CONSTRUCTION PLANS FOR
NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 2065Z
PROJECT NO. 2036N2065Z
TMUA-W 20-13
MUNIS ACCOUNT NO. 2035N2065Z.Streets.NArtRhb.4281.42813122-541106
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PROJECT SITE
SEC. 26, T-19-N, R-112-E

ROADWAY LENGTH = 16,222 FT = 3.07 MILES = 6.14 LANE MILES

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NOTES:
In accordance with the City of Tulsa Consolidated Ordinance 20-01, the streets of the City of Tulsa are designated as the CITY OF TULSA - UTILITIES COORDINATION (CHRIS KOVAC)
Oklahoma Natural Gas (Laffonah Meadowood)
AT&T (KL. Nichols)
PSO (Adams Fields)
US Cellular
Call one for a list of contacts in the area.
OKLAHOMA ONE CALL SYSTEM, INC.
Oklahoma City, OK 73104
918-508-5949
Oklahoma Natural Gas (Laffonah Meadowood)
918-561-2813
AT&T (KL. Nichols)
918-568-4287
PSO (Adams Fields)
918-285-4715

This project complies with all Oklahoma Department of Environmental Quality (ODEQ) requirements and is designed and installed within the corporate limits of the City of Tulsa. Current City of Tulsa Standard Specifications and Standard Details govern. All other construction and materials shall be in accordance with the 2016 Oklahoma Standard Specifications and Details for Construction.
## PAY QUANTITIES

### Item 2-4: To 6-7: NOT USED

**E-16** Estimated quantity of asphalt for sealing of all disturbed areas outside the final paving limits and within the final grading limits as indicated by the top of the "C" line on the plans. The total quantity shall be estimated in lineal feet. The quantity shall be billed at the rate specified. Any asphalt applied to any area which is not disturbed shall be applied as asphaltic base. The work is performed at the discretion of the Contractor at the Engineer's sole expense.

**E-11** Cost of materials and fitting and depreciation shall be applied at the rate specified. Any asphalt applied to any area which is not disturbed shall be applied as asphaltic base. The work is performed at the discretion of the Contractor at the Engineer's sole expense.

### Item 3-2: TO 3-3: NOT USED

**S-1** Use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited.

**S-7** Use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited.

**S-11** Use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited.

**S-12** Use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited. The use of fly Ash in concrete is prohibited.

### Item 3-4: To 3-5: NOT USED

**D-1** This item shall include the cost of new manhole frame and cover per city of Tulsa std. No. 71-105, 71-111, 71-112, 71-115. The total cost for the installation of rubberized asphalt and/or sealant at manhole, valve boxes, inlets, and inlets shall be included. This item shall include the cost of new manhole frame and cover per city of Tulsa std. No. 71-105, 71-111, 71-112, 71-115. The total cost for the installation of rubberized asphalt and/or sealant at manhole, valve boxes, inlets, and inlets shall be included.

**D-2** No manhole structures shall be constructed within the right-of-way.

**D-4** To D-5: NOT USED

### PAY ITEM NOTES (Version: 11/4/2015)

**E-11** All costs for removing trees, shrubs, stump, posts, and all other debris and/or obstruction not covered by a special provision shall be included in the item price.

**E-12** All existing drainage structures shall be cleaned and cleared of all sedimentation and debris to the extent that the right of way of the Contractor shall be included in the item price. The work is performed at the discretion of the Contractor at the Engineer's sole expense.

**E-18** The contractor shall be paid for unclassified excavation on the basis of plan quantity. Any additional excavation required or over excavation of plan quantity will be paid for on the basis of unit price bid for the work. The unit price shall be included in the item price. The contractor shall be responsible for providing adequate survey to verify any additional costs.

**E-19** Unclassified excavation includes removal of aggregate base and modified subgrade under existing pavement to be repaired.

**E-20** Not Used.

**E-21** The contractor shall be responsible for control and maintenance of the storm water drainage from the construction site. Storm water piping on the construction site that is the result of construction need not be included unless it was disturbed by the Contractor. Storm water piping shall be removed, or, as specified, all S and D drains and asphaltic drainage ditches are to be included in the result of construction. The Contractor shall be responsible for the removal of all S and D drains and asphaltic drainage ditches that are disturbed by the Contractor. Storm water ditches and drainage structures to be included in the item price. The work is performed at the discretion of the Contractor at the Engineer's sole expense.

**E-23** Erosion protection shall be installed as follows:  
- A) Protection of excavated trench by silt fencing and/or erosion blankets.  
- B) Protection of existing storm sewers by erosion protection material, into storm sewer system.  
- C) Protection of materials throughout project site, as determined by the Engineer, to prevent wash of eroded material into storm drain system.  
- D) Protection thereof, and/or erosion protection material to be placed in accordance with the Storm Water Management Plan. All costs for items A through D above shall be included in unit price for this item.

**E-24** Erosion protection shall be placed as follows:

- A) Protection of excavated trench by silt fencing and/or erosion blankets.  
- B) Protection of existing storm sewers by erosion protection material, into storm sewer system.  
- C) Protection of materials throughout project site, as determined by the Engineer, to prevent wash of eroded material into storm drain system.  
- D) Protection thereof, and/or erosion protection material to be placed in accordance with the Storm Water Management Plan. All costs for items A through D above shall be included in unit price for this item.
D-6: ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DESTROYED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BIN IN THE ST. CARMEN AREA AT SEWER OPERATIONS AND MAINTENANCE, 5708 E. 2ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 5:00 PM MONDAY THROUGH FRIDAY.

D-7: INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF A CONCRETE CURB AND GUTTER THROUGH THE INLET. IF EACH SIDE OF THE INLET IS MORE THAN 12" THE CONTRACTOR IS TO INLET SHOULDBE INCLUDED GRAVEY AND FLORINDS ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.

D-8: QUICKSET FLORINDS WILL BE USED TO BACKFILL AROUND STREET CURB INLETS AND REINFORCED CONCRETE PIPE, AS NEEDED, AT THE DIRECTION OF THE ENGINEER.

D-9: ALL INLETS COMPLETE IN PLACE, SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. THIS PAY ITEM INCLUDES ANY INLET FRAME(S), GRATES(S), HOOD(S) AND CONCRETE REQUIRED FOR COMPLETE INSTALLATION OF STRUCTURE PER THE CONSTRUCTION DOCUMENTS.

D-10: ADDITIONAL DEPTH QUANTITIES SHALL BE MEASURED AND PAID FOR ALL INLETS EXCEEDING STANDARD DEPTH. STANDARD DEPTHS ARE AS FOLLOWS:

A) CAST IRON CURB INLET 3.5 FT. MEASURED FROM CENTER ELEVATION OF LOWEST CAST IRON CURB TO FLOWLINE OF OUTLET PIPE.

B) RECESSED CURB INLET: 3.0 FT. MEASURED FROM TOP OF SLAB TO FLOWLINE OF OUTLET PIPE.

C) STANDARD DROP INLET SEE STANDARD DETAILS 770, 771, 772 AND 773 - VARIES BASED ON PIPE SIZE. MEASURED FROM LOWEST ELEVATION OF INFLOW APRON TO FLOWLINE OF OUTLET PIPE.

D-11: CAST IRON CURB INLET CONFIGURATION NAMING CONVENTION PROVIDED IN COT STANDARD NO. 795. SEPARATE DETAILS SHALL BE RETRIEVED OR PROVIDED IN THE PLANS FOR NON-CITY STANDARD INLETS.

D-12: REINFORCED CONCRETE PIPE TO BE CLASE III ALL REINFORCED CONCRETE PIPE AND MANHOLE(S) TO BE SUPPLIED WITH AN OVERLAP JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

D-13: THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BIDDING MATERIAL, AND TRENCH EXCAVATION. ALL JOINTS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE PRIOR TO ACCEPTANCE. INTERIOR OF PIPE SHALL BE INSPECTED FOR DEFECTS USING SELF-PROPELLED MOBILE CLOSED-CIRCUIT CAMERA SYSTEM.

D-14 TO D-15: NOT USED

TRAFFIC (T-1 TO T-6)

T-1: NOT USED

T-6: REFLECTORIZED SHEETING OR BARRIERS SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4566-01 TYPE II RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING OR BARRIERS SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4566-01 TYPE III RETROREFLECTIVE SHEETING.

T-3: NOT USED

T-4: PRICE BID FOR THIS ITEM SHALL BE IN PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL, NECESSARY CONSTRUCTION TRAFFIC CONTROL REQUIRED FOR COMPLETION OF THE PROJECT.

T-6: TO T-6: NOT USED

T-7: PRICE BID FOR THIS ITEM INCLUDES INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF PROJECT SIGN.

X-1: THIS PAY QUANTITY INCLUDES 3 FEET OF CURB ON BOTH SIDES OF THE INLET.

X-2: QUANTITY INCLUDES 2 CY PER INLET TO BE USED AS BACK FILL, AND 26 CY FOR OR USE MATERIAL, IN OR AFRICANS.

NOTE: ITEMS LAYERED ON SHEAR ON DRAWINGS ARE NOT INCLUDED IN THE QUANTITIES THAT ARE NOT INCLUDED AS A SEPARATE PAY ITEM THAT MAY BE CONSIDERED INCIDENTAL.

ALL ITEMS SHOWN AND DETAILED ON THE DRAWINGS ARE INCLUDED IN THE BASE PRICE PAY ITEM AND ALL MATERIALS WILL BE INCLUDED IN THE BASE PRICE PAY ITEM.
| PAY ITEM NOTES-WATERLINE (CONTINUED) |

| PAY ITEM NOTES-WATERLINE (CONTINUED) |

| PAY ITEM NOTES-WATERLINE (CONTINUED) |

| PAY ITEM NOTES-WATERLINE (CONTINUED) |

| PAY ITEM NOTES-WATERLINE (CONTINUED) |
GENERAL CONSTRUCTION NOTES-WATERLINE

1. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL, AND CONCRETE.

2. ALL CONSTRUCTION WORK MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS.

4. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON PLANS.

5. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOIL OF SAME TYPE AND VARIETY AS OR AS NOTED ON PLANS.

6. CONTRACTOR SHALL BORE EXISTING TREES UNDER GRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.

7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.

8. WATER CONDUITS SHALL OPERATE AT ALL TIMES ON TRANSMISSION MAINS (IF ANY) AND LARGER. CONTRACTOR SHALL OPERATE ALL VALVES ON DISTRIBUTION MAINS (SMALLER THAN 8") WITH THE COORDINATION OF FIELD ENGINEERING AND WATER OPERATIONS AND IN THE PRESENCE OF A FIELD ENGINEERING INSPECTOR.

A. ATTEMPTS WILL BE MADE WITH ASSISTANCE FROM THE CONTRACTOR TO NOTIFY ALL AFFECTED CUSTOMERS 48 HOURS IN ADVANCE. PARTICULARLY IF COMMERCIAL OR INDUSTRIAL CUSTOMERS ARE INVOLVED. PRIOR TO SUBTERRANEAN FIELD ENGINEERING WILL NOTIFY "WATER OPERATIONS," AT 918-549-8848, OR A DETAILED DOWNTIME. WATER OPERATIONS WILL NOTIFY THE FIRE DEPARTMENT OF ALL FIRE HYDRANTS OUT OF SERVICE AND WHEN THEY ARE BACK IN SERVICE, BY STREET ADDRESS OR INTERSECTION.

B. WHERE COMMERCIAL, INDUSTRIAL, OR CRITICAL CUSTOMERS ARE AFFECTED, AND FOR ALL LINES 16 INCH AND LARGER IN SIZE, TULSA ENGINEERS WILL REQUEST WATER OPERATIONS TO SHUT DOWN THE MAIN. THERE WILL BE A WARNING OF 48-HOUR NOTICE TO WATER OPERATIONS.

9. CONTRACTOR SHALL PROVIDE AT LEAST 48-HOUR NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING DOOR HANDERS ON AFFECTED HOMES AND BUSINESSES.

10. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO LESS THAN 48 HOURS BEFORE THE DOWNTIME, EXCLUDING SATURDAY, SUNDAY, AND LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK. PHONE 1-800-222-5555.

11. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT OKTO REQUIREMENTS.

12. ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRARSTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.

13. PRIOR TO PAVEMENT SAVING AND EXCAVATION NEAR SIGNALIZED INTERSECTIONS, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES, TRAFFIC OPERATIONS, 918-549-8845, OR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.

14. CONSTRUCTION FOR ALL ENGINEERING SERVICES FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 25, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 830, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (OSEQ).

15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE APPLICATION. ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.

16. ANY CHANGES FROM APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.
### SUMMARY OF SURFACING QUANTITIES

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### SUMMARY OF EROSION CONTROL

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### SUMMARY OF EARTHWORK QUANTITIES

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*FOR CONTRACTORS INFORMATION ONLY. COST TO BE INCLUDED IN THE PRICE BID FOR OTHER WORK.*
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### SUMMARY OF DRAINAGE STRUCTURES (INLET ELEVATION INFORMATION)

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### SUMMARY OF INLET DESIGN

- **Non-Arterial Street Rehabilitation Maintenance Zone 3685**
- **Project No. J-2074.01**
- **City of Tulsa, Oklahoma**
- **Engineering Services Department**

**Plan and Estimates Prepared By:**
- **Tulsa City Hall, Engineering Services Department**
  - **Prepared By:**
  - **Date:**
  - **Acknowledged By:**
  - **Date:**

**Drawn By:**
- **Date:**
  - **Sheet Size:**
  - **Page No.: 25 of 32 SHEETS**
STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NON-ARIEL MAINTENANCE ZONE 2025 BORDERED BY WEST 48TH STREET ON THE NORTH SIDE, SOUTH INDIAN AVENUE ON THE EAST SIDE, WEST 51ST STREET ON THE SOUTH SIDE, AND SOUTH UNION AVENUE ON THE WEST SIDE.

PROJECT DESCRIPTION: PAVEMENT RECONSTRUCTION AND REHABILITATION OF APPROXIMATELY 3.1 MILES OF NON-ARIEL MAINTENANCE ZONE 2025.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:
1. PLACE TEMPORARY SEDIMENT CONTROL DEVICES AT DRAINAGE LOCATIONS PRIOR TO STRUCTURE MODIFICATION AND CLEARING OPERATIONS.
2. PERFORM CLEARING OPERATIONS AND REMOVALS, PRESERVING ANY VEGETATION NOT IMPLICATING CONSTRUCTION, PROVIDE ADDITIONAL EROSION CONTROL DEVICES AS NEEDED TO PREVENT EROSION.
3. AS PERMANENT VEGETATION IS ESTABLISHED, TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED.
4. AS CONDITIONS WARRANT, THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, MAY MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIC PRACTICE OR CONTROLS TO IMPROVE EFFECTIVENESS.

NOTE: THIS SHOULD INCLUDE MAJOR ACTIVITIES REQUIRED TO CONSTRUCT THE PROJECT AND EROSION CONTROL ITEMS.

SOIL TYPE:  PRIMARILY SILTY CLAY LOAM

SOIL STABILIZATION PRACTICES:

1. TEMPORARY SEEDING
2. PERMANENT SODDING, SPRINGING OR SEEDING
3. VEGETATIVE MULCHING
4. SOIL RETENTION BLANKET
5. PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DRAINED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

EROSION AND SEDIMENT CONTROLS

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:
ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED.

WASTE MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS, AND ALL OTHER BY-PRODUCTS OR WASTE MATERIALS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURERS’ RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:
A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP I.E. BORRION PITS, WORK ROADS, DRAINAGE SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATR MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAMINATION OF HAZARDOUS MATERIALS AND THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

OFFSITE VEHICLE TRACKING:

1. HAUL ROADS DAMPENED FOR DUST CONTROL
2. LOADED HAUL TRUCKS TO BE COVERED WITH TARPaulIN
3. EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:
SILT SHALL BE REMOVED FROM TEMPORARY EROSION CONTROL DEVICES WHEN HALF FULL, COST TO BE INCLUDED IN THE PRICE BID FOR EROSION CONTROL DEVICE.
INLETS, JUNCTION BOXES, AND PIPES TO BE CLEANED AT END OF CONSTRUCTION ACTIVITIES BEFORE FINAL ACCEPTANCE OF PROJECT.
COST TO BE INCLUDED IN THE PRICE BID FOR EROSION CONTROL DEVICE.

PROJECT LIMITS:

PROJECT AREA:

TOTAL AREA OF THE CONSTRUCTION SITE: 10.0 ACRES
ESTIMATED AREA TO BE DISTURBED: 1.4 ACRES
OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)
TOTAL IMPERVIOUS AREA:
PRE-CONSTRUCTION: 9.5 ACRES
POST-CONSTRUCTION: 9.8 ACRES
POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE:
0.89

PROJECT WILL DISCHARGE TO:
NAME OF RECEIVING WATERS: CHERRY CREEK TO ARKANSAS RIVER
SENSITIVE WATERS OR WATERSHEDS:

303(d) IMPAIRED WATERS:
YES No X
IF YES, LIST IMPAIRMENT:

LOCATED IN A TMEL:
YES No X
LAKE THUNDERBIRD TMDL:
YES No X
MS4 ENTITY:
YES No X
IF YES, LOCATION:

NOTE: THE SHEET WILL BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.
PAY QUANTITIES

SCHEDULE 1: BASE BID - WATERLINE REPLACEMENT

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<tr>
<td>20</td>
<td>CUT 301</td>
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<td>4.75 H.A.</td>
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<td>21</td>
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<td>23</td>
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<td>2.85</td>
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<tr>
<td>24</td>
<td>CUT 315</td>
<td>3-WAY FIRE HYDRANT, IN PLACE</td>
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<tr>
<td>25</td>
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<td>33</td>
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<td>34</td>
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SCHEDULE 2: OPTION 1 - DIP

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<td>94</td>
<td>CUT 307</td>
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<tr>
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SCHEDULE 2: OPTION 2 - PVC

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ITEM NO. 002: GENERAL CONDITIONS

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<td>PIPE EXISTING SERVICE LINES exceeding the above parameters will be compensated for linear footage above and beyond. Compensation will be paid as &quot;SERVICE LINES EXTENSION, ABOVE.&quot;</td>
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ITEM NO. 004: SERVICE LINES

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ITEM NO. 007: 2-INCH PVC JUNCTION BOX

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ITEM NO. 008: 2-INCH DIP JUNCTION BOX

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ITEM NO. 009: 2-INCH IRON PIPE (SLEEVES)

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ITEM NO. 010: 3-INCH IRON PIPE (SLEEVES)

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ITEM NO. 012: 4-INCH IRON PIPE (SLEEVES)

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ITEM NO. 013: 5-INCH IRON PIPE (SLEEVES)

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ITEM NO. 014: 6-INCH IRON PIPE (SLEEVES)

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ITEM NO. 015: 8-INCH IRON PIPE (SLEEVES)

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ITEM NO. 016: 10-INCH IRON PIPE (SLEEVES)

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ITEM NO. 017: 3-INCH PVC JUNCTION BOX

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ITEM NO. 018: 4-INCH PVC JUNCTION BOX

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<td>BOX</td>
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GENERAL CONSTRUCTION NOTES-WATERLINE

1. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BENDING, PIPES INSTALLATION, BACKFILL, AND COMPACTION.

2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS.

4. MINIMUM COVER ABOVE WATER LINES SHALL BE AS NOTED ON PLANS.

5. CONTRACTOR SHALL REPLACE EXISTING DRAWS WITH B IkeEED MARKS OF SAME TYPE AND VARIETY AS AS NOTED ON PLANS.

6. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.

7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.

8. WATER OPERATIONS SHALL OPERATE ALL VALVES ON TRANSMISSION MAIN (5/8" AND LARGER). CONTRACTOR SHALL OPERATE ALL VALVES ON DISTRIBUTION MAINS (SMALLER THAN 1") WITH THE COORDINATION OF FIELD ENGINEERING AND WATER OPERATIONS AND IN THE PRESENCE OF A FIELD ENGINEERING INSPECTOR.

A. ATTEMPTS WILL BE MADE WITH ASSISTANCE FROM THE CONTRACTOR TO NOTIFY ALL AFFECTED CUSTOMERS 48 HOURS IN ADVANCE. PARTICULARLY IF COMMERCIAL OR INDUSTRIAL CUSTOMERS ARE INVOLVED. PRIOR TO THE TRENCHING, FIELD ENGINEERING WILL NOTIFY WATER OPERATIONS, AT 1-888-666-8686 (GIVING AN ESTIMATED DOWN TIME), WATER OPERATIONS WILL NOTIFY THE FIRE DEPARTMENT OF ALL FIRE HYDRANTS OUT OF SERVICE AND WHEN THEY ARE BACK IN SERVICE, BY STREET ADDRESS OR INTERSECTION.

B. WHERE COMMERCIAL, INDUSTRIAL, OR CRITICAL CUSTOMERS ARE AFFECTED. AND FOR ALL LINES 16-INCH AND LARGER IN SIZE, FIELD ENGINEERING WILL REQUIRE WATER OPERATIONS TO SHUT DOWN THE MAIN. THERE WILL BE A MINIMUM OF 48-HOUR NOTICE TO WATER OPERATIONS.

9. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING DOOR HANGERS ON AFFECTED HOMES AND BUSINESSES.

10. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM INC. NOTICE OF ANY EXCAVATION NO SOONER THAN 48 HOURS OR LATER THAN 15 DAYS EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK. PHONE 1-800-632-6643.

11. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN CUTOFF STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT MUTCD REQUIREMENTS.

12. ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR’S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.

13. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTIONS, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES, TRAFFIC OPERATIONS, 918-596-7988, FOR SITE SPECIFIC UNDERGROUND TRAFFIC UTILITY LOCATIONS.

14. CONSTRUCTION FOR ALL ENGINEERING SERVICES FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 586, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).

15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.

16. ANY CHANGES FROM APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.
<table>
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<tr>
<th>DRAIN STN.</th>
<th>DESCRIPTION</th>
<th>APPROXIMATE STATION &amp; OFFSET</th>
<th>DESIGN</th>
<th>INLET TOP OF GRATE</th>
<th>MANHOLE TOP OF RIM</th>
<th>INVERT INT ELEV</th>
<th>INSERT IN ELEV</th>
<th>INVERT OUT ELEV</th>
<th>4&quot; I.D. MANHOLE</th>
<th>4&quot; I.D. MANHOLE</th>
<th>ADD. DEPTH I.D. MANHOLE</th>
<th>ADD. DEPTH FRAME &amp; COVER</th>
<th>DES. 3 RCP</th>
<th>DES. 4 RCP</th>
<th>DES. 4 RCP</th>
<th>DES. 43B RCP</th>
<th>DES. ADD. DEPTH 4&quot;</th>
<th>DES. ADD. DEPTH CWC</th>
<th>ADD. DEPTH CWC</th>
<th>MANHOLE FRAME &amp; COVER</th>
<th>CAST IRON CURB INLET</th>
<th>15&quot; RCP</th>
<th>18&quot; RCP</th>
<th>24&quot; RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>88 NEW MH</td>
<td>293+63.98, 0.92 LT</td>
<td># (1) MANHOLE</td>
<td>685.49</td>
<td>677.60</td>
<td>677.57</td>
<td>0.54</td>
<td>4</td>
<td>4</td>
<td>11</td>
<td>36</td>
<td>12</td>
<td>12</td>
<td>47</td>
<td>14</td>
<td>2</td>
<td>2</td>
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<td>18</td>
<td>20</td>
<td>14</td>
<td>12</td>
<td>47</td>
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</tr>
</tbody>
</table>
STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NORTHWEST OF SOUTH UNION WEST AVENUE AND WEST 49TH STREET SOUTH IN TULSA, OKLAHOMA

PROJECT DESCRIPTION: RECONSTRUCTION OF APproximately 2,672 LF OF STREET...

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:
1. PLACE TEMPORARY SEDIMENT CONTROL DEVICES AT DRAINAGE LOCATIONS PRIOR TO STRUCTURE MODIFICATION AND CLEARING OPERATIONS.
2. PERFORM CLEARING OPERATIONS AND REMOVALS, PRESERVING ANY VEGETATION NOT IMPROVING CONSTRUCTION, PROVIDE ADDITIONAL EROSION CONTROL DEVICES AS NEEDED TO PREVENT EROSION.
3. AS PERMANENT VEGETATION IS ESTABLISHED (70% COVERAGE) TEMPORARY SEDIMENT DEVICES MAY BE REMOVED.
4. AS CONDITIONS WARRANT, THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, MAY MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIC PRACTICE OR CONTROLS TO IMPROVE EFFECTIVENESS.

NOTE: THIS SHOULD INCLUDE MAJOR ACTIVITIES REQUIRED TO CONSTRUCT THE PROJECT AND EROSION CONTROL ITEMS.

SOIL TYPE: LEAN TO FATT CLAYS

TOTAL AREA OF THE CONSTRUCTION SITE: 2.33 ACRES

ESTIMATED AREA TO BE DISTURBED: 2.33 ACRES

OFFSITE AREA TO BE DISTURBED:

(FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA:

PRE-CONSTRUCTION: 1.97 ACRES

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.78

LATITUDE & LONGITUDE OF CENTER OF PROJECT: N 36°35` - W 95°16`

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: CHERRY & MOOSER CREEK

SENSITIVE WATERS OR WATERSHEDS:

YES NO

303(d) IMPAIRED WATERS:

YES NO

IF YES, LIST IMPAIRMENT:

LOCATED IN A TMDL:

YES NO

LAKE THUNDERBIRD TMDL:

MIO ENTITY

YES NO

IF YES, LOCATION:

CITY OF TULSA

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

SOIL STABILIZATION PRACTICES:

TEMPORARY SEEDING

X TEMPORARY SODDING, SPRIGGING OR SEEDING

VEGETATIVE MULCHING

SOIL RETENTION BLANKET

X PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

EROSION AND SEDIMENT CONTROLS

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED.

INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS NEEDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS, AND DRAINAGE DRAINS AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOOLPOLES, SURPLUS DEBRIS, AND ALL OTHER MATERIALS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIAL HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER’S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE AND SUPPLEMENTED WITH CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESS OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP. E.G., BORROW SITES, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS PRIOR TO LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2010 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05 BONDING REQUIREMENTS
104.10 FINAL CLEANING UP
104.12 CONTRACTORS RESPONSIBILITY FOR WORK
104.13 ENVIRONMENTAL PROTECTION
106.08 STORAGE AND HANDLING OF MATERIAL
107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20 STORM WATER MANAGEMENT
220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221 TEMPORARY SEDIMENT CONTROL

IN ADDITION:

*DEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA*

*DEQ, WATER QUALITY DIVISION*

SEPTEMBER 13, 2017.