3,500.00	$12,500.00	$12,500.00	$2,700.00	$2,700.00	$4,800.00	$4,800.00
23	Provide testing and sterilization of all water main construction.	LS	1	$3,500.00	$3,500.00	$5,500.00	$5,500.00	$12,500.00	$12,500.00	$5,500.00	$5,500.00	$9,000.00	$9,000.00
	TOTAL PROJECT BID PRICE			$1,436,364.00		$1,691,096.00		$1,835,470.00		$1,892,230.00		$1,934,450.00	

Certified as True and Correct



10/13/25

Brandon Wall, P.E.

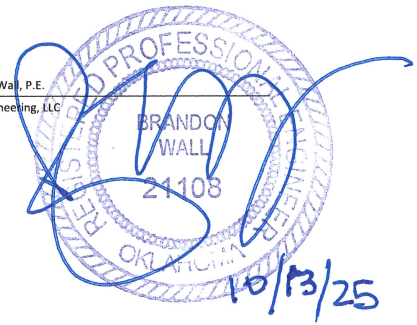
Wall Engineering, LLC

* Denotes correction made by Engineer

City of Shawnee
SW Watermain Loop
Wall Engineering Project: SHN-25-01
Bid Opening: October 7, 2025, 3:00 p.m.

#	Bid Item, Complete per Plans & Specifications	Unit	Quantity	Timco Blasting & Coatings, Inc. Bristow, OK		Mach Energy Services, LLC Oklahoma City, OK		Apple Pavement Services, LLC Dallas, TX		W. Brown Enterprises, Inc. Durant, OK		Downey Contracting, LLC Oklahoma City, OK	
				Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost
1	Mobilization / Demobilitation	LS	1	$60,000.00	$60,000.00	$25,000.00	$25,000.00	$57,500.00	$57,500.00	$93,270.55	$93,270.55	$100,000.00	$100,000.00
2	Insurance, Bonding & General Conditions	LS	1	$24,000.00	$24,000.00	$30,000.00	$30,000.00	$40,000.00	$40,000.00	$26,865.57	$26,865.57	$47,000.00	$47,000.00
3	SWPPP and Erosion Control	LS	1	$4,500.00	$4,500.00	$5,000.00	$5,000.00	$8,625.00	$8,625.00	$13,708.16	$13,708.16	$9,500.00	$9,500.00
4	Traffic Control, barricades, and signage in accordance with the Manual of Uniform Traffic Control Devices	LS	1	$12,000.00	$12,000.00	$5,000.00	$5,000.00	$11,500.00	$11,500.00	$22,177.53	$22,177.53	$22,000.00	$22,000.00
5	Trench safety for all work outlined in the plans and specifications	LS	1	$15,000.00	$15,000.00	$25,000.00	$25,000.00	$8,625.00	$8,625.00	$13,708.16	$13,708.16	$22,000.00	$22,000.00
6	Clearing, Grubbing and Miscellaneous Incidental Removals of Structures and Obstructions	LS	1	$15,000.00	$15,000.00	$35,000.00	$35,000.00	$13,800.00	$13,800.00	$24,884.24	$24,884.24	$23,000.00	$23,000.00
7	Construction Survey and Layout	LS	1	$4,000.00	$4,000.00	$5,000.00	$5,000.00	$10,925.00	$10,925.00	$13,096.97	$13,096.97	$11,000.00	$11,000.00
8	Surface Restoration including grading, topsoil, grassing, driveway/surface repair, and any additional work needed to return project to original conditions prior to construction, minimum.	LS	1	$62,500.00	$62,500.00	$35,000.00	$35,000.00	$19,550.00	$19,550.00	$34,925.25	$34,925.25	$22,000.00	$22,000.00
9	8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	1858	$54.00	$100,332.00	$72.00	$133,776.00	$51.75	$96,151.50	$34.02	$63,209.16	$85.00	$157,930.00
10	12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	5348	$68.00	$363,664.00	$85.00	$454,580.00	$60.95	$325,960.60	$69.55	$371,953.40	$95.00	$508,060.00
11	Fire Hydrant Assemble including associated piping, valves, connections, box and appurtenances	EA	16	$8,792.00	$140,672.00	$7,500.00	$120,000.00	$7,877.50	$126,040.00	$9,746.62	$155,945.92	$11,500.00	$184,000.00
12	Bore & Install 8" Roadway Crossing including 14" Steel Encasement, 8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 120 LF. (Sheet 3)	LS	1	$78,950.00	$78,950.00	$20,000.00	$20,000.00	$35,190.00	$35,190.00	$32,308.38	$32,308.38	$83,000.00	$83,000.00
13	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 1500 LF. (Sheet 4-5)	LS	1	$415,500.00	$415,500.00	$650,000.00	$650,000.00	$672,750.00	$672,750.00	$936,728.38	$936,728.38	$534,000.00	$534,000.00
14	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 177 LF. (Sheet 8)	LS	1	$67,000.00	$67,000.00	$60,000.00	$60,000.00	$77,625.00	$77,625.00	$70,709.64	$70,709.64	$122,000.00	$122,000.00
15	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 400 LF. (Sheet 9)	LS	1	$238,000.00	$238,000.00	$90,000.00	$90,000.00	$156,975.00	$156,975.00	$188,472.46	$188,472.46	$143,000.00	$143,000.00
16	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 220 LF. (Sheet 9)	LS	1	$146,300.00	$146,300.00	$70,000.00	$70,000.00	$96,784.00	$96,784.00	$79,775.67	$79,775.67	$134,000.00	$134,000.00
17	Connect to existing 6" PVC Watermain and appurtnances	EA	2	$4,355.00	$8,710.00	$4,000.00	$8,000.00	$8,625.00	$17,250.00	$5,471.79	$10,943.58	$4,000.00	$8,000.00
18	Connect to 12" Watermain and appurtnances	EA	2	$10,475.00	$20,950.00	$8,000.00	$16,000.00	$9,775.00	$19,550.00	$7,861.30	$15,722.60	$5,000.00	$10,000.00
19	Valve Vault w/ 2" Sampling Tap including associated piping, valves, connections, box and appurtenances	EA	2	$33,711.00	$67,422.00	$14,000.00	$28,000.00	$25,300.00	$50,600.00	$16,097.07	$32,194.14	$32,000.00	$64,000.00
20	Combination Air Release Valve including associated piping, valves, connections, box and appurtenances	EA	6	$3,561.00	$21,366.00	$6,000.00	$36,000.00	$6,440.00	$38,640.00	$5,178.77	$31,072.62	$26,000.00	$156,000.00
21	Meter Vault w/ 8" meter including associated piping, valves, connections, box and appurtenances	LS	1	$58,250.00	$58,250.00	$67,000.00	$67,000.00	$126,500.00	$126,500.00	$96,056.96	$96,056.96	$101,000.00	$101,000.00
22	Cut & Abondon Existing Waterline Crossing including all associated appurtenances	LS	1	$5,000.00	$5,000.00	$25,000.00	$25,000.00	$11,500.00	$11,500.00	$5,183.86	$5,183.86	$4,500.00	$4,500.00
23	Provide testing and sterilization of all water main construction.	LS	1	$20,000.00	$20,000.00	$12,000.00	$12,000.00	$4,600.00	$4,600.00	$9,953.69	$9,953.69	$12,000.00	$12,000.00
	TOTAL PROJECT BID PRICE			$1,949,116.00		$1,955,356.00		$2,026,641.10		$2,342,866.89		$2,477,990.00	

Certified as True and Correct



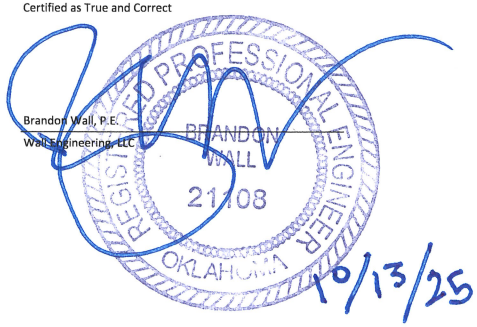
Brandon Wall, P.E.

Wall Engineering, LLC

City of Shawnee
SW Watermain Loop
Wall Engineering Project: SHN-25-01
Bid Opening: October 7, 2025, 3:00 p.m.

#	Bid Item, Complete per Plans & Specifications	Unit	Quantity	Wampole-Miller, Inc. dba Miller Bros. San Antonio, TX		Circle B Underground, LLC Bristow, OK		Stampede Utility Construction, LLC Decatur, TX		Grooms & Pollard Utilities Services, LLC Oklahoma City, OK		4M Trenching, LLC Oklahoma City, OK		Heartland Utility Services, LLC Tulsa, OK	
				Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost	Cost/Unit	Total Cost
1	Mobilization / Demobilitation	LS	1	$118,760.00	$118,760.00	$124,115.00	$124,115.00	$100,000.00	$100,000.00	$35,000.00	$35,000.00	$110,000.00	$110,000.00	$94,000.00	$94,000.00
2	Insurance, Bonding & General Conditions	LS	1	$34,000.00	$34,000.00	$51,500.00	$51,500.00	$52,539.74	$52,539.74	$58,975.00	$58,975.00	$40,000.00	$40,000.00	$100,000.00	$100,000.00
3	SWPPP and Erosion Control	LS	1	$75,000.00	$75,000.00	$10,300.00	$10,300.00	$12,000.00	$12,000.00	$29,350.00	$29,350.00	$60,000.00	$60,000.00	$10,500.00	$10,500.00
4	Traffic Control, barricades, and signage in accordance with the Manual of Uniform Traffic Control Devices	LS	1	$30,000.00	$30,000.00	$36,050.00	$36,050.00	$5,500.00	$5,500.00	$25,000.00	$25,000.00	$20,000.00	$20,000.00	$10,900.00	$10,900.00
5	Trench safety for all work outlined in the plans and specifications	LS	1	$45,000.00	$45,000.00	$30,900.00	$30,900.00	$10,000.00	$10,000.00	$35,000.00	$35,000.00	$20,000.00	$20,000.00	$6,700.00	$6,700.00
6	Clearing, Grubbing and Miscellaneous Incidental Removals of Structures and Obstructions	LS	1	$73,250.00	$73,250.00	$113,300.00	$113,300.00	$65,000.00	$65,000.00	$415,000.00	$415,000.00	$60,000.00	$60,000.00	$10,450.00	$10,450.00
7	Construction Survey and Layout	LS	1	$10,000.00	$10,000.00	$9,785.00	$9,785.00	$10,000.00	$10,000.00	$14,500.00	$14,500.00	$40,000.00	$40,000.00	$20,900.00	$20,900.00
8	Surface Restoration including grading, topsoil, grassing, driveway/surface repair, and any additional work needed to return project to original conditions prior to construction, minimum.	LS	1	$85,000.00	$85,000.00	$54,075.00	$54,075.00	$75,000.00	$75,000.00	$57,600.00	$57,600.00	$100,000.00	$100,000.00	$120,750.00	$120,750.00
9	8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	1858	$59.00	$109,622.00	$58.00	$107,764.00	$110.33	$204,993.14	$85.00	$157,930.00	$72.00	$133,776.00	$58.00	$107,764.00
10	12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking, valving and appurtenances.	LF	5348	$76.00	$406,448.00	$88.00	$470,624.00	$115.93	$619,993.64	$120.00	$641,760.00	$75.00	$401,100.00	$67.00	$358,316.00
11	Fire Hydrant Assemble including associated piping, valves, connections, box and appurtenances	EA	16	$10,185.93	$162,974.88	$8,135.00	$130,160.00	$8,500.00	$136,000.00	$10,200.00	$163,200.00	$12,000.00	$192,000.00	$10,410.00	$166,560.00
12	Bore & Install 8" Roadway Crossing including 14" Steel Encasement, 8" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 120 LF. (Sheet 3)	LS	1	$106,980.00	$106,980.00	$50,756.00	$50,756.00	$55,000.00	$55,000.00	$46,750.00	$46,750.00	$63,000.00	$63,000.00	$54,240.00	$54,240.00
13	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 1500 LF. (Sheet 4-5)	LS	1	$554,890.00	$554,890.00	$929,408.00	$929,408.00	$850,000.00	$850,000.00	$492,500.00	$492,500.00	$780,000.00	$780,000.00	$1,176,000.00	$1,176,000.00
14	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 177 LF. (Sheet 8)	LS	1	$150,233.00	$150,233.00	$93,965.00	$93,965.00	$100,000.00	$100,000.00	$51,850.00	$51,850.00	$99,000.00	$99,000.00	$109,386.00	$109,386.00
15	Bore & Install 12" Utility Crossing including 18" HDPE Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 400 LF. (Sheet 9)	LS	1	$176,805.00	$176,805.00	$141,423.00	$141,423.00	$165,000.00	$165,000.00	$136,490.00	$136,490.00	$178,000.00	$178,000.00	$206,400.00	$206,400.00
16	Bore & Install 12" Roadway Crossing including 18" Steel Encasement, 12" HDPE DR11 Watermain including pipe, fittings, trench excavation, laying, backfill, blocking and appurtenances. Distance may vary based on actual bore conditions but will be approximately 220 LF. (Sheet 9)	LS	1	$179,340.00	$179,340.00	$97,249.00	$97,249.00	$130,000.00	$130,000.00	$68,750.00	$68,750.00	$119,000.00	$119,000.00	$127,465.00	$127,465.00
17	Connect to existing 6" PVC Watermain and appurtnances	EA	2	$3,800.00	$7,600.00	$2,897.00	$5,794.00	$5,000.00	$10,000.00	$8,875.00	$17,750.00	$10,500.00	$21,000.00	$22,000.00	$44,000.00
18	Connect to 12" Watermain and appurtnances	EA	2	$4,100.00	$8,200.00	$5,588.00	$11,176.00	$6,500.00	$13,000.00	$12,240.00	$24,480.00	$20,000.00	$40,000.00	$13,500.00	$27,000.00
19	Valve Vault w/ 2" Sampling Tap including associated piping, valves, connections, box and appurtenances	EA	2	$11,000.00	$22,000.00	$27,155.00	$54,310.00	$3,500.00	$7,000.00	$30,250.00	$60,500.00	$25,000.00	$50,000.00	$20,625.00	$41,250.00
20	Combination Air Release Valve including associated piping, valves, connections, box and appurtenances	EA	6	$2,300.00	$13,800.00	$4,979.00	$29,874.00	$4,000.00	$24,000.00	$4,900.00	$29,400.00	$8,000.00	$48,000.00	$10,070.00	$60,420.00
21	Meter Vault w/ 8" meter including associated piping, valves, connections, box and appurtenances	LS	1	$120,000.00	$120,000.00	$85,309.00	$85,309.00	$3,500.00	$3,500.00	$115,850.00	$115,850.00	$110,000.00	$110,000.00	$107,950.00	$107,950.00
22	Cut & Abondon Existing Waterline Crossing including all associated appurtenances	LS	1	$10,000.00	$10,000.00	$6,920.00	$6,920.00	$15,000.00	$15,000.00	$4,500.00	$4,500.00	$5,000.00	$5,000.00	$25,000.00	$25,000.00
23	Provide testing and sterilization of all water main construction.	LS	1	$50,000.00	$50,000.00	$9,656.00	$9,656.00	$16,000.00	$16,000.00	$8,500.00	$8,500.00	$40,000.00	$40,000.00	$39,750.00	$39,750.00
	TOTAL PROJECT BID PRICE			$2,549,902.88		$2,654,413.00		$2,679,526.52		$2,690,635.00		$2,729,876.00		$3,025,701.00	

Certified as True and Correct



Brandon Wall, P.E.
Wall Engineering, LLC

NOTICE OF AWARD

Owner: City of Shawnee
Engineer: Wall Engineering, LLC
Contractor: Sooner Site Utility & Construction, LLC
Project: SW Watermain Loop
Project No.: SHN-25-01
Date Issued:
Effective Date:

You are notified that Owner has accepted your Bid dated **October 7, 2025,** for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

SW Watermain Loop

The Contract Price of the awarded Contract is **$1,436,364.00**. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes and Unit Price Work as applicable.

An unexecuted copy of the Agreement along with a copy of the Contract Documents accompany this Notice of Award and have been transmitted or made available to Bidder electronically. Drawings will be delivered separately from the other Contract Documents as will sections not applicable to Award.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner **4** counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): **N/A**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies as indicated in General Conditions.

Owner: **City of Shawnee**

By *(signature)*: _____

Name *(printed)*: _____

Title (printed): _____

EJCDC® C-510, Notice of Award.
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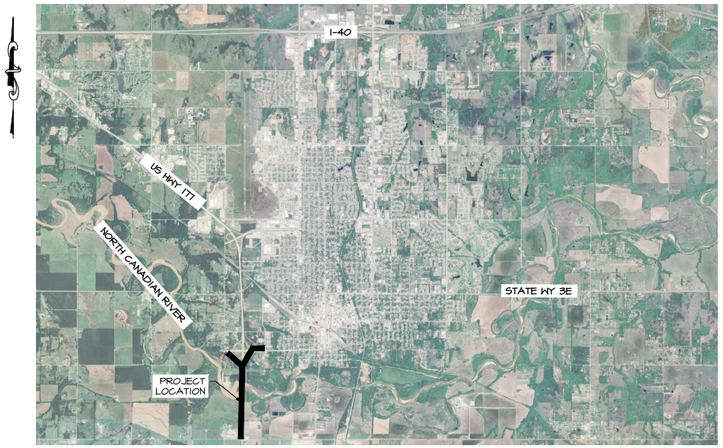
WATER SYSTEM IMPROVEMENTS
SW WATER MAIN LOOP
CONTRACT DOCUMENTS VOLUME 3 OF 3

By The

CITY OF SHAWNEE
SHAWNEE, OKLAHOMA

PROJECT # SHN-25-01



BEFORE YOU DIG
OKIE
1-800-522-OKIE
CALL OKIE

FINAL FOR CONSTRUCTION

AUGUST 2025

223 N WASHINGTON ST, DURANT, OK 74701
(580) 924-1800
WE FIRM OKLAHOMA REGISTRATION #5413

WALL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
08/04/25
BRANDON WALL
21108
OKLAHOMA

BRANDON WALL, P.E.

GENERAL

1. ALL NOTES LISTED ON THIS SHEET APPLY TO ALL SHEETS OF THE DRAWINGS AS IF THEY WERE WRITTEN ON EACH SHEET.
2. NO SEPARATE PAY ITEMS ARE PROVIDED FOR REQUIREMENTS IN THESE GENERAL NOTES AND SHOULD BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
3. SEE TECHNICAL SPECIFICATIONS FOR ADDITIONAL GENERAL CONTRACT REQUIREMENTS BEYOND THESE NOTES (SPECIFICALLY SECTION 01_00_01 BASIC REQUIREMENTS.)
4. SHOULD ANY DRAWING, SPECIFICATION, STANDARD DETAIL OR OTHER PROVISIONS OF THE CONTRACT DOCUMENTS CONFLICT WITH THESE GENERALS NOTES, NOTIFY ENGINEER OF DISCREPANCY FOR CLARIFICATION. IF NO CLARIFICATION HAS BEEN PROVIDED IT SHOULD BE ASSUMED FOR BIDDING PURPOSES THAT THE MORE COSTLY / STRINGENT APPLY.
5. NOTIFY OWNER AND ENGINEER 48 HOURS PRIOR TO CONSTRUCTION.
6. VERIFY ALL EXISTING CONDITIONS AND OBSTRUCTIONS INCLUDING LOCATION AND DIMENSIONS BEFORE STARTING WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. PRIOR TO INSTALLATION OF RELEVANT FACILITIES UNCOVER AND OTHERWISE DETERMINE THE DEPTH OF UTILITIES WHICH COULD INTERFERE WITH CONSTRUCTION.
8. ALL DIMENSIONS SHOWN WITH ± SHALL BE CONFIRMED ACCORDING TO ACTUAL FIELD CONDITIONS OR EQUIPMENT/STRUCTURE REQUIREMENTS.
9. ALL MISCELLANEOUS REMOVAL ITEMS REQUIRED FOR CONSTRUCTION SHALL BE FIELD LOCATED PRIOR TO BIDDING. THESE ITEMS WILL NOT BE MEASURED FOR PAYMENT AND SHALL BE INCLUDED IN THE PRICE BID FOR ASSOCIATED ITEMS OF WORK.
10. EXCESS MATERIALS FROM EXCAVATION, DEMOLITION OR OTHER CONSTRUCTIONS SHALL NOT BE STORED OR ALLOWED TO ACCUMULATE ON ADJACENT AREAS AND SHALL BE IMMEDIATELY REMOVED FROM PROJECT SITE UPON REMOVAL. IF MATERIALS ARE TO REMAIN ON SITE THEY MUST BE PRE-APPROVED BY THE ENGINEER AS A PART OF A MATERIALS HANDLING AND STORAGE PLAN.
11. TRAFFIC CONTROL DEVICES SHALL BE FURNISHED AND MAINTAINED THROUGHOUT THIS PROJECT IN ACCORDANCE WITH THE LATEST VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND/OR AS REQUIRED BY THE DEPARTMENT OF TRANSPORTATION OR COUNTY PERMITS FOR CONSTRUCTION IN RIGHT-OF-WAY.
12. SUBMIT AN EROSION CONTROL PLAN (SWPPP) PRIOR TO CONSTRUCTION AND SHALL MAINTAIN SWPPP THROUGHOUT DURATION OF CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.
13. TAKE ALL MEASURES NECESSARY TO KEEP ADJACENT RIGHT-OF-WAY, PROPERTIES, SIDEWALKS, ROADS, ETC FREE OF MUD, TRASH AND CONSTRUCTION DEBRIS AT ALL TIMES.
14. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS, LOCATES, AND AVAILABLE FILES. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. FIELD VERIFY ALL LOCATIONS, SIZES, MATERIALS, TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF CONSTRUCTION PRIOR TO THE START OF CONSTRUCTION.
15. PERFORM ALL WORK WITHIN DESIGNATED EASEMENTS. DO NOT ENCROACH OR TRESPASS INTO PRIVATE PROPERTY WITHOUT WRITTEN APPROVAL FROM THE PROPERTY OWNER.
16. MAINTAIN LOCAL AND THROUGH TRAFFIC FOR ALL STREETS AT ALL TIMES WITHOUT CLOSURES OR RESTRICTIONS EXCEPT AS PART OF THE TRAFFIC CONTROL PLAN.
17. MAINTAIN REASONABLE ACCESS TO ALL PROPERTIES AT ALL TIMES. DO NOT RESTRICT DRIVEWAY ACCESS WITHOUT OWNER'S APPROVAL. RESTORE DRIVEWAY ACCESS AT THE END OF EACH DAY. PROVIDE TEMPORARY MEASURES AS NEEDED (SUCH AS GRAVEL) TO MAINTAIN DRIVEWAY ACCESS. GIVE RESIDENTS AT LEAST 24 HOURS NOTICE PRIOR TO ANY REMOVALS.
18. KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE DRAWINGS. FURNISH TO THE ENGINEER ACCURATE "AS-BUILT" RED LINE DRAWINGS FOLLOWING COMPLETION OF CONSTRUCTION. PROVIDE SURVEYED LOCATIONS AND ELEVATIONS OF ALL STRUCTURES, VAULTS, MANHOLES, VALVES, HYDRANTS, CONNECTIONS, SERVICES, ETC.
19. TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD AND UNDERGROUND ELECTRIC LINES. ABIDE BY THE MOST RECENT NATIONAL ELECTRIC CODE FOR WORKING AROUND OVERHEAD ELECTRIC LINES AS WELL AS OTHER LOCAL, STATE OR FEDERALS LAWS / REQUIREMENTS.
20. CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS GOVERNING EXCAVATION. TRENCH SIDE SLOPES SHALL MEET OSHA REQUIREMENTS THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. INSTALL SHEETING AND BRACING AS NECESSARY. SUBMIT A TRENCH SAFETY PLAN PRIOR TO CONSTRUCTION.
21. PROVIDE DUST CONTROL AT ALL TIMES DURING CONSTRUCTION.
22. FALL PROTECTION TO BE PROVIDED AROUND ALL OPENINGS AT ALL TIMES.
23. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE ENGINEER, INSPECTOR OR OWNER'S REPRESENTATIVE IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
24. THE DETAILS DEPICT TYPICAL DETAILING AND ARE IN SOME INSTANCES SPECIFICALLY CALLED OUT / REFERENCED BY DETAIL NUMBER. HOWEVER, NOT ALL LOCATIONS WHERE DETAILS APPLY ARE SPECIFICALLY ADDRESSED. CONTRACTOR SHOULD BECOME FAMILIAR WITH ALL STANDARD DETAILS AND CONSIDER THEM THE STANDARD OF CONSTRUCTION FOR USE WHETHER CALLED OUT OR NOT. IF THERE ARE CONFLICTS / QUESTIONS, THEY SHALL BE SUBMITTED TO THE ENGINEER IN WRITING PRIOR TO BID/CONSTRUCTION. IF NOT CLARIFICATION IS PROVIDED, ASSUME THE MOST COSTLY/STRINGENT APPLIES FOR BIDDING PURPOSES.

EATHWORK

1. ALL COMPACTED SUBGRADE AND BASE NOT ACCESSIBLE TO MECHANICAL COMPACTION EQUIPMENT SHALL BE HAND COMPACTED USING WHACKER PACKERS.
2. PROJECT SHALL BE CONSTRUCTED TO MINIMIZE DISTURBANCE TO SURROUNDING AREAS. ANY DISTURBANCE OF EXISTING SURFACES OUTSIDE OF THE LIMITS OF CONSTRUCTION SHALL BE IMMEDIATELY CORRECTED.
3. ELEVATIONS GIVEN ARE FINISHED GRADE UNLESS OTHERWISE NOTED.
4. NO FIRES WILL BE ALLOWED UNLESS OTHERWISE NOTED. TREES AND BRUSH SHALL BE REMOVED AND DISPOSED OF OFF SITE.
5. NO BLASTING WILL BE ALLOWED.
6. ALL SURFACE DRAINAGE IMPACTED SHALL BE RESTORED TO AS GOOD OR BETTER CONDITION.
7. ALL DISTURBED AREAS SHALL BE LEFT FREE OF RUTS AND TRACKS AND SHALL BE FULLY GRADED TO DRAIN.
8. MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION. PONDING WATER SHALL NOT BE PERMITTED.

DUCTILE IRON PIPE & FITTINGS

1. ALL BURIED DUCTILE IRON PIPE AND FITTINGS SHALL BE PROTECTED 8 MIL POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANSI/AWWA C105/A21.5 "POLYETHYLENE ENCASEMENT FOR GRAY AND DUCTILE IRON PIPE FOR WATER AND OTHER LIQUIDS." THIS ITEM SHALL NOT BE MEASURED FOR PAYMENT AND SHALL BE INCLUDED IN THE PRICE BID FOR ASSOCIATED ITEMS OF WORK.
2. ALL BURIED MECHANICAL JOINT, FLANGE & MISC. FITTINGS TO HAVE XYLAN COATED BOLTS, NUTS & WASHERS.
3. ALL BURIED FITTINGS SHALL BE D.I. MECHANICAL JOINT (M.J) RESTRAINED (MEGALUG.)
4. PROVIDE ALL NECESSARY FITTINGS AND APPURTENANCES FOR THE INSTALLATION OF PIPING AT HORIZONTAL AND VERTICAL BENDS TO AVOID CONFLICTS. COST OF REQUIRED FITTINGS TO BE INCIDENTAL TO THE COST OF THE INSTALLATION.

GRASSING

1. CONTRACTOR SHALL SEPARATE THE TOP 4"-6" OF TOPSOIL FROM ALL DISTURBED AREAS AND SHALL REAPPLY THE TOPSOIL IN ALL AREAS UPON COMPLETION OF CONSTRUCTION. THE MINIMUM TOPSOIL DEPTH SHALL BE 4" AND SHOULD THERE NOT BE ADEQUATE TOPSOIL AVAILABLE TO REACH THE MINIMUM DEPTH IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPORT SUFFICIENT TOPSOIL TO REACH MINIMUM DEPTH. FIELD VERIFY PRIOR TO BID.
2. ANY AND ALL DISTURBED AREAS SHALL BE HYDROMULCHED PER THE SPECIFICATIONS.

PIPING & APPURTENANCES

1. ALL PIPING THAT CROSS VERTICALLY SHALL HAVE AT LEAST 6" SEPARATION.
2. ALL VALVE ASSEMBLIES, VAULTS, PULLS BOXES AND MANHOLES CONSTRUCTED SHALL BE ADJUSTED TO BE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED.
3. CONNECTIONS TO EXISTING UTILITIES SHALL BE MADE IN A TIME AND UNDER CONDITIONS WHICH WILL LEAST INTERFERE WITH SERVICE OF THE OWNER, AND AS AUTHORIZED BY THE ENGINEER AND OWNER. FACILITIES SHALL BE PROVIDED FOR PROPER DEWATERING AND FOR DISPOSAL OF ALL WATER/WASTEWATER REMOVED TO ADJACENT PROPERTY FROM DEWATERED LINES WITHOUT DAMAGE.
4. MAINTAIN THE REQUIRED 10 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION BETWEEN SANITARY SEWER AND POTABLE WATER MAINS. ALL OTHER PIPING SHALL MAINTAIN A MINIMUM OF 5' HORIZONTAL SEPARATION.
5. SCHEDULE AND CONDUCT OPERATIONS TO LIMIT AMOUNT OF TRENCH OPENED TO INCLUDE ONLY THAT WHICH MAY BE COVERED IN 2 (TWO) DAYS TIME TO A MAXIMUM OF 200'. ANY TRENCH LEFT OPEN OVERNIGHT SHALL BE BARRICADED AND PROTECTED AS DETAILED IN THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
6. VERIFY VALVE STATUS (ON/OFF) OF EXISTING WATER METERS PRIOR TO CONNECTING SERVICE LINES TO NEW/RELOCATED METERS. NEW/RELOCATED METER VALVE STATUS TO MATCH EXISTING.
7. EXACT LOCATION OF VALVES, FIRE HYDRANTS, AND SERVICE CONNECTIONS, TO BE DETERMINED IN THE FIELD BY THE OWNER.
8. AIR/VAC VALVES SHALL BE INSTALLED AT THE APPROXIMATE LOCATION SHOWN ON THE PLANS AND FIELD LOCATED TO THE PRECISE POINT OF PIPELINE HIGH POINTS. SHOULD A HIGH POINT BE ENCOUNTERED THAT IS NOT OUTLINED ON THE DRAWINGS, NOTIFY OWNER/ENGINEER FOR DIRECTION. THE CONTRACTOR SHALL NOT INTRODUCE NEW HIGH OR LOW POINTS IN THE PROFILE WHERE NO AIR/VAC IS SHOWN WITHOUT APPROVAL OF ENGINEER.
9. MATERIAL EXCAVATED FROM TRENCH & PIPE BEDDING MATERIALS SHALL NOT BE PLACED ON ADJACENT ASPHALT OR CONCRETE PAVING.
10. A SILT AND VARMINT CAP AND/OR PLUG SHALL BE IN PLACE ON THE OPEN END OF PIPES AT ALL TIMES.
11. DO NOT OPERATE SYSTEM VALVES. COORDINATE WITH OWNER FOR VALVE OPERATION.
12. NOTIFY AFFECTED PROPERTY OWNERS AT LEAST 72 HOURS IN ADVANCE OF SERVICE INTERRUPTION. SERVICE INTERRUPTIONS MUST BE APPROVED BY THE ENGINEER.
13. COMPLY WITH OSHA REGULATIONS REGARDING CONFINED SPACE ENTRY WHEN WORKING IN ANY EXISTING MANHOLES AND OTHER SEWER FACILITIES
14. ALL PIPING SHALL HAVE MINIMUM COVER OF 48". PIPE SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO AVOID EXISTING PIPES, STRUCTURES, ETC. FURNISH ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES. INCLUDE COST IN PRICE BID.
15. PIPING SHALL BE INSTALLED ON GRADUAL VERTICAL CURVES TO ELIMINATE THE INSTALLATION OF FITTINGS WHERE POSSIBLE.
16. DO NOT EXCEED 75% OF MANUFACTURE'S RECOMMENDED MAXIMUM DEFLECTION FOR PIPE JOINTS UNLESS OTHERWISE NOTED.
17. PIPING DESIGNATED TO BE REMOVED UNDER PROPOSED ROADS OR STRUCTURES SHALL BE COMPLETED REMOVED.
18. INSTALL TEMPORARY FENCES TO PROTECT LIVESTOCK AS NECESSARY.
19. REMOVAL AND REPLACEMENT INCLUDING, BUT NOT LIMITED TO, STREET TRAFFIC SIGNS, FENCES, DRIVES, PAVEMENT, MAIL BOXES, DRAINAGE STRUCTURES, LANDSCAPING, SCHRUBS, AND OTHER STRUCTURES TO FACILITATE CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL AND BE INCLUDED IN THE PRICE BID.
20. ALL EXISTING PAYMENT TO REMAIN SHALL BE SAWCUT TO ENSURE A STRAIGHT SMOOTH SURFACE. ALL CUTS MADE IN DRIVEWAYS OR OTHER PAVEMENTS SHALL BE MADE IN STRAIGHT PERPENDICULAR LINES. COST TO BE CONSIDERED SUBSIDIARY TO THE PRICE BID.
21. INSTALL DETECTABLE WARNING TAPE ON ALL PIPING INSTALLED IN ACCORDANCE WITH SPECIFICATIONS.

SHEET INDEX

	COVER SHEET
2	GENERAL CONSTRUCTION NOTES & SHEET INDEX
3-9	PROPOSED WATER MAIN PLAN & PROFILE
10	SHAWNEE METER VAULT DETAIL

WALL ENGINEERING
223 N. WASHINGTON, DURANT, OK 74701
OKLAHOMA CA #6413

SUBMITTAL / REVISIONS:

DATE	BY	SUBMITTAL / REVISION

CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

GENERAL CONSTRUCTION NOTES,
OVERALL LOCATION MAP & SHEET INDEX

PROJECT NO.
SHN-25-01

DATE
08/25

DRAWN BY:
TL

CHECKED BY:
BW

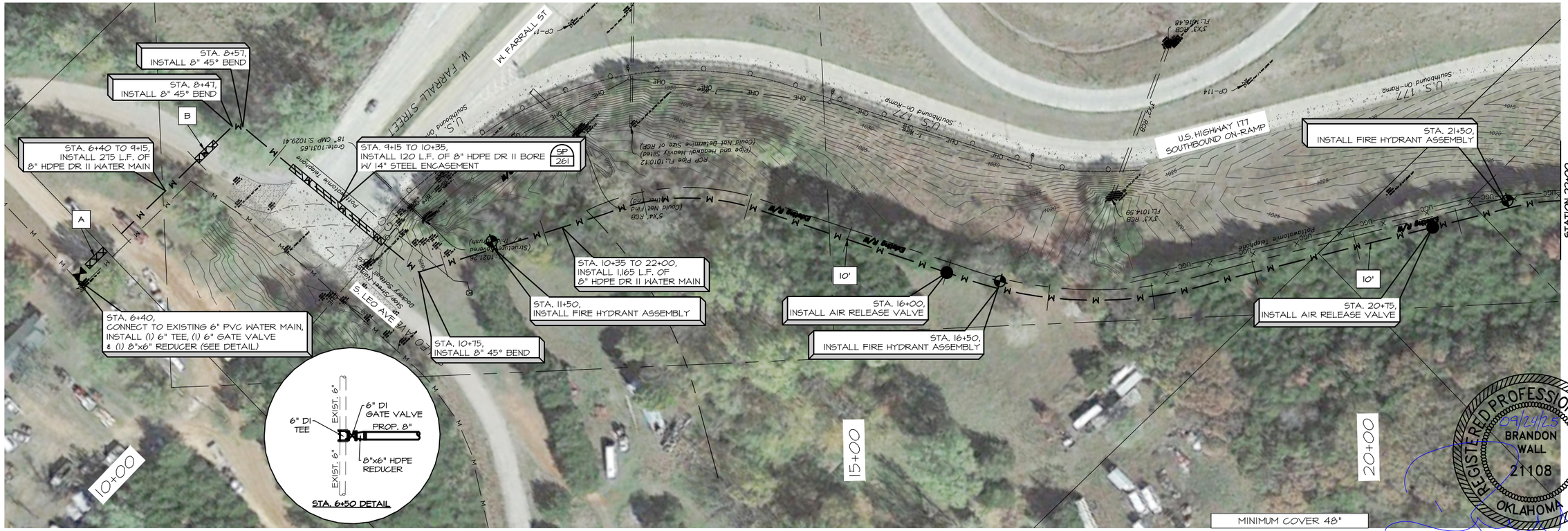
REVIEWED BY:
DBW

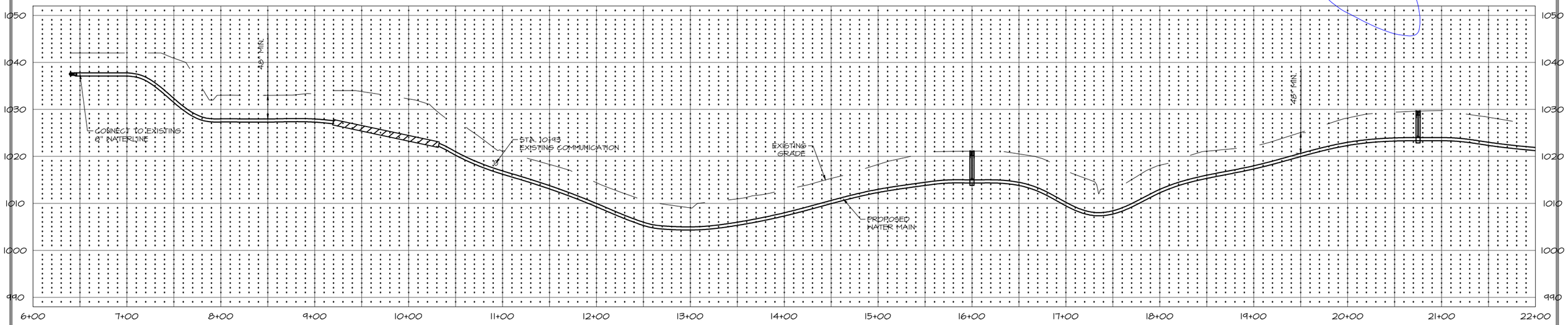
SCALE:
NOT TO SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1/2"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHEET
2

REGISTERED PROFESSIONAL ENGINEER
08/04/25
BRANDON WALL
21108
OKLAHOMA





PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
PROPOSED METER VAULT
PROPOSED FIRE HYDRANT

LEGEND

EXISTING WATERLINE
EXISTING RIGHT-OF-WAY
EXISTING CONTOUR LINES
EXISTING COMMUNICATION
EXISTING FIBER-OPTIC
EXISTING OVERHEAD ELECTRIC
EXISTING GATE VALVE
EXISTING FIRE HYDRANT
EXISTING COMMUNICATION PEDESTAL
EXISTING POWER POLE
EXISTING SIGN

OPEN CUT & REPLACE QUANTITIES	
SYM.	ASPHALT
A	20 L.F.
B	25 L.F.

NOTES
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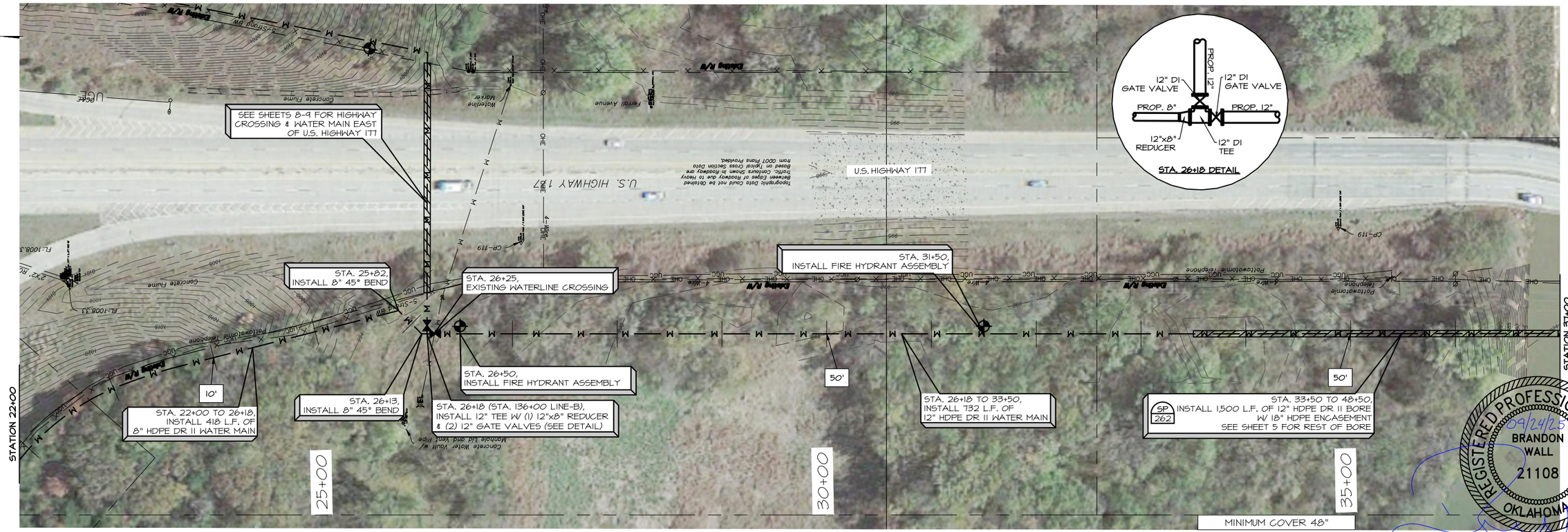
WALL ENGINEERING
223 N. WASHINGTON, DURANT, OK 74701
OKLAHOMA CA #5413

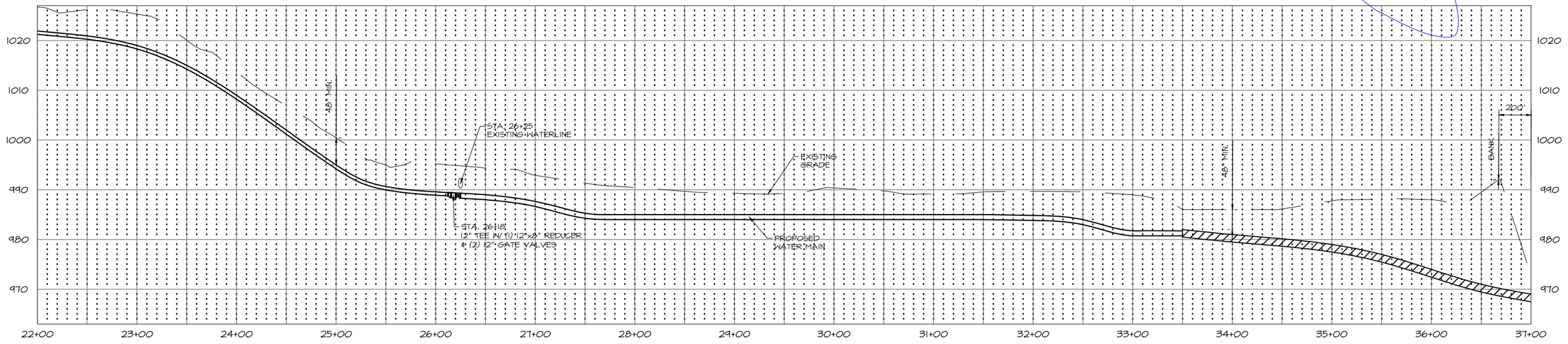
CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-A)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
DRAWN BY: TL	SCALE: 1"=100'
CHECKED BY: BW	BAR IS ONE-HALF INCH ON ORIGINAL DRAWING 0" 1/2"
REVIEWED BY: DBW	IF NOT ONE-HALF INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHEET 3





PROFILE SCALE
1"=100' HOR
1"=20' VERT

LEGEND

- PROPOSED BORE (SP 261, SP 262)
- OPEN CUT & REPLACE
- PROPOSED WATER MAIN
- PROPOSED GATE VALVE (VL 353)
- PROPOSED AIR RELEASE VALVE (VL 362)
- PROPOSED VALVE VAULT W/ SAMPLING STATION (VL 355)
- PROPOSED METER VAULT
- PROPOSED FIRE HYDRANT
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- EXISTING CONTOUR LINES
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- EXISTING COMMUNICATION PEDESTAL
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REGISTERED PROFESSIONAL ENGINEER
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21108
OKLAHOMA

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CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-A)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
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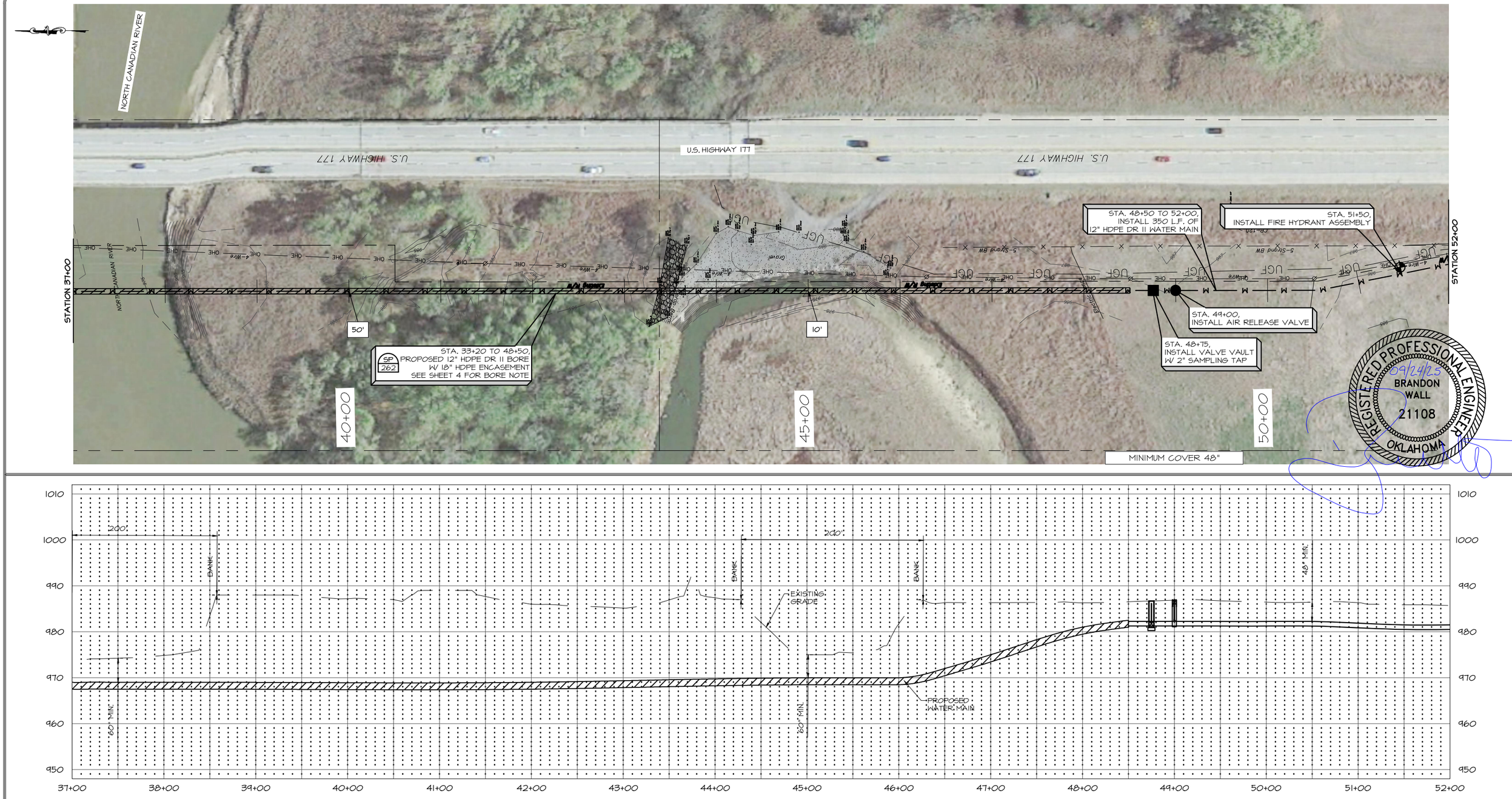
SHEET 4



PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
PROPOSED METER VAULT
PROPOSED FIRE HYDRANT

LEGEND

EXISTING WATERLINE
EXISTING RIGHT-OF-WAY
EXISTING CONTOUR LINES
EXISTING COMMUNICATION
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OKLAHOMA CA #5413

CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-A)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
DRAWN BY: TL	SCALE: 1"=100'
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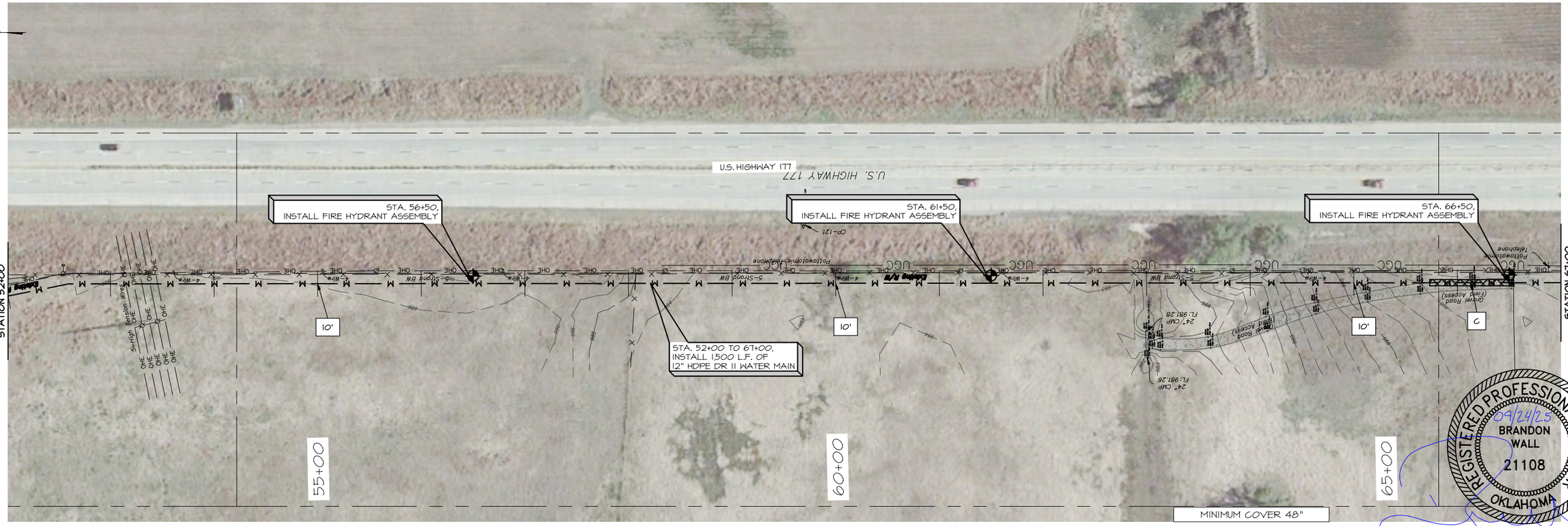
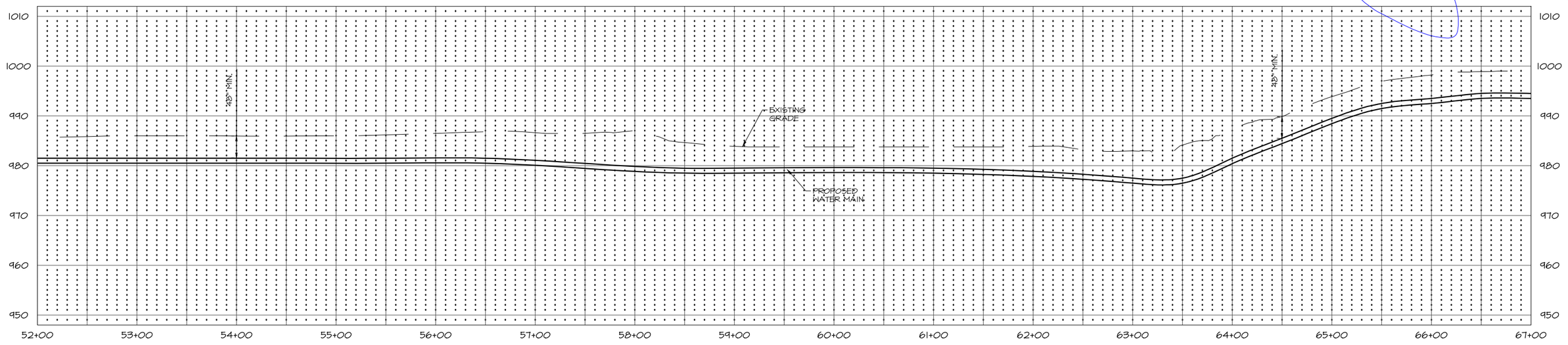
SHEET 5





PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
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LEGEND

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EXISTING FIRE HYDRANT
EXISTING COMMUNICATION PEDESTAL
EXISTING POWER POLE
EXISTING SIGN

OPEN CUT & REPLACE QUANTITIES	
SYM.	GRAVEL
C	80 L.F.

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09/24/25
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21108
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CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-A)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
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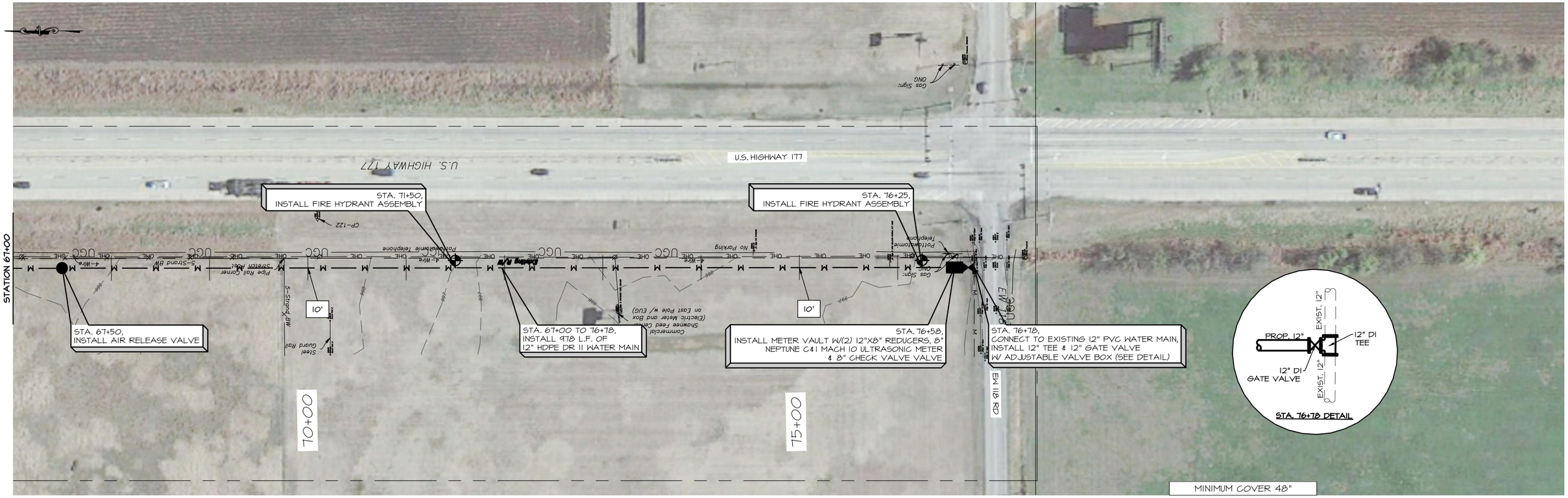
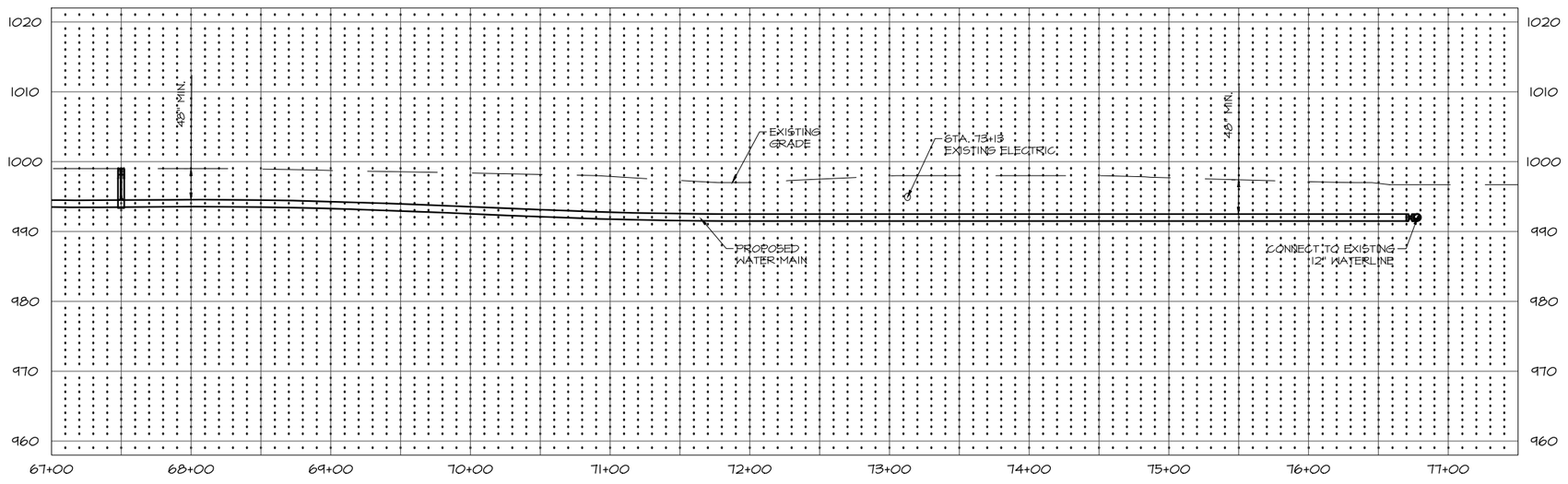
SHEET 6





PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
PROPOSED METER VAULT
PROPOSED FIRE HYDRANT

LEGEND

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EXISTING RIGHT-OF-WAY
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CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-A)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
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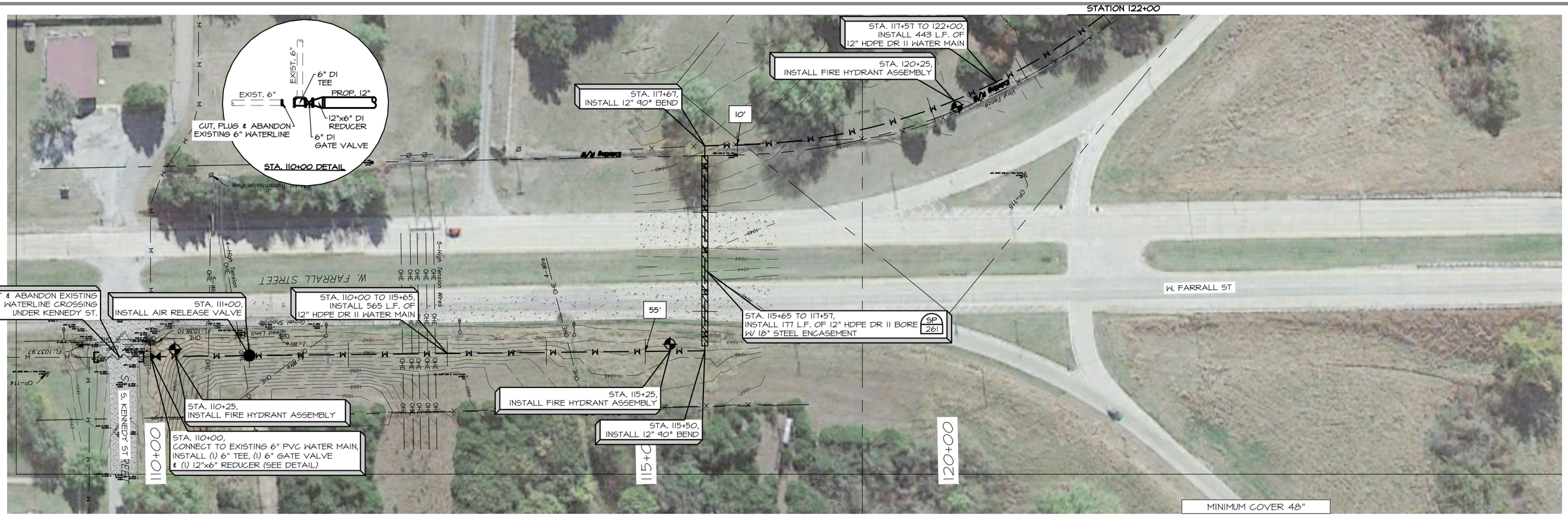
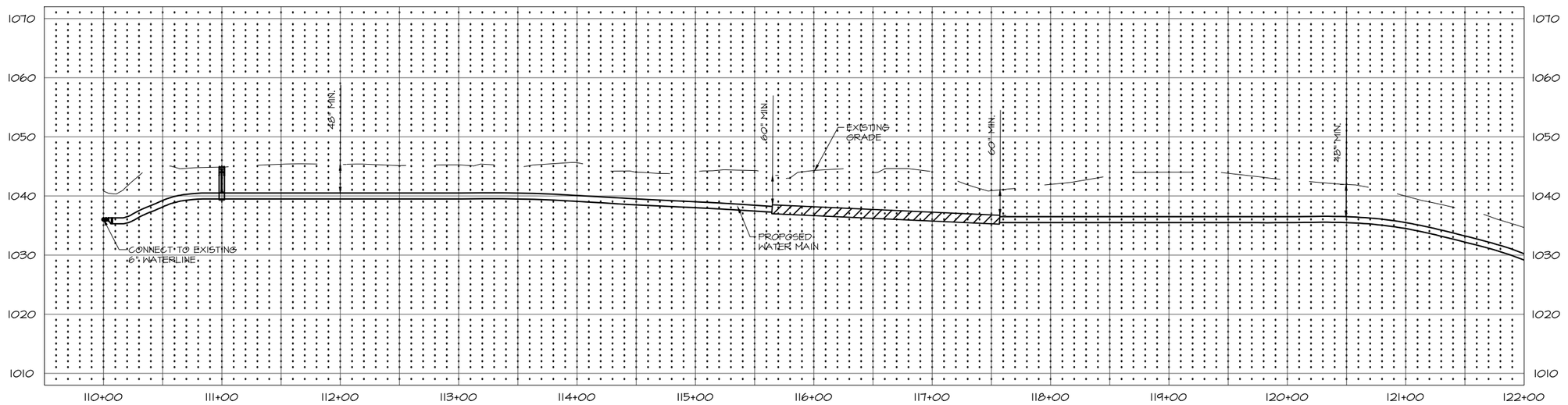
SHEET 7





PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
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LEGEND

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EXISTING RIGHT-OF-WAY
EXISTING CONTOUR LINES
EXISTING COMMUNICATION
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CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-B)
PLAN AND PROFILE

PROJECT NO.	DATE
SHN-25-01	09/25
DRAWN BY: TL	SCALE: 1"=100'
CHECKED BY: BW	BAR IS ONE-HALF INCH ON ORIGINAL DRAWING 0" 1/2"
REVIEWED BY: DBW	IF NOT ONE-HALF INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHEET 8

STATION 122+00

125+00

130+00

135+00

U.S. HIGHWAY 177

STA. 122+00 TO 123+00, INSTALL 100 L.F. OF 12" HDPE DR 11 WATER MAIN

STA. 122+50, INSTALL 12" GATE VALVE

STA. 123+00 TO 127+00, INSTALL 400 L.F. OF 12" HDPE DR 11 BORE W/ 18" HDPE ENCASEMENT SP 262

10'

STA. 127+75, INSTALL FIRE HYDRANT ASSEMBLY

STA. 127+00 TO 133+40, INSTALL 640 L.F. OF 12" HDPE DR 11 WATER MAIN

10'

STA. 133+30, INSTALL 12" 90° BEND

STA. 132+75, INSTALL FIRE HYDRANT ASSEMBLY

10'

STA. 133+40 TO 135+60, INSTALL 220 L.F. OF 12" HDPE DR 11 BORE W/ 18" STEEL ENCASEMENT SP 261

STA. 135+60 TO 136+00, INSTALL 40 L.F. OF 12" HDPE DR 11 WATER MAIN

STA. 127+50, INSTALL AIR RELEASE VALVE

STA. 127+25, INSTALL VALVE VAULT W/ 2" SAMPLING TAP

STA. 136+00 (STA. 26+18 LINE-A), CONNECT TO PROPOSED 12" TEE SEE SHEET 4

SEE SHEETS 3-7 FOR WATER MAIN WEST OF U.S. HIGHWAY 177

MINIMUM COVER 48"

NOTES

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09/24/25
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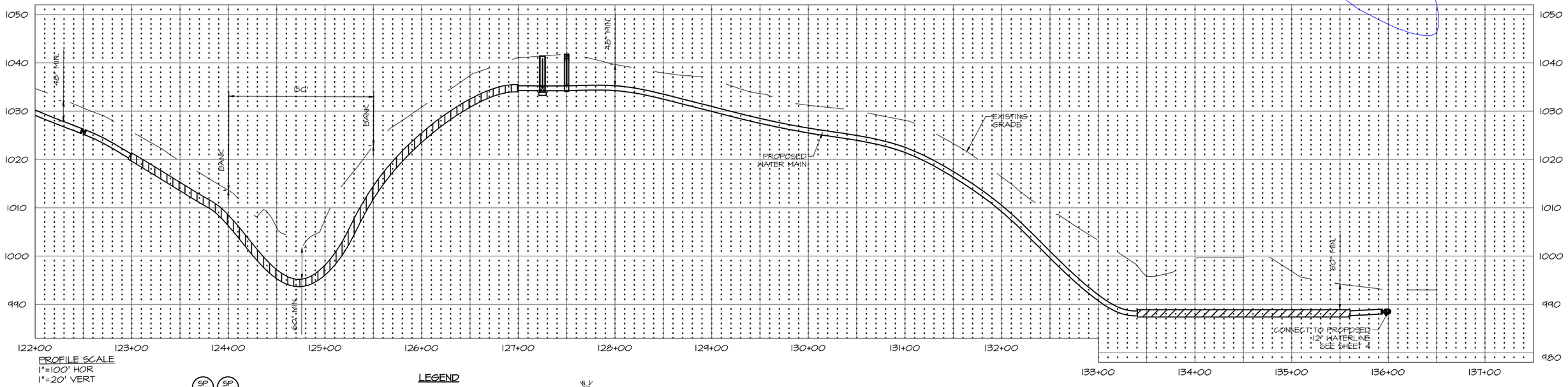
21108
OKLAHOMA



PROFILE SCALE
1"=100' HOR
1"=20' VERT

PROPOSED BORE SP 261 SP 262
OPEN CUT & REPLACE
PROPOSED WATER MAIN
PROPOSED GATE VALVE VL 353
PROPOSED AIR RELEASE VALVE VL 362
PROPOSED VALVE VAULT W/ SAMPLING STATION VL 355
PROPOSED METER VAULT
PROPOSED FIRE HYDRANT

LEGEND

EXISTING WATERLINE
EXISTING RIGHT-OF-WAY
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EXISTING SIGN

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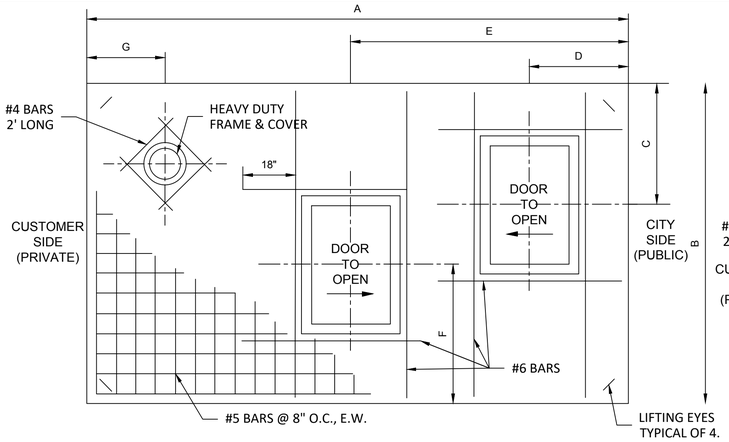
CITY OF SHAWNEE
SW WATER MAIN LOOP
SHAWNEE, OKLAHOMA

WATER MAIN (LINE-B)
PLAN AND PROFILE

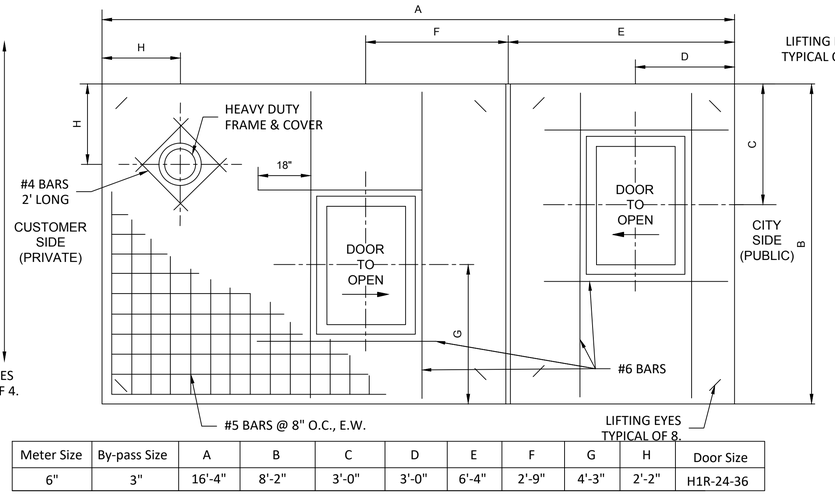
PROJECT NO.	DATE
SHN-25-01	09/25
DRAWN BY: TL	SCALE: 1"=100'
CHECKED BY: BW	BAR IS ONE-HALF INCH ON ORIGINAL DRAWING 0" 1/2"
REVIEWED BY: DBW	IF NOT ONE-HALF INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHEET 9



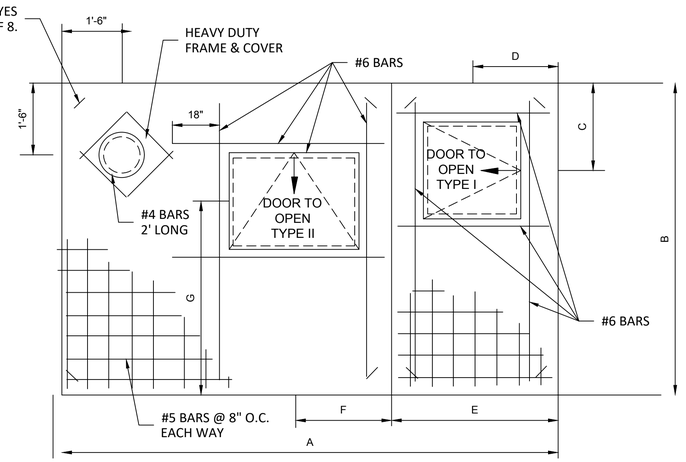
Meter Size	By-pass Size	A	B	C	D	E	F	G	Door Size
3"	2"	12'-2"	7'-10"	3'-0"	2'-6"	6'-9"	3'-6"	2'-0"	H1R-24-36
4"	2"	13'-8"	7'-10"	3'-0"	2'-6"	7'-0"	3'-6"	2'-0"	H1R-24-36

3" & 4" WATER METER VAULT



Meter Size	By-pass Size	A	B	C	D	E	F	G	H	Door Size
6"	3"	16'-4"	8'-2"	3'-0"	3'-0"	6'-4"	2'-9"	4'-3"	2'-2"	H1R-24-36

6" WATER METER VAULT

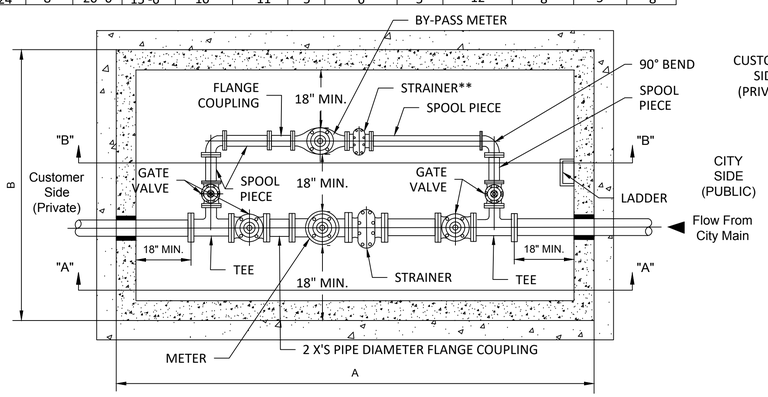


Meter Size	By-pass Size	A	B	C	D	E	F	G	Door Size I	Door Size II
8	4"	17'-0"	11'-0"	2'-8"	2'-8"	6'-0"	3'-0"	7'-6"	H1R-36-36	H1R-36-42
10"	6"	20'-0"	13'-6"	2'-8"	2'-8"	8'-0"	3'-0"	10'-0"	H1R-36-36	H1R-36-42
12"	8"	20'-0"	15'-6"	2'-8"	2'-8"	8'-0"	3'-0"	12'-0"	H1R-36-36	H1R-36-42

8", 10", & 12" WATER METER VAULT

Reinforcing Schedule for Concrete Vaults

Meter Size	By-Pass Size	Design No.	Depth (feet)	A	B	Wall Thickness	Floor Thickness	Vertical Bars		Horizontal Bars		Top Thickness	Top Bars	
								Size	Spacing	Size	Spacing		Size	Spacing
3"	2"	1	5	12'-2"	7'-10"	8	10	4	12	4	12	8	5	8
		2	6	12'-2"	7'-10"	8	10	4	9	4	12	8	5	8
		3	7	12'-2"	7'-10"	8	10	5	12	4	12	8	5	8
		4	8	12'-2"	7'-10"	8	10	5	9	4	12	8	5	8
4"	2"	5	5	13'-8"	7'-10"	8	10	4	12	4	12	8	5	8
		6	6	13'-8"	7'-10"	8	10	4	9	4	12	8	5	8
		7	7	13'-8"	7'-10"	8	10	5	12	4	12	8	5	8
		8	8	13'-8"	7'-10"	8	10	5	9	4	12	8	5	8
6"	3"	9	5	16'-4"	9'-6"	8	10	4	12	4	12	8	5	8
		10	6	16'-4"	9'-6"	8	10	4	9	4	12	8	5	8
		11	7	16'-4"	9'-6"	8	10	5	12	4	12	8	5	8
		12	8	16'-4"	9'-6"	8	10	5	9	4	12	8	5	8
8"	4"	13	5	17'-0"	11'-0"	8	10	4	12	4	12	8	5	8
		14	6	17'-0"	11'-0"	8	10	4	9	4	12	8	5	8
		15	7	17'-0"	11'-0"	8	10	5	12	4	12	8	5	8
		16	8	17'-0"	11'-0"	8	10	5	9	4	12	8	5	8
10"	6"	17	5	20'-0"	13'-6"	8	10	4	12	4	12	8	5	8
		18	6	20'-0"	13'-6"	8	10	4	9	4	12	8	5	8
		19	7	20'-0"	13'-6"	10	11	5	12	4	12	8	5	8
		20	8	20'-0"	13'-6"	10	11	5	12	4	12	8	5	8
12"	8"	21	5	20'-0"	15'-6"	8	10	4	12	4	12	8	5	8
		22	6	20'-0"	15'-6"	8	10	4	9	4	12	8	5	8
		23	7	20'-0"	15'-6"	10	11	4	6	5	12	8	5	8
		24	8	20'-0"	15'-6"	10	11	5	6	5	12	8	5	8



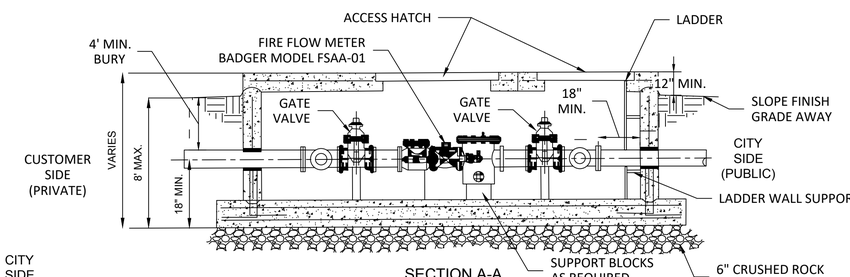
Meter Size	By-Pass Size	A	B
3"	2"	12'-2"	7'-10"
4"	2"	13'-8"	7'-10"
6"	3"	16'-4"	8'-2"

VAULT NOTES:

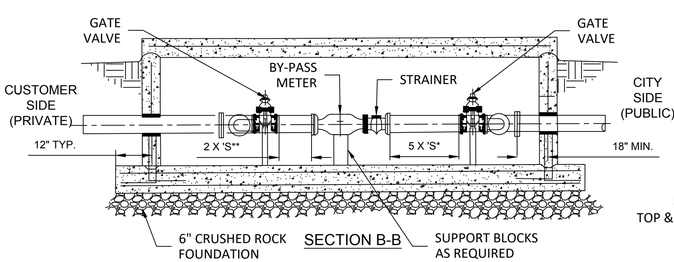
1. VAULT LID FOR 6" METERS AND LARGER WILL CONSIST OF TWO REMOVABLE SECTIONS.
2. PROVIDE WATER TIGHT SEAL BETWEEN LID SECTIONS AND WALLS.
3. DOORS SHALL BE HALLIDAY DOORS, SERIES H1R (H20 LOAD RATED) OR APPROVED EQUAL WITH SAFETY FALL GRATING.
4. HEAVY DUTY FRAME AND COVER TO BE EAST JORDAN IRON V1610-3 SERIES OR EQUAL.
5. NO METER BOXES SHALL BE INSTALLED IN ANY SIDEWALK OR DRIVEWAY APPROACH.
6. REINFORCING STEEL SHALL BE GRADE 60.
7. CONCRETE SHALL HAVE A MINIMUM 7 DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
8. REINFORCING STEEL SHALL HAVE A MINIMUM 2" CLEAR SPACE FROM EXPOSED SURFACE.
9. INSTALLATION OF FLANGED COUPLING AND STRAINER REQUIRED ON 3" BY-PASS METERS AND LARGER.
10. ALL DUCTILE IRON JOINTS INSIDE THE VAULT SHALL BE FLANGED.
11. PROVIDE STRAIGHT PIPE UPSTREAM AND DOWNSTREAM OF METER/ STRAINER IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
12. ALUMINUM ACCESS LADDER WITH SAFETY EXTENSION AND NON-SKIF RUNGS @ 12" O.C., TO BE ANCHORED TO VAULT WALL.

REINFORCING NOTES:

1. ALL REINFORCING REBAR SHALL BE GRADE 60.
2. TOP BARS SHALL BE PLACED IN TWO MATS. BAR SIZE AND SPACING SHALL IN EACH DIRECTION BE INCLUDED IN EACH MAT OF STEEL.
3. FLOOR REINFORCING USE #4 BARS @ 12" C/C EACH WAY FOR THE TOP MAT AND THE BOTTOM MAT OF REINFORCING.
4. WALL, FLOOR, AND TOP THICKNESS ARE IN INCHES, STEEL REINFORCEMENT SPACING IS IN INCHES.

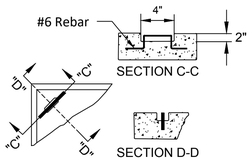


SECTION A-A

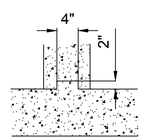


SECTION B-B

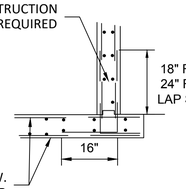
* MINIMUM 5X'S PIPE DIAMETER
** MINIMUM 2X'S PIPE DIAMETER



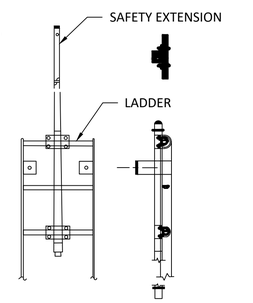
LIFTING EYE DETAIL



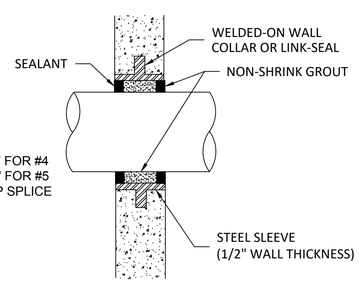
KEYED CONSTRUCTION JOINT



LAP BARS



LADDER-UP EXTENSION



SEAL & GROUT

WATER METER VAULTS 3 IN. UP TO 12 IN.

CITY OF SHAWNEE, OKLAHOMA
ENGINEERING DEPARTMENT

DRAWING NO. WL-07

APPROVED BY:

SETH BARKHIMER, P.E. CITY ENGINEER

DATE: 10/21/2024

REVISION NUMBER: 01

REVISION DATE: 8/26/2024

Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Assistant City Manager / Director of Engineering

Subject: Shawnee Sewer Bursting FY 26, Project No. 25-119

Background: City staff solicited competitive bids for the *Shawnee Sanitary Sewer Bursting FY26* project, with two responsive bids received and opened on October 14, 2025. The apparent low bidder, Tri-Star Utilities, Inc., submitted a base bid of $3,374,085.00 and an add alternate bid of $2,230,415.00, totaling $5,604,500.00. The engineer's estimate prior to bidding was $1,418,002.50 for the base bid and $838,487.50 for the add alternate, and the bids received significantly exceeded the available project budget. The City's design consultant, Cowan Group Engineering, has reviewed all bid documents, confirmed that the low bid is accurate and complete, and recommends rejection of all bids so that the project can be re-bid with a reduced scope to align with available funding. City staff concurs with this recommendation and requests authorization from the City Commission to reject all bids received and proceed with revising the project scope and priorities to bring the cost within budget before re-advertising.

Financial Impact: None.

Attachments: Bid Tabulation, Bid Recommendation Letter

Staff Recommendation: Reject all bids.

COWAN GROUP ENGINEERING, LLC
7100 N. CLASSEN BLVD., SUITE 500
OKLAHOMA CITY, OK 73116
405.463.3369 O
405.463.3381 F

City of Shawnee
OKLAHOMA

I do solemnly swear that the below amount is correct, reasonable and just.

City of Shawnee

Shawnee Sewer Busting FY26

BID NO. 25-119

DATE October 14, 2025

Michael Taylor
PROJECT MANAGER, P.E.

BASE BID

ITEM NUMBER	DESCRIPTION	QTY	UNIT	Tri-Star Utilities, Inc.		Krapff-Reynolds Construction Co.	
1	MOBILIZATION	1	LSUM	$ 300,000.00	$ 300,000.00	$ 10,000.00	$ 10,000.00
2	CLEARING & GRUBBING	1	LSUM	$ 20,000.00	$ 20,000.00	$ 250,000.00	$ 250,000.00
3	12" HDPE DR-17 SANITARY SEWER (TRENCHING)	723	LF	$ 250.00	$ 180,750.00	$ 309.00	$ 223,407.00
4	10" HDPE DR-17 SANITARY SEWER (BURSTING)	292	LF	$ 225.00	$ 65,700.00	$ 301.00	$ 87,892.00
5	10" HDPE DR-17 SANITARY SEWER (TRENCHING)	2103	LF	$ 225.00	$ 473,175.00	$ 304.00	$ 639,312.00
6	8" HDPE DR-17 SANITARY SEWER (BURSTING)	675	LF	$ 220.00	$ 148,500.00	$ 298.00	$ 201,150.00
7	8" HDPE DR-17 SANITARY SEWER (TRENCHING)	4441	LF	$ 220.00	$ 977,020.00	$ 300.00	$ 1,332,300.00
8	8" HDPE DR-17 SANITARY SEWER (CASING)	65	LF	$ 200.00	$ 13,000.00	$ 298.00	$ 19,370.00
9	18" DUCTILE IRON ENCASEMENT (TRENCH)	65	LF	$ 200.00	$ 13,000.00	$ 387.00	$ 25,155.00
10	4' DIAMETER MANHOLE, CONSTRUCT	12	EA	$ 10,000.00	$ 120,000.00	$ 4,000.00	$ 48,000.00
11	4' DIAMETER MANHOLE, REMOVE & REPLACE	2	EA	$ 10,000.00	$ 20,000.00	$ 4,500.00	$ 9,000.00
12	5' DIAMETER MANHOLE, REMOVE & REPLACE	13	EA	$ 12,000.00	$ 156,000.00	$ 5,500.00	$ 71,500.00
13	6' DIAMETER MANHOLE, REMOVE & REPLACE	1	EA	$ 30,000.00	$ 30,000.00	$ 6,500.00	$ 6,500.00
14	EXTRA DEPTH MANHOLE	121	VF	$ 1,500.00	$ 181,500.00	$ 400.00	$ 48,400.00
15	SERVICE CONNECTION	160	EA	$ 1,750.00	$ 280,000.00	$ 750.00	$ 120,000.00
16	REMOVE & REPLACE CONCRETE PAVEMENT	75	SY	$ 200.00	$ 15,000.00	$ 275.00	$ 20,625.00
17	REMOVE & REPLACE ASPHALT PAVEMENT	85	SY	$ 200.00	$ 17,000.00	$ 275.00	$ 23,375.00
18	REMOVE & REPLACE GRAVEL PAVEMENT	440	SY	$ 70.00	$ 30,800.00	$ 25.00	$ 11,000.00
19	SOLID SLAB SOD	5178	SY	$ 15.00	$ 77,670.00	$ 5.00	$ 25,890.00
20	PRE-INSTALLATION INSPECTION	8297	LF	$ 8.00	$ 66,376.00	$ 4.50	$ 37,336.50
21	POST-INSTALLATION INSPECTION	8297	LF	$ 2.00	$ 16,594.00	$ 1.50	$ 12,445.50
22	TESTING	1	LSUM	$ 10,000.00	$ 10,000.00	$ 1,000.00	$ 1,000.00
23	BYPASS PUMPING	1	LSUM	$ 82,000.00	$ 82,000.00	$ 83,640.00	$ 83,640.00
24	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LSUM	$ 10,000.00	$ 10,000.00	$ 25,092.00	$ 25,092.00
25	CONSTRUCTION SIGNING AND TRAFFIC CONTROL	1	LSUM	$ 50,000.00	$ 50,000.00	$ 35,000.00	$ 35,000.00
26	SPOT REPAIRS	4	EA	$ 5,000.00	$ 20,000.00	$ 15,000.00	$ 60,000.00
	BASE BID TOTAL				**$ 3,374,085.00**		**$ 3,427,390.00**

ADD ALTERNATE 1

ITEM NUMBER	DESCRIPTION	QTY	UNIT	Tri-Star Utilities, Inc.		Krapff-Reynolds Construction Co.	
4	10" HDPE DR-17 SANITARY SEWER (BURSTING)	356	LF	$ 225.00	$ 80,100.00	$ 301.00	$ 107,156.00
5	10" HDPE DR-17 SANITARY SEWER (TRENCHING)	2595	LF	$ 225.00	$ 583,875.00	$ 304.00	$ 788,880.00
6	8" HDPE DR-17 SANITARY SEWER (BURSTING)	1148	LF	$ 220.00	$ 252,560.00	$ 298.00	$ 342,104.00
7	8" HDPE DR-17 SANITARY SEWER (TRENCHING)	2834	LF	$ 200.00	$ 566,800.00	$ 300.00	$ 850,200.00
10	4' DIAMETER MANHOLE, CONSTRUCT	6	EA	$ 8,500.00	$ 51,000.00	$ 4,000.00	$ 24,000.00
12	5' DIAMETER MANHOLE, REMOVE & REPLACE	9	EA	$ 12,000.00	$ 108,000.00	$ 5,500.00	$ 49,500.00
14	EXTRA DEPTH MANHOLE	55	VF	$ 1,500.00	$ 82,500.00	$ 400.00	$ 22,000.00
15	SERVICE CONNECTION	146	EA	$ 1,750.00	$ 255,500.00	$ 750.00	$ 109,500.00
16	REMOVE & REPLACE CONCRETE PAVEMENT	5	SY	$ 200.00	$ 1,000.00	$ 275.00	$ 1,375.00
17	REMOVE & REPLACE ASPHALT PAVEMENT	474	SY	$ 200.00	$ 94,800.00	$ 275.00	$ 130,350.00
18	REMOVE & REPLACE GRAVEL PAVEMENT	8	SY	$ 70.00	$ 560.00	$ 25.00	$ 200.00
19	SOLID SLAB SOD	4294	SY	$ 15.00	$ 64,410.00	$ 5.00	$ 21,470.00
20	PRE-INSTALLATION INSPECTION	6931	LF	$ 8.00	$ 55,448.00	$ 4.50	$ 31,189.50
21	POST-INSTALLATION INSPECTION	6931	LF	$ 2.00	$ 13,862.00	$ *1.50*	$ 10,396.50
26	SPOT REPAIRS	4	EA	$ 5,000.00	$ 20,000.00	$ 15,000.00	$ 60,000.00
	ADD ALTERNATE 1 TOTAL				**$ 2,230,415.00**		**$ 2,548,321.00**

	Tri-Star Utilities, Inc.	Krapff-Reynolds Construction Co.
BASE BID + ADD ALTERNATE 1 TOTAL	**$ 5,604,500.00**	**$ 5,975,711.00**

Low Bidder
Calculation Error

October 15, 2025

Shawnee Municipal Authority
Attn: Seth Barkhimer, Assistant City Manager
16 West 9th Street
Shawnee, OK 74801

RE: Shawnee Sanitary Sewer Bursting FY26 – Recommendation to Re-bid

Dear Mr. Barkhimer,

Pursuant to the bid opening held on October 14, 2025, attached please find the bid tabulation for the subject project. The bid opening consisted of two (2) responsive bidders.

The apparent low base bidder for the subject project is Tri-Star Utilities, Inc. with:

Base Bid:	**$3,374,085.00**
Add Alternate 1:	**$2,230,415.00**
Base Bid + Add Alternate 1:	**$5,604,500.00**

Pursuant to the review of the bid package, bonds, and bid tabulation, the low bid is accurate and complete.

After careful review and consideration, Cowan Group Engineering, LLC recommends the Shawnee Municipal Authority re-bid the subject project with a reduced scope of work due to budget constraints.

Should you have any questions, please contact the undersigned at 405.463.3369.

Sincerely,

COWAN GROUP ENGINEERING, LLC

Michael Taylor
Project Manager

Enclosure (1): Bid Tabulation

Finance Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: October 20, 2025

To: City Commission

From: Kimberly Hoover, Finance Director

Subject: October 2025 Sales and Use Tax Deposit

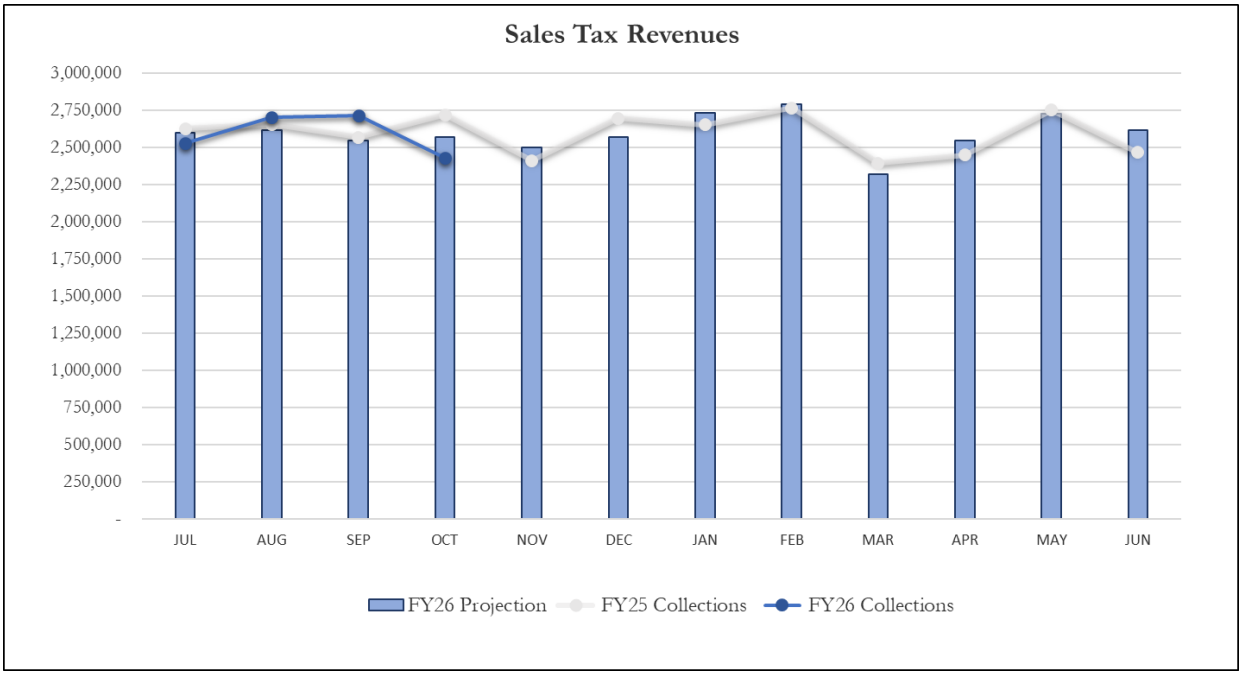
Background: The Oklahoma Tax Commission (the "OTC") collects and enforces collection of sales and use taxes, including special earmarked taxes such as alcohol and tobacco, for the entities responsible for remitting taxes to the City of Shawnee. Entities with monthly tax liabilities exceeding $2,500 are required to remit tax estimates each month by the 20th; in addition, entities are required to report their final tax collections for the previous month along with a final payment of taxes for the previous month on the 20th. To summarize, tax collections remitted to the City of Shawnee by the OTC in October consist of September estimates and August final reported collections. Any taxes collected for months prior to March will include late penalties and interest accrued.

- Sales Tax Collection Allocated by Fund - The October sales tax deposit was $2,432,333.31 including interest of $3,321.17, to be allocated as follows:

Fund	Allocation
General Fund	$ 1,216,166.66
2018 Capital Improvements Fund	304,041.66
Capital Improvements Fund	235,632.29
Street Improvements Fund	266,036.46
Economic Development Fund	30,404.17
Police Sales Tax Fund	38,005.21
Fire Sales Tax Fund	38,005.21
2023 Capital Improvements Fund	304,041.66
Total Sales Taxes Collected	$ 2,432,333.31

- Finance Department Report - Sales and use tax collections totaled $2,824,126.28 for October 2025. Sales tax projections are based on an average for the most recent three years of sales tax history. For the year, sales tax collections are up $48,869 or 2.40%, above the projected budget year-to-date, across 8 funds. Use tax collections are down $21.223 or 1.37% below the projected budget year-to-date.

    - Fiscal Year 2026 Sales Tax Collections and Performance:

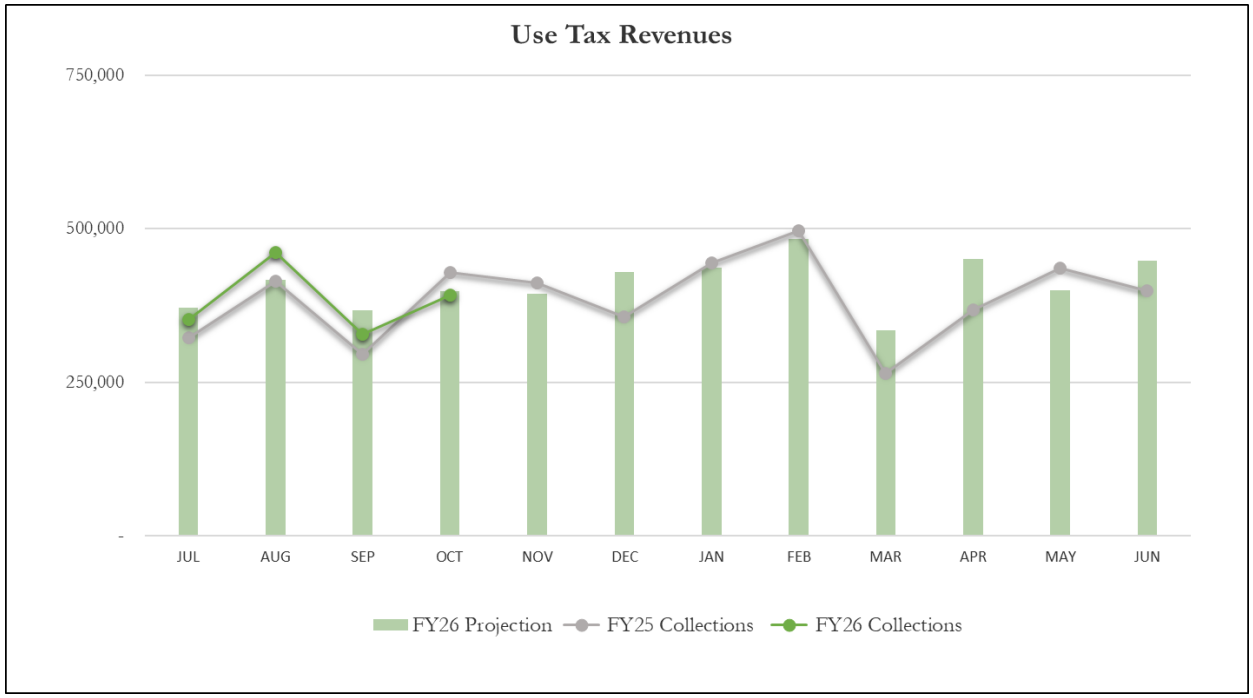


	Projected Budget	Actual	Amount Variance	Percentage Variance
Sales Tax Receipts - October 2025	$ 2,569,535	$ 2,432,333	$ (137,201)	-5.34%
Sales Tax Receipts (year-to-date):	$ 10,328,281	$ 10,377,150	$ 48,869	0.47%

	October 2024	October 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 2,583,507	$ 2,718,642	$ 135,134	5.23%

	Year To Date FY 2024	Year To Date FY 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 10,565,536	$ 10,377,150	$ (188,386)	-1.78%

- Fiscal Year 2026 Use Tax Collections and Performance:



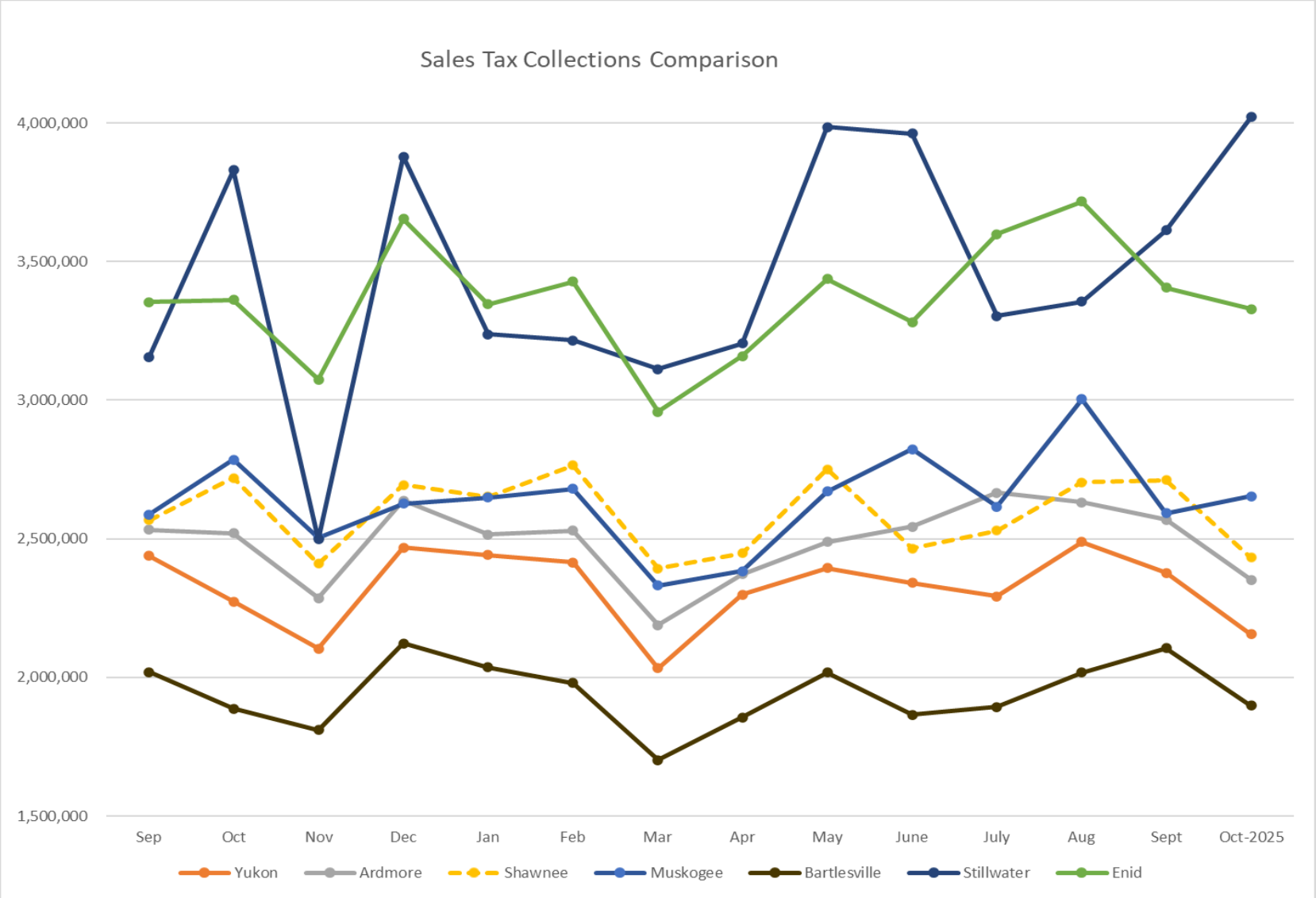
	Projected Budget	Actual	Amount Variance	Percentage Variance
Sales Tax Receipts - October 2025	$ 398,165	$ 391,793	$ (6,372)	-1.60%
Sales Tax Receipts (year-to-date):	$ 1,554,366	$ 1,533,144	$ (21,223)	-1.37%

	October 2024	October 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 331,572	$ 429,490	$ 97,919	29.53%

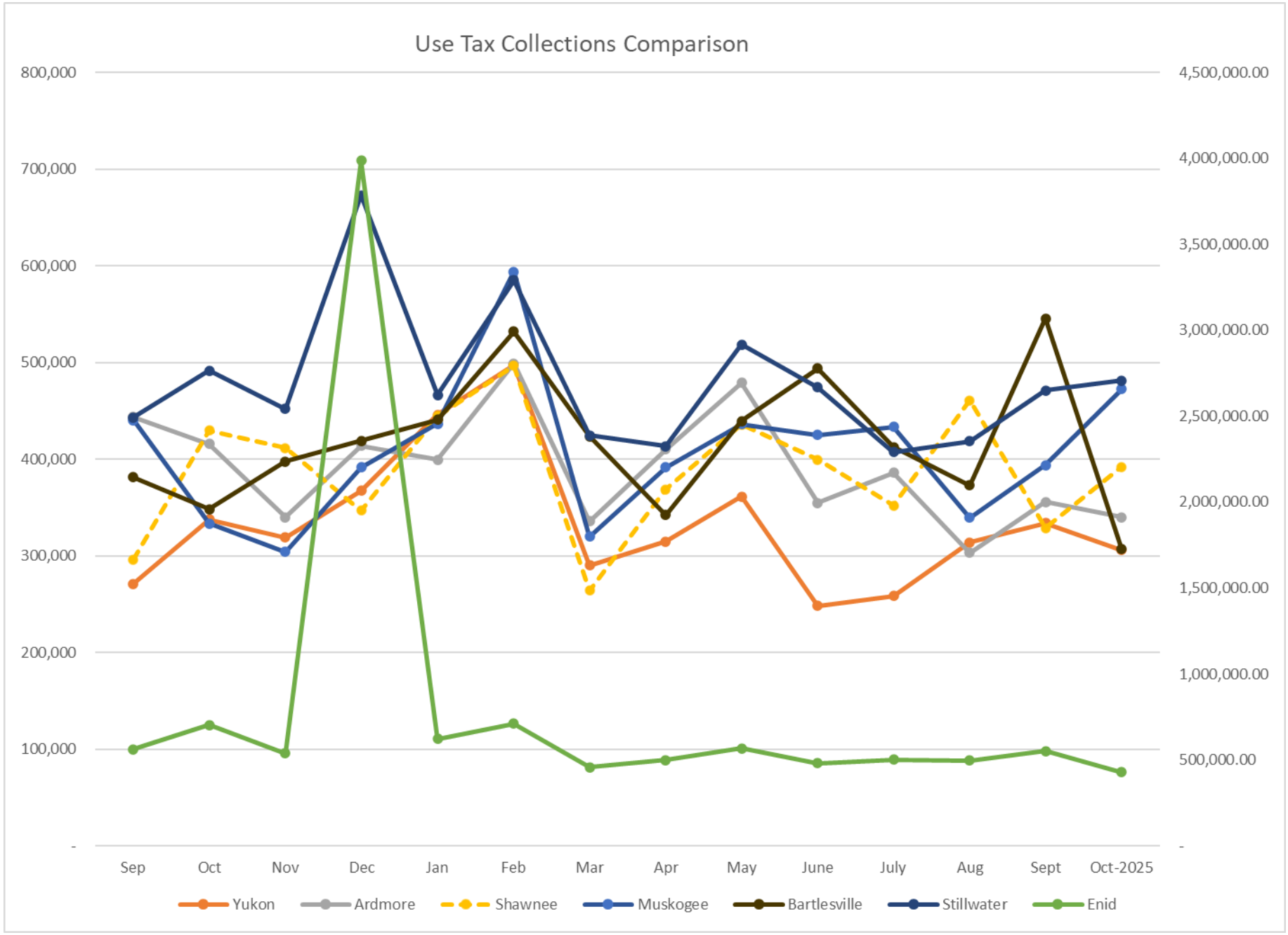
	Year To Date FY 2024	Year To Date FY 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 1,461,929	$ 1,533,144	$ 71,214	4.87%

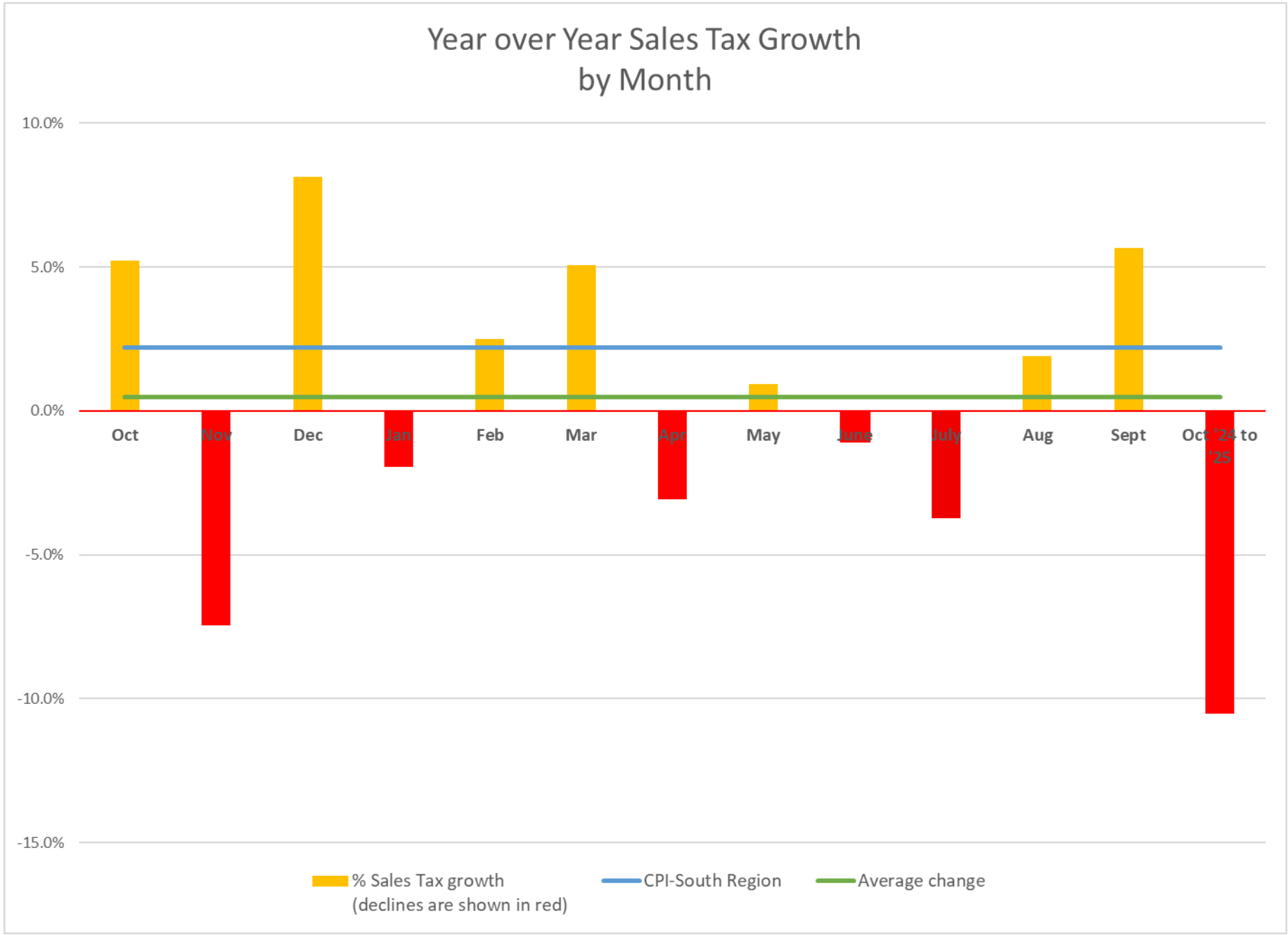
- Fiscal Year 2026 – General Fund Sales & Use Tax – Above Projections:

General Fund Projections (year-to-date)		
Sales Tax Above/(Below) Projections:	$	24,434
Use Tax Above/(Below) Projections:	$	(21,223)
Appropriated:		
Total Appropriated	$	-
Total Unappropriated:	$	3,211



	Yukon	Ardmore	**Shawnee**	Muskogee	Bartlesville	Stillwater	Enid
Population	23,630	24,725	**31,377**	36,878	37,290	48,394	51,308
City Tax Rate	4.00%	3.75%	**4.00%**	4.00%	3.40%	3.63%	4.25%
State Rank by Total Collections (Prior Year)	14	13	**15**	12	16	11	10


Use Tax Collections Comparison
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
4,500,000.00
4,000,000.00
3,500,000.00
3,000,000.00
2,500,000.00
2,000,000.00
1,500,000.00
1,000,000.00
500,000.00
-
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct-2025
Yukon
Ardmore
Shawnee
Muskogee
Bartlesville
Stillwater
Enid


Year over Year Sales Tax Growth
by Month
10.0%
5.0%
0.0%
-5.0%
-10.0%
-15.0%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct '24 to '25
% Sales Tax growth
(declines are shown in red)
CPI-South Region
Average change