CONSTRUCTION PLANS FOR TULSA METROPOLITAN UTILITY AUTHORITY
NORTHSIDE LIFT STATION AND FORCE MAIN
PROJECT NO. ES 2018-01
ACCOUNT NO. 1903200022.SEWRXAT.75003122.541104
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

INDEX TO DRAWINGS

ELECTRICAL

MECHANICAL

APPROVED BY

WATER AND SEWER DIRECTOR

CITY ENGINEER

STEPHEN TOLAR, P.E.
HOLLOWAY, UPRIDE & BELLEN INC.

9-27-2019
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**PAY ITEM NOTES — LIFT STATION REHABILITATION**

1. INCLUDES THE COST OF ALL SURVEYING AND STAKING NECESSARY TO COMPLETE THE ENTIRE PROJECT. WORK SHALL BE PERFORMED BY A COLORADO LICENSED LAND SURVEYOR.

2. INCLUDES DEMOLITION OF EXISTING GRAVITY SEWER, SHORING, DEWATERING, EXCAVATION, BACKFILL, SITE GRADING, AND SITE CLEARING AND REPAIR. THE DETAILED METHODS, TECHNIQUES, AND CONSTRUCTION METHODS USED FOR EACH ITEM ARE SPECIFIED IN THE GENERAL CONDITIONS OF THE CONTRACT. DEMOLITION WORK IS INCLUDED IN THIS BID. SEE SEPARATE PLAN FOR ADDITIONAL ITEMS THAT ARE NOT INCLUDED SUCH AS: EXCAVATION, BACKFILL, SHORING OR OTHER BID ITEM WORK FOR THE MATERIALS, SITE CLEARING AND SITE STORM SEWER. SEE OTHER BID ITEMS FOR OTHER INDIVIDUAL PAY ITEM WORK.

3. INCLUDES RIGHT-OF-WAY CLEARING AND RESTORATION FOR GRAVITY SEWER WATERLINE AND FORCE MAIN. EXISTING FENCES AND STREET FENCES DESTROYED DUE TO CONSTRUCTION SHALL BE REPLACED WITH NEW MATERIALS AND SHALL BE INCLUDED IN THE COST OF LEFT-OF-WAY CLEARING AND RESTORATION FOR LINES 4' AND LARGER. NO ADDITIONAL PAYMENT SHALL BE MADE.

4. INCLUDES ALL COSTS FOR THE EXCAVATION & BACKFILL ASSOCIATED WITH PROPOSED GRAVITY SEWER WATERLINE AND FORCE MAIN. THIS ITEM INCLUDES PAYMENT FOR COMPRESSED CLASS A AGGREGATE BASE, WHERE REQUIRED UNDER PAYMENT IN ACCORDANCE WITH CITY OF TULSA STANDARD SPECIFICATION 302. THIS ITEM DOES NOT INCLUDE EXCAVATION OR BACKFILL FOR THE LIFT STATION OR INFLUENT VAULT. BLOWING SHALL NOT BE PERMITTED. ALL BACKFILL SHALL BE COMPACTED TO NECESSARY DESIGN UNLESS NOTED EODLY SPECIFIED OTHERWISE.


6. NO SMELT DIP 'A' AND LARGER SHALL BE PROTECTED. 40' LINED AND INCLUDES COST OF BURIED PIPING IN PLACE. DOES NOT INCLUDE PAYMENT FOR FOUR LIFT STATION, INSIDE VALVES & FLANGED EXPOSED PIPING AT THE EXISTING FLOW DIVERSION STRUCTURE.

7. ALLOWANCE SHALL BE USED FOR THE COST OF MATERIALS, LABOR, INSTALLATION, OVERHEAD AND PROFIT, ACCORDING TO CITY OF TULSA STANDARDS, GC-26, FOR ADDITIONAL MECHANICAL, ELECTRICAL, AND PLUMBING WORK THAT IS NOT PROPERLY INCLUDED IN THE CONTRACT DOCUMENTS. PLANS REFER TO SPECIFICATION SECTION SP1.1 — ALLOWANCE FOR REQUIRED PAYMENTS.

8. PAY ITEM INCLUDES TYPE 'A' AGGREGATE BASE UNDER CONCRETE & ASPHALT BASE & PAVING LOT. ITEM DOES NOT INCLUDE TYPE 'A' AGGREGATE BASE USED FOR BUILDING OR OTHER STRUCTURES. FOUNDATIONS & EXCAVATION AREAS.

9. PAY ITEM INCLUDES COST FOR INSTALLING SEPARATOR FABRIC UNDER BASE ROCK IN PAVING IN SQUARE YARDS (SY) AS BASIS OF PAYMENT. BASIS OF PAYMENT SHOWN IN PLAN VIEW BY COST SHALL ALSO INCLUDE LACES & WRAP AS REQUIRED.

10. PAYMENT FOR SDG IS BASED ON THE LIMITS OF NEW FORCE MAIN & GRADING IMPROVEMENTS INDICATED. OTHER DISTURBED AREAS & CONTRACTOR STAGING AREA & WORK AREAS ARE NOT INCLUDED IN THESE QUANTITIES.

11. CONTRACTOR TO WATER AND MAINTAIN NEW TREES FOR AT LEAST TWO YEARS FROM PLANTED DATE. SUPPLIER SHALL PROVIDE WRITTEN THREE YEAR WARRANTY WITH THE CITY OF TULSA NAMED ON CERTIFICATE & PLANTED DATE.

12. PIPING AND WORK SHOWN AT THE EXIST FLOW DIVERSION STRUCTURE IS INCLUDED IN THE BID. THIS INCLUDES PAYMENT FOR CONCRETE PAVING AND AGGREGATE BASE. RESPONSIBLE PAYMENT FOR CONCRETE PAVING AND AGGREGATE BASE SHALL BE MADE IN RESPECTIVE UNIT PRICE BID ITEMS.

13. PAYMENT FOR THE 13" CLASS DRAIN PIPING AT THE SEPTIC RECEIVING STATION SHALL BE INCLUDED IN THE BID. THIS INCLUDES PAYMENT FOR CONCRETE PAVING AND AGGREGATE BASE. RESPONSIBLE PAYMENT FOR CONCRETE PAVING AND AGGREGATE BASE SHALL BE MADE IN RESPECTIVE UNIT PRICE BID ITEMS.
GENERAL NOTES

1. THE CONTRACTOR SHALL CALL HWDWP PERSONNEL AND CALL ONE AT 1-800-522-8543 PRIOR TO ANY EXCAVATION TO DETERMINE LOCATION OF EXISTING UTILITIES.

2. THE CONTRACTOR SHALL, AT HIS EXPENSE, UNCOVER AND DETERMINE THE DEPTH OF PIPE LINES AND OTHER UTILITIES WHICH, IN HIS OPINION, COULD INTERFERE WITH THE CONSTRUCTION.

3. THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, OCTOBER 2015, ARE HEREBY ADOPTED AS PART OF THESE SPECIFICATIONS WHERE REFERENCE IS MADE. SAD SPECIFICATIONS WILL BE HEREINAFTER REFERRED TO AS "THE STANDARD SPECIFICATIONS".

4. CONTRACTOR SHALL HAVE ONE (1) EXECUTED COPY OF THE CONTRACT DOCUMENTS, SPECIFICATIONS AND DRAWINGS AT THE JOB SITE AT ALL TIMES.

5. CONTRACTOR SHALL MAINTAIN SANITARY FACILITIES FOR THE CONSTRUCTION WORKERS AND OTHER ON-SITE VISITORS AT THE PROJECT SITE AT ALL TIMES.

6. CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AT ALL TIMES. TRASH, SPENT PALLETTS, CONTAINER REMNANTS, BENINGS, ETC. SHALL BE PICKED UP WHEN NO LONGER IN USE AND DEPOSITTED IN TRASH CONTAINERS.

7. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CLEARED DEBRIS, BRUSH AND TIMBER AT CONTRACTOR'S EXPENSE.

8. CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPP), SUBMIT A NOTICE OF INTENT (NOI) TO THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ), REMIT THE NECESSARY FEE TO ODEQ, OBTAIN WRITTEN AUTHORIZATION TO DISCHARGE FROM THE ODEQ, IMPLEMENT ALL PROVISIONS OF THE SWPP THROUGH THE CONSTRUCTION PROCESS, AND FULLY COMPLY WITH THE REQUIREMENTS ASSOCIATED WITH STORM WATER DISCHARGES. COMPLIANCE WITH THE SWPP, NOI, AND AUTHORIZATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE INITIATION FOR ANY CONSTRUCTION ACTIVITIES.

9. ALL STAINLESS STEEL SHALL BE MINIMUM TYPE 316 SUITABLE FOR SANITARY APPLICATIONS, UNLESS OTHERWISE NOTED. ALL ANCHOR BOLTS, SUPPORTS, BRACKETs, FASTENERS, AND UNISTRUT SHALL BE 316 SS UNLESS NOTED OTHERWISE.

10. ALL DIMENSIONS SHOWN "A" SHALL BE CONFORMED TO THE CONTRACTOR ACCORDING TO ACTUAL FIELD CONDITIONS OR EQUIPMENT REQUIREMENTS.

11. DISSOLVABLE时刻 SWELLING shall be PRACTISED TO PREVENT GALVANIC CORROSION.

12. ANY EXISTING ITEMS, EQUIPMENT, STRUCTURES, OR SURFACES DISTURBED OR DAMAGED BY CONTRACTOR SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST TO THE OWNER.

13. CONTRACTOR SHALL VERIFY SAFETY UTILITIES IN THE VICINITY OF PROPOSED CONSTRUCTION PRIOR TO CONSTRUCTION. NOTFY ENGINEER OF DISCREPANCIES FROM DRAWINGS.

14. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS WITH EQUIPMENT SUPPLIERS PRIOR TO SHIPMENT AND NOTIFY ENGINEER OF DISCREPANCIES.

15. CONSTRUCTION STANDS SHALL BE PROVIDED BY THE CONTRACTOR.

16. THE IMPROVEMENTS SET FORTH IN THE PLANS SHALL NOT INTERFERE ON-SITE TRAFFIC AND/OR RELATED TASKS REQUIRED IN THE TREATMENT AND DISCHARGE OF WASTEWATER.

17. TOPSOIL (MINIMUM 6") IN THE DISTURBED AREAS SHALL BE REMOVED, STOCKPiled AND REPLACED AFTER CONSTRUCTION OPERATIONS. ALL WASTE TOOLS AND DEBRIS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HELD OFFSET AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

18. ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.

19. ALL WORKSHIPS SHALL BE NEAT, PLUMB, SQUARE AND CONSTRUCTED IN A PROFESSIONAL MANNER.

20. ALL ELECTRICAL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH ALL, N.E.C. AND CITY OF TULSA ELECTRICAL CODES, ELECTRICAL, MECHANICAL, AND PLUMBING INSPECTIONS ARE REQUIRED AT BOTH ROUGH AND FINAL STAGES OF THE PROJECT.

21. COMPLETE ALL PRODUCT AND DATA SHEETS OF ANY AND ALL EQUIPMENT INSTALLED IN EACH LIFT STATION, TO FORM A USEABLE O&M MANUAL. PROVIDE THE CITY OF TULSA (3) THREE HANG COPIES AND (2) TWO DIGITAL COPY IN PDF FORMAT OF THESE O&M MANUALS. MANUALS SHALL BE TABBED AND AN INDEX SHEET PROVIDED TO ALLOW OWNERS TO QUICKLY FIND INDIVIDUAL SECTIONS AND EQUIPMENT. COPIES OF ALL ELECTRICAL START OF REPORTS AND EQUIPMENT TESTING INFORMATION SHALL BE INCLUDED IN THE O&M MANUALS. PRELIMINARY O&M'S SHALL BE SUBMITTED PRIOR TO EQUIPMENT START UP & TESTING.

22. BYPASS PUMPING OF BYPASS PIPING, IF UTILIZED BY CONTRACTOR, SHALL BE SCHEDULED FOR DRY WEATHER PERIODS AND COMPLETELY OPERATED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING UNAUTHORIZED DISCHARGES. BYPASS PUMPING SHALL BE MANAGED CONTINUOUSLY (24/7) BY THE CONTRACTOR WHEN OPERATING. AVERAGE DRY WEATHER FLOW TO THE EXISTING AIRPORT LIFT STATION OVER THE PREVIOUS 24 MONTHS HAS BEEN APPROXIMATELY 0.5 MGD. THE MENTIONED FLOW FOR THE SAME PERIOD WAS 3.5 MGD.

23. CONTRACTOR IS RESPONSIBLE FOR ANY DRAINAGE REQUIRED TO CONSTRUCT FOUNDATIONS IN DRY CONDITIONS AND TO PROTECT EXCAVATION SLOPES.

24. ALL BURIED CONSTRUCTION, INCLUDING BUT NOT LIMITED TO PIPE AND CONDUIT, SHALL BE PHOTOGRAPHED PRIOR TO COVER. EQUIPMENT DATA TAGS SHALL ALSO BE PHOTOGRAPHED WITH EQUIPMENT. SUBMIT IN A DIGITAL JPG FORMAT ON JUMP DRIVE AS PART OF CONTRACTORS CONSTRUCTION PHOTOGRAPHIC RECORD. CONTRACTOR SHALL SUBMIT GPS COORDINATES AND ELEVATIONS OF THE CS OF ALL PIPE AT BENDS, FITTING, VALUES AND OTHER BURIED ITEMS.

25. CONTRACTOR SHALL COORDINATE WITH P.S.O. TO MAINTAIN EXISTING AND ESTABLISH NEW ELECTRIC SERVICES. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

26. ROCKS EXCAVATION IS EXPECTED. BLASTING WILL NOT BE PERMITTED.

27. CONTRACTOR SHALL SUBMIT A PROFESSIONAL ENGINEERED TRENCH AND EXCAVATION PLAN FOR ALL EXCAVATIONS IN EXCESS OF 20 FEET.

28. ALL ELECTRICAL WORK SHALL BE DONE BY A LICENCED ELECTRICAL CONTRACTOR.

GENERAL PIPING NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.

2. SIZE OF FITTINGS SHOWN ON THE PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED.

3. ALL BURIED CP, CP, AND PVC PIPE SHALL UTILIZE DJ MECHANICAL JOINT FITTINGS AT ALL CONNECTIONS UNLESS OTHERWISE DEPICTED ON THE PLANS. PUSH ON JOINTS SHALL BE UTILIZED ONLY FOR STRAIGHT SEGMENTS UNLESS OTHERWISE NOTED.

4. ALL UNRESTRAINED, BURIED FITTINGS SUCH AS BENDS, TEES, WYES, ETC. SHALL BE BLOCKED FOR THRUST BLOCKS AS SHOWN ON STANDARD DETAILS. THIS REQUIREMENT INCLUDES BOTH GRAYITY AND PRESSURE PIPING.

5. A MINIMUM OF 10 FEET OF HORIZONTAL SEPARATION (FOR PARALLEL LINES) AND 2 FEET OF VERTICAL SEPARATION (FOR LINES CROSSING) SHALL BE MAINTAINED BETWEEN WATER AND SANITARY SEWER LINES IN ACCORDANCE WITH OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY.

6. CONTRACTOR SHALL REMOVE AND RECONSTRUCT INVERTS WHERE NEW CONNECTIONS ARE MADE TO EXISTING MANHOLES. WORK SHALL BE PASSED FOR IN OTHER ITEMS OF WORK.

7. ALL FLANGE COUPLING ADAPTERS SHOWN ON THE CONSTRUCTION DRAWINGS SHALL BE RESTRICTED TYPE, MEGAFLANE SERIES 2100, OR EQUAL.

8. CONTRACTOR IS REQUIRED TO VACUUM TEST ALL MANHOLES ACCORDING TO CITY OF TULSA, ENGINEERING SERVICES STANDARDS AND SPECIFICATIONS.

9. EXPOSED PIPING SHALL BE PAINTED PER COLOR CODE REQUIREMENTS AND INCLUDE SIGNAGE/LABELS.

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ENSURE, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL TRAFFIC, BARRIERS, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.

2. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.

3. ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.

CONSTRUCTION SEQUENCING

1. THE LIFT STATION SHALL REMAIN IN SERVICE AT ALL TIMES. ANY WORK REQUIRED TO SERVICE THE LIFT STATION(S) WILL BE LIMITED TO LOW FLOW PERIODS DURING DRY WEATHER IN COORDINATION WITH OWNERS REPRESENTATIVE FOR APPROVAL.

2. CONSTRUCT AND MAKE FULLY OPERATIONAL THE PROPOSED LIFT STATION, GRANITY SEWER, 12" FORCE MAIN, METER VAILTS, STRUCTURES, ELECTRICAL AND CONTROLS NECESSARY FOR A FULLY OPERATIONAL LIFT STATION. COMPLETE IMPROVEMENTS TO THE PROPOSED 16" FORCE MAIN TO EXTEND POSSIBLE AND PRIOR TO DEMOLITION OF THE EXISTING LIFT STATION.

3. STARTUP AND PUT INTO SERVICE THE PROPOSED LIFT STATION, OPERATE THE NEW LIFT STATION FOR 14 CONTINUOUS TROUBLE FREE DAYS.

4. COMPLETE TESTING PERIOD AND TRAINING TO ACCEPTANCE OF THE CITY.

5. REMOVE, DEMOLISH AND REHABILITATE THE EXISTING LIFT STATION AS INDICATED.

6. MODIFY AND COMPLETE 16"/20" FORCE MAIN IMPROVEMENTS.

GENERAL NOTES

NORTHEAST LIFT STATION
AND FORCE MAIN
TULSA PROJECT NO. ES-2018-01
ENGINEERING SERVICES DEPARTMENT
CITY OF TULSA, OKLAHOMA
PLANNING AND ENGINEERING SERVICES
CITY OF TULSA, OKLAHOMA
HOLLOMAN WORKS & MILLER ENGRG., INC.
PLANS AND SPECIFICATIONS
APPROVED
PLANNING AND ENGINEERING SERVICES
ARCHITECTS
HOLLOMAN WORKS & MILLER ENGRG., INC.
PLANS AND SPECIFICATIONS
APPROVED
PLANNING AND ENGINEERING SERVICES
ARCHITECTS
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**EQUIPMENT INFORMATION - ELECTRICAL**

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**EQUIPMENT INFORMATION - MECHANICAL**

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STORMWATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NORTHSIDE WWTP LOCATED AT W 5628 N 105TH E AVE
PROJECT DESCRIPTION: EXCAVATION, GRAZING, DEMOLITION, LIFT STATION CONSTRUCTION, YARD PIPING, STRUCTURE DEMOLITION

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:
1. CLEAR AND BRUSH AIREND ALONG IMPROVEMENTS
2. SIMULATE EROSION CONTROL PRAC. PRIOR INSTALLATION PERMANENT SIDE AND SEEDING
3. REPLACE SODDLE TO TOPSOIL AND SEED PRIOR INSTALLATION PERMANENT SIDE AND SEEDING
4. AS SITE CONDITIONS WARRANT, CONTRACTOR MAY OPTIMIZE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED ACTIVITIES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER
5. CONTRACTOR SHALL MAINTAIN A LOG OF DATES MAJOR SEDIMENT ACTIVITIES, AND THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES

SOIL STABILIZATION PRACTICES:
- TEMPORARY SEEDING
- PERMANENT SEEDING, SPRINGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 21 DAYS. METHODS USED WILL BE AS SHOWN ON DRAWING OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:
- TEMPORARY BRUSH SEDIMENT BARRIERS
- TEMPORARY SLT FENCE
- TEMPORARY Silt Dams
- TEMPORARY BAILE BARRIERS
- DIVERSION, INTERCEPTOR OR PERMEABLE DRAINS
- DIVERSION, INTERCEPTOR OR PERMEABLE DRAINAGE
- SEDIMENT BASINS
- ROCK FILTER DAMS
- TEMPORARY SLOPE BAN
- SEDIMENT DIVERSIONS
- TENTED DITCHS WITH DITCH LINER PROTECTION
- SEDIMENT TRENCH CHANNELS

OFFSITE VEHICLE TRACKING:
- Haul roads damped for dust control
- Loaded haul trucks to be covered with tarp
- Excess dirt on road removed daily

WEIGHTED RUNOFF COEFFICIENT
Before Construction: 0.2
After Construction: 0.3

NAME OF RECEIVING WATERS: MYNGON CREEK

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES

STORMWATER MANAGEMENT PLAN

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 THE ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY REQUIREMENTS WILL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 IN (12.7 CM) AS RECEIVED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE, POTENTIALLY PRODUCING AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS. ALONG WITH EROSION 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 STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIAL HANDLING, SEDIMENT PREVENTION AND CONTROL MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

Hazardous Materials:
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR INFORMING 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 STORMWATER 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) FORMS THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. THE BASIC GOAL OF STORMWATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORMWATER 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 EROSION, CONTAMINATION OF HAZARDOUS MATERIALS AND OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORMWATER POLLUTION.

THE FOLLOWING SUBSECTIONS OF ODEQ'S STANDARD SPECIFICATIONS BOOK SHOULD BE NOTED:
106.10 FINAL CLEANING UP
106.14 CONTRACTOR'S RESPONSIBILITY FOR WORK
106.09 STORAGE OF MATERIALS
107.01 LAWS TO BE OBSERVED
107.75 STORMWATER MANAGEMENT
220.07-08 STORMWATER POLLUTION PREVENTION AND CONTROL

STORMWATER MANAGEMENT PLAN

NORTHSIDE WWTP
AND FORCE MAIN
TIMUKA PROJECT NO. ES 2018-01
ENGINEERING SERVICES DEPARTMENT
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLAN SCALE: 1" = 100' - 1" = 20' - 1" = 20'-0" - 1" = 0'-0"
DRAWN BY: J. BAKSHI
CHECKED BY: J. BAKSHI
PLOT: 7/16/18
SUMMARY SHEET: 7/16/18
PLOT NO.: 299
PLOT SCALE: 1"=20' - 1"=10'=1"=0'
SHEET: 7 OF 32
PRINTED: 7/16/18
ILLUS 10X8-700
PRINTED BY: D. HART Homework 10X8-700
PRINTED BY: D. HART
PROJECT NO.: 21-01
PLANNED DATE: 2019-01-01
SUMMARY SHEET: 7/16/18
PLOT NO.: 299
PLOT SCALE: 1"=20' - 1"=10'=1"=0'
SHEET: 7 OF 32
PRINTED: 7/16/18
ILLUS 10X8-700
PRINTED BY: D. HART
LEGEND

EXISTING PAVING

DEMO

DEBRIS

CONCRETE PAVEMENT

FULL REPLACEMENT

ASPHALT PAVEMENT

FULL REPLACEMENT

NOTES:

1. SAW OUT AND PROTECT EXISTING PAVING AREAS.

2. FORCE MAIN ALIGNMENT IS IN THE AREA OF ABANDONED CLARIFIER AND OTHER STRUCTURES WITH APPROXIMATELY 3'-5" OF COVER SOIL ABOVE EXISTING WALLS AND BACKFILL DEBRIS. DEMO/

3. DEMO EXISTING STORM PIPES AND NORTHERN AREA INLET AS SHOWN. BACKFILL WITH ROCK, PROTECT PIPE FOR NEW CONNECTION.

4. DEMO EXISTING STORM PIPES AND NORTHERN AREA INLET AS SHOWN. BACKFILL WITH ROCK, PROTECT PIPE FOR NEW CONNECTION.

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32. DEMO EXISTING STORM PIPES AND NORTHERN AREA INLET AS SHOWN. BACKFILL WITH ROCK, PROTECT PIPE FOR NEW CONNECTION.
NOTES:

1. AFTER NEW NORTHSIDE LS FM IS IN SERVICE, TESTED & ACCEPTED BY THE CITY, CAP THE RENAIRED FITTING AT APACHE LS FM TEE, COORDINATE WITH APACHE LS OPERATIONS. ROUTE NEW SECTION OF 20' FM, TO EXCESS FLOW DIVERSION STRUCTURE.

2. PAVEMENT FOR PAVING, CURB & PAVING REMOVAL SHALL BE PAID FOR WITH JSI ITEMS.
NOTES:

1. PROVIDE ZURN FROST FREE HOSE FAUCETS, ZURN Z5345 OR EQUAL, IN PVC WALL SLEEVE. INCLUDE TWO LINK SEALS WITH STAINLESS BOLTS FOR EACH WALL SLEEVE LOCATION.

2. INTERIOR HOSE FAUCETS SHALL BE AMERICAN GRANBY OR POLY-MART STAINLESS STEEL, SPOUT NUMBER PARISIOTALIS. PROVIDE 3/4" LINE SIZE WITH TEE HANDLE, 1/4 TURN, 200 PSI RATING, GARDEN HOSE THREAD AND 304/316 STAINLESS STEEL CONSTRUCTION OR EQUAL.

3. PROVIDE ZURN 316 STEEL BODY AND GRATE FLOOR DRAINS W/AM SMITH TRAP SEALS OR EQUAL.

4. PROVIDE VINYL, BACKED INSULATION ON ALL EXPOSED WATERLINES. PROVIDE City OF TULSA COLOR CODE REQUIREMENTS BANDING OR PAINT AS REQUIRED AND AFFIX PVC STICKER LABELS (SERVICE DESCRIPTION/FLOW DIRECTION).

5. SEE PIPING AND COATING SPECIFICATION. PROVIDE PEP PIPING COLOR CODE & SIGNAGE.

6. BACKFLOW PREVENTER SHALL BE DALTROX MODEL 43604 OR EQUAL. INSTALL UNIONS ON EITHER SIDE OF BFP.

7. WALL MOUNT MACH 1B19 REDUCED PRESSURE ZONE BFP WITH MOUNTING BRACKETS AND UNIONS WITH BY PASS FOR BFP MAINTENANCE.

8. PROVIDE A "G2 AUTOMATED TECHNOLOGIES® 24"VAC/24V DC WELDED 316 STAINLESS STEEL INDUSTRIAL SINK (SIMILAR TO MODEL GAT-LAB-SINK-24434-1-05-97-860). INCLUDE INDUSTRIAL CHROME FINISHED DOUBLE HANDLE GOOSENECK FAUCET AND SPOOL 316 STAINLESS STEEL DRAIN GRATE AND SCHEDULE 40 DRN PIPING TO BFP.

9. PROVIDE PLACARD POTABLE AND PIPING TAGGING ACCORDING TO MOST CURRENT CODE REQUIREMENTS. POTABLE WATER SHOULD STATE CAUTION - RECLAIMED WATER LINE DO NOT DRINK. PLACARD SHALL BE STURDY AND UV STABLE. REFERENCE TAGGING SPECIFICATIONS FOR ADDITIONAL INFORMATION. SUBMIT PLACARD SIGN FOR APPROVAL.

10. WALL MOUNT WATER SERVICE LINES WITH 316 STAINLESS STEEL UNISTRUT SYSTEM.

SCALE: 1/4" = 1'-0"
**DOOR SCHEDULE**

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<th>THICK</th>
<th>STYLE</th>
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<td>7/8&quot;</td>
<td>0-1 3/4&quot;</td>
<td>F 16</td>
<td>X</td>
<td>PANIC BAR, KEYSLOT, CLOSER</td>
<td>0-7 3/4&quot;</td>
<td>16 W</td>
<td>SEE NOTE 6 &amp; 7</td>
</tr>
<tr>
<td>D2</td>
<td>NORTHSIDE LS</td>
<td>1</td>
<td>X</td>
<td>LH</td>
<td>RH</td>
<td>6'0&quot;</td>
<td>7/8&quot;</td>
<td>0-1 3/4&quot;</td>
<td>F 16</td>
<td>X</td>
<td>PANIC BAR, KEYSLOT, CLOSER</td>
<td>0-7 3/4&quot;</td>
<td>16 W</td>
<td>SEE NOTE 6 &amp; 7</td>
</tr>
<tr>
<td>D3</td>
<td>ELECTRICAL ROOM</td>
<td>1</td>
<td>LH</td>
<td>RH</td>
<td></td>
<td>6'0&quot;</td>
<td>7/8&quot;</td>
<td>0-1 3/4&quot;</td>
<td>G2 16</td>
<td>X</td>
<td>PANIC BAR</td>
<td>0-7 3/4&quot;</td>
<td>16 W</td>
<td>SEE NOTE 6 &amp; 7</td>
</tr>
</tbody>
</table>

**DOOR NOTES:**
1. PASSAGE DOORS SHALL MEET ANSI 240.4 AND ANSI 250.8
2. OVERHEAD DOOR SHALL INCLUDE MANUAL CHAIN OPERATION & DOUBLE CLAD INSULATED DOOR PANELS & INTERIOR LOCKING LATCH.
3. ALL HINGES STRIKER & HARDWARE TO BE LEVER ACTION W/ STAINLESS STEEL, (US32D) GRADE 1, MORTISE W/ MASTER KEY SYSTEM, MATCHED TO CITY OF TULSA SYSTEM. OFFICE & PERSONNEL AREAS SHALL BE STAINLESS STEEL, UL hardware, handle, hinges & components.
4. ALL CLOSETS TO BE ADA COMPLIANT.
5. ALL METAL DOORS AND FRAMES WILL BE PAINTED, COLOR SELECTION BY OWNER. REFER TO PAINTING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. EXTERIOR SECURITY GLASS & THRESHOLD.
7. DOOR MANUFACTURERS SHALL BE DKS PIONEER KARREN OR EQUAL.
8. COORDINATE AND PROVIDE DOOR Drip EDGE AT APPLICABLE LOCATIONS.
9. PROVIDE UV STABLE SIGN ON OR AT EACH DOOR FOR ROOM OR BUILDING SIGNAGE LETTERING TO BE 2" TALL, SUBMIT WORKING & SIGN INFORMATION FOR APPROVAL.

**ROOM FINISH SCHEDULE**

<table>
<thead>
<tr>
<th>MARK</th>
<th>ROOM</th>
<th>WALLING</th>
<th>CEILING</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>A</td>
<td>LIFT STATION PIPE GALLERY</td>
<td>NON-SLIP TEXTURED AND SEALED CONCRETE</td>
<td>Block filler framed and painted CMU</td>
<td>PAINTED</td>
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<tr>
<td>B</td>
<td>LIFT STATION ELECTRICAL ROOM</td>
<td>NON-SLIP TEXTURED AND SEALED CONCRETE</td>
<td>Block filler framed and painted CMU</td>
<td>PAINTED</td>
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<tr>
<td>C</td>
<td>FEB STORAGE BUILDING INTERIOR</td>
<td>NON-SLIP TEXTURED AND SEALED CONCRETE</td>
<td>Painted interior</td>
<td>Painted</td>
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**FINISH NOTES:**
1. PAINT SHALL BE OIL BASED SATIN FINISH.

**WINDOW SCHEDULE**

<table>
<thead>
<tr>
<th>MARK</th>
<th>ROOM</th>
<th>HAND</th>
<th>HEIGHT</th>
<th>FRAME MATERIAL</th>
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<td>W1</td>
<td>LS EXTERIOR WINDOWS</td>
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<td>BRONZE ALUMINUM</td>
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<tr>
<td>W2</td>
<td>LS EXTERIOR WINDOWS</td>
<td>4'-0&quot;</td>
<td>2'-0&quot;</td>
<td>BRONZE ALUMINUM</td>
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<tr>
<td>W3</td>
<td>LS ELECTRICAL ROOM</td>
<td>3'-0&quot;</td>
<td>0'-0&quot;</td>
<td>BRONZE ALUMINUM</td>
</tr>
</tbody>
</table>

**WINDOW NOTES:**
1. COORDINATE WINDOW OPENING WITH CMU BLOCK WALLS.
2. REFER TO STRUCTURAL DRAWINGS FOR CMU BOND BEAM REQUIREMENTS.
3. DOUBLE PANE VERTICAL SLIDING, THERMAL WINDOWS, INC. SERIES 4105HD Fixed on Equal.
1. PROVIDE ALUMINUM ENGINEERED PRE-FABRICATED PEDESTRIAN BRIDGE, BIG R BRIDGE COLORADO, GATOR BRIDGE GEORGIA OR EQUAL. ENGINEER SEAL SUBMITTAL DRAWINGS AND ENGINEERED DESIGN SHALL BE LICENSED IN OKLAHOMA.

2. CONTRACTOR TO COORDINATE FINAL BRIDGE SUPPORT AND ANCHOR BOLT REQUIREMENTS AT THE DECANT STRUCTURE AND LAGOON SLOPES WITH MINIMUM GUT REQUIREMENTS AS SHOWN. ADDITIONAL REQUIREMENTS MAY BE REQUIRED BY THE CONTRACTOR'S SELECTED BRIDGE MANUFACTURER AT CONTRACTOR'S COST.

3. SOD ALL DISTURBED AREAS.

4. COORDINATE WORK WITH NORTHSIDE OPERATIONS FOR DECANT LAGOON WATER ELEVATIONS AND NEW WORK. THE DECANT LAGOON CAN BE REMOVED FROM SERVICE FOR A SCHEDULED PERIOD OF TIME AND MOST OF THE WATER REMOVED DOWN TO 57'-0" OR POSSIBLY LOWER BY THE CITY WITH A 3 MONTH LEAD TIME, AS SCHEDULED WITH NORTHSIDE OPERATIONS.

NOTES:

SCALE: 1/8" = 1'-0"

MINIMUM 1" W.G., ASTM F1554 GRADE 55 BOLTS W/ 2" NUTS & 1 (1) WASHER TYPICAL OR PER BRIDGE MANUFACTURER DESIGN REQUIREMENT & RECOMMENDATIONS, Whichever is GREATER.

OUTSIDE ELEVATION

SCALE: 1" = 1'-0"
NOTES:

1. FILL AND VREbrate BASEMENT & WET WELL with nontoxic sand or at CONTRACTOR's option, low strength flamm able fill.

2. COORDINATE WITH NORTHRIP MAINTENANCE DEPARTMENT FOR SALVAGE ITEMS.

3. REMOVE ALL ABANDONED CONDUIT & WIRING NOT IN USE IN THE FUTURE 1ST FLOOR & BASEMENTS AREAS.

4. ISOLATE & REMOVE WATERLINES DEDICATED TO PUMPS & LOWER BASEMENT & CAP WATERLINE.

5. CITY SALVAGE ITEMS INCLUDE, BUT ARE NOT LIMITED TO THE GRINDER AND SUMP PUMP EQUIPMENT.
FEB STORAGE BUILDING PLAN VIEW @ EL: 564.00

FILL BOTTOM BASEMENT & WET WELL SEE NOTE #1.

CONCRETE PLUS 5'-0" LONG MAN.

FILL BOTTOM BASEMENT & WET WELL SEE NOTE #1.

REPAIR FLOOR AT ABANDONED 6" DRAIN

SEE SLAB DETAIL B/S/0

FEB STORAGE BUILDING PLAN VIEW @ EL: 575.00

NOTES:
1. FILL AND VIBRATE BASEMENT & WET WELL WITH 3/4" SAND OR AT CONTRACTOR OPTINAL, LOW STRENGTH FLOWABLE FILL.
2. COORDINATE WITH NWSWTP MAINTENANCE DEPARTMENT FOR SALVAGE ITEMS.
1. Remove three (3) pumps completely, provide blind flanges at suction & discharge reducers, terminate electrical and controls locally to the ceiling, remove the seal where piping back to south wall & cap.

2. Abandon concrete pump pad in place.
TRANSFORMER PAD KEYED NOTES:
1. INSTALL NEW COPPER CLAD GROUND ROD, 3/4" x 10", TYPICAL, AT 4.
2. INSTALL NEW 6/0 A.W.G COPPER CONDUCTOR (TYPICAL).
3. INSTALL NEW #2 BARE COPPER CONDUCTOR.
4. INSTALL NEW EXISTING WELD, TYPICAL, AT 5.
5. INSTALL SECONDARY CONDUITS, SEE SITE PLAN.
6. INSTALL PRIMARY CONDUITS, SEE SITE PLAN.
7. INSTALL NEW #4 REBAR, 12" O.C. BOTH WAYS.
8. CONSTRUCT NEW PAD USING CONCRETE, 3000 PSI AT 28 DAYS.
9. INSTALL NEW 1" DSC UNDER PAD FOR GROUND WIRE (TYPICAL).
10. USE LONG EMPLOY 90° BEND PVC CONDUITS ON PRIMARY CONDUITS.
11. USE LONG EMPLOY 90° BEND PVC CONDUITS ON SECONDARY CONDUITS.

TRANSFORMER PAD NOTES:
1. WHERE POSSIBLE, DO NOT PLACE CONDUIT UNDER PANO SECTION OF FOUNDATION.
2. REINFORCING - #4 REBAR 12" O.C. BOTH WAYS.
3. WHEN INSTALLING CONDUIT, DISTANCE GROUND IN FOUNDATION AREA AT LEAST AS POSSIBLE.
4. TOP OF FOUNDATION TO BE SMOOTH AND LEVEL. FINAL GRADE SHALL SLIDE AWAY FROM PAD.
5. CONCRETE SHALL BE 3000 PSI AT 28 DAYS.
6. CONTRACTOR TO FURNISH 1" CONDUIT UNDER PAD FOR GROUND WIRE.
7. LOCATE CONDUITS UNDER PRIMARY AND SECONDARY BENCHMARKS.
8. TRANSFORMER LOCATION TAG SHALL BE ATTACHED TO EACH CONDUIT HANGING FROM NEW TRANSFORMER OR EXISTING TRANSFORMER.
9. TRANSFORMER PAD REQUIRES A MINIMUM 5'-0" CLEARANCE AROUND EACH SIDE AND BACK OF PAD, A 12'-0" CLEARANCE IS REQUIRED ON FRONT SIDE OF PAD.

EXISTING TRANSFORMER 3
EXISTING LOOP SWITCH 3
EXISTING CUTOFF VALVE
EXISTING CUTOFF VALVE IN EXISTING HANDLE AND EXISTING LOOP TRANSFORMER SUB STATION WORSKING CONDUITS
EXISTING RING ERROR PANEL
EXISTING LIFT STATION SEE SHEET 1
EXISTING LIFT STATION SEE SHEET 1
EXISTING LIFT STATION SEE SHEET 1
ELECTRICAL SITE PLAN
SCALE: 1" = 20'
**LEGEND:**
- ≈ 4/12 and 30° GOWN: bare copper countepoise, direct buried 24" below finished grade.
- ⚡ Exothermic weld, cast iron
- 3/4" x 10"-0" copper clad ground rod with exothermic weld

**NOTES:**
1. Bond countepoise to electrical equipment.

**LIGHTNING PROTECTION SYSTEM NOTES:**

1. Install a lightning protection system consisting of a complete system of air terminals, conductors, ground terminals, interconnecting conductors, and other connectors and/or fittings required for a complete system.

2. The new installation shall fully comply with the NFPA 780. Lightning protection system grounding structure not exceeding 75 feet in height shall be protected with aluminum class 1 material.

3. All air terminals shall be no less than 18" above the object or area to be protected. Shall be placed not more than 10 feet apart and shall be placed at not more than 2 feet of the edge of outside corner of the flat or gently sloping roof.

4. Additional roof terminals shall be placed at intervals not to exceed 50 feet on flat or gently sloping roofs that exceed 50 feet in width or length.

5. Conductors shall interconnect all air terminals and form a two-point path from each terminal to the air terminal with the ground terminal.

6. Not used.

7. All lightning protection conductors shall be fastened not more than 3'-0" maximum spacing.

8. Connections to the ground rod or ground ring conductor shall be made at a point not less than 2'-0" below ground and 2'-0" away from foundation wall.

9. The lightning protection system shall be installed in a neat and inconspicuous manner so that all components will blend in with the appearance of the building.

10. Connect bond secondary conductor cable to all equipment, vents, relief drain, roof caps, factory, etc., as indicated.
### Panelboard Schedule

**Panel PP**

<table>
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<tr>
<th>Description</th>
<th>BRK</th>
<th>NO.</th>
<th>240V/277V</th>
<th>3-PH</th>
<th>3W</th>
<th>25A</th>
<th>600V</th>
<th>MOB</th>
<th>100A</th>
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<th>DESIGN CURRENT</th>
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<td>591.980AMPS</td>
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</tbody>
</table>

**Electrical Panel Schedules**

**NORTHSIDE LIFT STATION**

**ENGINEERING SERVICES DEPARTMENT**

**CITY OF TULSA, OKLAHOMA**

**ENGINEERING SERVICES DEPARTMENT**

**PLAN AND DRAWINGS BRANDON E. DAVISON**

**APPROVED**

**ARCHITECT:**

**ENGINEERS:**

**SHEET C/L: D 14 SHEETS**
<table>
<thead>
<tr>
<th>LOOP</th>
<th>EQUIPMENT</th>
<th>DESCRIPTION</th>
<th>I/O TYPE</th>
<th>PLC / REMARKS</th>
<th>LOOP</th>
<th>EQUIPMENT</th>
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<td>FIT-001</td>
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<td>AI</td>
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<td>DO</td>
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KEYED NOTES:
1. REMOVE DUCTWORK COMPLETE BACK TO POINT INDICATED AT FLOOR ELEVATION 550.
2. FAN TO BE RELOCATED TO TOP OF ROOM.