

CONTRACT DOCUMENTS - DRAWINGS
FOR
PROJECT NO. WPC 25-1
FY'25 WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS

ATTENDANCE AT PRE-BID CONFERENCE IS MANDATORY

PREPARED BY:



HOLLOWAY, UPDIKE AND BELLEN, INC.
918-251-0717 OFFICE
C.A. No. 219
EXPIRES 6/30/25



ERIC LEE, DIRECTOR
WATER AND SEWER DEPARTMENT

Account Numbers:
SSWWTP – 7503362-544003
NSWWTP – 7503365-544003
2431S00027.SewerTreat.SwrTrt.7523N.75233300-541101

Eric Lee, Director Water & Sewer Dept.

2-21-2025

Date

Stephen Tolar P.E., S.E. No. OK 20679

Cindy Cantero, Water Pollution Control Manager

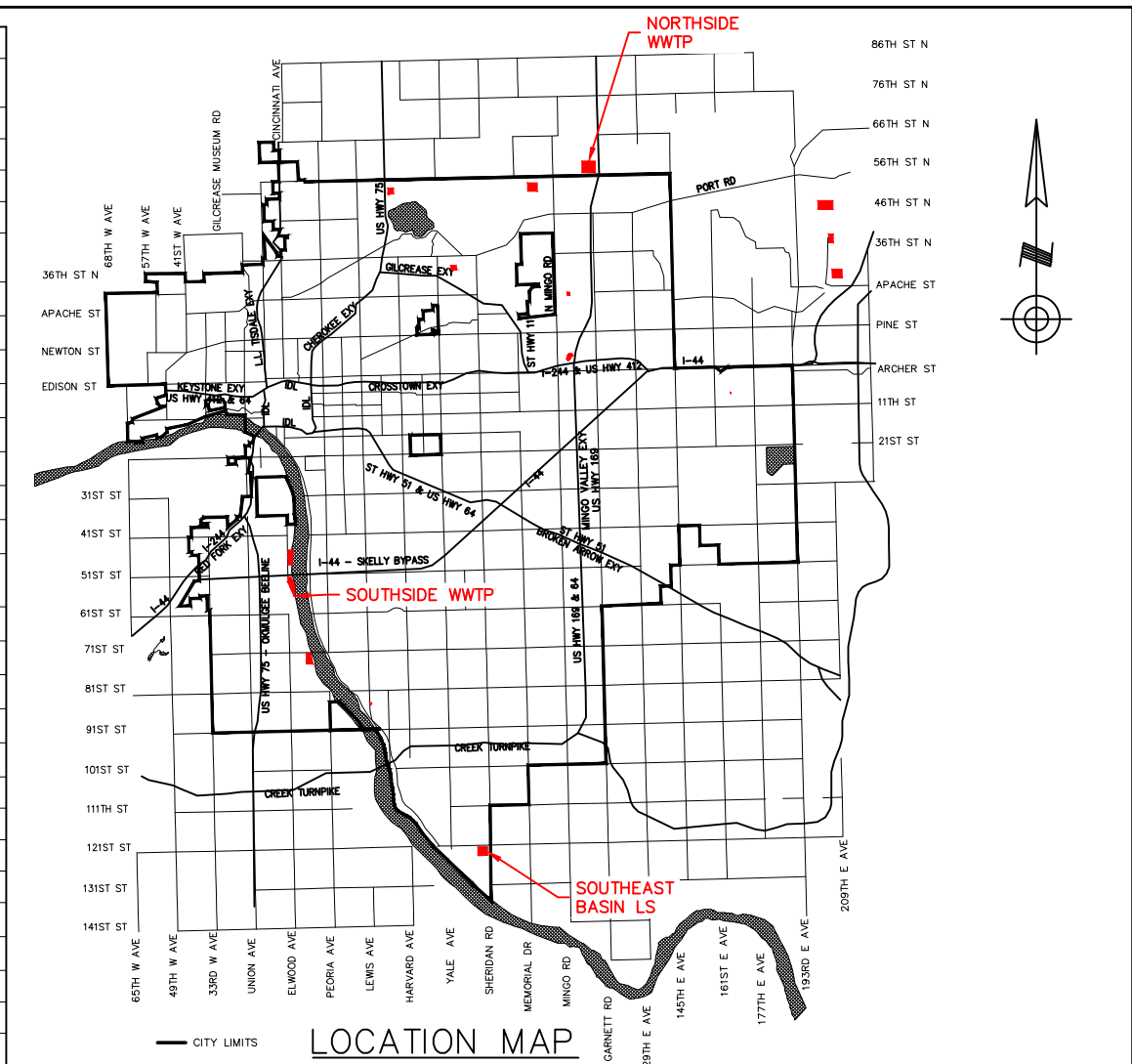
2-17-2025
Date

Note: The Drawings attached hereto as part of these Specifications are for information purposes only. The Authority makes no representation or guarantee with respect to the accuracy of any information contained in the Drawings. It is the Contractors responsibility to verify information on the drawings to ensure the equipment installed or controlled by work performed under this Contract performs as specified herein.

Water and Sewer Department
175 E. 2nd Street, Suite 1300
Tulsa, Oklahoma 74103
(918) 596-9870

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TULSA CONTACT INFORMATION
 SOUTHSIDE WASTEWATER TREATMENT PLANT
 JOSH FISHER, SUPERINTENDENT 918-591-4450
 NORTHSIDE WASTEWATER TREATMENT PLANT
 COLIN WILMERING, SUPERINTENDENT 918-591-4570

REVISION	BY	DATE

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INDEX OF SHEETS & LOCATION MAP
 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1
 CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:			
PLAN SCALE:	DRAWN CMW	DESIGNED CMW	SURVEY
PROFILE SCALE:	PROJ. MGR. TJR	LEAD ENGR. LST	FIELD MGR.
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GENERAL NOTES


1. THE CONTRACTOR SHALL CALL WWTP PERSONNEL AND CALL OKIE AT 1-800-522-6543 PRIOR TO ANY EXCAVATION TO DETERMINE LOCATION OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL, AT CONTRACTOR'S EXPENSE, UNCOVER AND DETERMINE THE DEPTH OF PIPE LINES AND OTHER UTILITIES WHICH, IN CONTRACTOR'S OPINION, COULD INTERFERE WITH THE CONSTRUCTION.
3. THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND STANDARD DETAIL, CURRENT VERSION, ARE HEREBY ADOPTED AS PART OF THESE SPECIFICATIONS WHERE REFERENCE IS MADE. SAID SPECIFICATIONS WILL BE HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS".
4. CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AT ALL TIMES. TRASH, SPENT PALLETS, CONTAINER REMNANTS, BINDINGS, ETC. SHALL BE PICKED UP WHEN NO LONGER IN USE AND DEPOSITED IN TRASH CONTAINERS.
5. ALL STAINLESS STEEL SHALL BE MINIMUM TYPE 316 SUITABLE FOR SANITARY APPLICATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL ANCHOR BOLTS, SUPPORTS, BRACKETS, FASTENERS AND UNISTRUT SHALL BE 316 SS UNLESS NOTED SPECIFICALLY OTHERWISE.
6. ALL DIMENSIONS SHOWN WITH ± SHALL BE CONFIRMED BY THE CONTRACTOR ACCORDING TO ACTUAL FIELD CONDITIONS OR EQUIPMENT REQUIREMENTS.
7. DISSIMILAR METALS SHALL BE SEPARATED BY GASKET TO PREVENT GALVANIC CORROSION.
8. 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.
9. CONTRACTOR SHALL VERIFY EXISTING UTILITIES IN THE VICINITY OF PROPOSED CONSTRUCTION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES FROM DRAWINGS.
10. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS WITH EQUIPMENT SUPPLIERS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF DISCREPANCIES.
11. CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE.
12. THE IMPROVEMENTS SET FORTH IN THE PLANS SHALL NOT PROHIBIT ON-SITE TRAFFIC AND/OR RELATED TASKS REQUIRED IN THE TREATMENT AND DISCHARGE OF WASTEWATER.
13. TOPSOIL (MINIMUM 6") IN THE DISTURBED AREAS SHALL BE REMOVED, STOCKPILED AND REPLACED AFTER CONSTRUCTION OPERATIONS. ALL WASTE SOILS AND DEBRIS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HAULED OFFSITE AND DISPOSED OF PROPERLY.
14. ALL WORKMANSHIP SHALL BE NEAT, PLUMB, SQUARE AND CONSTRUCTED IN A PROFESSIONAL MANNER.
15. 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.
16. BYPASS PUMPING OR 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 MANNED CONTINUOUSLY (24/7) BY THE CONTRACTOR WHEN OPERATING. AVERAGE DRY WEATHER FLOW ARE AVAILABLE FROM CITY BY REQUEST.
17. CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING REQUIRED TO CONSTRUCT FOUNDATIONS IN DRY CONDITIONS AND TO PROTECT EXCAVATION SIDE SLOPES.
18. 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 JPEG FORMAT ON JUMP DRIVE AS PART OF CONTRACTORS CONSTRUCTION PHOTOGRAPHIC RECORD. CONTRACTOR SHALL SUBMIT GPS COORDINATES AND ELEVATIONS OF THE ϕ OF ALL PIPING AT BENDS, FITTING, VALVES AND OTHER BURIED ITEMS.
19. WHERE RED TEXT AND LINWORK IS USED IT CONVEYS NEW OR PROPOSED WORK. RECORD DRAWING USED AS BASE DRAWINGS MAY SHOW BOLD LINWORK AND TEXT. THIS SHOULD BE VIEWED AS EXISTING.

GENERAL PIPING NOTES

- P1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- P2. SIZE OF FITTINGS SHOWN ON THE PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED.
- P3. ALL BURIED D.I.P., C.I.P. AND PVC PIPE SHALL UTILIZE RESTRAINED D.I. MECHANICAL JOINT FITTINGS AT ALL CONNECTIONS UNLESS OTHERWISE DEPICTED ON THE PLANS SPECIFICALLY OTHERWISE.
- P4. 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 GRAVITY AND PRESSURE PIPING.
- P5. 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.
- P6. CONTRACTOR SHALL REMOVE AND RECONSTRUCT INVERTS WHERE NEW CONNECTIONS ARE MADE TO EXISTING MANHOLES. WORK SHALL BE PAID FOR IN OTHER ITEMS OF WORK.
- P7. ALL FLANGE COUPLING ADAPTERS SHOWN ON THE CONSTRUCTION DRAWINGS SHALL BE RESTRAINED TYPE, MEGAFLANGE SERIES 2100, OR EQUAL.
- P8. CONTRACTOR IS REQUIRED TO VACUUM TEST ALL MANHOLES ACCORDING TO CITY OF TULSA, ENGINEERING SERVICES STANDARDS AND SPECIFICATIONS.
- P9. EXPOSED PIPING SHALL BE PAINTED PER COLOR CODE REQUIREMENTS AND INCLUDE SIGNAGE/LABELS.

SPECIAL WPC PROJECT NOTES & REQUIREMENTS:

- 1) ALL UNISTRUT SUPPORTS, ANCHOR BOLTS, BOLTS, SCREWS, FASTENERS AND OTHER RELATED COMPONENTS WITHIN THE PLANT FACILITY SHALL BE 316 STAINLESS STEEL UNLESS SPECIFICALLY NOTED OTHERWISE. IF A DISCREPANCY IS NOTED, THE MATERIAL SELECTION SHALL DEFAULT TO 316 STAINLESS STEEL IN ALL EXTERIOR, SUBMERGED, H2S AND CLASSIFIED SPACES.
- 2) ALL NEW DISCONNECTS, ELECTRICAL/CONTROL DISPLAY DEVICES AND SMALL PANELS SHALL BE MOUNTED ON THE CUSTOM ALUMINUM PANEL SUPPORT AS SHOWN IN THE MISCELLANEOUS DETAILS, UNLESS SPECIFICALLY NOTED OTHERWISE PER PLAN SHEET NOTES.
- 3) ALL NEW PIPING AND MODIFIED PIPING SHALL BE PAINTED, STANDARD COLOR CODED, WITH DIRECTION ARROWS AND SIGNAGE AS PART OF THE NEW WORK.
- 4) ALL AREAS OF DEMOLITION SHALL INCLUDE REPAIRS TO THE WALLS, CEILING, ROOF, FLOORING, AND CONCRETE. OTHER AREAS OF WORK TO INCLUDE TOUCH UP PAINTING TO MATCH AND CONCRETE REPAIRS AS SHOWN IN THE MISCELLANEOUS DETAILS. SEE SPECIFICATIONS AND SPECIFIC PLAN SHEETS FOR ADDITIONAL DETAILS.
- 5) ALL ELECTRICAL AND CONTROLS DEMOLITION FOR BIDDING PURPOSES, UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE REMOVED COMPLETELY BACK TO CLOSEST POINT OF TERMINATION. CONTRACTOR SHALL SUBMIT WRITTEN SKETCHES, DETAILS AND A WORK PLAN TO FURTHER DEFINE EXTENT OF EACH AREA OF DEMOLITION AND NEW WORK FOR PLANT OPERATIONS COORDINATION.
- 6) SEE SPECIFICATIONS AND CITY OF TULSA STANDARDS AND DETAILS FOR ADDITIONAL REQUIREMENTS. ALL WWTP FACILITY'S ROADS, PARKING AND PAVED AREAS ARE CONSIDERED CITY OF TULSA ROADS AND CITY OF TULSA STANDARDS APPLY.
- 7) THE CONTRACTOR SHALL SELECT MATERIALS AND INSTALL MATERIALS TO MINIMIZE CORROSION AND DISSIMILAR METALS IN ALL AREAS OF WORK. COAT ALL ALUMINUM IN CONTACT WITH CONCRETE, ISOLATION WASHERS ON BOLTS/FASTENERS AND OTHER MATERIAL SEPARATION METHODS SHALL BE USED.
- 8) ALL COPPER PIPING SHALL BE COATED OR PAINTED PRIOR TO INSTALLATION TO ENSURE COPPER IS COVERED COMPLETELY. ALL HVAC LINES, OTHER COPPER TUBING OR COPPER SERVICE LINES SHALL BE OPTIONED FOR CORROSION RESISTANT COATINGS BY THE MANUFACTURER IF AVAILABLE. IF A FACTORY COATING OPTION IS NOT AVAILABLE, APPLY A SPRAY COATING ONSITE WITH HERESITE COATING OR EQUAL. PROTECTIVE COATINGS SHALL BE APPLIED PRIOR TO ASSEMBLY/INSTALLATION. REQUIREMENTS APPLY TO ALL HVAC MECHANICAL EQUIPMENT AND PLUMBING SYSTEMS WITHIN ALL PLANT FACILITY GROUNDS, EXTERIOR EQUIPMENT, SERVICES AND INSIDE OF BUILDINGS, MANHOLES, VAULTS, SHEDS OR OTHER AREAS, EXCEPT PERSONNEL OCCUPIED SPACES LIKE OPERATIONS BUILDING, OFFICE SPACE OR ADMINISTRATION BUILDINGS. BURIED COPPER WATERLINES ARE ALSO EXEMPT.
- 9) ALL PVC PIPING SIZES BETWEEN 1/2" - 4" SHALL BE SCH. 80 CPVC UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLAN SHEET OR APPLICABLE SPECIFICATION SECTION.

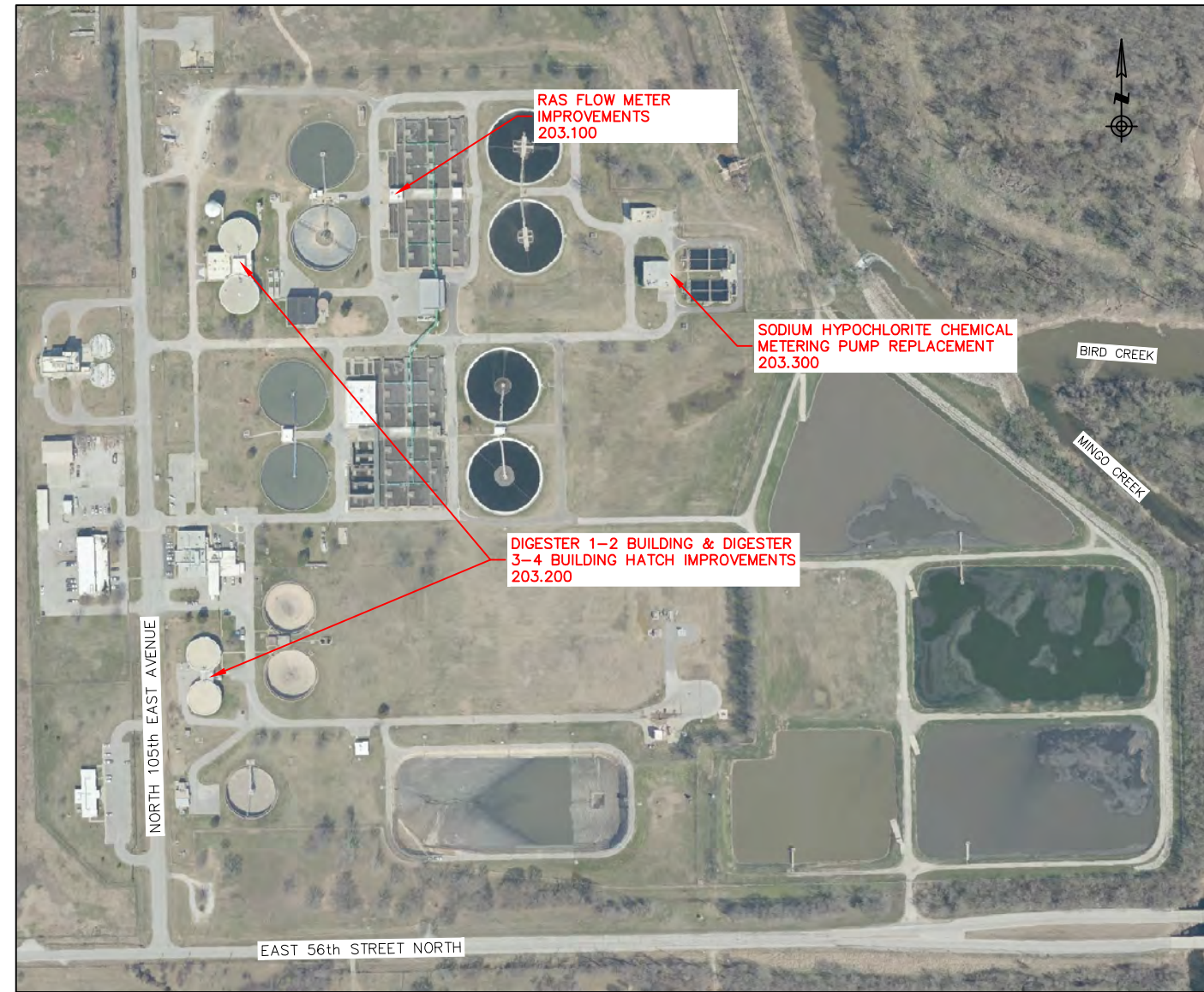
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GENERAL NOTES		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012 (918)208-0770, FAX (918)208-0764		
PLAN SCALE:	DRAWN CMW DESIGNED CMW SURVEY	APPROVED:
PROFILE SCALE:	PROJ. MGR. TJR LEAD ENGR. LST	DESIGN ENGINEERING MANAGER
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1 SOUTHSIDE WWTP
5300 S. ELWOOD AVE.



2 NORTHSIDE WWTP
5628 N. 105TH EAST AVE.

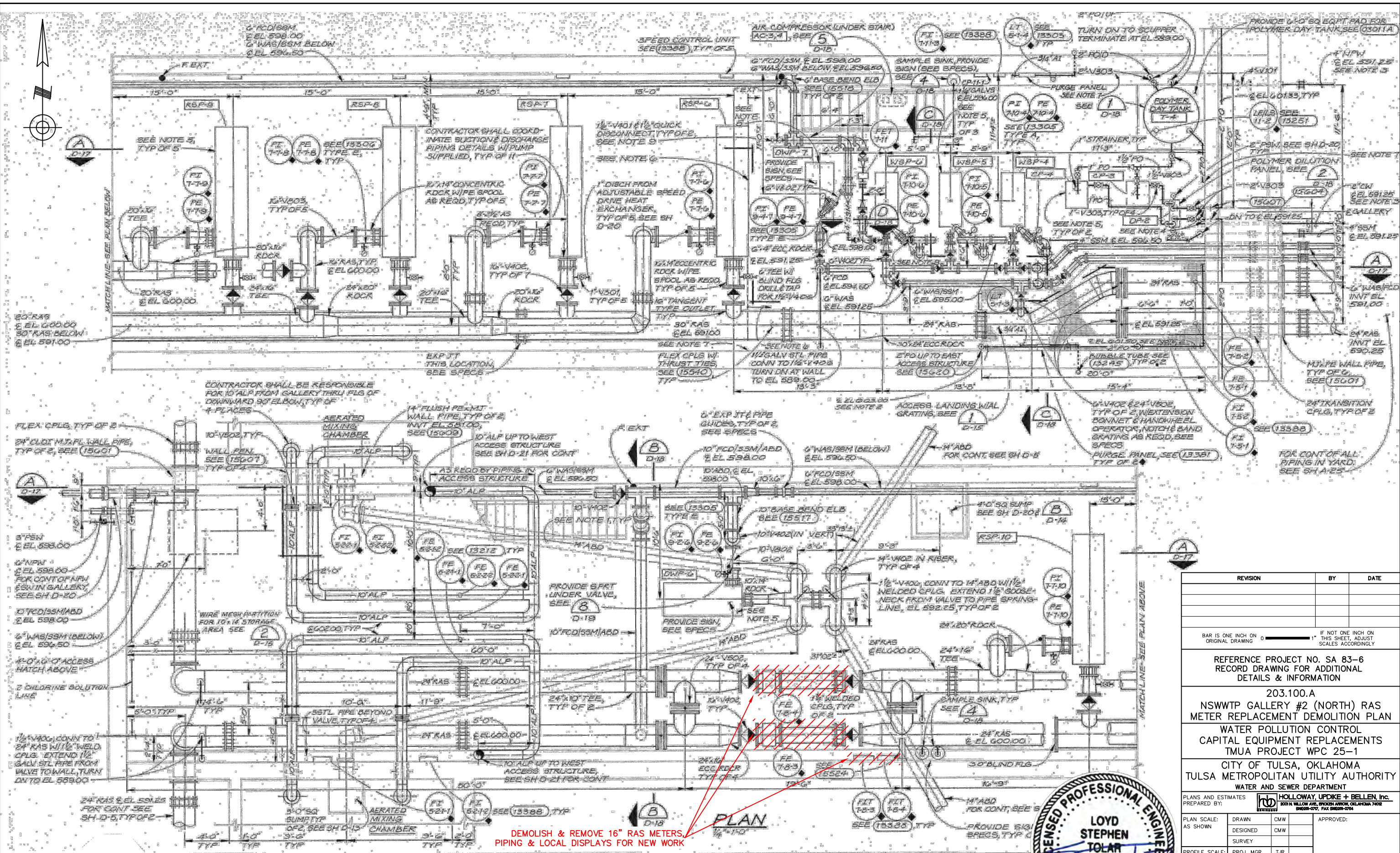


3 SOUTHEAST BASIN LIFT STATION
12236 S. SHERIDAN RD.



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LOCATION PLANS WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1 CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. <small>2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012 (918) 259-0770, FAX (918) 259-0764</small>		
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1 NSWTP GALLERY #2 DEMOLITION PLAN

5 NTS



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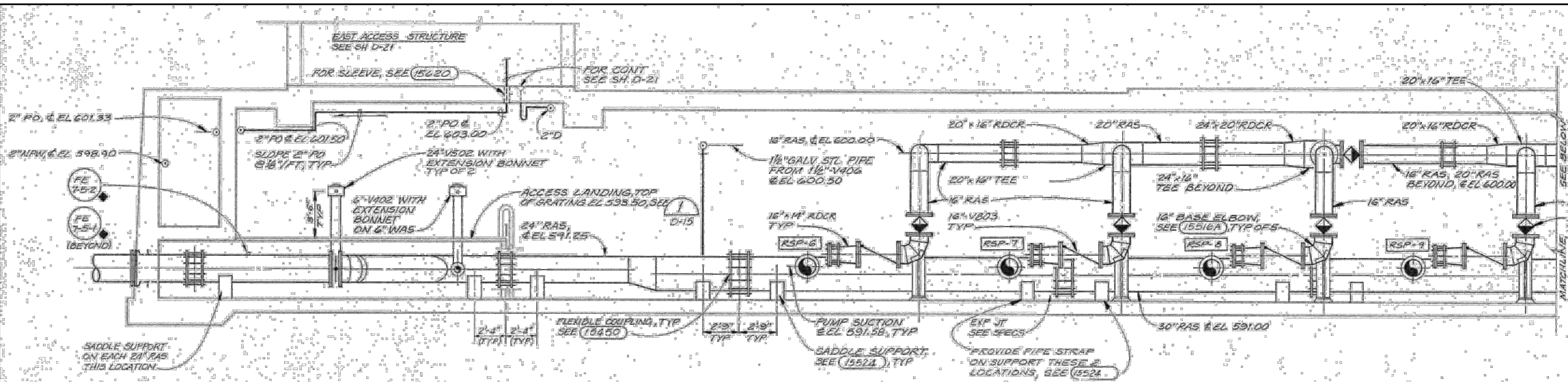
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 RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION

203.100.A
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 METER REPLACEMENT DEMOLITION PLAN
 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1

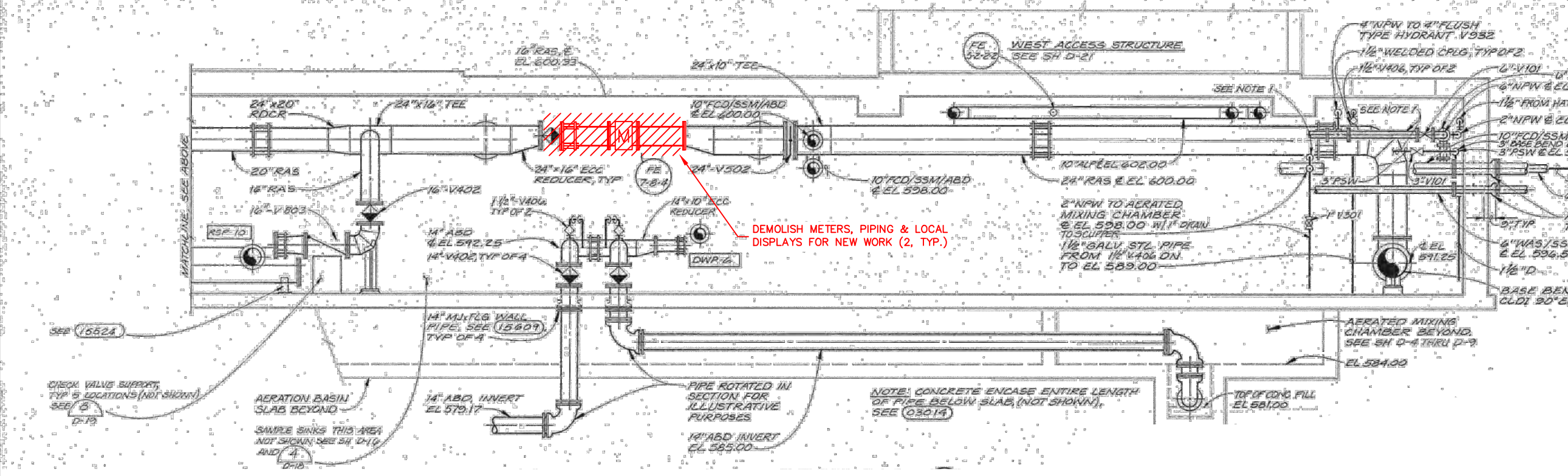
CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPKE & BELLEN, INC.
 3001 N. WILLOW AVE., BROOKHURST, OKLAHOMA 74002
 (918) 259-0777, FAX (918) 259-0764

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2 NSWWTP GALLERY #2 REPLACEMENT SECTION
6 NTS



1 NSWWTP GALLERY #2 DEMOLITION SECTION
6 NTS

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REFERENCE PROJECT NO. SA 83-6
RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION

203.100.B
NSWWTP GALLERY #2 (NORTH) RAS METER REPLACEMENT DEMOLITION SECTIONS
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

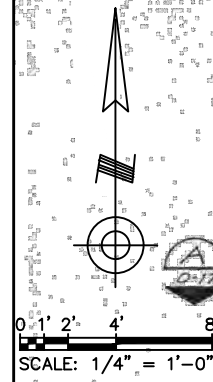
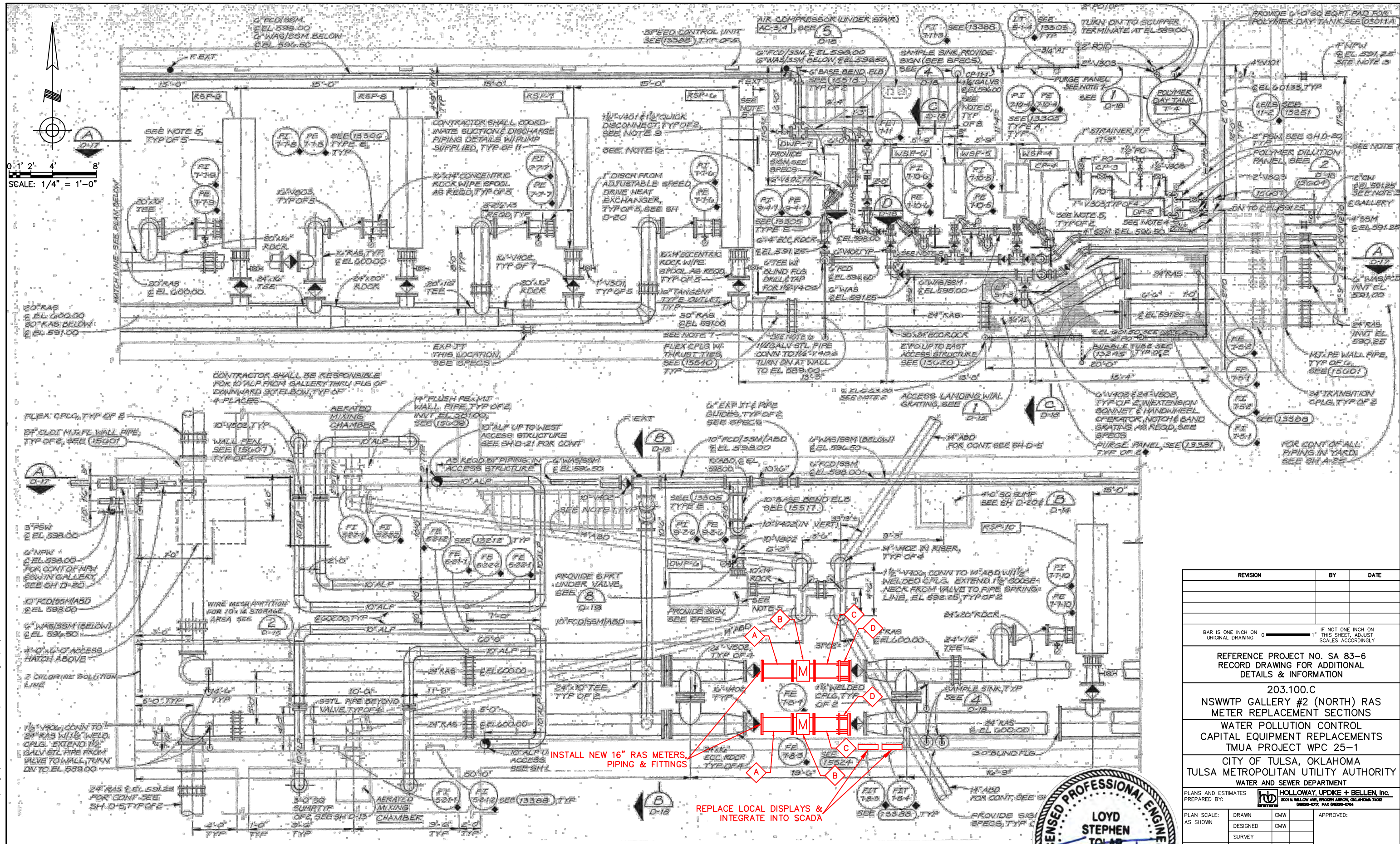
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NOTE:
 1. SEE NOTES & EQUIPMENT SCHEDULE ON SHEET 8

1
 7 NSWWTP GALLERY #2 REPLACEMENT SECTIONS
 1/4\"/>

INSTALL NEW 16\"/>

REPLACE LOCAL DISPLAYS & INTEGRATE INTO SCADA



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REFERENCE PROJECT NO. SA 83-6
 RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION

203.100.C
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 WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1

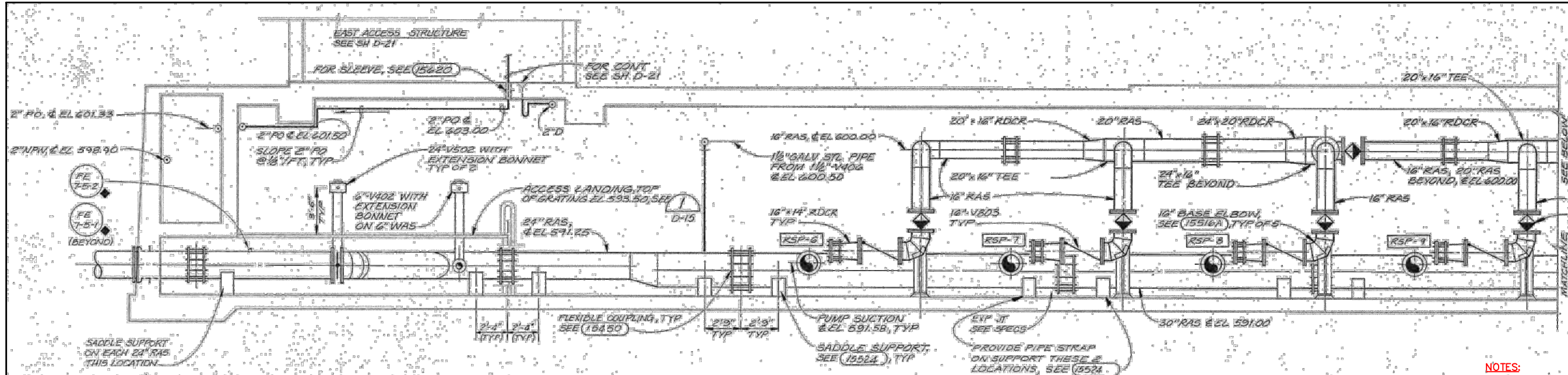
CITY OF TULSA, OKLAHOMA
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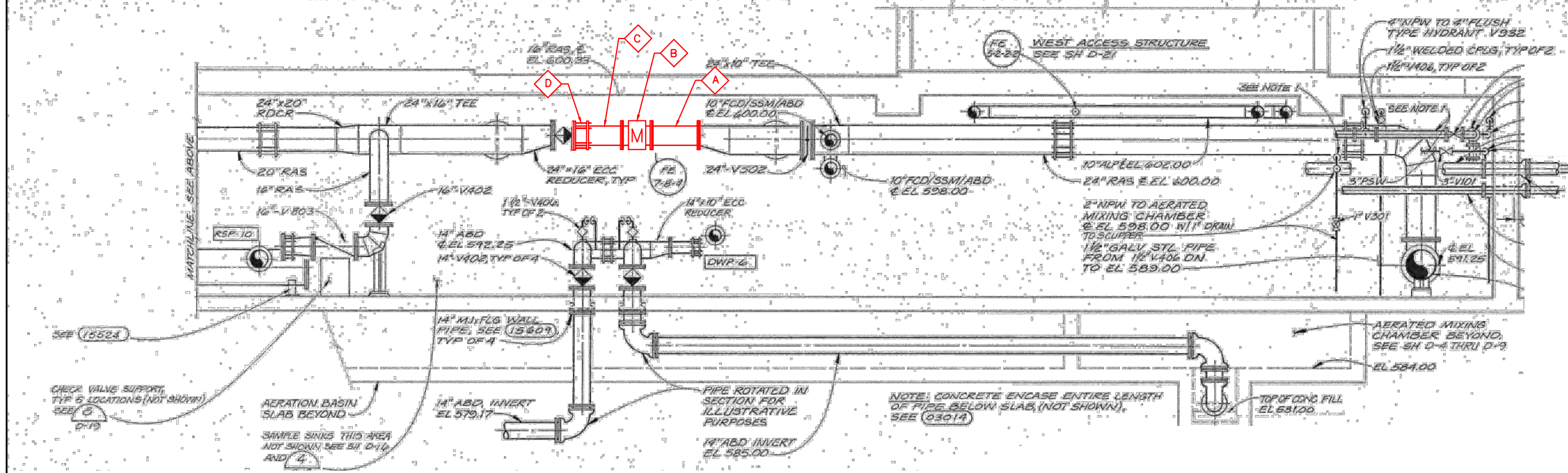
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2
8 NTS
NSWWTP GALLERY #2 REPLACEMENT SECTIONS

NOTES:

- CONTRACTOR MAY REUSE EXISTING DIP PIPING AND FITTINGS TO EXTENT POSSIBLE. MODIFY EXISTING SPOOL PIECES AS REQUIRED TO ACCOMMODATE NEW METER LENGTH. PROVIDE NEW DIP AS NECESSARY FOR A COMPLETE AND OPERABLE INSTALLATION.
- REFER TO EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR MAGNETIC FLOW METER REQUIREMENTS.
- CONTRACTOR SHALL INSTALL A NEW REMOTE TRANSMITTER/FLOW DISPLAY FOR EACH FLOW METER INSTALLED. MATCH EXISTING LOCATION AND REUSE EXISTING CONDUIT TO EXTENT POSSIBLE.
 - A: ALL SENSOR CABLE SHALL BE NEW AND CONTINUOUS FROM METER TO DISPLAY.
 - B: RE-LAND OR RE-PULL EXISTING CONTROL WIRE CIRCUITS TO LOCAL PLC.
- PROVIDE STARTUP AND INTEGRATION SERVICES TO CONFIRM METER FLOW IS ACCURATELY SCALED AND DISPLAYED ON EXISTING HMI.
- PREPARE AND PAINT ALL NEW AND MODIFIED PIPING, FITTING AND VALVES. REFER TO SPECIFICATION SECTION 204.5 FOR REQUIREMENTS.
- PROVIDE NEW HDG BOLT SETS AND GASKETS FOR ALL MODIFIED PIPING.



1
8 NTS
NSWWTP GALLERY #2 REPLACEMENT SECTIONS

EQUIPMENT SCHEDULE						
ID	QTY	DESCRIPTION	MANUFACTURER	MODEL/STYLE	SIZE	DETAILS
◇	2	FLxFL SPOOL			16"	PROTECTO 401 LINED
◇	2	MAGNETIC FLOW METER	ENDRESS+ HAUSER, OR APPROVED EQUAL	PROMAG W 400 METER, 5W4C7F, DN750 16", 5W4C7F-4VP5/0 (5W4C7F-AAKLHP5D HWIKGA+CBEB)	16"	NEW REMOTE DISPLAYS, FULLY POTTED
◇	2	FLxPE SPOOL			16"	PROTECTO 401 LINED
◇	2	FCA			16"	



REVISION	BY	DATE

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REFERENCE PROJECT NO. SA 83-6
RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION

203.100.D
NSWWTP GALLERY #2 (NORTH)
METER REPLACEMENT SECTIONS
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
(918) 259-0770, FAX (918) 259-0764

PLAN SCALE: AS SHOWN	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	DESIGN ENGINEERING MANAGER
	LEAD ENGR.	LST	
	FIELD MGR.		
FILE:	DRAWING:	DATE: 2025	
ATLAS PAGE NO: ---			SHEET 8 OF 48 SHEETS

NOTES:

1. COAT ALL SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE THOROUGHLY WITH INSULATING MATERIAL TO AVOID OXIDATION.
2. EACH SAFETY GRATING PANEL SECTION SHALL BE 2'-0" MIN. WIDE AND 3'-0" MAX. WIDE.
3. ALL BOLTS, BRACKETS, SCREWS, FASTENERS, HANDLES, HINGE COMPONENTS SHALL BE 316 STAINLESS STEEL.



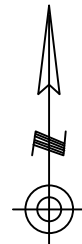
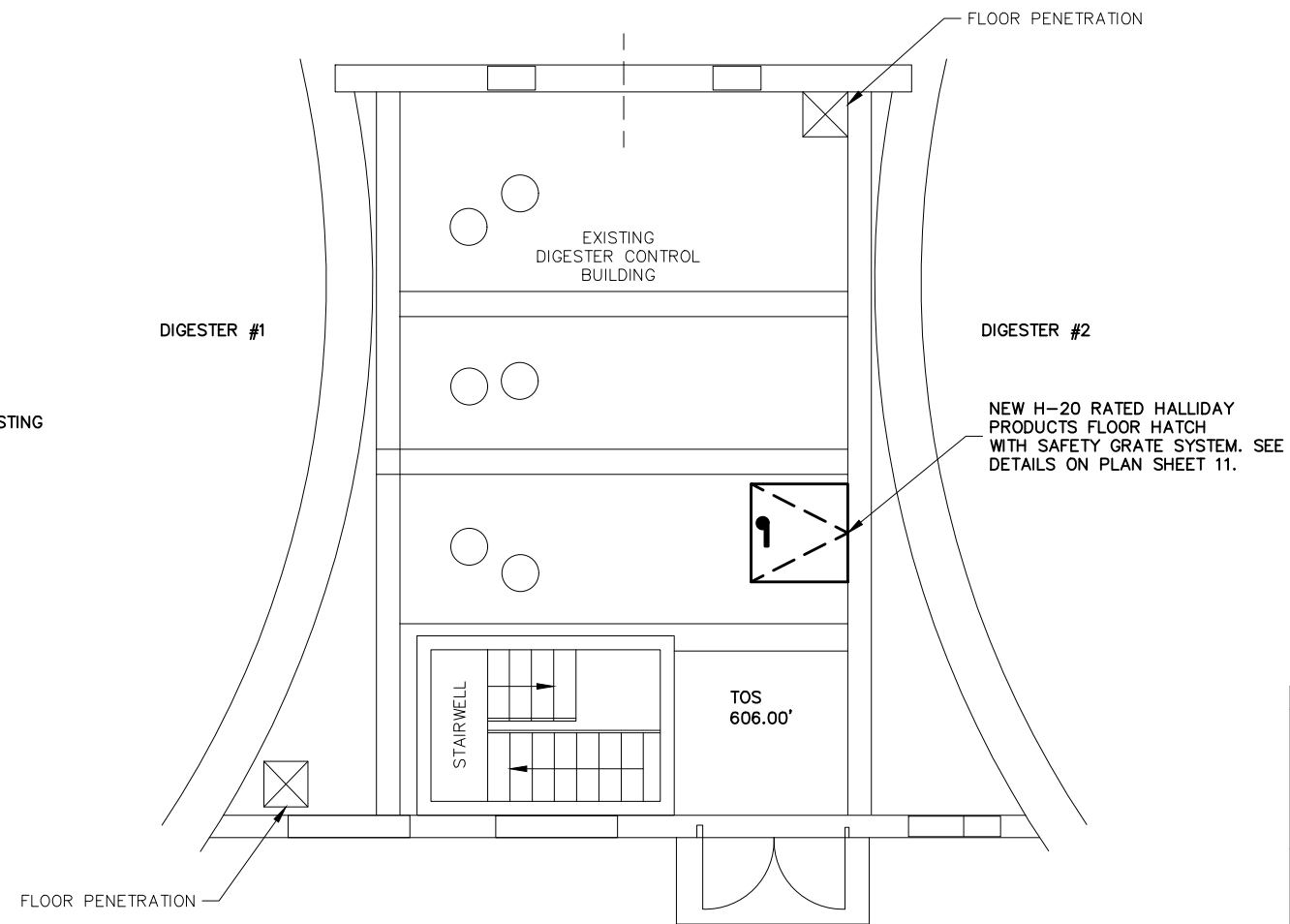
EXISTING CONCRETE ROUGH OPENING IS ±48"x48.5"

1 PHOTO - DIGESTER #1-2 BUILDING
9 NTS



REMOVE EXISTING HATCH

2 PHOTO - DIGESTER #1-2 BUILDING
9 NTS



3 DIGESTER #1-2 FIRST FLOOR PLAN
9 NTS

ADDITIVE ALTERNATE #1
NSWWTP DIGESTER
#1-2 & #3-4
BUILDINGS & SAMPLE
BUILDING HINGE
IMPROVEMENTS

REVISION	BY	DATE

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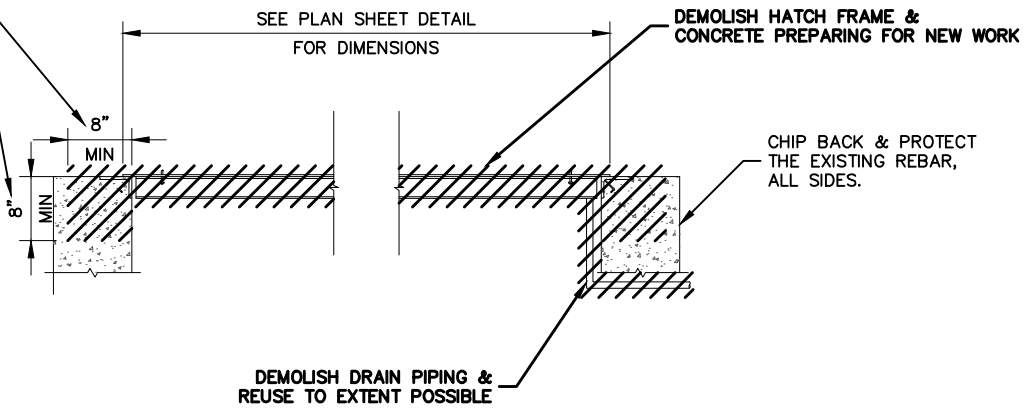
203.200.A
NSWWTP DIGESTER #1 & #2 BUILDING HATCH IMPROVEMENTS
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74012
918-258-0770, FAX 918-258-0764

PLAN SCALE: AS SHOWN	DRAWN: CMW	DESIGNED: CMW	SURVEY: SURVEY	APPROVED:
PROFILE SCALE:	PROJ. MGR.:	TJR	LEAD ENGR.:	LST
HORIZONTAL:	FIELD MGR.:			
VERTICAL:				
FILE:	DRAWING:	DATE:	2025	DESIGN ENGINEERING MANAGER
ATLAS PAGE NO: ---				SHEET 9 OF 48 SHEETS

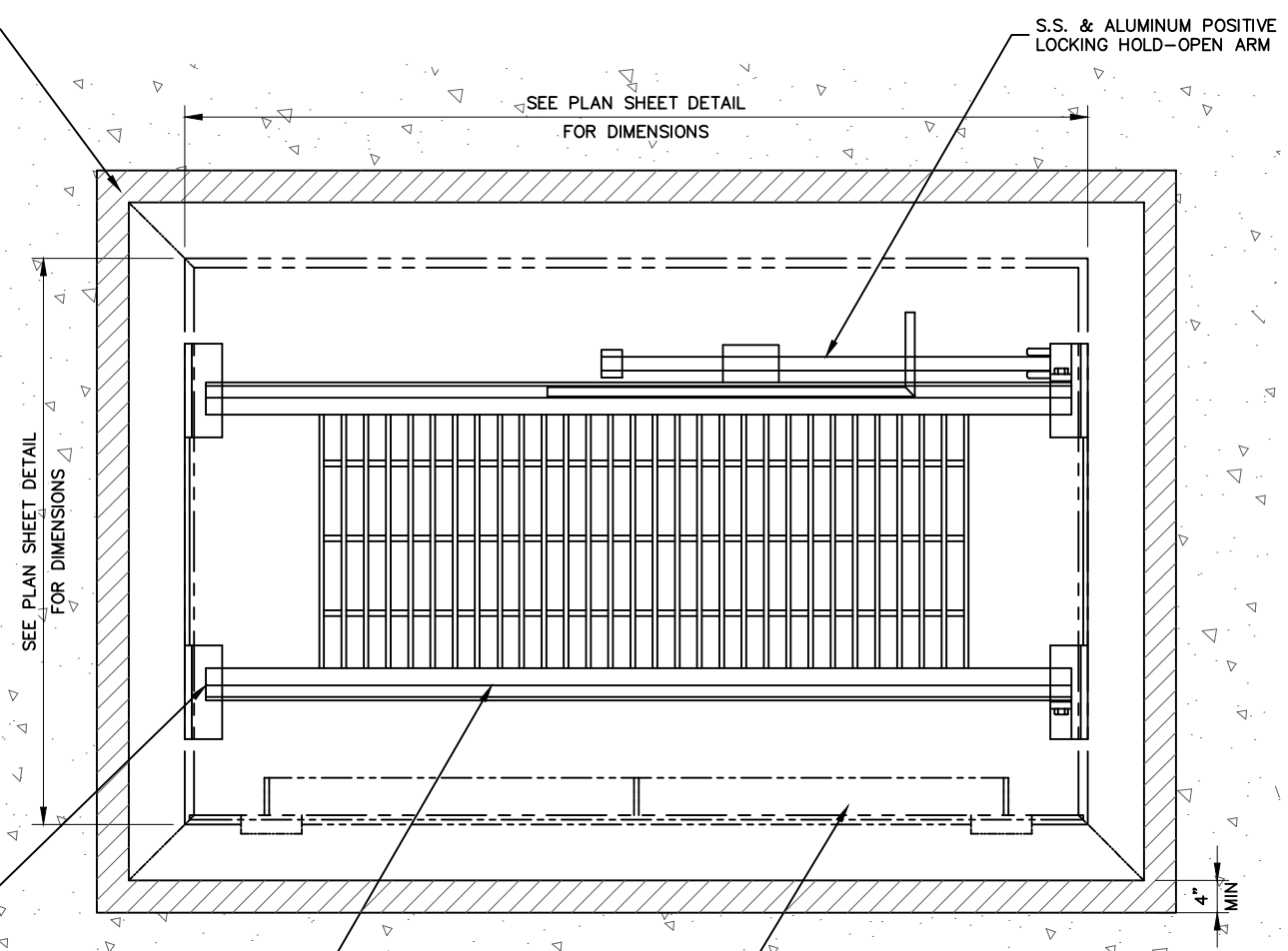


FIELD VERIFY AS REQUIRED FOR HATCH MANUFACTURER.



A HATCH DEMOLITION DETAIL
SCALE: 1" = 1'-0"

PROPOSED GROUT REPAIRS & MATCH FINISH FLOOR

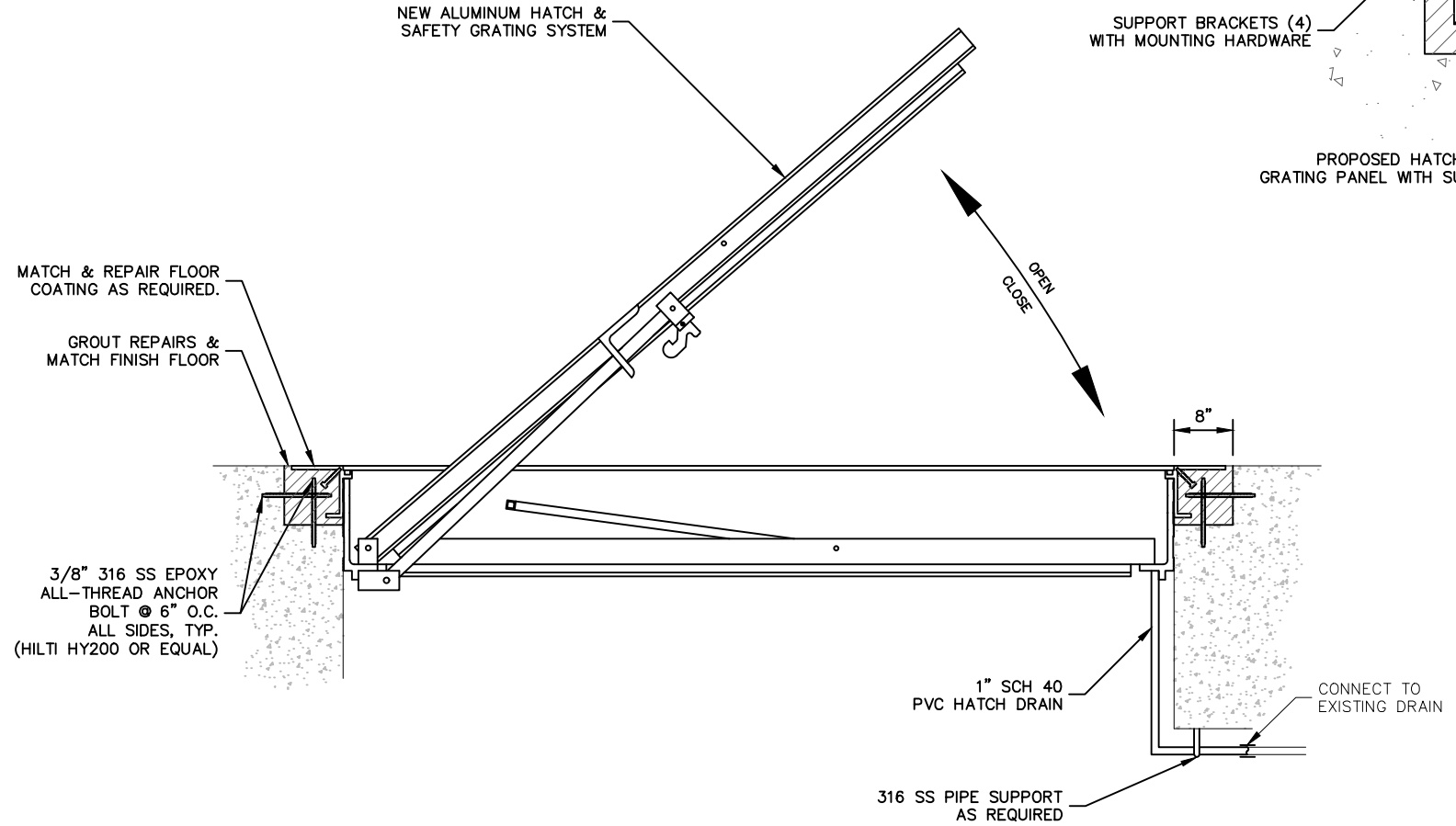


PROPOSED HATCH WITH SAFETY GRATING PANEL WITH SUPPORT BEAMS

NOTE:
1. SINGLE HATCH SHOWN, DOUBLE HATCH "SIMILAR."

1 ALUMINUM HATCH WITH SAFETY GRATING
NTS

ADDITIVE ALTERNATE #1
NSWWTP DIGESTER
#1-2 & #3-4
BUILDINGS & SAMPLE
BUILDING HINGE
IMPROVEMENTS



NOTE:
1. ALUMINUM HATCH SHALL BE H-20 RATED.

B ALUMINUM HATCH WITH SAFETY GRATING SECTION
NTS

REVISION	BY	DATE

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203.200.B
DIGESTER BUILDINGS HATCH IMPROVEMENTS DETAILS
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

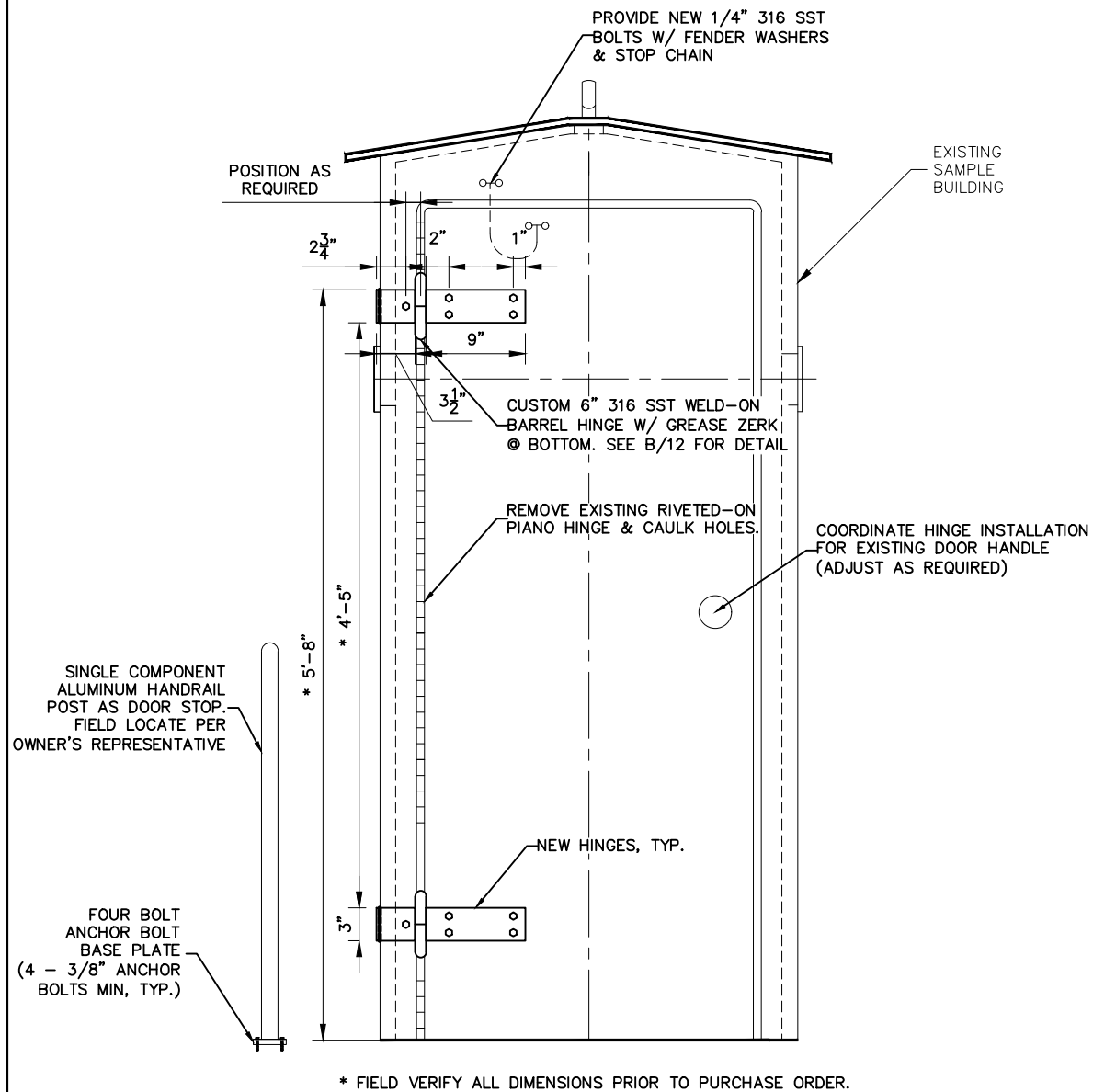
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74012 (918)258-0770, FAX (918)258-0764	
PLAN SCALE: AS SHOWN	DRAWN: CMW	DESIGNED: CMW	SURVEY: CMW
PROFILE SCALE:	PROJ. MGR.: TJR	LEAD ENGR.: LST	FIELD MGR.:
HORIZONTAL:			
VERTICAL:			
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ATLAS PAGE NO: ---	DESIGN ENGINEERING MANAGER		SHEET 10 OF 48 SHEETS



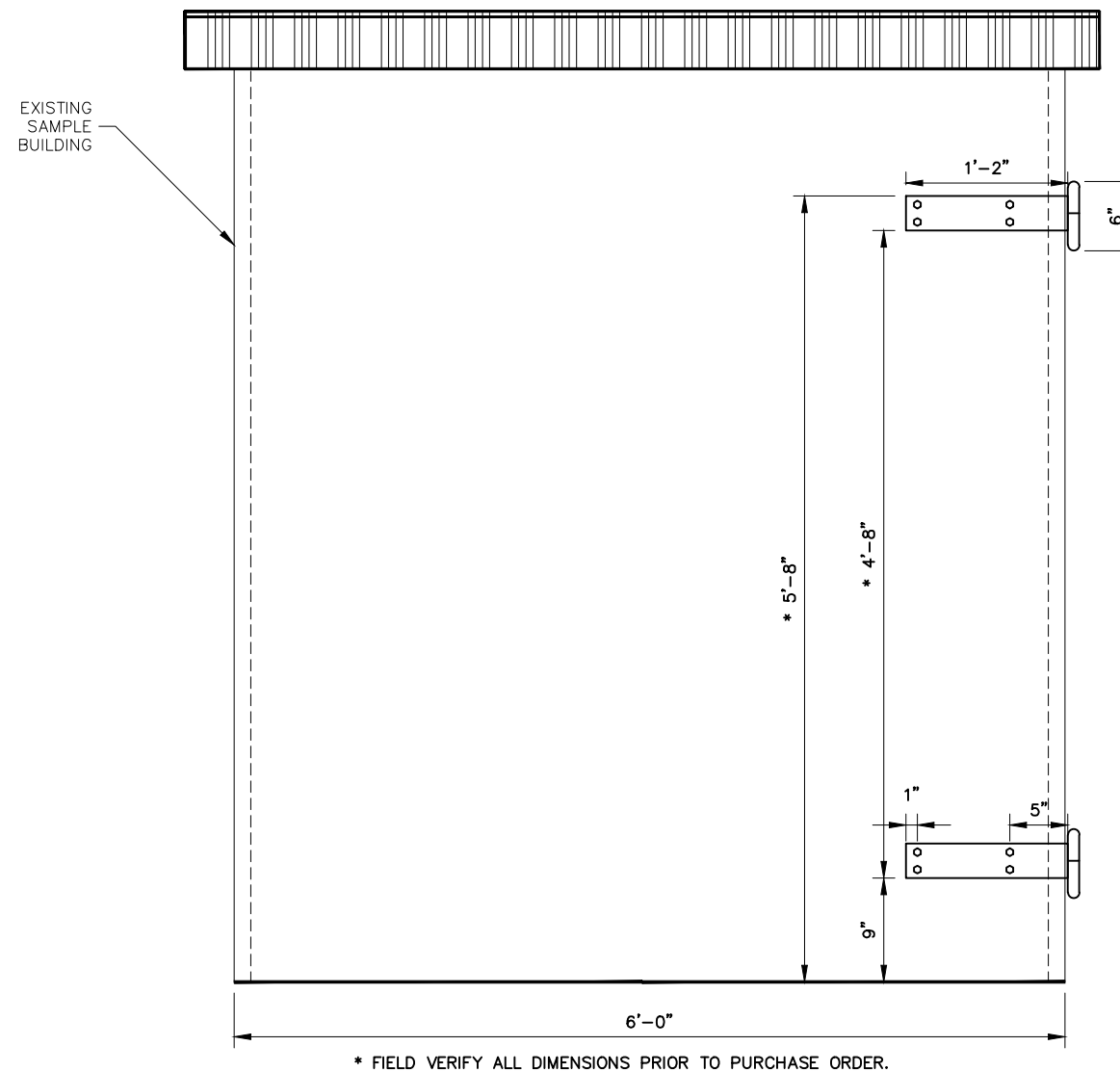
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EQUIPMENT SCHEDULE		
FACILITY LOCATION	BUILDING NAME	NO. OF HINGES TO RETRO FIT
NSWTP	CONTACT BASIN BUILDING	2
SSWTP	PRIMARY INFLUENT AUTO SAMPLER SHED	2
SSWTP	PRIMARY EFFLUENT AUTO SAMPLER SHED	2



1 FRONT ELEVATION
SCALE: 1 1/2" = 1'-0"



2 SIDE ELEVATION
SCALE: 3/4" = 1'-0"

ADDITIVE ALTERNATE #1
NSWTP DIGESTER
#1-2 & #3-4
BUILDINGS & SAMPLE
BUILDING HINGE
IMPROVEMENTS

REVISION	BY	DATE

BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

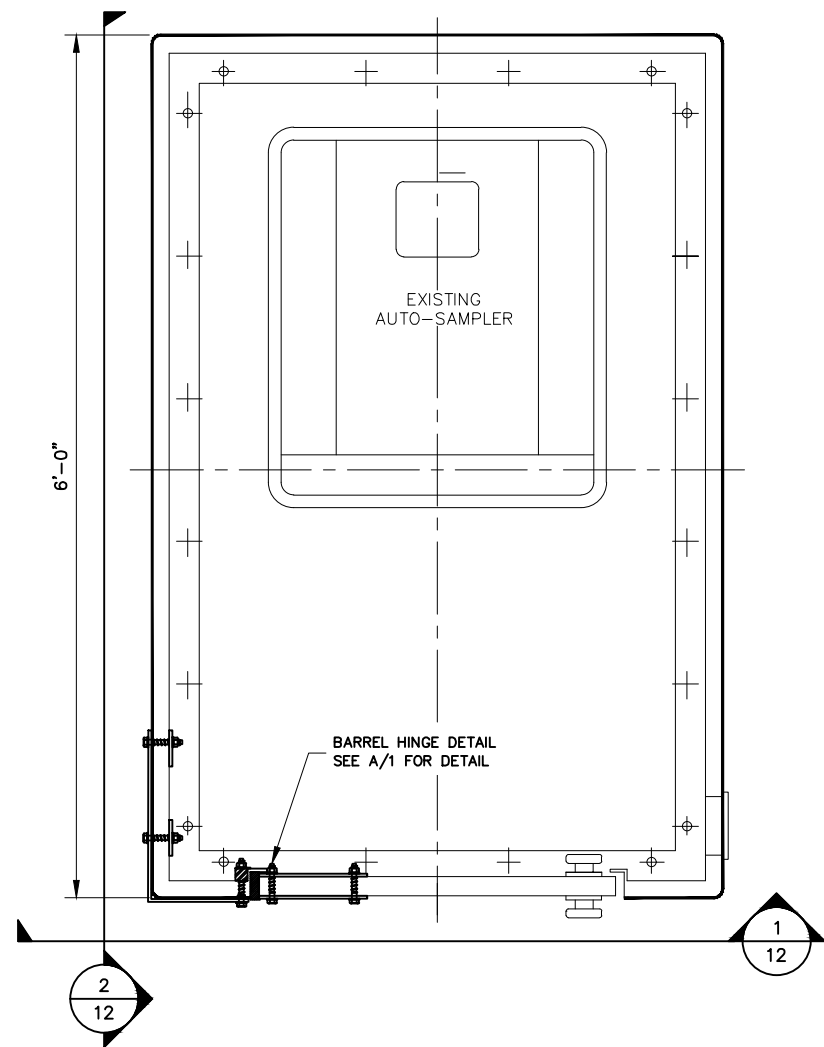
203.200.D
SAMPLE BUILDING HINGE
IMPROVEMENT PLAN
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
200 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
(918)258-0770, FAX (918)258-0764

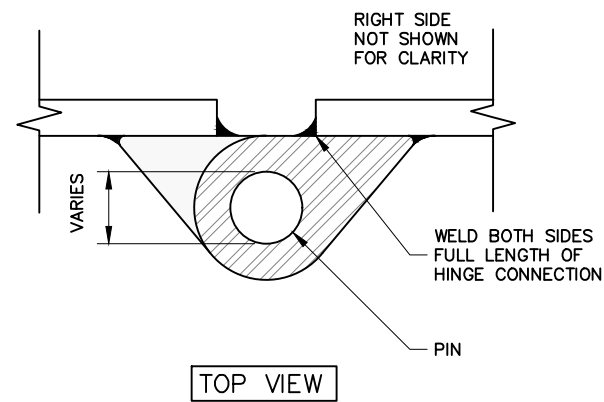
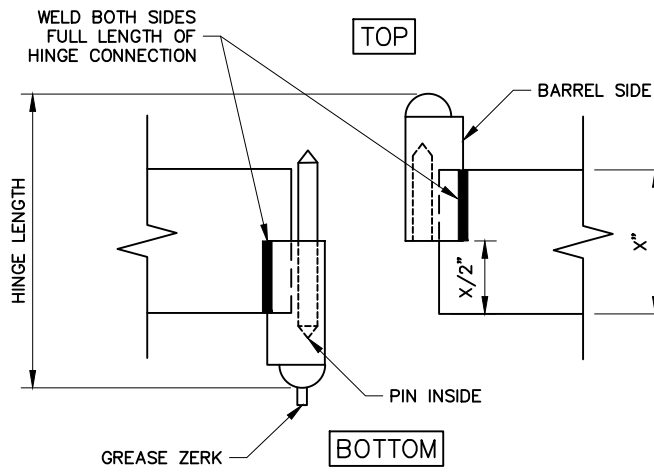
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	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	
ATLAS PAGE NO: ---			SHEET 12 OF 48 SHEETS



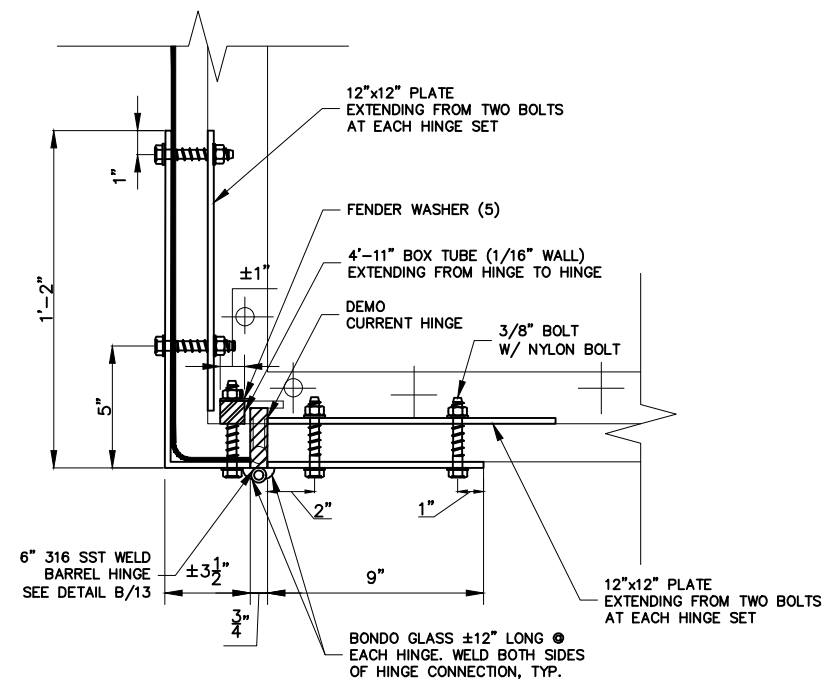
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1
13 PLAN VIEW
SCALE: 1 1/2" = 1'-0"



B
13 CUSTOM MILLED BARREL HINGE DETAIL
NTS



A
13 BARREL HINGE DETAIL
3" = 1'-0"

NOTES:

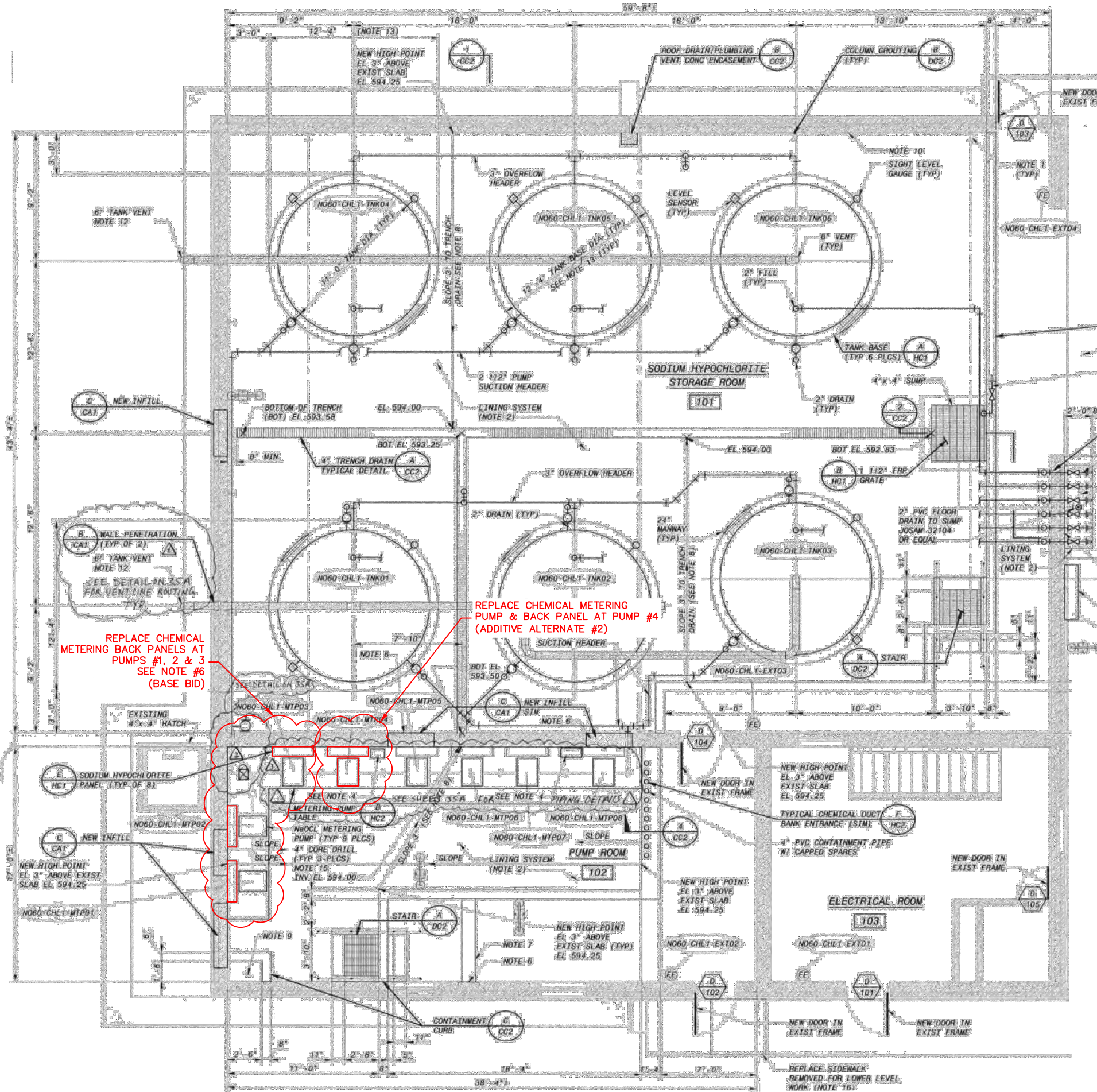
1. ALL BOLTS, HINGES, AND FASTENERS MATERIAL SHALL BE 316 STAINLESS STEEL.
2. PROVIDE DETAILED & VERIFIED FIELD MEASUREMENTS PRIOR TO ORDERING FOR EACH HINGE & BUILDING APPLICATION.
3. ALL PLATE MATERIAL SHALL BE 3/16" THICK.
4. INSTALL THE WELD ON 316 SST BARREL HINGES WITH BOTH "PINS" LOOKING UP FOR EASY DOOR REMOVAL. PROVIDE CUSTOM MILLED & INSERTED GREASE ZERK AT THE TOP OF THE BARREL SIDE.

ADDITIVE ALTERNATE #1
NSWWTP DIGESTER
#1-2 & #3-4
BUILDINGS & SAMPLE
BUILDING HINGE
IMPROVEMENTS

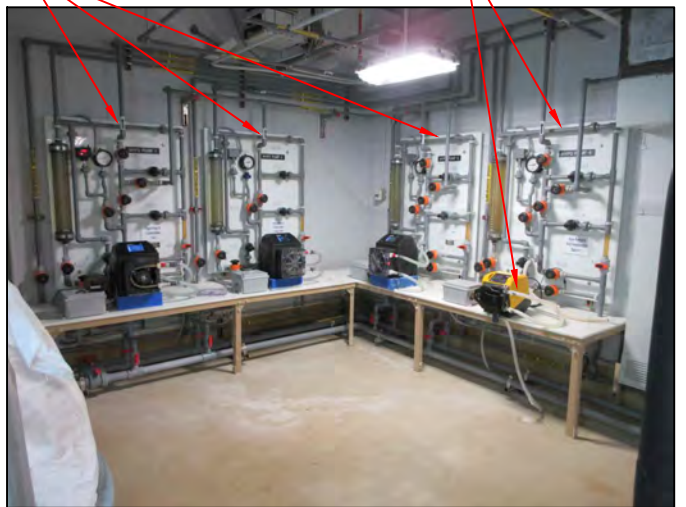
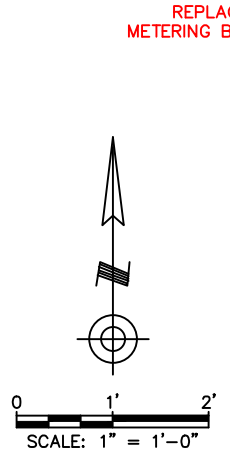
REVISION	BY	DATE
<p>BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p>		
<p>203.200.E SAMPLE BUILDING HINGE IMPROVEMENT DETAILS</p>		
<p>WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1</p>		
<p>CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT</p>		
<p>PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 200 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002 918-258-0770, FAX 918-258-0764</p>		
PLAN SCALE:	DRAWN CMW DESIGNED TJR SURVEY	APPROVED:
PROFILE SCALE:	PROJ. MGR. TJR LEAD ENGR. LST FIELD MGR.	DESIGN ENGINEERING MANAGER
HORIZONTAL:		
VERTICAL:		
FILE:	DRAWING:	DATE: 2025
ATLAS PAGE NO: ---		SHEET 13 OF 48 SHEETS



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1 CHLORINATION BUILDING PLAN
14 SCALE: 1" = 1'-0"



A METERING PUMP ROOM PHOTO
14 SCALE: 1/4" = 1'-0"

NOTES:

1. CITY RETAINS SALVAGE RIGHTS TO MATERIALS. REUSE THE TABLE, FLOW METER MOUNTED TO TABLE. SALVAGE & DELIVER EXISTING PUMPS TO NSWWTP MAINTENANCE DEPT.
2. COORDINATE PUMP AND BACKBOARD REPLACEMENT ONE AT A TIME. COORDINATE ALL WORK WITH PLANT STAFF. PROVIDE A DETAILED WRITTEN WORK PLAN 4WKS PRIOR TO SCHEDULING THE WORK. WORK WILL REQUIRE TEMPORARY PIPING, PUMPS, ELECTRIC CONTROLS ON TEMPORARY TABLE(S) DURING WORK.
3. PROVIDE SIX (6EA) UNIONS FOR EACH SIZE PIPING IN ADDITION TO MATCHING THE EXISTING LOCATIONS PER FEED PUMP. INSTALL AS DIRECTED BY THE OWNERS REPRESENTATIVE.
4. ALL VALVES SHALL BE TRUE UNION STYLE CPVC SCHEDULE 80 HYPOCHLORITE RATED VALVES, SPEARS BRAND OR EQUAL.
5. CONTRACTOR SHALL SUPPLY AND INSTALL A TOTAL OF FOUR (4) 316L TRI CLAMP FITTINGS FOR EACH PUMP INSTALLED.
6. REMOVE & REINSTALL METERING PUMPS AS REQUIRED FOR NEW WORK. REPLACE ALL PIPING & TUBING AT THE TABLE.
7. NEW METERING PUMP(S) SHALL BE BLUE-WHITE, FLEXFLO PERISTATIC METERING PUMP M4S24-QNLP OR APPROVED EQUAL.

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

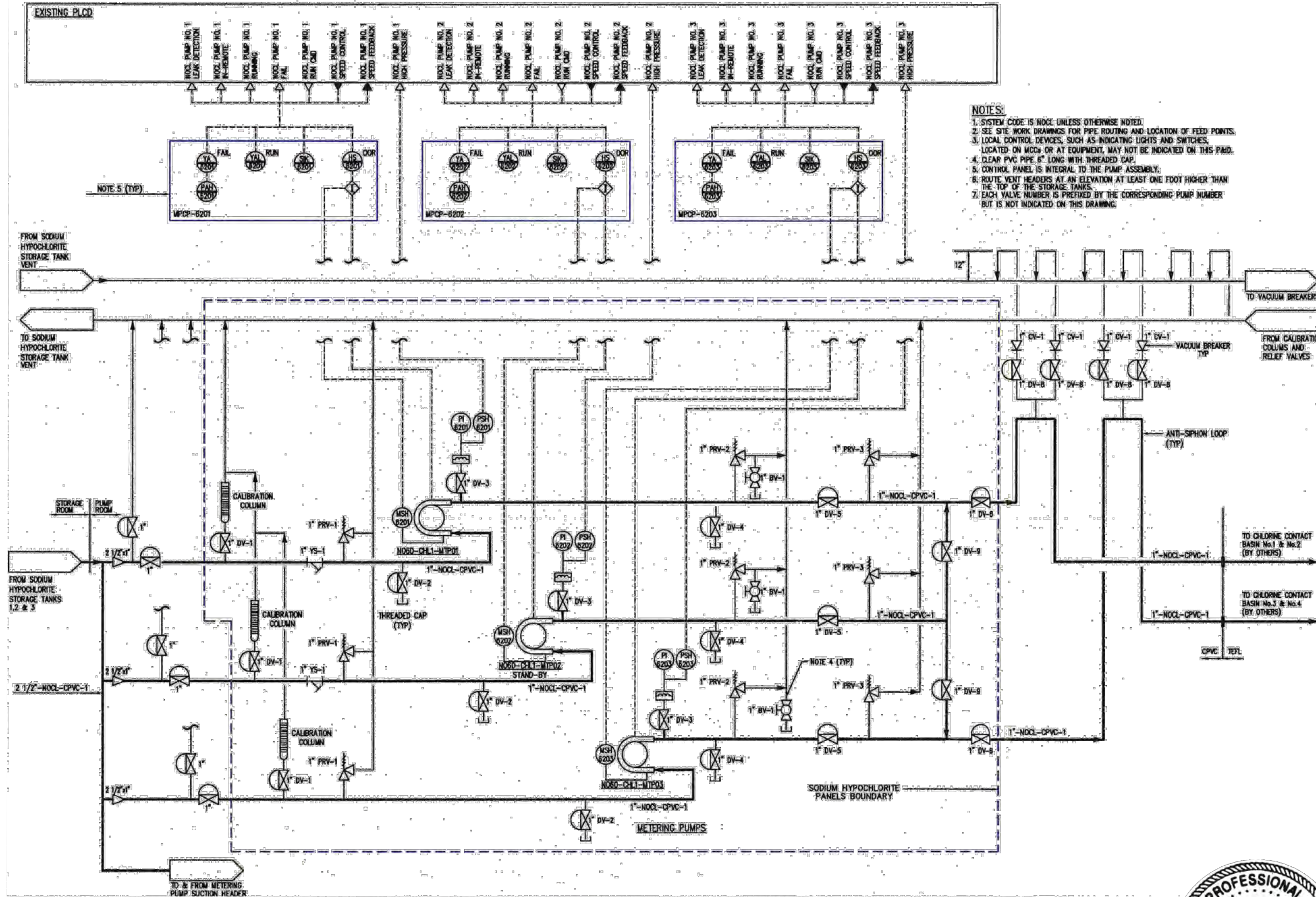
REFERENCE PROJECT NO. SA 05-19
RECORD DRAWING FOR ADDITIONAL
DETAILS & INFORMATION

203.300.A
NSWWTP SODIUM HYPOCHLORITE
METERING PUMP REPLACEMENT
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N. WILLOW AVE., BROOKHURST AVENUE, OKLAHOMA 74102
918-258-0770, FAX 918-258-0764

PLAN SCALE: AS SHOWN	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
PROFILE SCALE:	SURVEY		
	PROJ. MGR.	TJR	
	LEAD ENGR.	LST	
HORIZONTAL:	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	DESIGN ENGINEERING MANAGER
ATLAS PAGE NO: ---			SHEET 14 OF 48 SHEETS





- NOTES:**
1. SYSTEM CODE IS NOCL UNLESS OTHERWISE NOTED.
 2. SEE SITE WORK DRAWINGS FOR PIPE ROUTING AND LOCATION OF FEED POINTS.
 3. LOCAL CONTROL DEVICES, SUCH AS INDICATING LIGHTS AND SWITCHES, LOCATED ON MCCs OR AT EQUIPMENT, MAY NOT BE INDICATED ON THIS PANEL.
 4. CLEAR PVC PIPE 6" LONG WITH THREADED CAP.
 5. CONTROL PANEL IS INTEGRAL TO THE PUMP ASSEMBLY.
 6. ROUTE VENT HEADERS AT AN ELEVATION AT LEAST ONE FOOT HIGHER THAN THE TOP OF THE STORAGE TANKS.
 7. EACH VALVE NUMBER IS PREFIXED BY THE CORRESPONDING PUMP NUMBER BUT IS NOT INDICATED ON THIS DRAWING.

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

REFERENCE FLUID EQUIPMENT O&M
RECORD DRAWING FOR ADDITIONAL
DETAILS & INFORMATION

203.300.B
NSWWTP SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

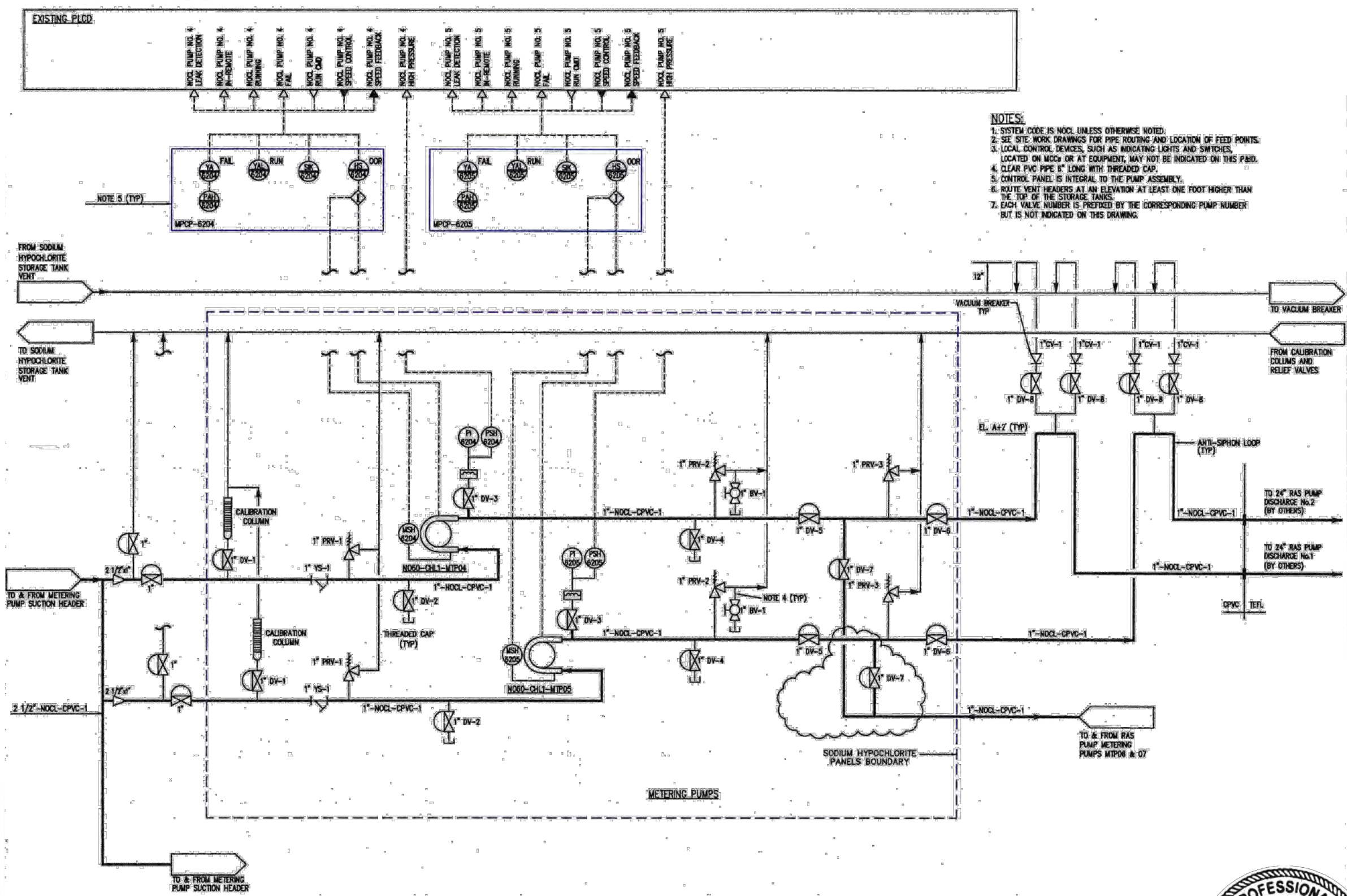
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012 (918)228-0770, FAX (918)228-0764	
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CMW CMW	APPROVED:
PROFILE SCALE:	PROJ. MGR. LEAD ENGR. FIELD MGR.	TJR LST	
HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	DESIGN ENGINEERING MANAGER
ATLAS PAGE NO: ---			SHEET 15 OF 48 SHEETS



SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC

1
15 NTS

NOTE: SEE SHEET 203.300.A FOR NEW WORK & ADDITIVE ALTERNATES



- NOTES:**
1. SYSTEM CODE IS NOCL UNLESS OTHERWISE NOTED.
 2. SEE SITE WORK DRAWINGS FOR PIPE ROUTING AND LOCATION OF FEED POINTS.
 3. LOCAL CONTROL DEVICES, SUCH AS INDICATING LIGHTS AND SWITCHES, LOCATED ON MCC OR AT EQUIPMENT, MAY NOT BE INDICATED ON THIS PANEL.
 4. CLEAR PVC PIPE 8" LONG WITH THREADED CAP.
 5. CONTROL PANEL IS INTEGRAL TO THE PUMP ASSEMBLY.
 6. ROUTE VENT HEADERS AT AN ELEVATION AT LEAST ONE FOOT HIGHER THAN THE TOP OF THE STORAGE TANKS.
 7. EACH VALVE NUMBER IS PREFIXED BY THE CORRESPONDING PUMP NUMBER BUT IS NOT INDICATED ON THIS DRAWING.

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

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REFERENCE PROJECT RECORD
DRAWING FOR ADDITIONAL DETAILS
& INFORMATION

203.300.C
NSWWTP SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES
PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, Inc.**
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
(918) 251-0770, FAX (918) 251-0764

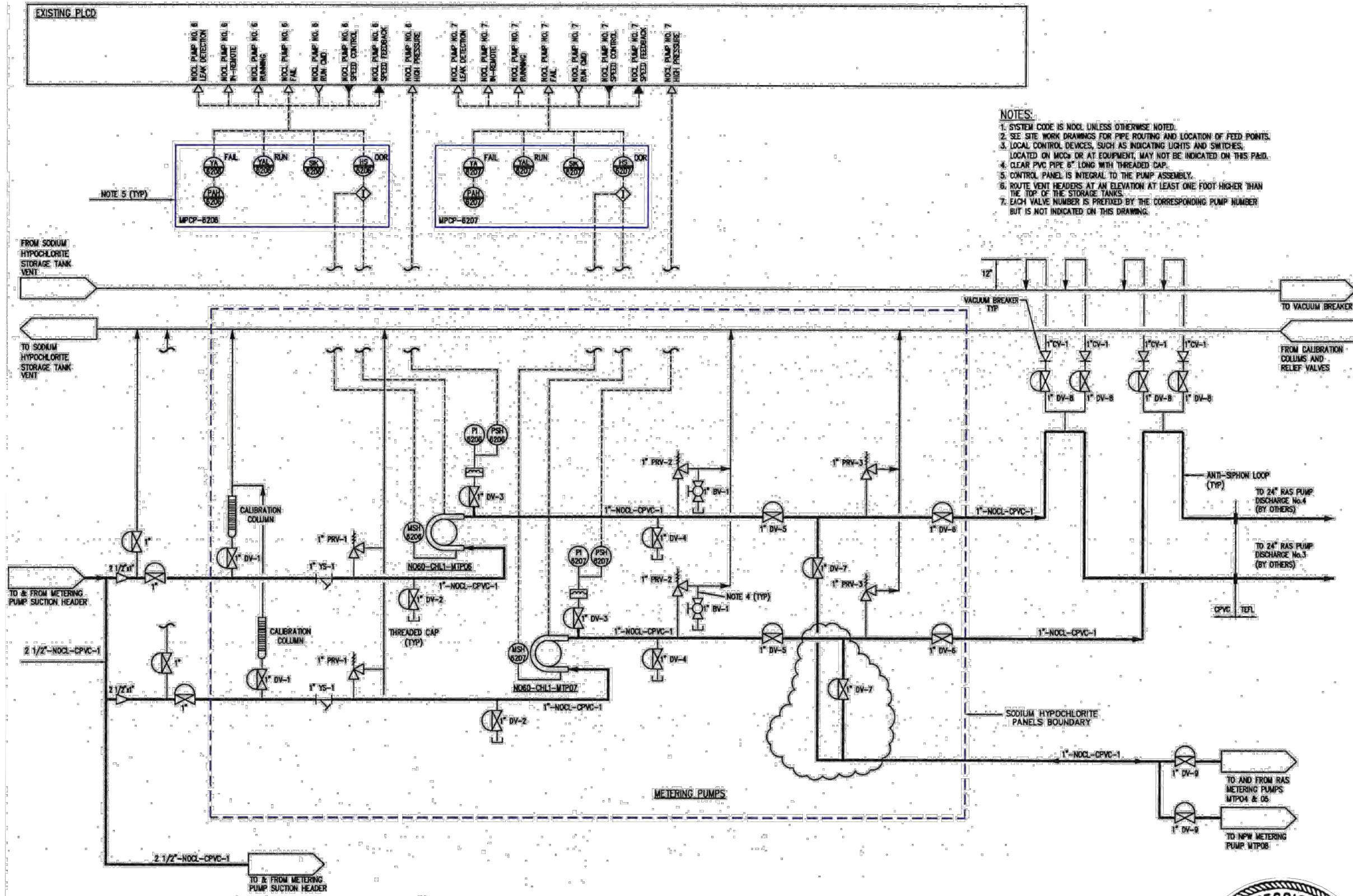
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HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	DESIGN ENGINEERING MANAGER
ATLAS PAGE NO: ---			SHEET 16 OF 48 SHEETS



SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC

1
16 NTS

NOTE: SEE SHEET 203.300.A FOR NEW WORK & ADDITIVE ALTERNATES



- NOTES:**
1. SYSTEM CODE IS NOCL UNLESS OTHERWISE NOTED.
 2. SEE SITE WORK DRAWINGS FOR PIPE ROUTING AND LOCATION OF FEED POINTS.
 3. LOCAL CONTROL DEVICES, SUCH AS INDICATING LIGHTS AND SWITCHES, LOCATED ON MCCs OR AT EQUIPMENT, MAY NOT BE INDICATED ON THIS PANEL.
 4. CLEAR PVC PIPE 6" LONG WITH THREADED CAP.
 5. CONTROL PANEL IS INTEGRAL TO THE PUMP ASSEMBLY.
 6. ROUTE VENT HEADERS AT AN ELEVATION AT LEAST ONE FOOT HIGHER THAN THE TOP OF THE STORAGE TANKS.
 7. EACH VALVE NUMBER IS PREFIXED BY THE CORRESPONDING PUMP NUMBER BUT IS NOT INDICATED ON THIS DRAWING.

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REFERENCE PROJECT RECORD
DRAWING FOR ADDITIONAL DETAILS
& INFORMATION

203.300.D
NSWWTP SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

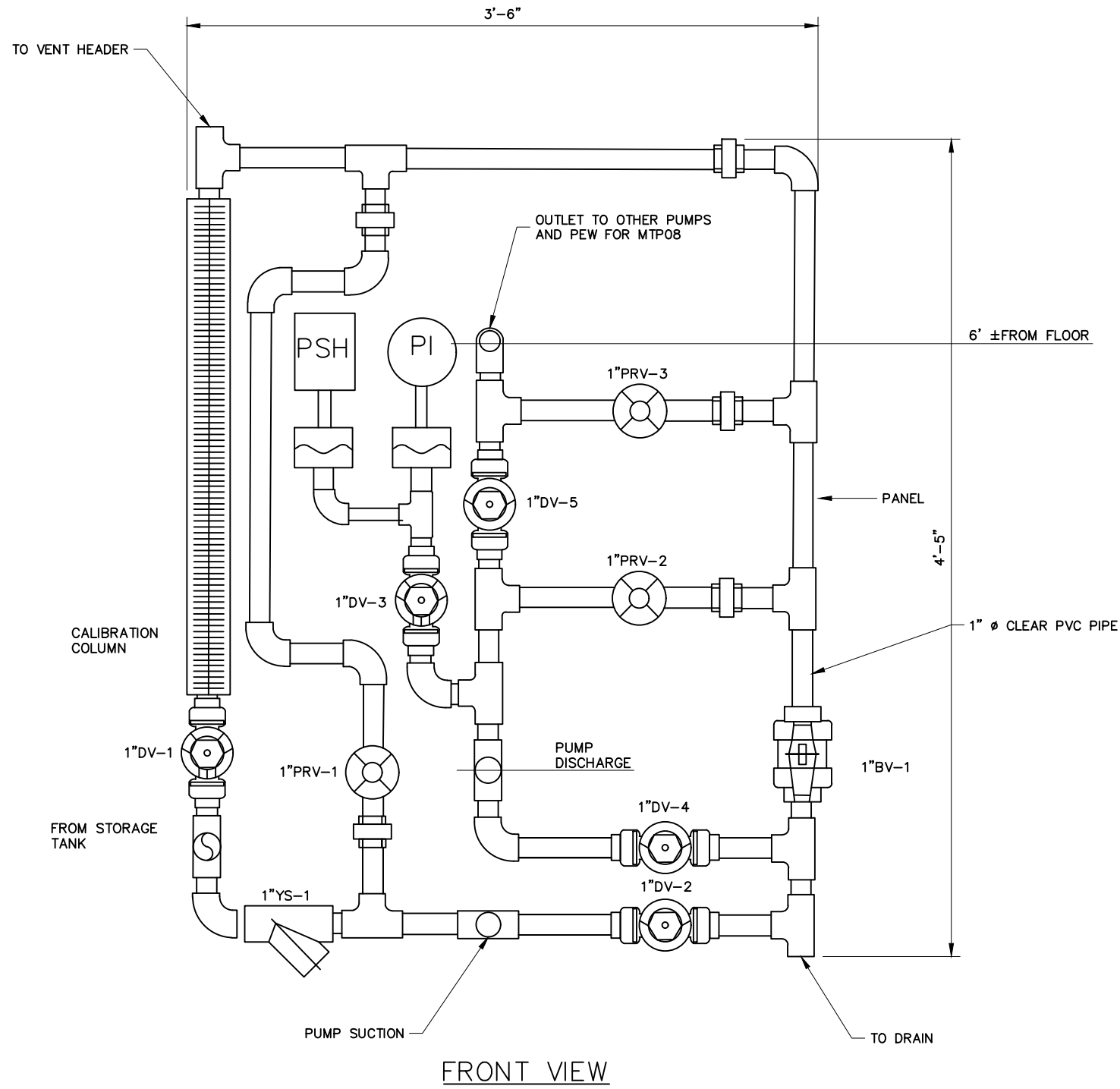
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002 (918)298-0707, FAX (918)298-0764	
PLAN SCALE:	DRAWN	CMW	APPROVED:
AS SHOWN	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:	DATE:	2025
ATLAS PAGE NO:	---	SHEET	17 OF 48 SHEETS

SODIUM HYPOCHLORITE
METERING PUMPS SCHEMATIC

1
17 NTS

NOTE: SEE SHEET 203.300.A FOR NEW WORK & ADDITIVE ALTERNATES





FRONT VIEW

SODIUM HYPOCHLORITE METERING PUMPS EQUIPMENT LAYOUT

1
18 NTS

NOTE: SEE SHEET 203.300.A FOR NEW WORK & ADDITIVE ALTERNATES

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

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REFERENCE PROJECT RECORD
DRAWING FOR ADDITIONAL DETAILS
& INFORMATION

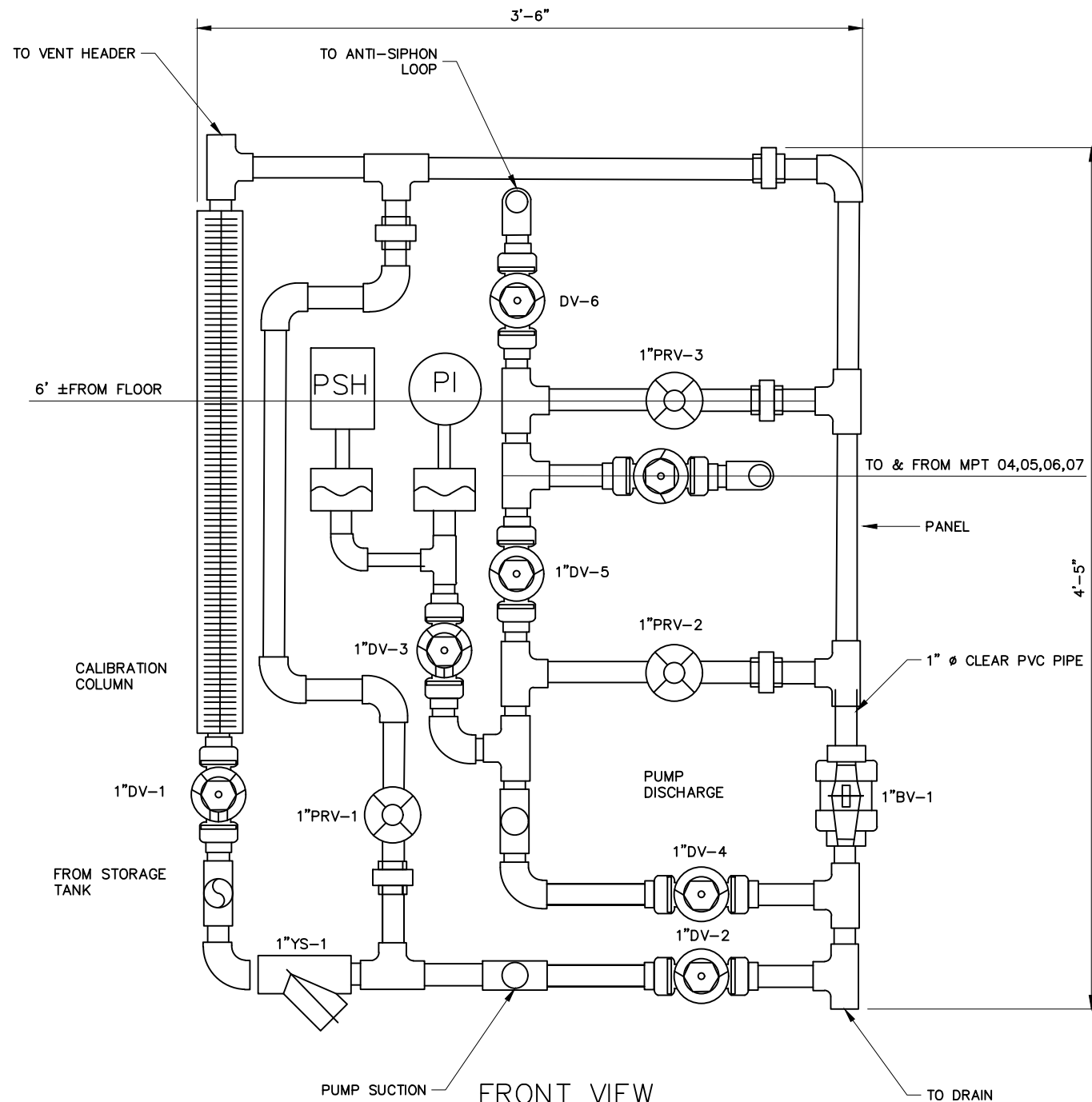
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NSWWTP SODIUM HYPOCHLORITE
METERING PUMPS EQUIPMENT LAYOUT

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012 (918) 251-0707, FAX (918) 251-0764	
PLAN SCALE:	DRAWN	CMW	APPROVED:
AS SHOWN	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	DESIGN ENGINEERING MANAGER
HORIZONTAL:	LEAD ENGR.	LST	
	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:		DATE: 2025
ATLAS PAGE NO: ---			SHEET 18 OF 48 SHEETS





PUMP SUCTION FRONT VIEW TO DRAIN

SODIUM HYPOCHLORITE PANEL
MTP01, 03, 04, 05, 06, 07

NOTES:

- VALVES ON 01 & 03 ARE CALLED DV-9
VALVES ON 04, 05, 06, 07 ARE CALLED DV-7

SODIUM HYPOCHLORITE METERING PUMPS EQUIPMENT LAYOUT

1
19 NTS

NOTE: SEE SHEET 203.300.A FOR NEW WORK & ADDITIVE ALTERNATES

BASE BID
SODIUM HYPOCHLORITE
METERING BACK
PANELS AT PUMPS
#1, 2 & 3

ADDITIVE ALTERNATE #2
SODIUM HYPOCHLORITE
METERING PUMP & BACK
PANEL AT PUMP #4

REVISION	BY	DATE

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REFERENCE PROJECT RECORD
DRAWING FOR ADDITIONAL DETAILS
& INFORMATION

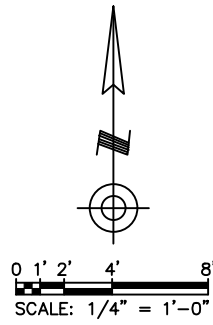
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NSWWTP SODIUM HYPOCHLORITE
METERING PUMPS EQUIPMENT LAYOUT
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

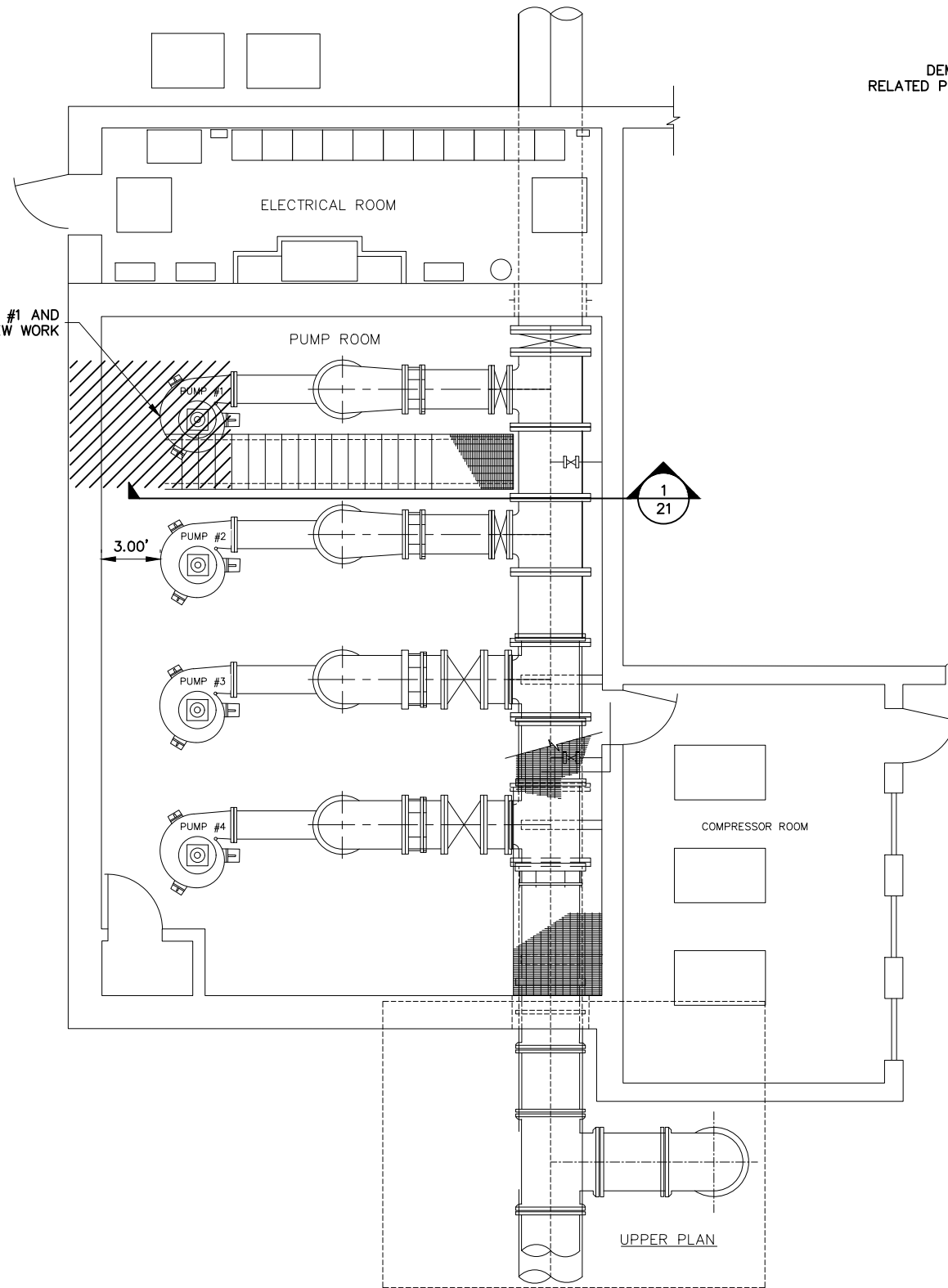
PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012
918-258-0707, FAX 918-258-0764

PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CMW CMW	APPROVED:
PROFILE SCALE:	PROJ. MGR. LEAD ENGR. FIELD MGR.	TJR LST	DESIGN ENGINEERING MANAGER
HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	
ATLAS PAGE NO: ---			SHEET 19 OF 48 SHEETS





DEMOLISH PUMP #1 AND RELATED PIPING FOR NEW WORK



1 SSWWTP MAIN LIFT STATION – UPPER LEVEL PIPING DEMOLITION PLAN
20 SCALE: 1/4" = 1'-0"

DEMOLISH PUMP #1 AND RELATED PIPING FOR NEW WORK



2 PHOTO – EXISTING MAIN LIFT STATION
20 SCALE: 1/8" = 1'-0"

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REFERENCE ORIGINAL PROJECT ES-2001-2 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION

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SSWWTP MAIN LIFT STATION PUMP #1 DEMOLITION PLAN

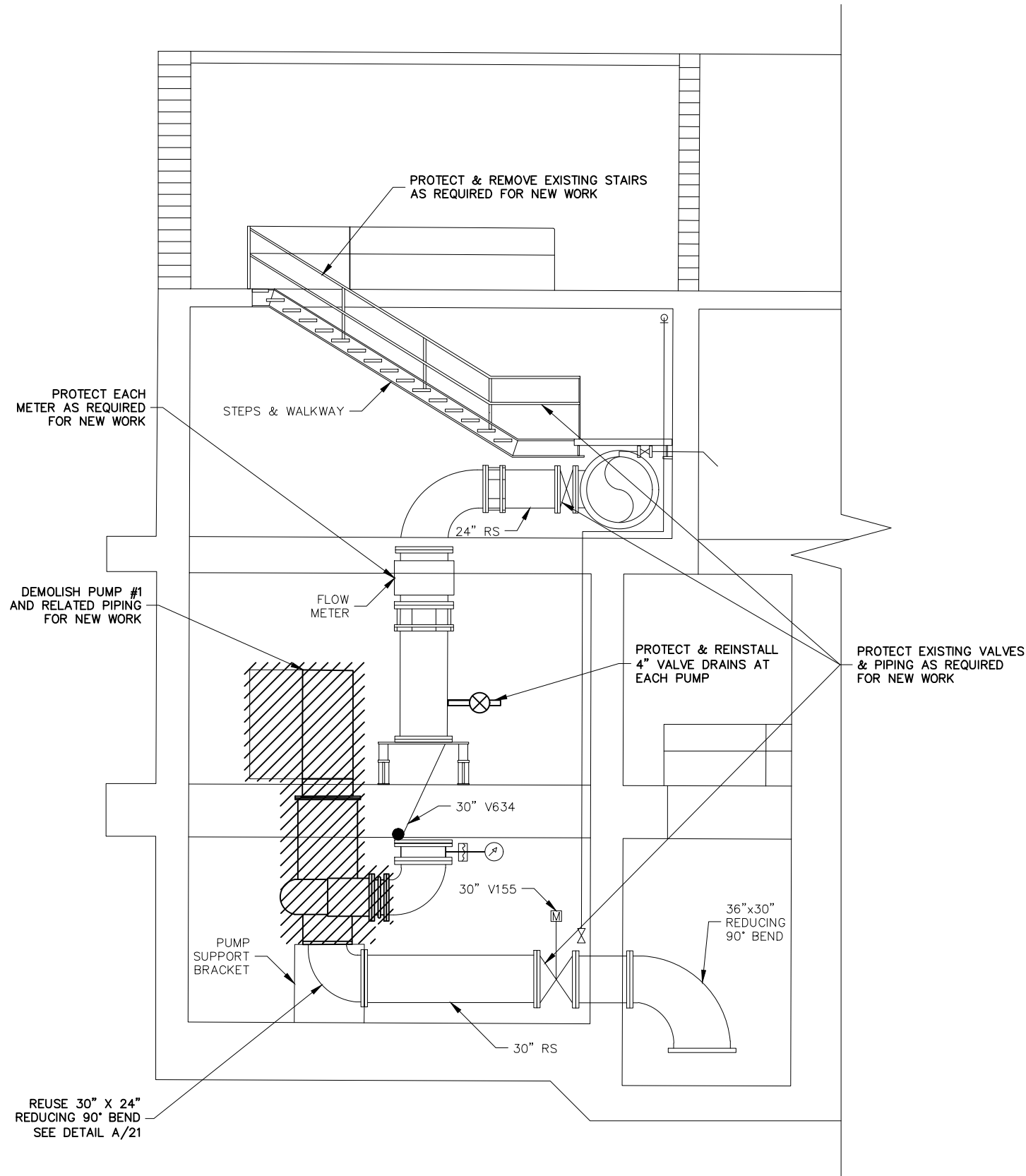
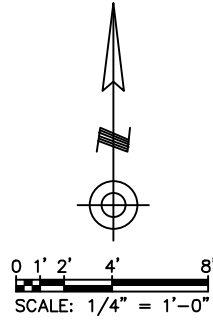
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012
(918) 258-0770, FAX (918) 258-0764

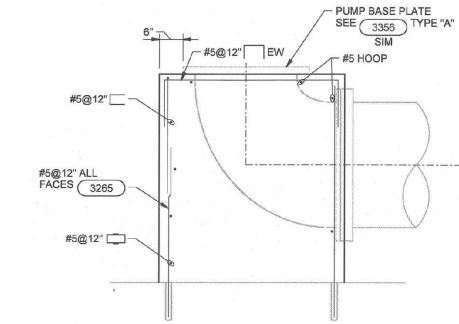
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	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	DESIGN ENGINEERING MANAGER
ATLAS PAGE NO: ---			SHEET 20 OF 48 SHEETS





NOTES:

1. DEMOLISH PUMP, MOTOR AND FRAME AS REQUIRED FOR NEW WORK. PROTECT AND USE THE EXISTING ANCHOR BOLTS AND CONCRETE PUMP PADS ON EITHER SIDE OF THE PUMP(S). REUSE THE EXISTING REDUCING SUCTION 90 BEND FITTING AND SUCTION PIPING TO EXTENT POSSIBLE WITH NEW BOLT SETS AND GASKETS.
2. PROVIDE GALVANIZED BOLT SETS AT PIPING CONNECTIONS.
3. WARNING – PROTECT THE EXISTING SURROUNDING ELECTRICAL DEVICES, PLUMBING AND OTHER SURROUNDING EXISTING EQUIPMENT. AREA EQUIPMENT IS VITAL TO THE OPERATIONS OF THE MAIN LIFT STATION AT SOUTHSIDE AND EXTRA PRECAUTIONS SHOULD BE TAKEN.
4. COORDINATE THE PUMP REPLACEMENT(S) WITH PLANT OPERATIONS AND DURING LOW FLOW CONDITIONS. MAINTAIN THREE (3) PUMPS IN SERVICE AT ALL TIMES.
5. CITY SALVAGED ITEMS – PALLETIZE THE PUMP, MOTOR, & ROTATING ASSEMBLY AND DELIVER IT TO THE CITY WITHIN SSWWTP. PROVIDE STURDY SUITABLE METAL PALLETS FOR THE PUMP, MOTOR AND PARTS INDIVIDUALLY.



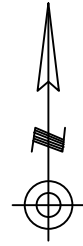
NOTE - RECORD DRAWING SHOWN FOR INFORMATION PURPOSES
A
21 EXISTING PUMP BASE
 SCALE: NTS

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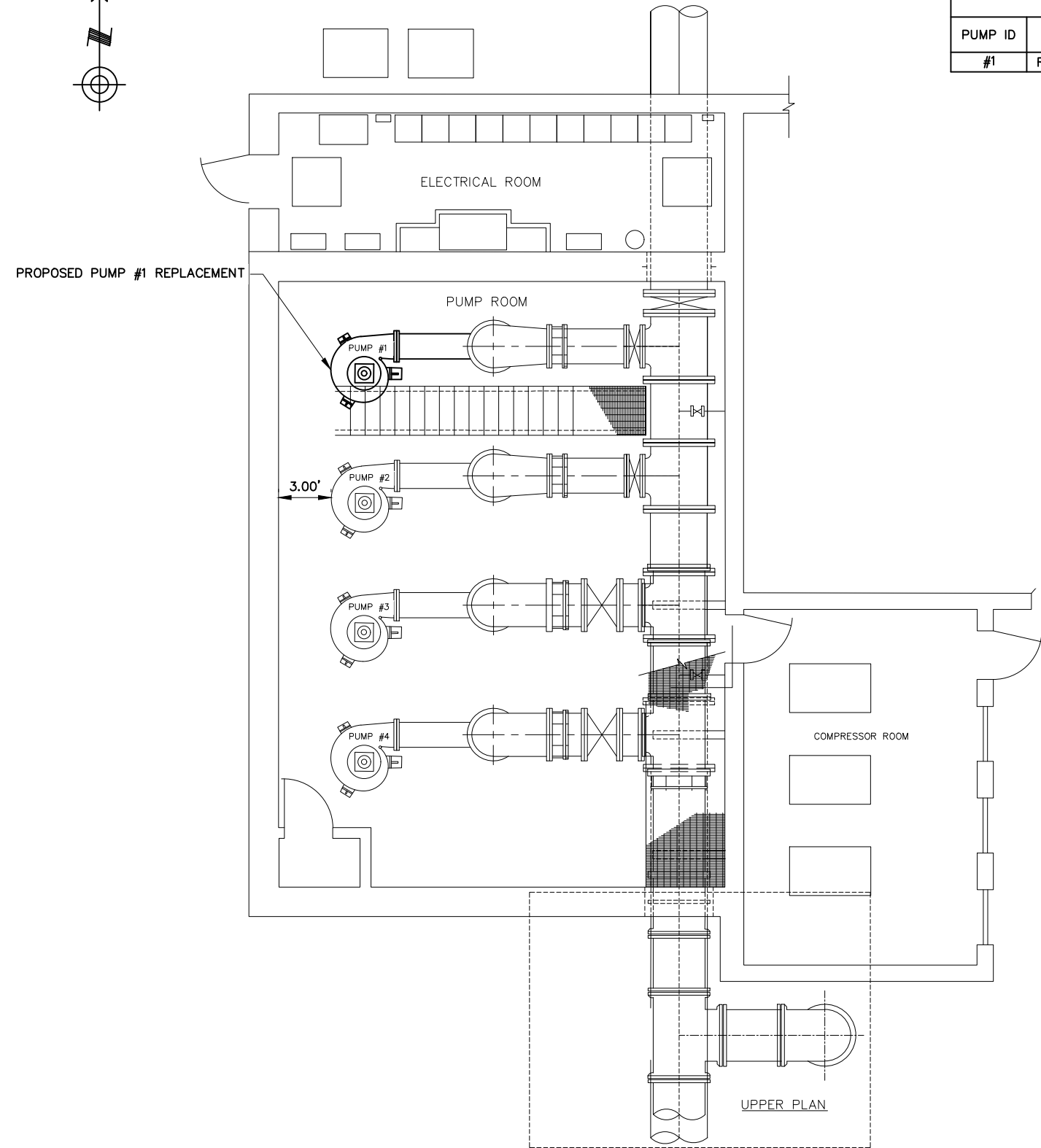
1
21 SSWWTP MAIN LIFT STATION PIPING SECTION (SECTION AT PUMP #3)
 SCALE: 1/4" = 1'

REVISION	BY	DATE
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REFERENCE ORIGINAL PROJECT ES-2001-2 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION		
DRAWING 203.400.B SSWWTP MAIN LIFT STATION PUMP #1 DEMOLITION SECTIONS		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N WILLOW AVE, BROCKEN ARROW, OKLAHOMA 74002 (918)208-0770, FAX (918)208-0764		
PLAN SCALE:	DRAWN CMW DESIGNED CMW SURVEY	APPROVED:
PROFILE SCALE:	PROJ. MGR. TJR LEAD ENGR. LST	DESIGN ENGINEERING MANAGER
HORIZONTAL:	FIELD MGR.	
VERTICAL:		
FILE:	DRAWING:	DATE: 2025
ATLAS PAGE NO: ---		SHEET 21 OF 48 SHEETS





PROPOSED PUMP INFORMATION												
PUMP ID	SERVICE	DRIVE	CAPACITY (GPM)	TDH (FT)	MIN% EFFICIENCY	HP	VOLTAGE	PHASE	HZ	SPEED (RPM)	DISCHARGE (IN)	SUCTION (IN)
#1	RAW SEWAGE	VARIABLE	19,500	40	85	250	460	3	60	600	24	24



1 SSWWTP MAIN LIFT STATION - UPPER LEVEL PIPING PLAN
 22 NTS

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DRAWING 203.400.C
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WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1

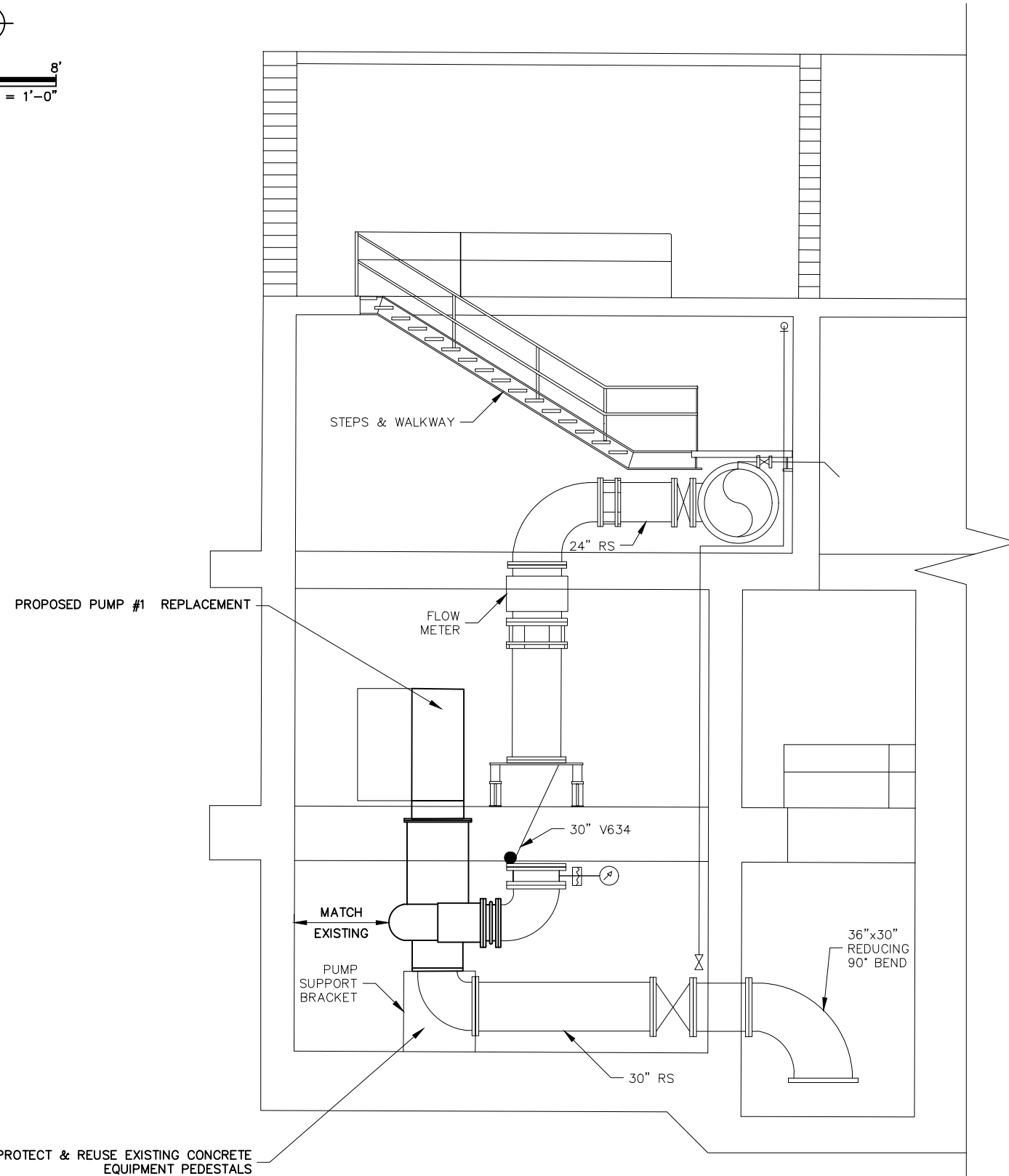
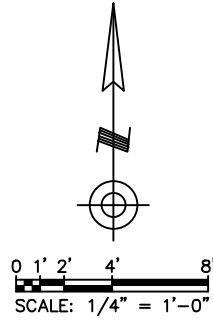
CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc.
 2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002
 (918)258-0770, FAX (918)258-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
	LEAD ENGR.	LST	
HORIZONTAL:	FIELD MGR.		
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1 SSWWTP MAIN LIFT STATION PIPING SECTION
 23 SCALE: 1/4" = 1'

NOTES:

1. MODIFY EXISTING PIPING AS REQUIRED. PROVIDE NEW FLANGE BY FLANGE PIPING AND FITTINGS AS SHOWN. CONTRACTOR TO INCLUDE IN THE SUBMITTAL PACKAGE COMPLETE PIPING, SUPPORT AND PUMP LAYOUT DRAWINGS WITH ALL EXISTING DIMENSIONS FOR APPROVAL WITH PUMP SUBMITTAL. ACCESS BETWEEN THE PUMP AND THE NORTH WALL SHALL NOT BE LESS THAN 36" MIN. CLEARANCE.
2. PAINT NEW PIPING TO MATCH OTHER EXISTING PIPING IN LIFT STATION. SEE SPECIFICATION SECTION 204 FOR PAINTING AND COATING REQUIREMENTS.
3. CITY HAS SALVAGE RIGHTS. DELIVER PUMP AND MOTOR PALLETIZED TO THE SSWWTP MAINTENANCE BUILDING TO LOCATION SELECTED AT SSWWTP.
4. PROVIDE NEW GASKETS, RODS, BOLTS, AND SUPPORTS AT AREAS OF NEW WORK.
5. ALL BRACKETS, SUPPORTS, ANCHOR BOLTS, FASTENERS AND RELATED ITEMS SHALL BE 316 STAINLESS STEEL.
6. ALL NEW PIPING PROVIDED SHALL BE PROTECTO 401 LINED DUCTILE IRON PIPE, CLASS 53.
7. RECONNECT EXISTING SEAL WATER PIPING AND APPURTENANCES.
8. PROVIDE VISUAL AND ACCESSIBLE ACCESS FOR ALL INSPECTION, MAINTENANCE, AND GREASE POINTS. PROVIDE GREASE EXTENSION LINES AND OTHER APPURTENANCES AS REQUIRED FOR MOTOR AND PUMP OPERATIONS AND MAINTENANCE.

ELECTRICAL NOTES:

1. REUSE EXISTING PUMP FEEDERS.
2. FURNISH AND INSTALL NEW RTD CONDUIT AND WIRING FROM NEW MOTOR AND BEARINGS TO EXISTING PLC. 10(RTD CABLES)3"C. COORDINATE RTD CABLE TYPE WITH RTD'S SUPPLIED WITH MOTOR.
3. FURNISH AND INSTALL NEW RTD INPUT MODULES IN EXISTING PLC. CONFIGURE RTD MODULES AND INTEGRATE NEW RTD'S INTO EXISTING SCADA SYSTEM. COORDINATE RTD INPUT MODULE WITH RTD'S SUPPLIED WITH MOTOR. CONFIGURE ALARMS AS DIRECTED BY OWNER.
4. FURNISH AND INSTALL NEW CONDUIT AND WIRE AND INSTALL A NEW VIBRATION SWITCH. CONFIGURE VIBRATION SWITCH AND INTEGRATE INTO EXISTING SCADA SYSTEM. CONFIGURE ALARMS AS DIRECTED BY OWNER.

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REFERENCE ORIGINAL PROJECT ES-2001-2 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION

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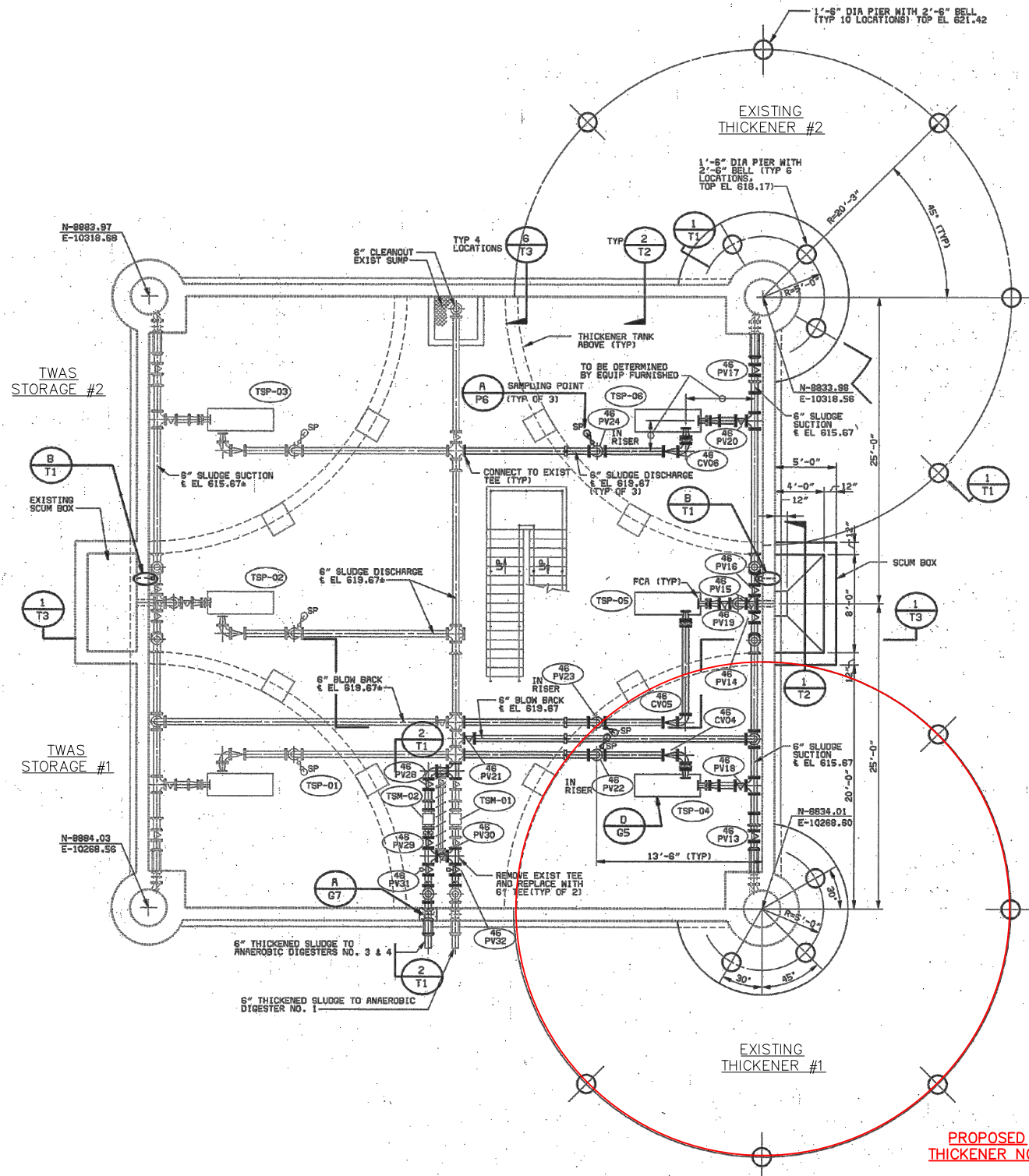
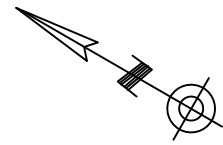
WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:			
PLAN SCALE:	DRAWN	CMW	APPROVED:
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PROFILE SCALE:	PROJ. MGR.	TJR	
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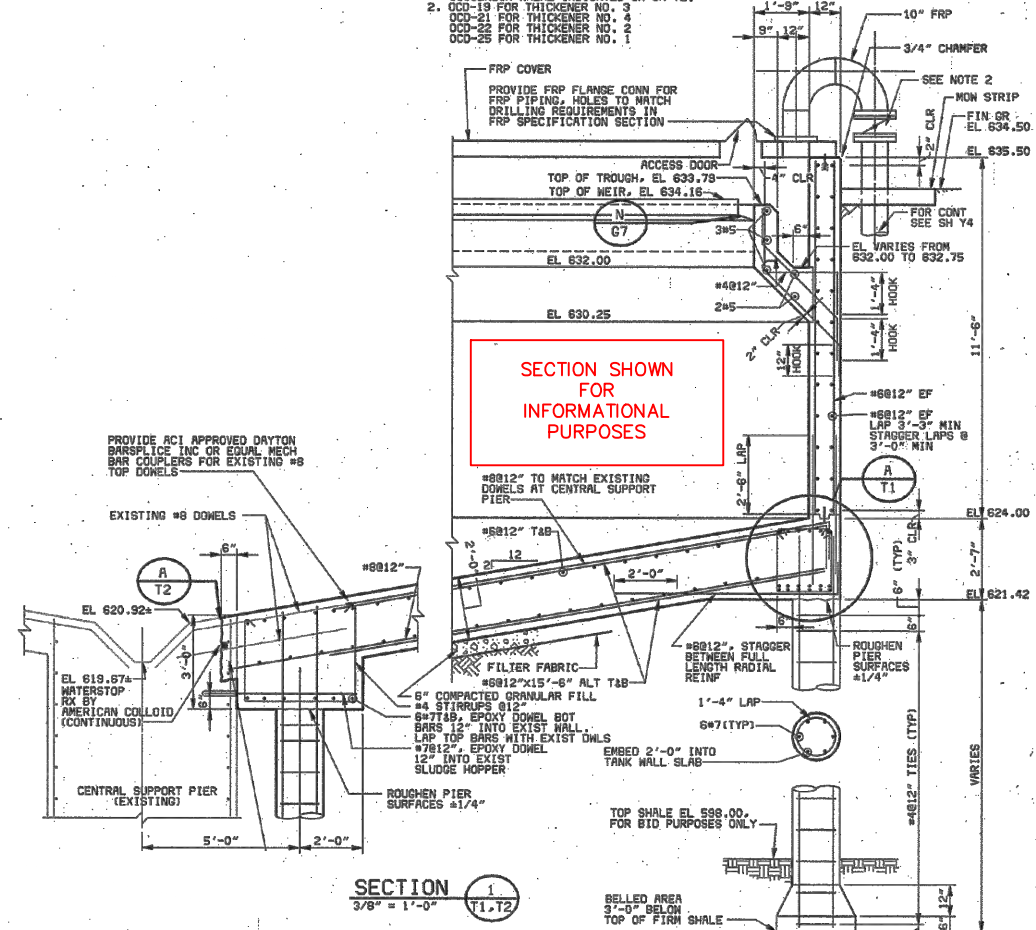
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1 BASEMENT PLAN
24 NTS

PROPOSED THICKENER NO.1
SEE NOTE #1 & #2

- NOTES:
1. A SIMILAR CONNECTION TO THE FRP COVER IS REQUIRED FOR THE 10" FRP GOOSENECK WHERE INDICATED ON SH T2.
 2. ODD-19 FOR THICKENER NO. 3
ODD-21 FOR THICKENER NO. 4
ODD-22 FOR THICKENER NO. 2
ODD-25 FOR THICKENER NO. 1

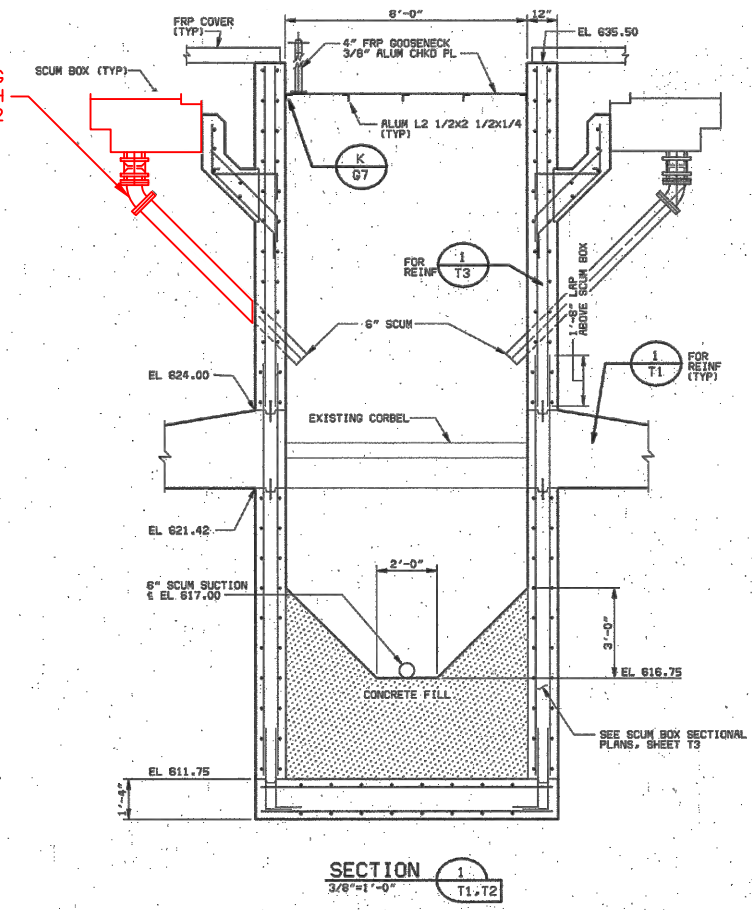
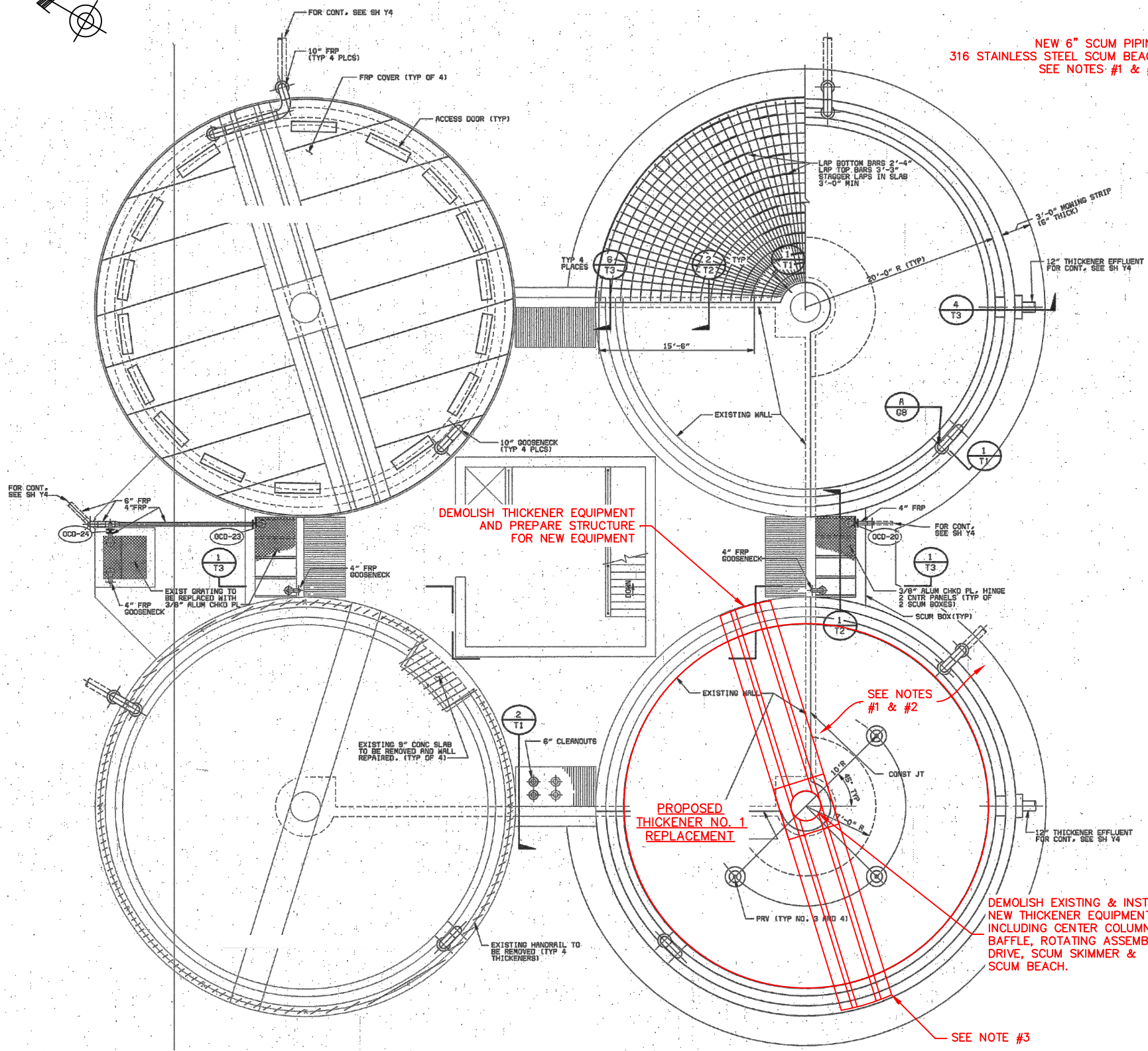
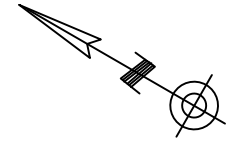


NOTES:

1. CONTRACTOR TO PROTECT THE CITY'S EQUIPMENT, CONCRETE, GROUT, AND EXISTING WEIR DURING DEMOLITION AND CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE, REMOVE, STORE, PROTECT, AND REINSTALL THE EXISTING COVER SYSTEM, SUPPORT FRAMING, ODOR CONTROL SYSTEM, ELECTRICAL, AND HANDRAILING AS REQUIRED FOR NEW WORK.

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REFERENCE PROJECT NO. SA 83-21 RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION		
DRAWING 203.500.A SSWWTP THICKENER #1 REPLACEMENT (BASEMENT LEVEL)		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002 (918)298-0770, FAX (918)298-0764
PLAN SCALE:	DRAWN CMW DESIGNED CMW SURVEY	APPROVED:
PROFILE SCALE:	PROJ. MGR. TJR	
HORIZONTAL:	LEAD ENGR. LST FIELD MGR.	
VERTICAL:		
FILE:	DRAWING:	DATE: 2025
ATLAS PAGE NO: ---		SHEET 24 OF 48 SHEETS





NOTES:

1. CONTRACTOR TO PROTECT THE CITY'S EQUIPMENT, CONCRETE, GROUT, AND EXISTING WEIR DURING DEMOLITION AND CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE, REMOVE, STORE, PROTECT, AND REINSTALL THE EXISTING FRP COVER SYSTEM, ALUMINUM TRUSSES, ODOR CONTROL SYSTEM, ELECTRICAL, AND HANDRAILING AS REQUIRED FOR NEW WORK.
3. PROTECT AND REUSE EXISTING BRIDGE. SANDBLAST TO WHITE BLAST SSPC-SP5 AND PAINT PRIOR TO BEING REINSTALLED. PROVIDE NEW 316 STAINLESS STEEL BOLTS AT COVERS, BEAMS, SUPPORTS, & BRIDGE AS REQUIRED.

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REFERENCE PROJECT NO. SA 83-21
RECORD DRAWING FOR ADDITIONAL DETAILS & INFORMATION

DRAWING 203.500.B
SSWTP THICKENER #1
REPLACEMENT (UPPER LEVEL)

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, Inc.**
200 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
918-258-0707, FAX 918-258-0764

PLAN SCALE: 1/4" = 1'-0"	DRAWN DESIGNED SURVEY	CMW CMW	APPROVED:
PROFILE SCALE:	PROJ. MGR. LEAD ENGR. FIELD MGR.	TJR LST	DESIGN ENGINEERING MANAGER
HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	SHEET 25 OF 48 SHEETS
ATLAS PAGE NO: ---			



1 REHABILITATION PLAN @ THICKENER #1
25 NTS



1 PHOTO - THICKENER
26 NTS



2 PHOTO - THICKENER
26 NTS



3 PHOTO - THICKENER
26 NTS



4 PHOTO - THICKENER
26 NTS



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REFERENCE PROJECT NO. SA 83-21
RECORD DRAWING FOR ADDITIONAL
DETAILS & INFORMATION

203.500.C
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SECTION & DETAILS
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

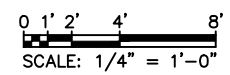
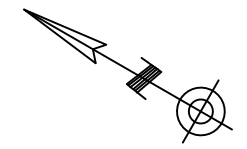
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES
PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012
918-251-0777, FAX 918-251-0754

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ATLAS PAGE NO: ---		SHEET 26 OF 48 SHEETS	

NOTES:

- SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
- SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



LEGEND

UJ- UNION JOINT ASSY
SEE DOCUMENT #UJA-40000-P

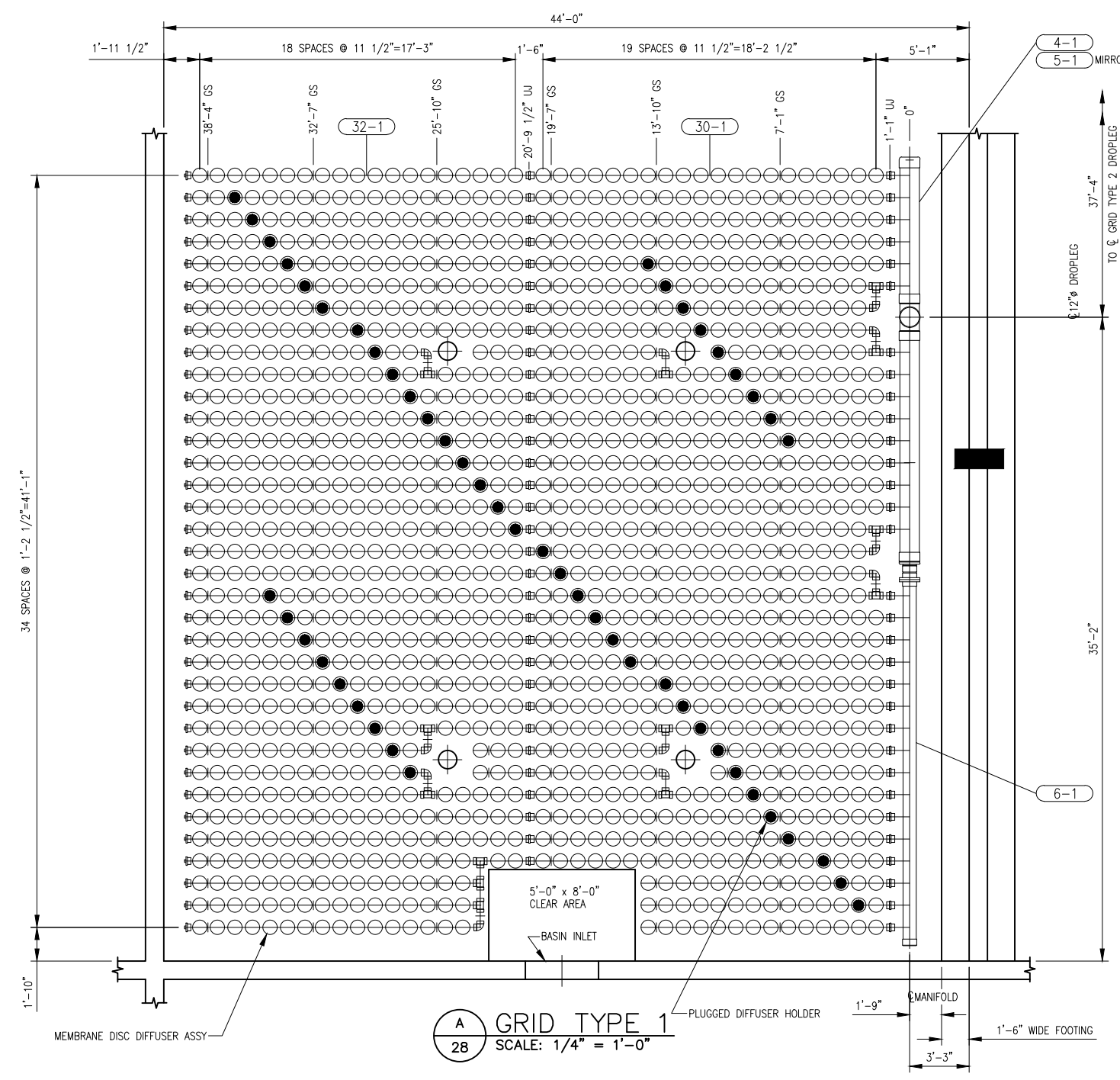
GS- 5/16" Ø GUIDE SUPPORT ASSY
SEE DOCUMENT #GSA-31B18-4
ASSEMBLY #GSB-31B13-4

FOR TYPICAL AIR HEADER SECTION
SEE DETAIL
SHEET 20

**GRID TYPE 1
GRID INFORMATION**

4- TANK(S)
1- GRID(S) PER TANK
35- AIR HEADERS PER GRID
VARIES- DIFFUSER HOLDERS PER AIR HEADER
1305- DIFFUSER HOLDERS PER GRID
VARIES- DIFFUSERS INSTALLED PER AIR HEADER
1254- DIFFUSERS INSTALLED PER GRID
5016- TOTAL DIFFUSERS INSTALLED

NOTE:
QUANTITY OF DIFFUSER HOLDERS (1305) IS PER THE GRID LAYOUT AS SHOWN. ACTUAL QUANTITY MAY VARY SLIGHTLY DEPENDING ON LOCATIONS OF COLUMNS.



A
28 **GRID TYPE 1**
SCALE: 1/4" = 1'-0"

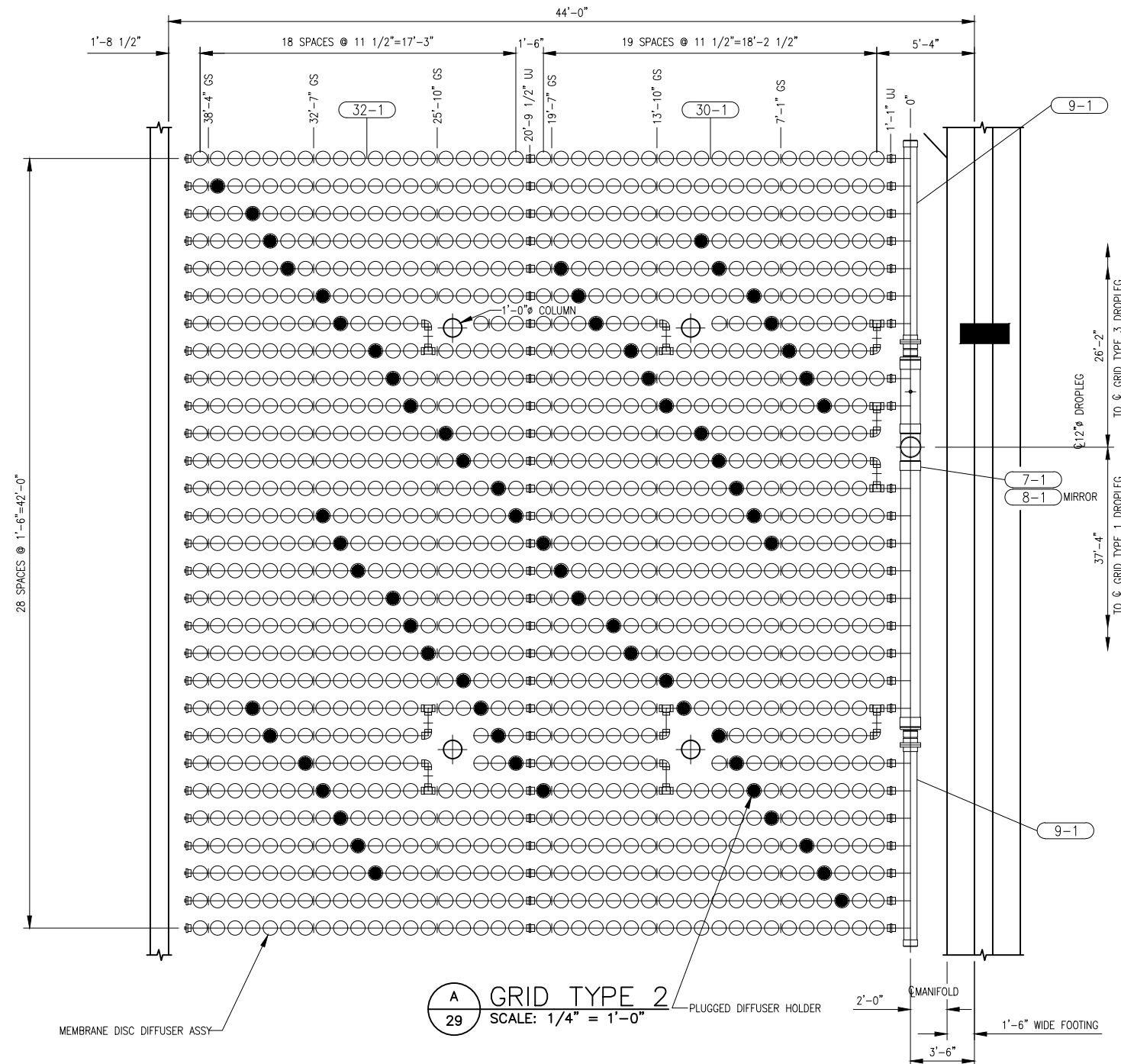
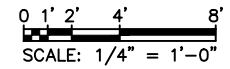
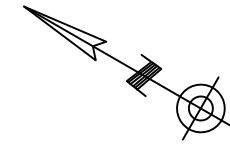


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DRAWING 203.620.B SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1 CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002 (918)228-0770, FAX (918)228-0764			
PLAN SCALE:	DRAWN	CMW	APPROVED:
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PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
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ATLAS PAGE NO: ---			SHEET 28 OF 48 SHEETS

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NOTES:

1. SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
2. SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



LEGEND

UJ- UNION JOINT ASSY
SEE DOCUMENT #UJA-40000-P

GS- 5/16" GUIDE SUPPORT ASSY (UNLESS OTHERWISE SPECIFIED)
SEE DOCUMENT #GSA-31B18-4
ASSEMBLY #GSB-31B13-4

FOR TYPICAL AIR HEADER SECTION
SEE DETAIL
SHEET 20

**GRID TYPE 2
GRID INFORMATION**

- 4- TANK(S)
- 1- GRID(S) PER TANK
- 29- AIR HEADERS PER GRID
- VARIES- DIFFUSER HOLDERS PER AIR HEADER
- 1099- DIFFUSER HOLDERS PER GRID
- VARIES- DIFFUSERS INSTALLED PER AIR HEADER
- 1036- DIFFUSERS INSTALLED PER GRID
- 4144- TOTAL DIFFUSERS INSTALLED

NOTE:
QUANTITY OF DIFFUSER HOLDERS (1099) IS PER THE GRID LAYOUT AS SHOWN. ACTUAL QUANTITY MAY VARY SLIGHTLY DEPENDING ON LOCATIONS OF COLUMNS.

A GRID TYPE 2
29 SCALE: 1/4" = 1'-0"
PLUGGED DIFFUSER HOLDER

REVISION	BY	DATE

BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING 203.620.C
SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

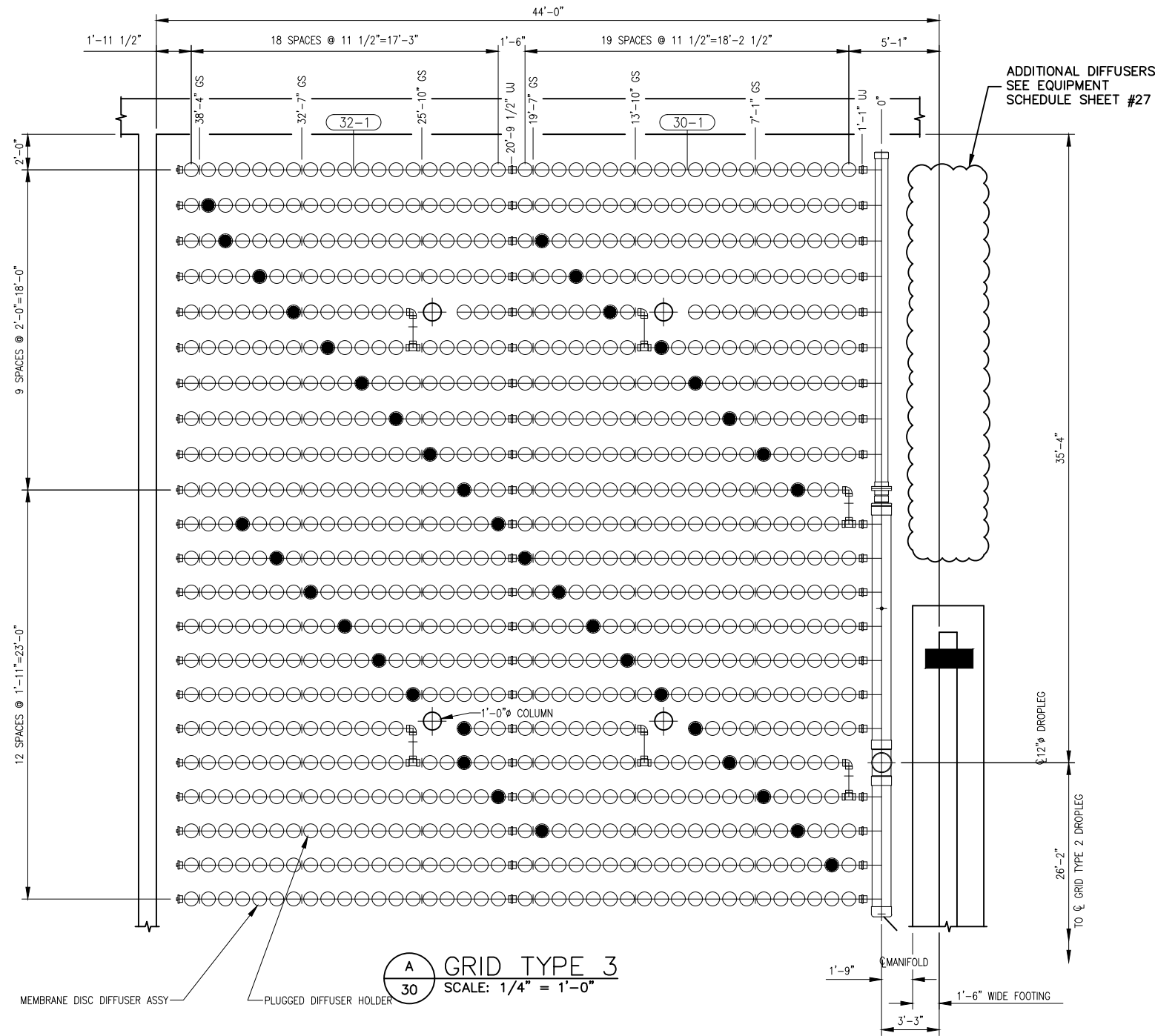
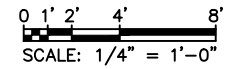
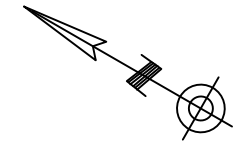
PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, INC.**
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
(918) 258-0770, FAX (918) 258-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
VARIABLES:	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
	FIELD MGR.		
VERTICAL:			DESIGN ENGINEERING MANAGER
FILE:	DRAWING:		DATE: 2025
ATLAS PAGE NO: ---			SHEET 29 OF 48 SHEETS



NOTES:

1. SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
2. SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



LEGEND

UJ- UNION JOINT ASSY
SEE DOCUMENT #UJA-40000-P

GS- 5/16" Ø GUIDE SUPPORT ASSY (UNLESS OTHERWISE SPECIFIED)
SEE DOCUMENT #GSA-31B18-4
ASSEMBLY #GSB-31B13-4

FOR TYPICAL AIR HEADER SECTION
SEE DETAIL
SHEET 20

**GRID TYPE 3
GRID INFORMATION**

4- TANK(S)
1- GRID(S) PER TANK
22- AIR HEADERS PER GRID
VARIES- DIFFUSER HOLDERS PER AIR HEADER
838- DIFFUSER HOLDERS PER GRID
VARIES- DIFFUSERS INSTALLED PER AIR HEADER
800- DIFFUSERS INSTALLED PER GRID
3200- TOTAL DIFFUSERS INSTALLED

NOTE:
QUANTITY OF DIFFUSER HOLDERS (838) IS PER THE GRID LAYOUT AS SHOWN. ACTUAL QUANTITY MAY VARY SLIGHTLY DEPENDING ON LOCATIONS OF COLUMNS.

GRID TYPE 3
SCALE: 1/4" = 1'-0"

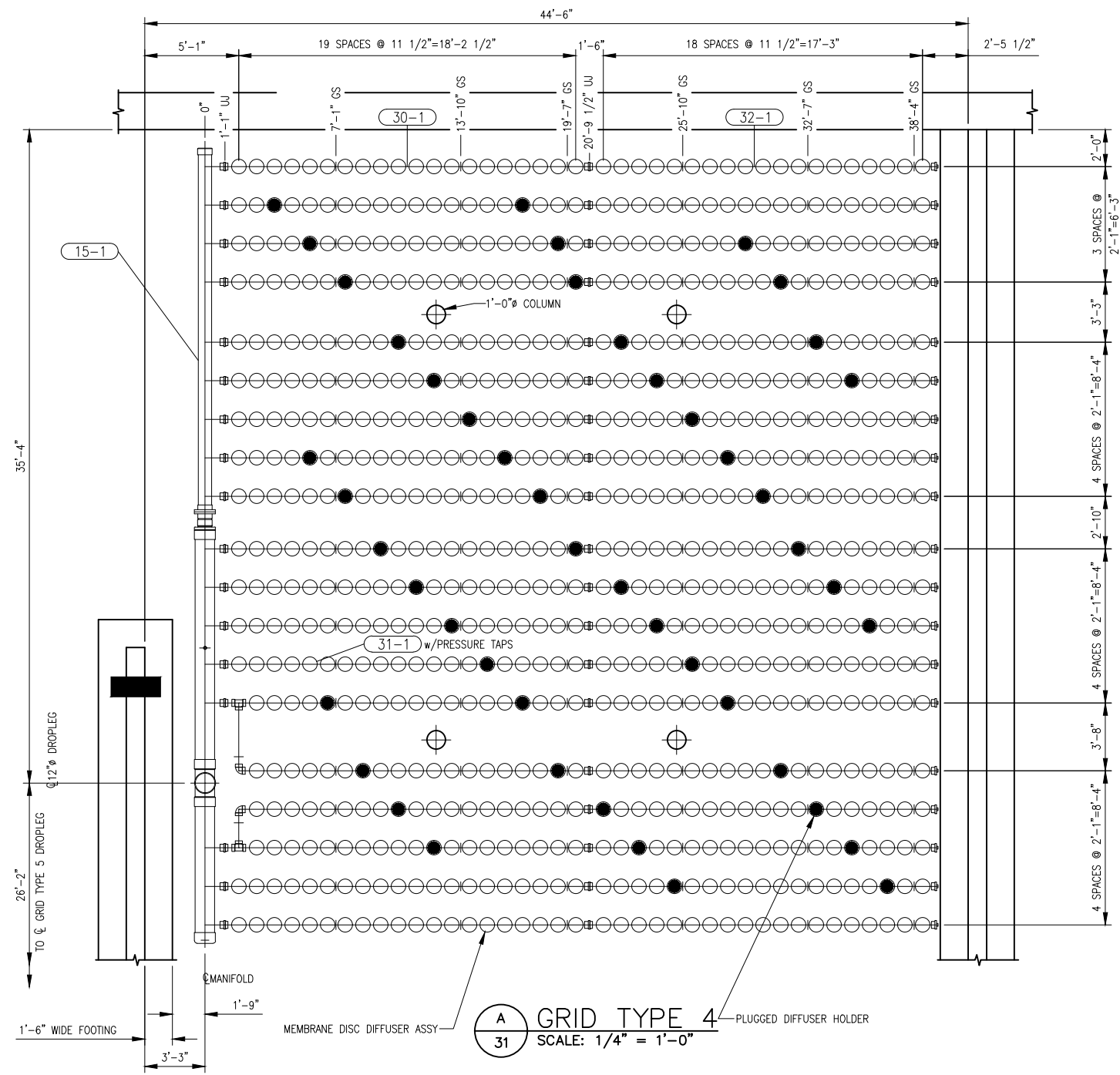
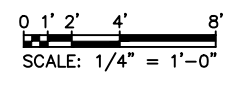
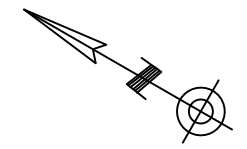
MEMBRANE DISC DIFFUSER ASSY
PLUGGED DIFFUSER HOLDER



REVISION	BY	DATE	
<p>BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p>			
<p>DRAWING 203.620.D SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1 CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY WATER AND SEWER DEPARTMENT</p>			
<p>PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002 (918)298-0770, FAX (918)298-0764</p>			
PLAN SCALE:	DRAWN	APPROVED:	
VARIES	CMW	<p>DESIGNED CMW</p> <p>SURVEY</p>	
PROFILE SCALE:	PROJ. MGR.		TJR
HORIZONTAL:	LEAD ENGR.		LST
VERTICAL:	FIELD MGR.		
FILE:	DRAWING:	DATE: 2025	
ATLAS PAGE NO: ---		SHEET 30 OF 48 SHEETS	

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- NOTES:**
- SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
 - SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



LEGEND

UJ- UNION JOINT ASSY
SEE DOCUMENT #UJA-40000-P

GS- 5/16"Ø GUIDE SUPPORT ASSY (UNLESS OTHERWISE SPECIFIED)
SEE DOCUMENT #GSA-31B18-4
ASSEMBLY #GSB-31B13-4

FOR TYPICAL AIR HEADER SECTION
SEE DETAIL SHEET 20

**GRID TYPE 4
GRID INFORMATION**

4- TANK(S)
1- GRID(S) PER TANK
19- AIR HEADERS PER GRID
VARIES- DIFFUSER HOLDERS PER AIR HEADER
737- DIFFUSER HOLDERS PER GRID
VARIES- DIFFUSERS INSTALLED PER AIR HEADER
690- DIFFUSERS INSTALLED PER GRID
2760- TOTAL DIFFUSERS INSTALLED

AS REQUIRED

A
31
GRID TYPE 4
SCALE: 1/4" = 1'-0"

REVISION	BY	DATE

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DRAWING 203.620.E
SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

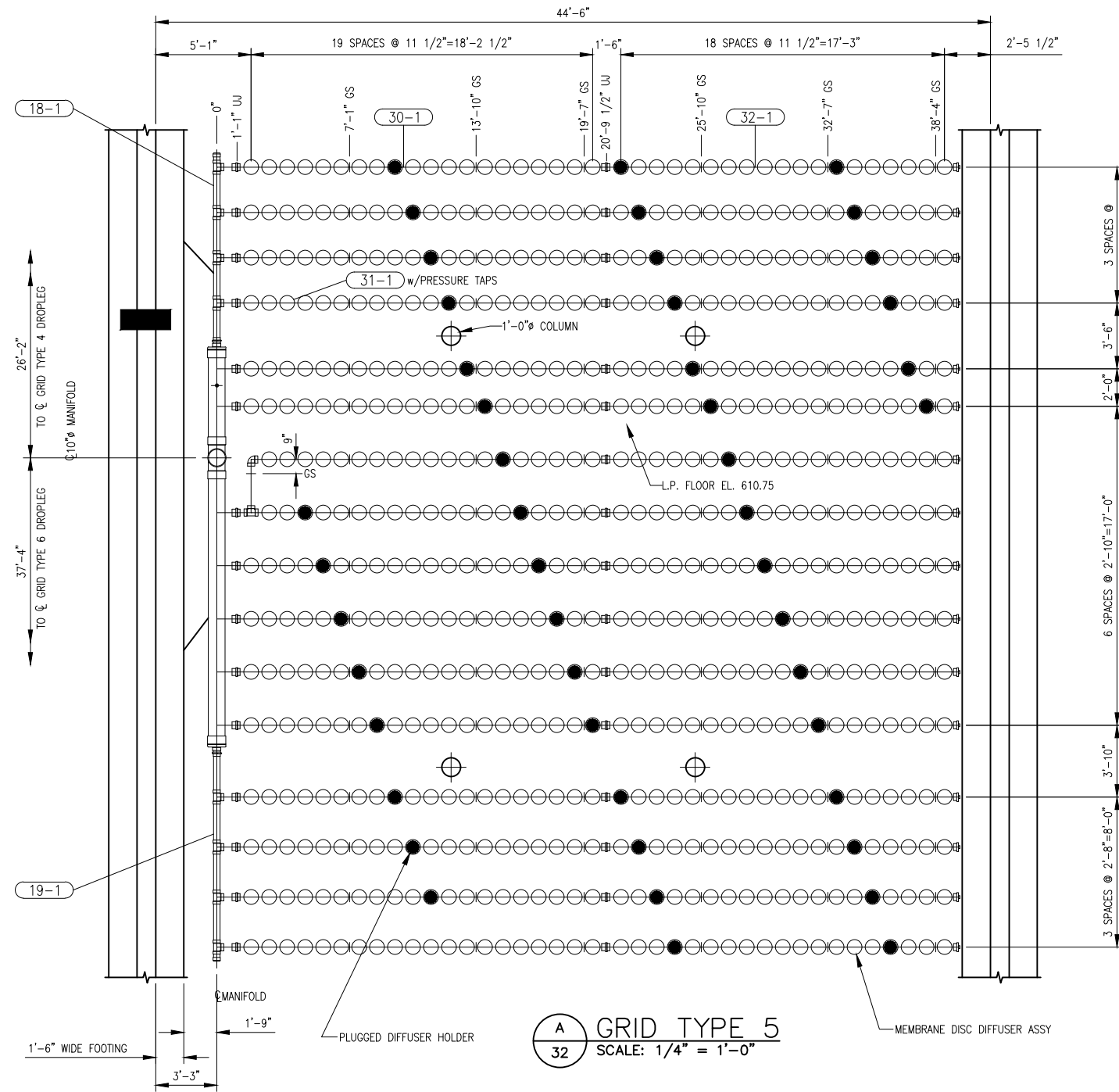
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74012
918-258-0770, FAX 918-258-0764

PLAN SCALE: VARIES	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	DESIGN ENGINEERING MANAGER
	LEAD ENGR.	LST	
	FIELD MGR.		
HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE:	2025
ATLAS PAGE NO: ---		SHEET	31 OF 48 SHEETS



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AS REQUIRED



LEGEND

UJ- UNION JOINT ASSY
SEE DOCUMENT #UJA-40000-P

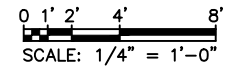
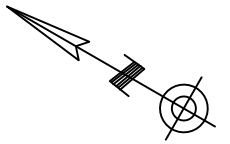
GS- 1/2" GUIDE SUPPORT ASSY
SEE DOCUMENT #GSA-50B14-4
ASSEMBLY #GSB-50419-4

FOR TYPICAL AIR HEADER SECTION
SEE DETAIL
SHEET 20

**GRID TYPE 5
GRID INFORMATION**

4- TANK(S)
1- GRID(S) PER TANK
16- AIR HEADERS PER GRID
VARIES- DIFFUSER HOLDERS PER AIR HEADER
622- DIFFUSER HOLDERS PER GRID
VARIES- DIFFUSERS INSTALLED PER AIR HEADER
576- DIFFUSERS INSTALLED PER GRID
2304- TOTAL DIFFUSERS INSTALLED

- NOTES:**
- SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
 - SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



REVISION	BY	DATE

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SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

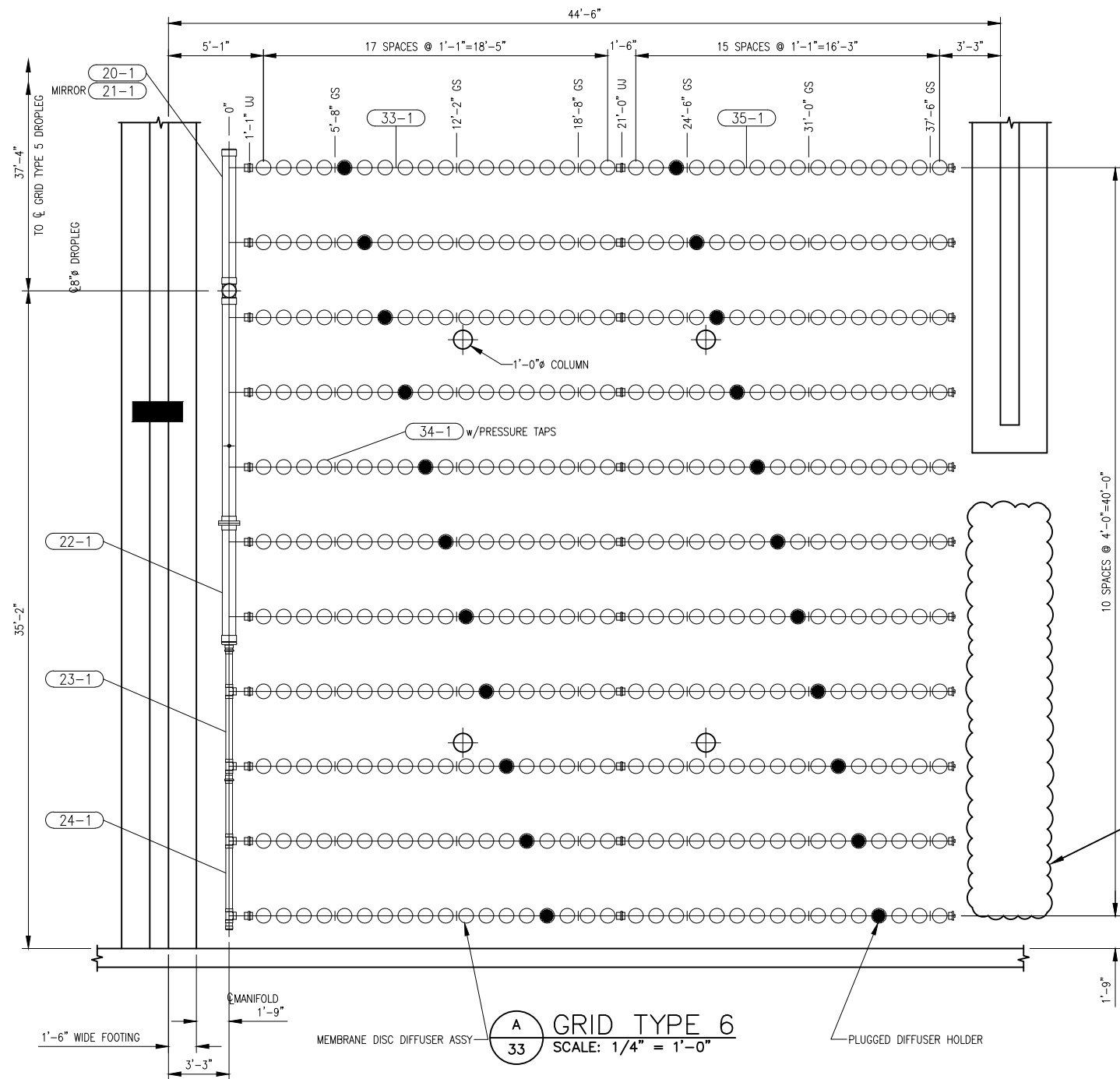


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2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002
(918)258-0770, FAX (918)258-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
VARIES	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	DESIGN ENGINEERING MANAGER
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FILE:	DRAWING:		DATE: 2025
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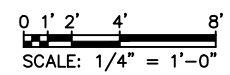
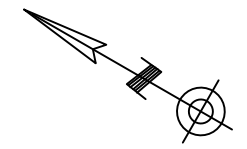
NOTES:

1. SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
2. SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



LEGEND
 UJ- UNION JOINT ASSY
 SEE DOCUMENT #UJA-40000-P
 GS- 5/16" GUIDE SUPPORT ASSY
 SEE DOCUMENT #GSA-31818-4
 ASSEMBLY #GSB-31813-4
 FOR TYPICAL AIR HEADER SECTION
 SEE DETAIL SHEET 20

**GRID TYPE 6
 GRID INFORMATION**
 4- TANK(S)
 1- GRID(S) PER TANK
 11- AIR HEADERS PER GRID
 34- DIFFUSER HOLDERS PER AIR HEADER
 374- DIFFUSER HOLDERS PER GRID
 32- DIFFUSERS INSTALLED PER AIR HEADER
 352- DIFFUSERS INSTALLED PER GRID
 1408- TOTAL DIFFUSERS INSTALLED



ADDITIONAL DIFFUSERS.
 SEE EQUIPMENT
 SCHEDULE SHEET #XX

GRID TYPE 6
 SCALE: 1/4" = 1'-0"

REVISION	BY	DATE

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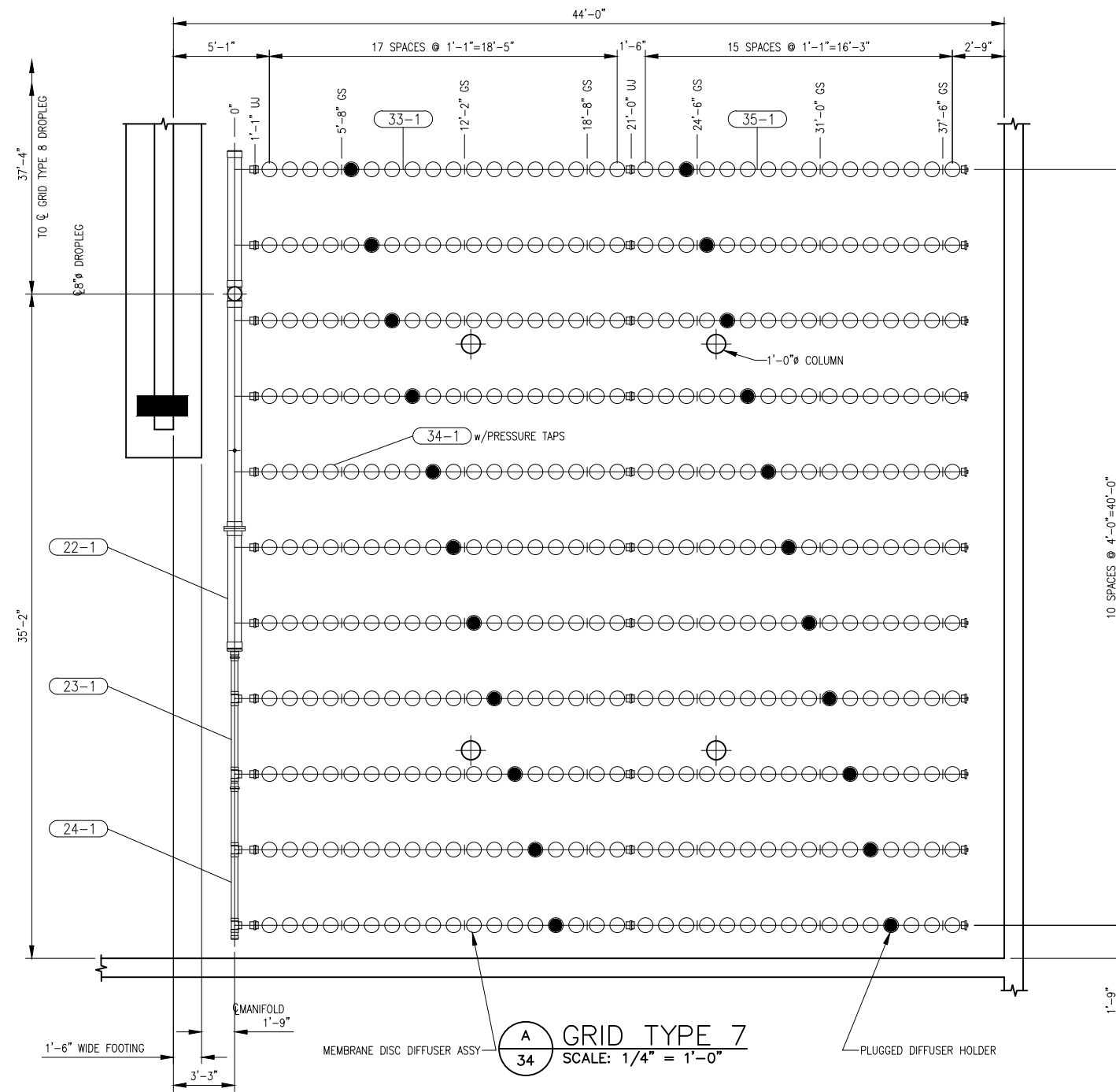
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 & LOCKING RING REPLACEMENT PLAN
 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1
 CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, Inc.**
 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
 (918)228-0770, FAX (918)228-0764

PLAN SCALE: VARIES	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	DESIGN ENGINEERING MANAGER
	LEAD ENGR.	LST	
	FIELD MGR.		
HORIZONTAL:			
VERTICAL:			
FILE:	DRAWING:	DATE: 2025	
ATLAS PAGE NO: ---		SHEET 33 OF 48 SHEETS	



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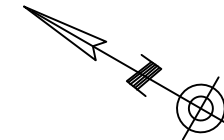


LEGEND
 UJ- UNION JOINT ASSY
 SEE DOCUMENT #UJA-40000-P
 GS- 5/16" GUIDE SUPPORT ASSY
 SEE DOCUMENT #GSA-31B18-4
 ASSEMBLY #GSB-31B13-4
 FOR TYPICAL AIR HEADER SECTION
 SEE DETAIL SHEET 20

*-SPACING HAS BEEN MODIFIED TO AVOID EXISTING COLUMNS

**GRID TYPE 7
 GRID INFORMATION**
 4- TANK(S)
 1- GRID(S) PER TANK
 11- AIR HEADERS PER GRID
 34- DIFFUSER HOLDERS PER AIR HEADER
 374- DIFFUSER HOLDERS PER GRID
 32- DIFFUSERS INSTALLED PER AIR HEADER
 352- DIFFUSERS INSTALLED PER GRID
 1408- TOTAL DIFFUSERS INSTALLED

- NOTES:**
- SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
 - SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



0 1' 2' 4' 8'
 SCALE: 1/4" = 1'-0"

REVISION	BY	DATE

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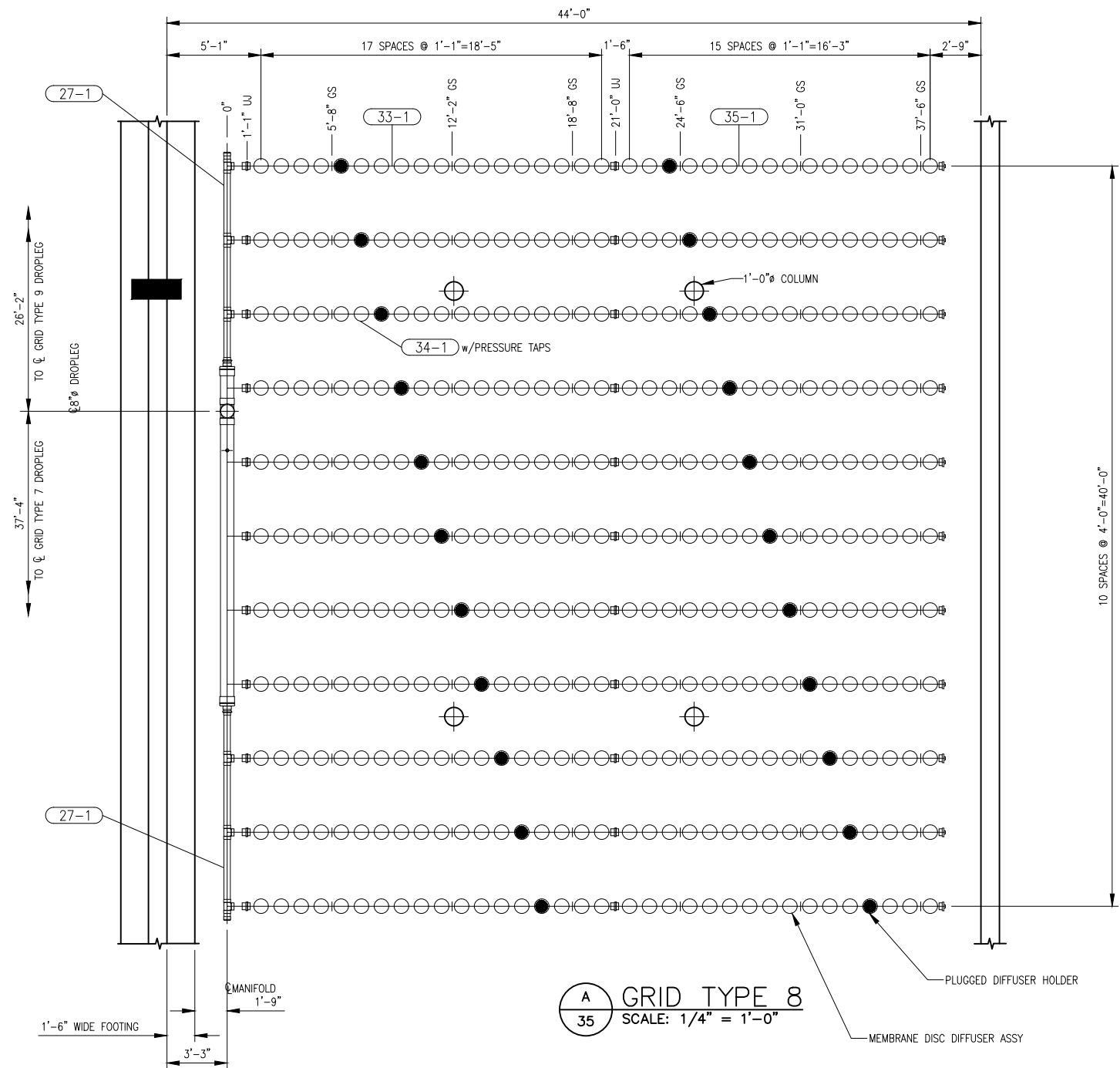
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 SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1
 CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

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 (918)228-0770, FAX (918)228-0764

PLAN SCALE: VARIES	DRAWN: CMW	DESIGNED: CMW	SURVEY:	APPROVED:
PROFILE SCALE:	PROJ. MGR. TJR	LEAD ENGR. LST	FIELD MGR.	
HORIZONTAL:				
VERTICAL:				
FILE:	DRAWING:	DATE: 2025		
ATLAS PAGE NO: ---				SHEET 34 OF 48 SHEETS



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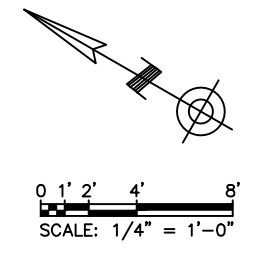


LEGEND
 UJ- UNION JOINT ASSY
 SEE DOCUMENT #UJA-40000-P
 GS- 5/16"Ø GUIDE SUPPORT ASSY (UNLESS OTHERWISE SPECIFIED)
 SEE DOCUMENT #GSA-31B18-4
 ASSEMBLY #GSB-31B13-4
 FOR TYPICAL AIR HEADER SECTION
 SEE DETAIL
 SHEET 20

**GRID TYPE 8
 GRID INFORMATION**
 4- TANK(S)
 1- GRID(S) PER TANK
 11- AIR HEADERS PER GRID
 34- DIFFUSER HOLDERS PER AIR HEADER
 374- DIFFUSER HOLDERS PER GRID
 32- DIFFUSERS INSTALLED PER AIR HEADER
 352- DIFFUSERS INSTALLED PER GRID
 1408- TOTAL DIFFUSERS INSTALLED

A GRID TYPE 8
 35 SCALE: 1/4" = 1'-0"

- NOTES:**
- SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
 - SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



REVISION	BY	DATE

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DRAWING 203.620.1
 SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1
 CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

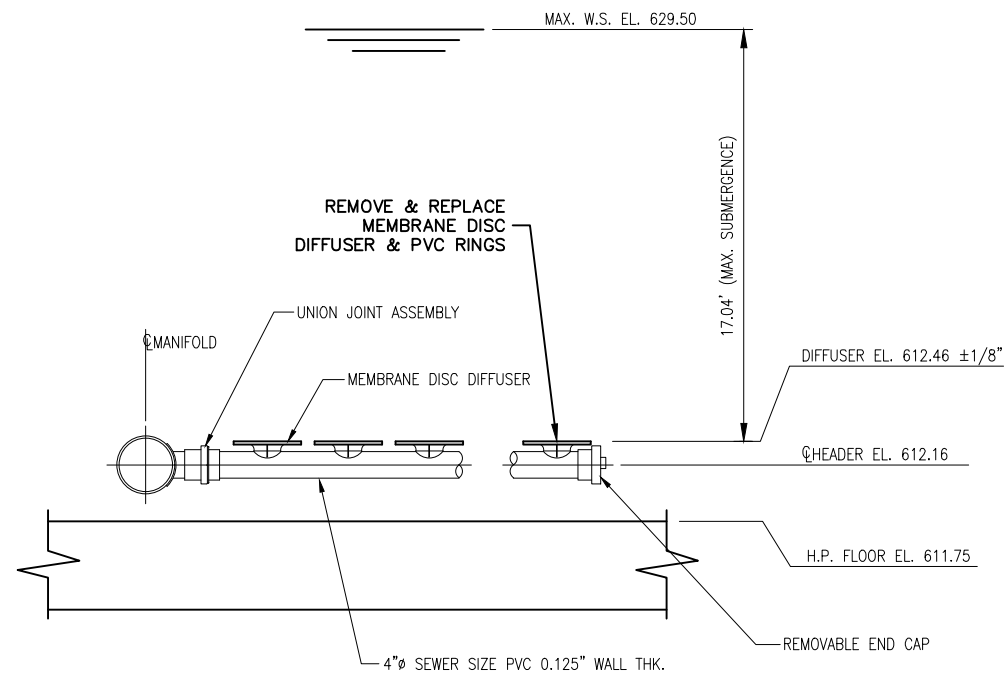


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 (918)228-0770, FAX (918)228-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
VARIABLES	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	DESIGN ENGINEERING MANAGER
	FIELD MGR.		
VERTICAL:			
FILE:	DRAWING:		DATE: 2025
ATLAS PAGE NO: ---			SHEET 35 OF 48 SHEETS

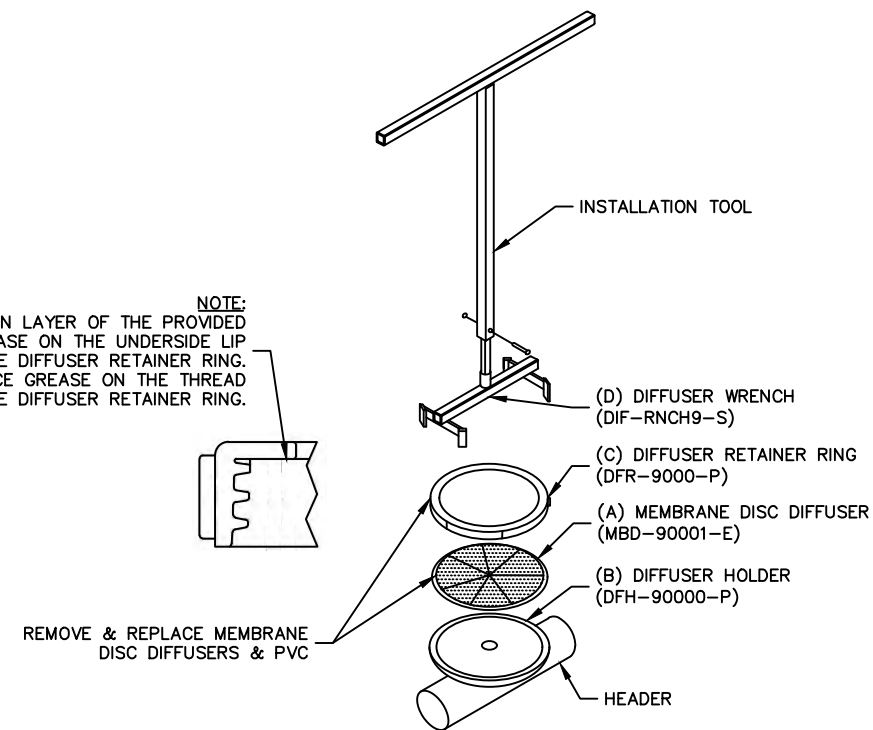
NOTES:

1. SEE EQUIPMENT REPLACEMENT SCHEDULE & NOTES ON PLAN SHEET 27
2. SOME INFORMATION SHOWING PIPING & BASIN STRUCTURE SHOWN FOR INFORMATIONAL PURPOSE.



1 TYPICAL HEADER SECTION
37 SCALE: 3/8" = 1'-0"

NOTE:
PLACE A THIN LAYER OF THE PROVIDED SILICON GREASE ON THE UNDERSIDE LIP OF THE DIFFUSER RETAINER RING. **DO NOT** PLACE GREASE ON THE THREAD OF THE DIFFUSER RETAINER RING.



MEMBRANE DISC ASSEMBLY INSTALLATION PROCEDURE:

1. PLACE THE MEMBRANE DISC DIFFUSER (ITEM A) ON THE DIFFUSER HOLDER (ITEM B)
2. PLACE A THIN LAYER OF THE PROVIDED SILICON GREASE ON THE UNDERSIDE LIP OF THE DIFFUSER RETAINER RING (ITEM C). CAUTION - DO NOT PLACE GREASE ON THE THREAD OF THE DIFFUSER RETAINER RING.
3. INSTALL THE DIFFUSER RETAINER RING (ITEM C) ON THE DIFFUSER HOLDER & TIGHTEN "HAND-TIGHT". CAUTION - DO NOT CROSS THREAD THE DIFFUSER RETAINER RING.
4. USE THE DIFFUSER WRENCH (ITEM D) AND CONTINUE TIGHTENING THE DIFFUSER RETAINER RING TO A POSITION APPROXIMATELY 1/4-1/3 MAXIMUM TURN PAST HAND TIGHT.

CAUTION:
DO **NOT** OVER-TIGHTEN & INSTALL PER MANUFACTURERS INSTRUCTIONS & REQUIREMENTS.

2 MEMBRANE DISC DIFFUSER ASSEMBLY & TOOL
37 NTS

REVISION	BY	DATE

BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING 203.620.K
SSWWTP AERATION BASIN #2 DIFFUSER & LOCKING RING REPLACEMENT PLAN
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74012 (918)238-0770, FAX (918)238-0764	
PLAN SCALE:	DRAWN	CMW	APPROVED:
VARIABLES	DESIGNED	CMW	LOYD STEPHEN TOLAR 20679 2-17-2025 OKLAHOMA
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
VERTICAL:	FIELD MGR.		DESIGN ENGINEERING MANAGER
FILE:	DRAWING:	DATE:	2025
ATLAS PAGE NO:	---	SHEET	37 OF 48 SHEETS

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NOTES:

1. DEMOLISH ALL BLOWER EQUIPMENT INCLUDING THREE (3EA) BLOWERS, BLOWER MOTORS, SKIDS, CONCRETE PAD, CONTROL PANELS, DISCONNECTS, ABANDONED CONDUITS, PIPE, INSULATION, AND RELATED COMPONENTS.
2. REPLACE BLOWER #2 & #3 FIRST WHICH ARE OUT OF SERVICE AND MAINTAIN BLOWER #1 IN SERVICE UNTIL BLOWERS #2 & #3 ARE RETURNED TO SERVICE.

DEMOLISH EXISTING BLOWER EQUIPMENT SEE NOTE #1

PROTECT WET WELL ELEVATED STRUCTURAL SLAB FLOOR



REVISION	BY	DATE

BAR IS ONE INCH ON ORIGINAL DRAWING 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

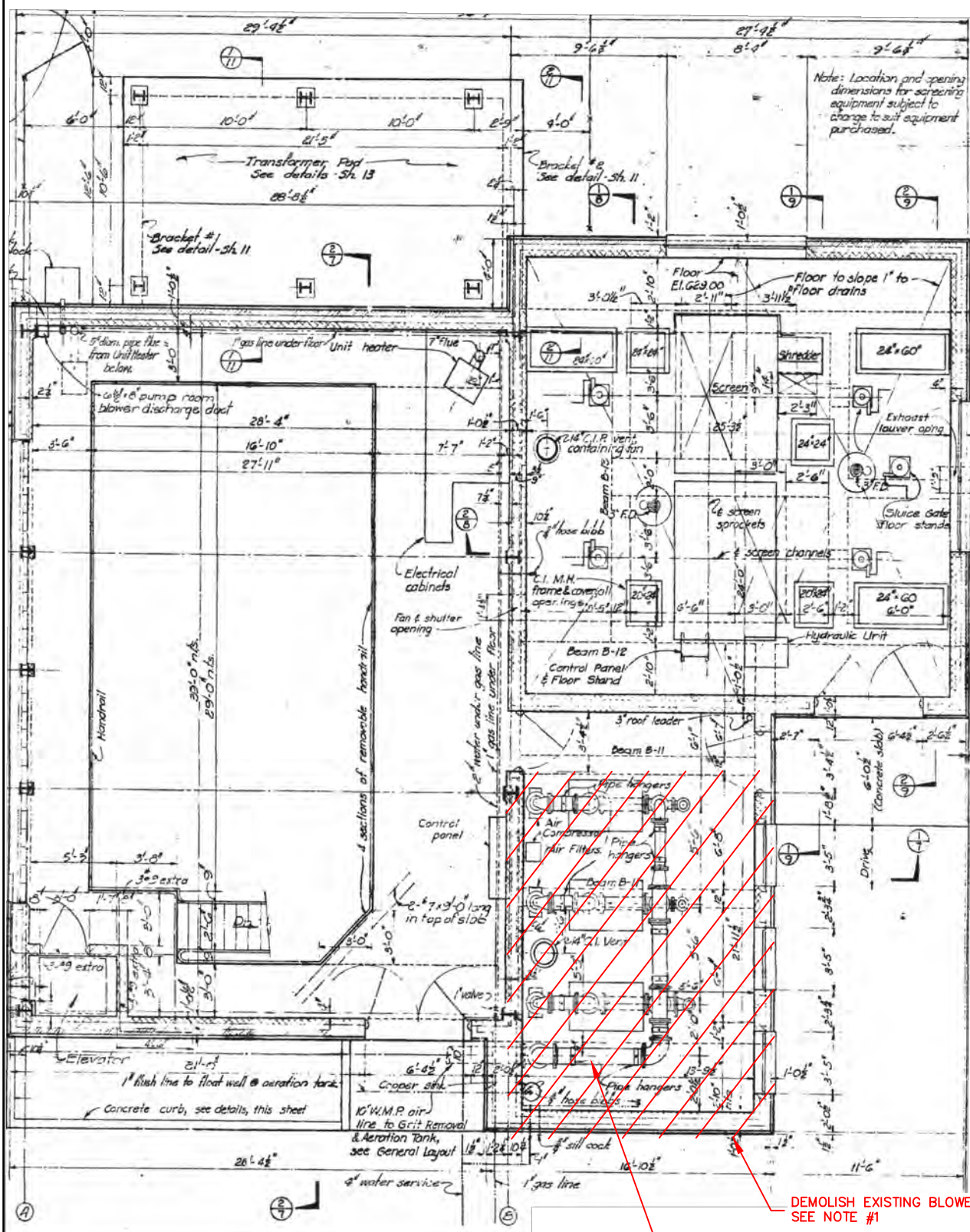
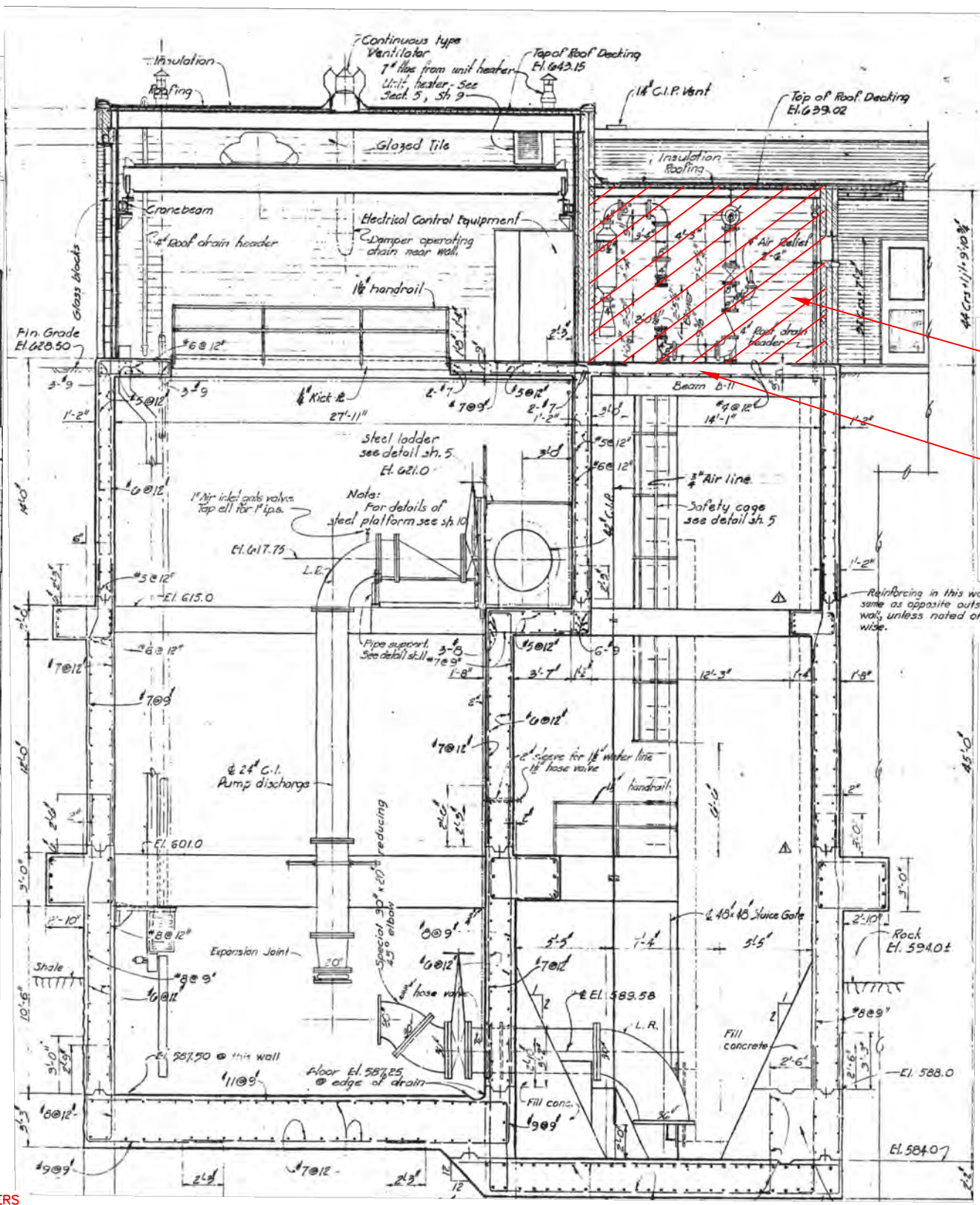
REFERENCE ORIGINAL CONTRACT S-53-2 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION

DRAWING 203.640.A
SSWWTP WAS BLOWER & BLOWER PIPING DEMOLITION
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPKIE & BELLEN, Inc.**
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(918) 259-0770, FAX (918) 259-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	DESIGN ENGINEERING MANAGER
	LEAD ENGR.	LST	
	FIELD MGR.		
HORIZONTAL:			DATE: 2025
VERTICAL:			SHEET 38 OF 48 SHEETS



DEMOLISH EXISTING BLOWERS SEE NOTE #1

DEMOLISH EXISTING BLOWER PIPING AS REQUIRED FOR NEW WORK

1 SSWWTP MAIN LIFT STATION FLOOR PLAN
SCALE: 1/4"=1'

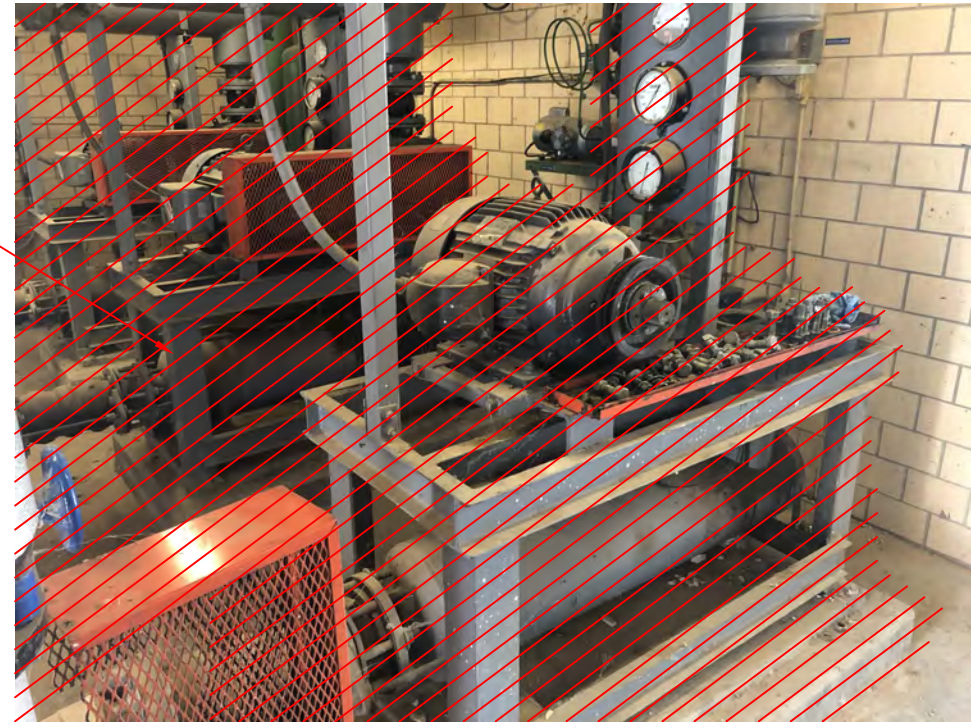
2 SSWWTP MAIN LIFT STATION SECTION
SCALE: 1/4"=1'



DEMOLISH EXISTING BLOWERS

DEMOLISH EXISTING CONCRETE BLOWER EQUIPMENT PADS SEE DETAIL 3/48

1 PHOTO – EXISTING BLOWER ROOM (LOOKING WEST)
39 NTS



DEMOLISH EXISTING BLOWERS

2 PHOTO – EXISTING BLOWER ROOM (LOOKING WEST)
39 NTS



DEMOLISH BLOWER EQUIPMENT COMPLETELY, INCLUDING ELECTRICAL PANELS, DISCONNECTS, AND WIRING BACK TO SOURCE (MCC). COORDINATE AND REUSE THE EXISTING CONDUITS TO EXTENT POSSIBLE.

3 PHOTO – EXISTING BLOWER ROOM (LOOKING SOUTH)
39 NTS

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REVISION	BY	DATE

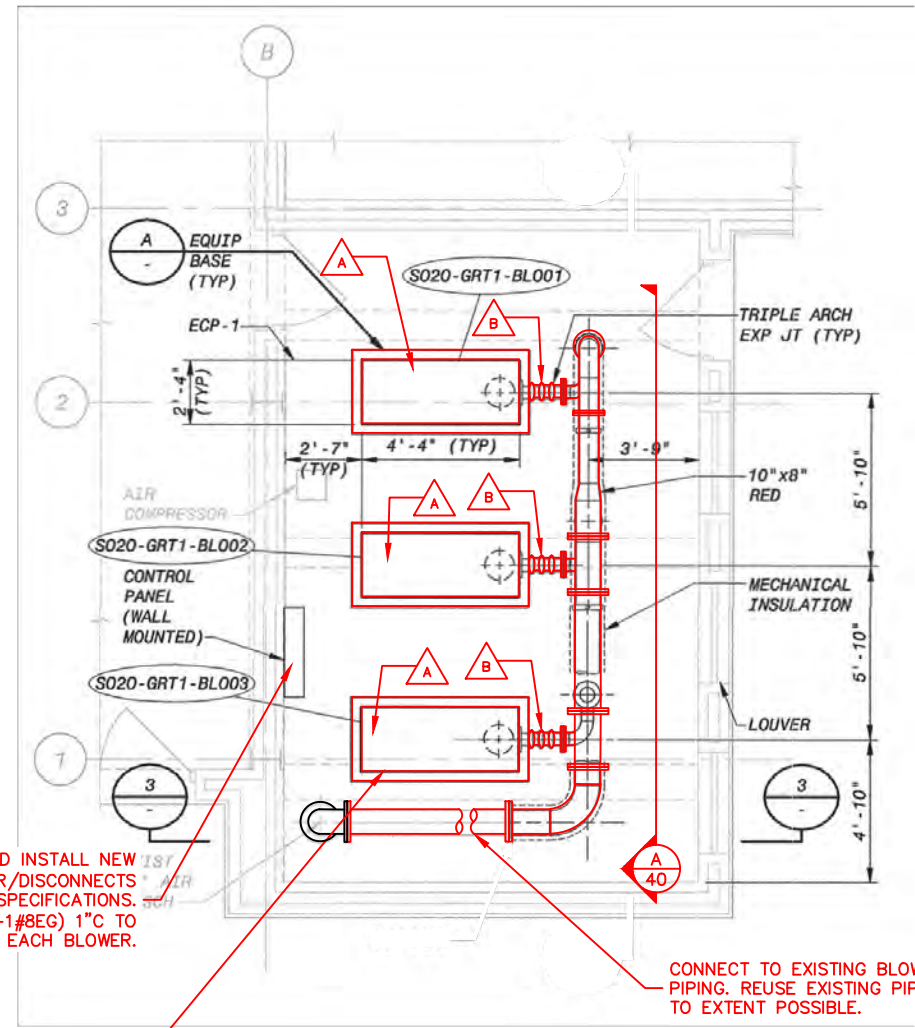
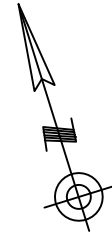
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DRAWING 203.640.B
SSWWTP WAS BLOWER & BLOWER PIPING DEMOLITION
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc.
2001 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002
918-258-0770, FAX 918-258-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
	FIELD MGR.		
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ATLAS PAGE NO: ---			SHEET 39 OF 48 SHEETS





FURNISH AND INSTALL NEW COMBINATION STARTER/DISCONNECTS AS LISTED IN THE SPECIFICATIONS. CONTINUE NEW (3#8+1#8EG) 1" C TO EACH BLOWER.

CONNECT TO EXISTING BLOWER PIPING. REUSE EXISTING PIPING TO EXTENT POSSIBLE.

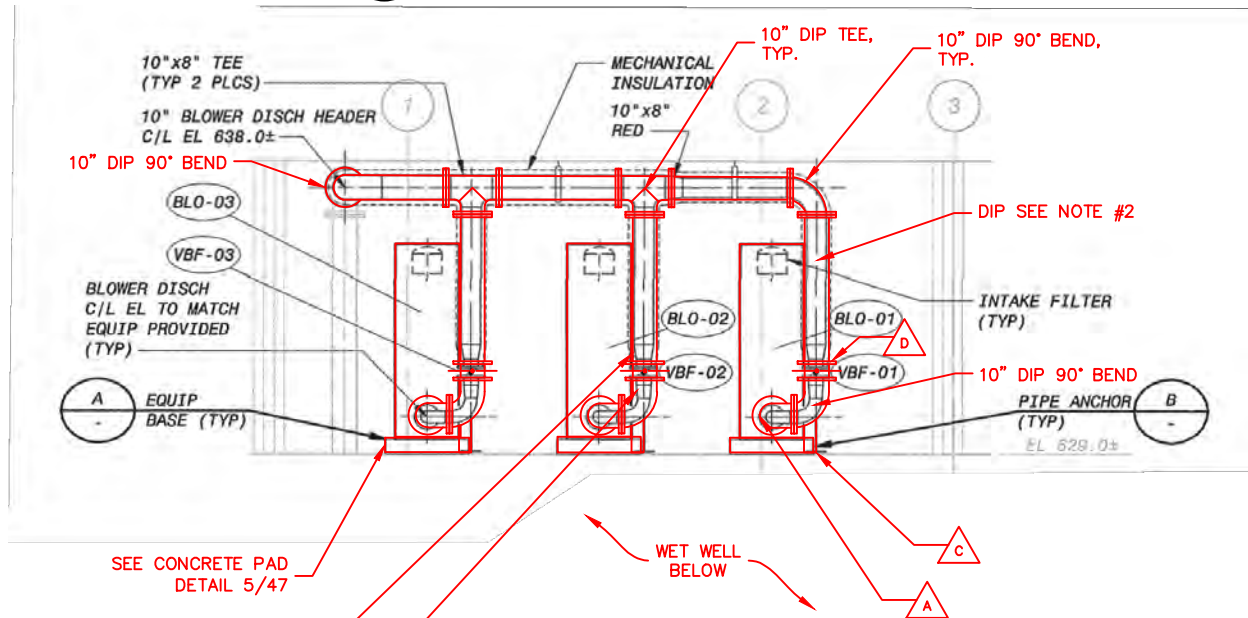
SEE CONCRETE PAD DETAIL 5/47

1 WAS BLOWER ROOM PLAN
40 SCALE: 5/16" = 1'

EQUIPMENT SCHEDULE						
SYMBOL	QUANTITY	DESCRIPTION	MANUFACTURER	HP	SIZE	DETAILS
△	3	POSITIVE DISPLACEMENT BLOWER(S)	UNIVERSAL BLOWER PAC, INC./ OR EQUAL	30	500 SCFM	INCLUDING NEW EXPANSION JOINT, FILTER SILENCER, LOCAL 316 SST. - NEMA 4X DISCONNECT
△	3	RESTRAINED EXPANSION JOINT	RED VALVE OR EQUAL	N/A	10"	HDG RESTRAINT HARDWARE
△	3	BASE 90 W/ CONCRETE BASE	N/A	N/A	FOR 10" DIP	DIP W/ 316 SST ANCHOR BOLTS
△	3	BUTTERFLY VALVE	PRATT, DEZURIK, OR EQUAL	N/A	10"	VITON GASKETS AND SEATS LOCKING LEVER OPERATOR

NOTES:

1. PROVIDE REMOVABLE ALUMINUM 2" INSULATION WITH 316 SST SCREW CLAMPS ON ALL THE DISCHARGE PIPING INSIDE BLOWER ROOM.
2. ALL BLOWER PIPING INSIDE THE BLOWER ROOM SHALL BE UNLINED FLANGE BY FLANGE DIP W/ UNION GASKETS. REUSE THE EXISTING PIPING TO EXTENT POSSIBLE.
3. PROVIDE NEW 316 SST 4X PANELS FOR EACH BLOWER WITH ON-OFF SWITCHES, STATUS RUN LIGHTS, RUN TIMERS, STARTER, AND A 316 SST 4X DISCONNECT.



SEE CONCRETE PAD DETAIL 5/47

WET WELL BELOW

8"x6" CONC RED (TYP. 3 PLCS)

6"x5" CONC RED (TYP. 3 PLCS)

A WAS BLOWER ROOM SECTION
40 SCALE: 5/16" = 1'

REVISION	BY	DATE

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REFERENCE ORIGINAL SOUTHSIDE WWTP ES 2002-07 CONTRACT D RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION

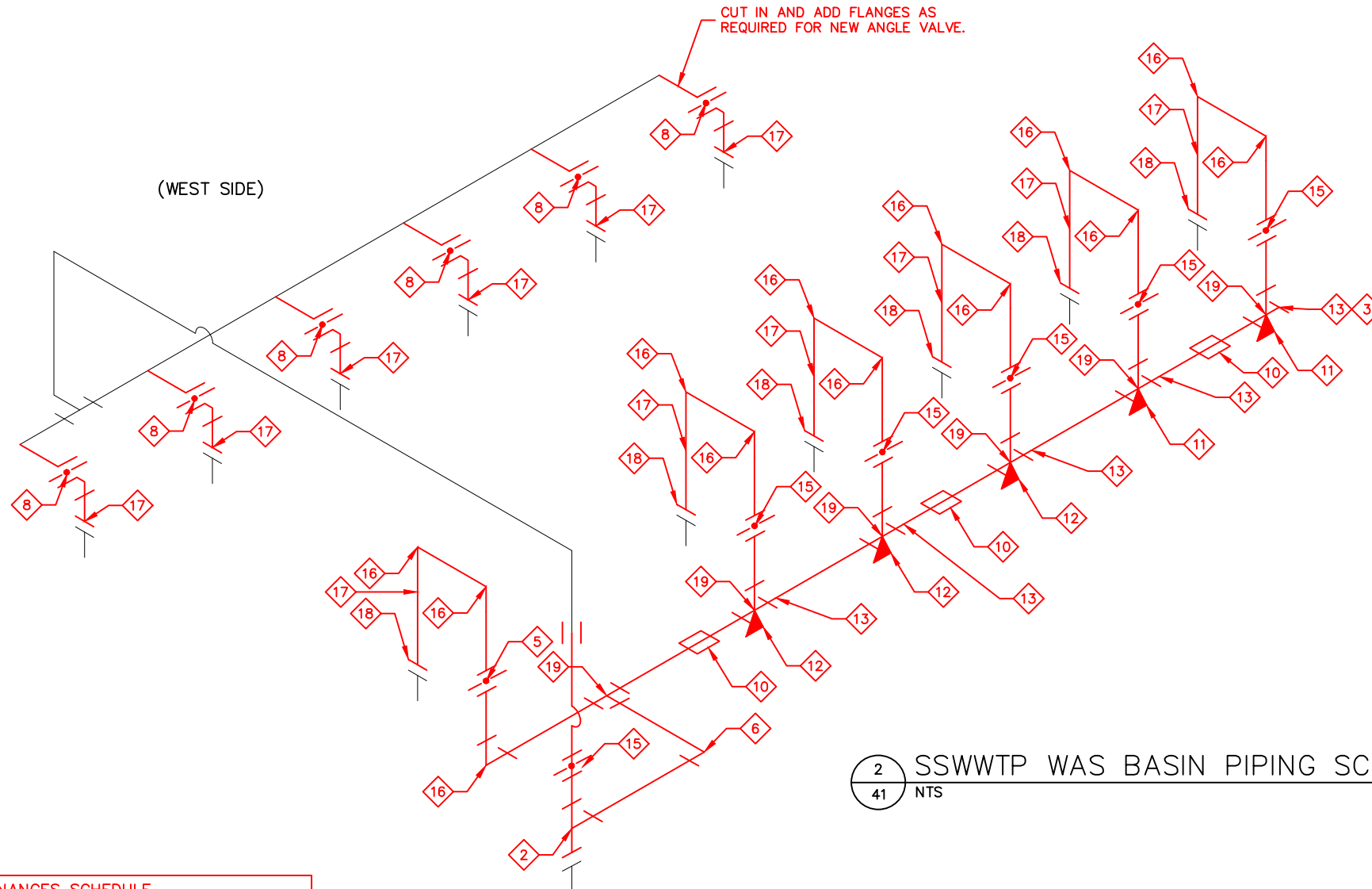
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WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 2001 N. WILLOW AVE., BROCKTON AVEENUE, OKLAHOMA 74002 (918)208-0770, FAX (918)208-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
HORIZONTAL:	LEAD ENGR.	LST	
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ATLAS PAGE NO: ---			SHEET 40 OF 48 SHEETS



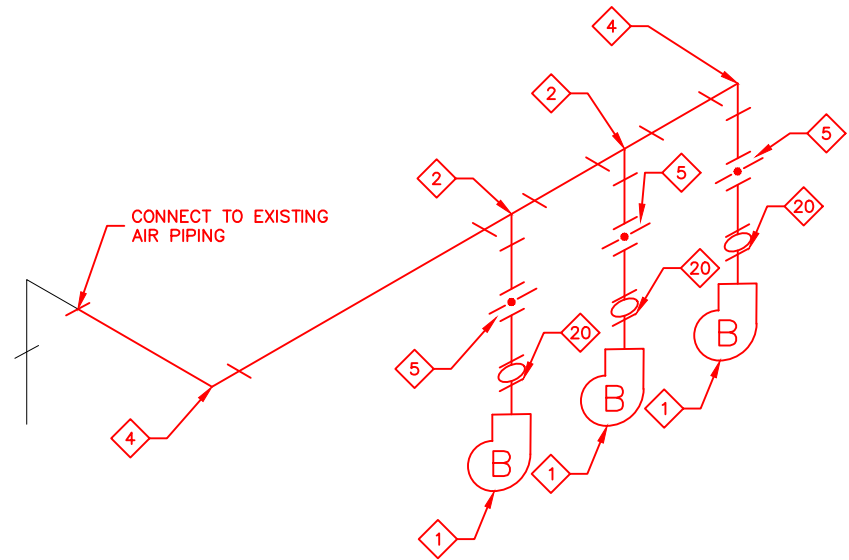
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2 SSWWTP WAS BASIN PIPING SCHEMATIC
41 NTS

- NOTES:**
1. BLOWER PIPING SCHEMATIC HAS BEEN PROVIDED TO SHOW SCOPE OF WORK REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. REFER TO DETAILED DRAWINGS FOR ADDITIONAL REQUIREMENTS.
 2. EXTERIOR AIR PIPING SHALL BE UNLINED SCHEDULE 40 WELDED STEEL PIPE.
 3. INTERIOR PIPING IN BLOWER ROOM SHALL BE UNLINED FLANGED DIP WITH VITON GASKETS.
 4. PROVIDE AND INSTALL WELD NECK FLANGES AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR INSTALLATION OF FLANGED EQUIPMENT.
 5. PREPARE AND PAINT ALL NEW AND MODIFIED PIPING, FITTING AND VALVES. REFER TO SPECIFICATION SECTION 204.5 FOR REQUIREMENTS.
 6. ALL GASKETS FOR EXTERIOR PIPING SHALL BE VITON, OR EQUAL RATED FOR HIGH TEMPERATURE AIR SERVICE. SEE NOTE #1. FIELD VERIFY & COORDINATE FINAL PIPING LENGTH AS REQUIRED FOR EACH LOCATION.
 7. OWNER RETAINS SALVAGE RIGHTS TO ALL UNUSED EQUIPMENT AND MATERIALS. ALL MATERIALS NOT CLAIMED BY OWNER SHALL BE DISPOSED OF BY CONTRACTOR.
 8. CONTRACTOR SHALL FIELD MEASURE AND COORDINATE PIPING INSTALLATION AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
 9. ALL AIR SERVICE VALVES SHALL UTILIZE VITON GASKETS.
 10. PROVIDE FOUR (4) 10" DIP BEND FITTINGS AND SIX (6) 4" DIP BENDS AS SPARES. INSTALL AS NEEDED.
 11. REPAINT ALL PIPING NEW & EXISTING AS SHOWN IN SCHEMATIC.

PIPING AND APPURTENANCES SCHEDULE	
ID	KEYED NOTE DESCRIPTION
1	BLOWER PACKAGE SYSTEM
2	10" DIP TEE (FLG X FLG)
3	10" BLIND FLANGE
4	10" DIP 90° BEND FITTING
5	10" BUTTERFLY VALVE (FLANGED)
6	10" SCH-40 STEEL 90° (FLANGED)
7	10" SADDLE PIPE SUPPORT (ROOF). SEE DETAIL 5/40 FOR ADDITIONAL INFORMATION ON REQUIRED LOCATIONS.
8	4" RIGHT ANGLE VALVE (FLANGED FOR HIGH TEMPERATURE AIR SERVICE)
9	10" SCH-40 STEEL TEE (FLANGED)
10	10" SOLID SLEEVE W/316 SSTL BOLT SET (DRESSER)
11	10" PIPE SADDLE SUPPORT BASE (HDG)
12	10" PIPE SADDLE SUPPORT W/ALLTHRD ABOVE ODOR CONTROL SUPPORTS
13	10" X 10" X 4" SCH-40 STEEL TEE (FLANGED)
14	SPECIAL PIPE SUPPORT FRAME AND FOOTING
15	4" BUTTERFLY VALVE (FLANGED FOR HIGH TEMPERATURE AIR SERVICE)
16	4" SCH-40 STEEL 90° BEND (FLANGED)
17	4" SCH-40 STEEL 316 SSTL FLG X FLG SPOOL - BELOW FRP COVER W/ NEW GASKET AND 316 SST BOLT SET. SEE NOTE #6.
18	4" CONNECTION ± 4'-0" - BELOW FRP COVER W/NEW GASKET AND 316 SST BOLT SET. SEE NOTE #6
19	SCH-40 STEEL TEE (FLANGED)
20	10" RESTRAINED EXPANSION JOINT(S) - RESTRAINT ROD SETS SHALL BE HDG



1 SSWWTP MAIN LIFT STATION
41 BLOWER ROOM PIPING SCHEMATIC
NTS



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SSWWTP WAS BASIN WAS
BLOWER PIPING SCHEMATIC
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
200 N WILLOW AVE, BROKEN ARROW, OKLAHOMA 74002
918-258-0770, FAX 918-258-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
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	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
	LEAD ENGR.	LST	
HORIZONTAL:	FIELD MGR.		
VERTICAL:			

DESIGN ENGINEERING MANAGER

FILE: DRAWING: DATE: 2025
ATLAS PAGE NO: --- SHEET 41 OF 48 SHEETS

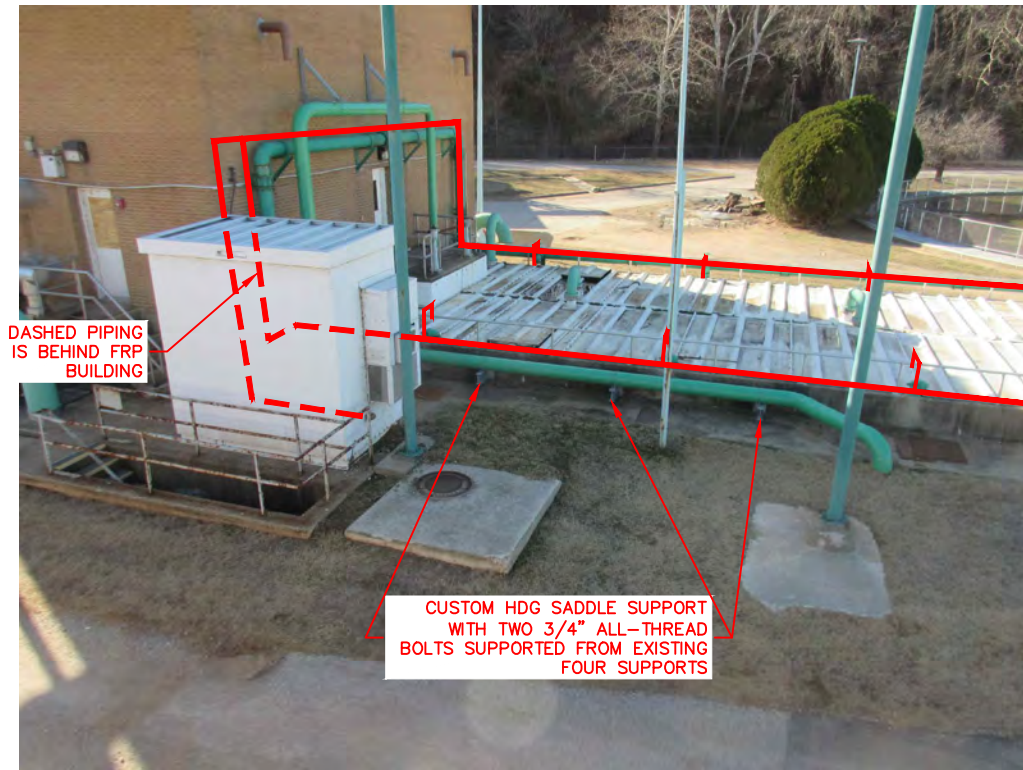


DEMOLISH EXISTING WAS BLOWER PIPING FOR NEW WORK

PROTECT FRP ODOR CONTROL COVERS, TYP.

NOTE: SOME WORK MAY NOT BE SHOWN HERE.

1 PHOTO - BLOWER & ODOR CONTROL PIPING
42 NTS



DASHED PIPING IS BEHIND FRP BUILDING

CUSTOM HDG SADDLE SUPPORT WITH TWO 3/4" ALL-THREAD BOLTS SUPPORTED FROM EXISTING FOUR SUPPORTS

NOTE: SOME WORK MAY NOT BE SHOWN HERE.

2 PHOTO - BLOWER & ODOR CONTROL PIPING
42 NTS



DEMOLISH EXISTING WAS BLOWER PIPING FOR NEW WORK

DEMOLISH EXISTING WAS BLOWER PIPING AND COMPONENTS REPAIR CONCRETE PER DETAIL 1/47

NOTE: SOME WORK MAY NOT BE SHOWN HERE.

3 PHOTO - BLOWER & ODOR CONTROL PIPING
42 NTS



NOTE: SOME WORK MAY NOT BE SHOWN HERE.

4 PHOTO - BLOWER & ODOR CONTROL PIPING
42 NTS



REVISION	BY	DATE

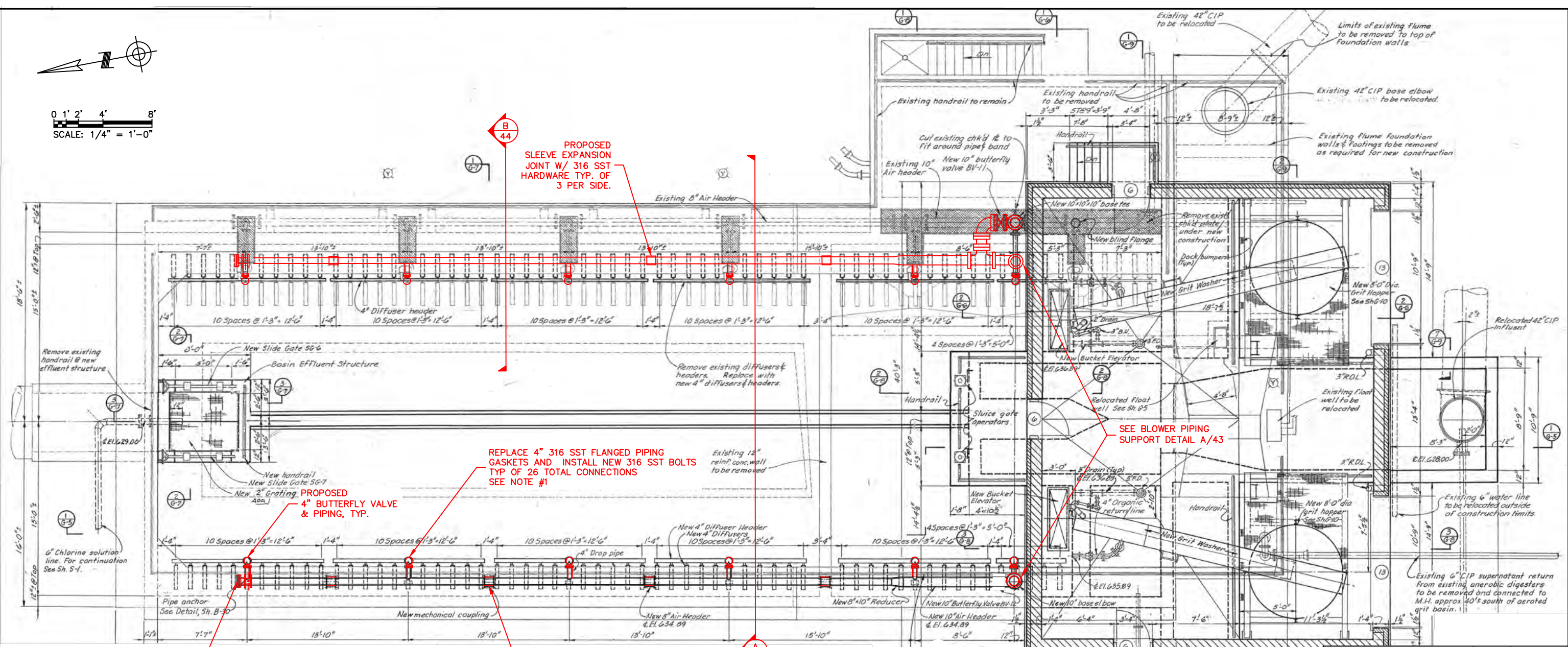
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GRIT BASIN WAS BLOWER PIPING DETAILS
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

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ATLAS PAGE NO:	---	SHEET	42 OF 48 SHEETS



0 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"



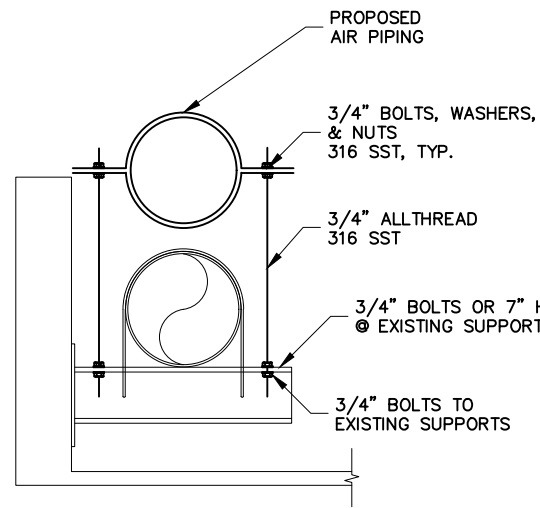
PROPOSED NEW BLIND FLANGE

PROPOSED 4" BUTTERFLY VALVE & PIPING, TYP.

REPLACE 4" 316 SST FLANGED PIPING GASKETS AND INSTALL NEW 316 SST BOLTS TYP OF 26 TOTAL CONNECTIONS SEE NOTE #1

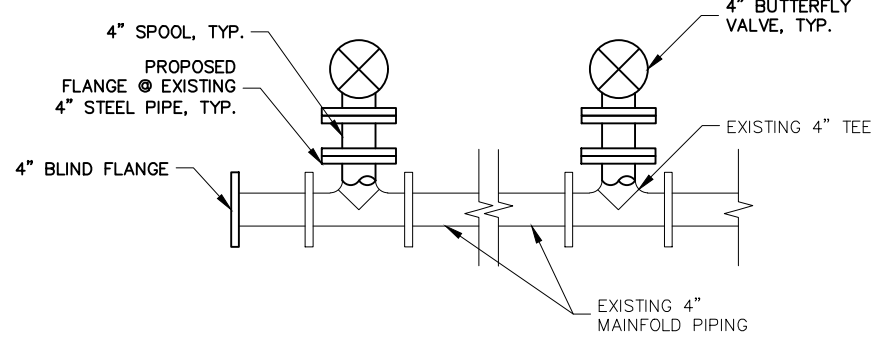
PROPOSED SLEEVE EXPANSION JOINT W/ 316 SST HARDWARE TYP. OF 3 PER SIDE.

SEE BLOWER PIPING SUPPORT DETAIL A/43



A
43 WAS BLOWER PIPE SUPPORT
NTS

1
43 SSWWTP UNTHICKENED WAS STORAGE & BASIN PLAN
SCALE: 1/4" = 1'-0"



B
43 WAS BLOWER PIPE SUPPORT
NTS

NOTES:

1. REMOVE AND REPLACE ALL DIFFUSER BASIN 4" PIPING INTERNAL GASKETS AND 316 SST BOLTS AT 4" FLANGE LOCATIONS. THE LOCATIONS ARE WITHIN THE BASIN AND AT 30 EA LOCATIONS.
2. ALL PIPE SUPPORTS SHALL BE HDG UNLESS SPECIFICALLY NOTED OTHERWISE.



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REFERENCE ORIGINAL CONTRACT SA 69-2 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION

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SSWWTP GRIT BASIN WAS PIPING PLAN

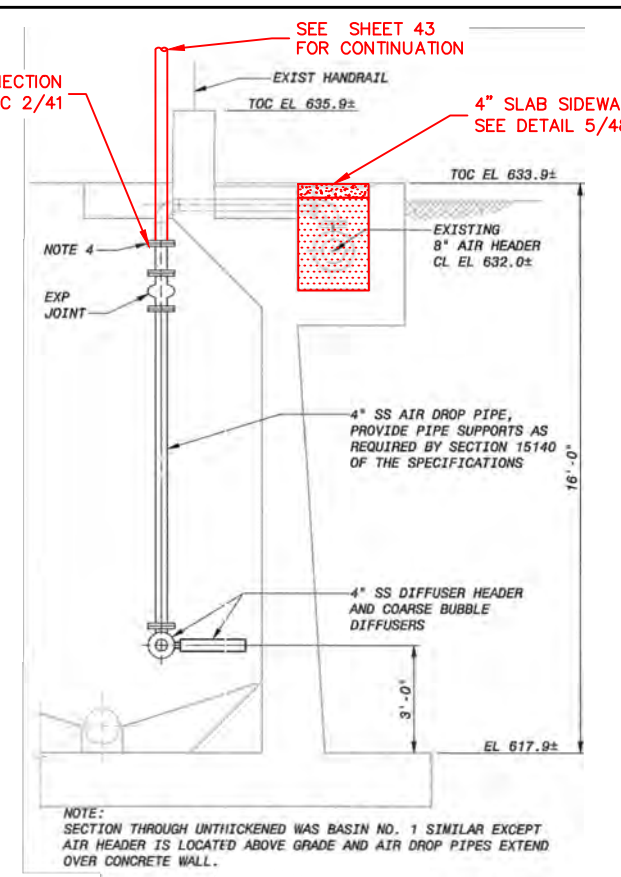
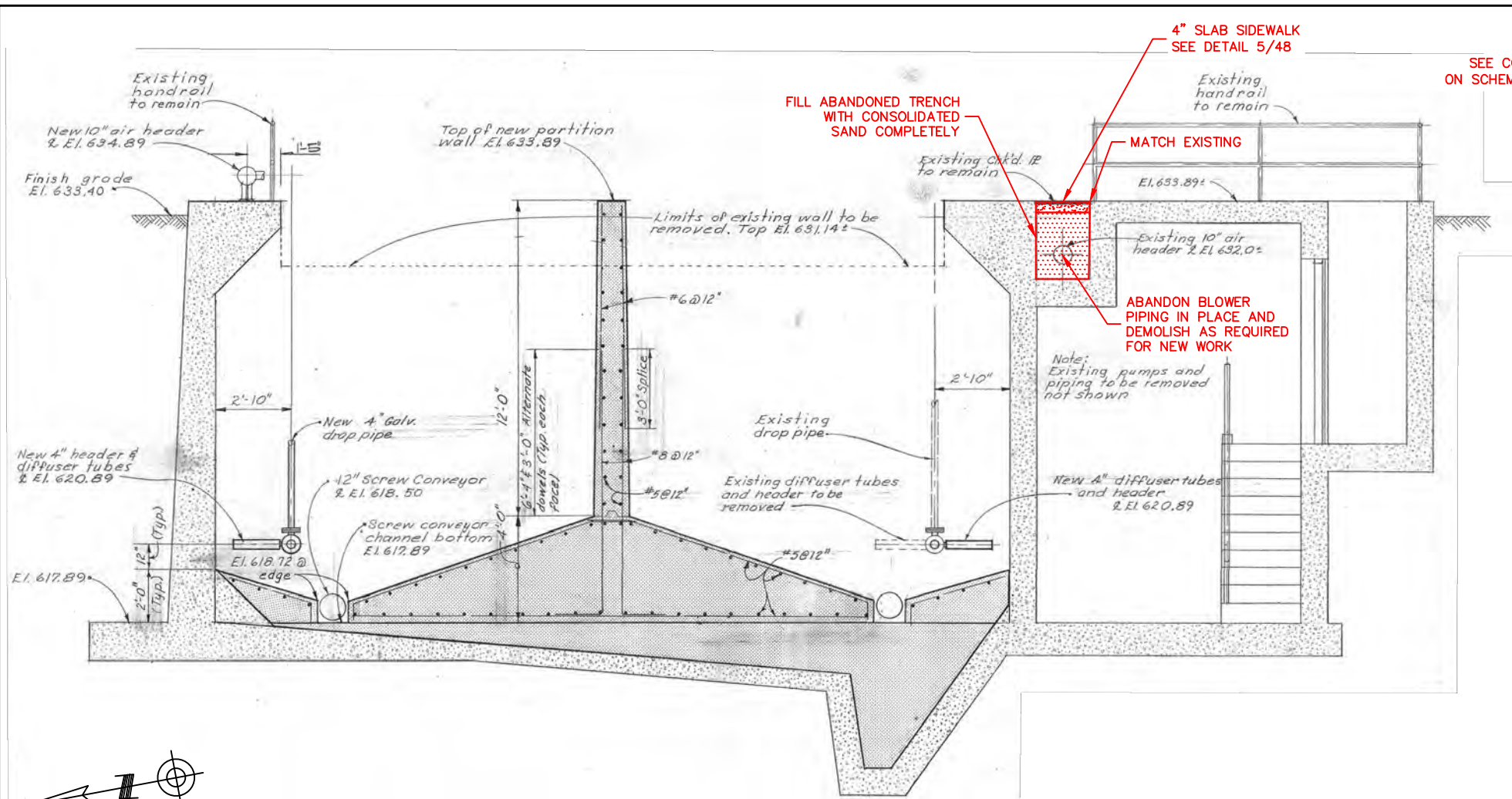
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

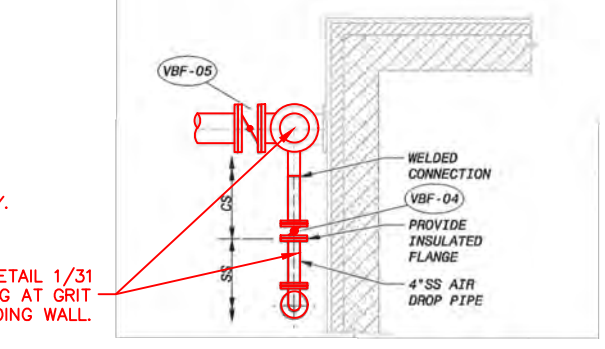
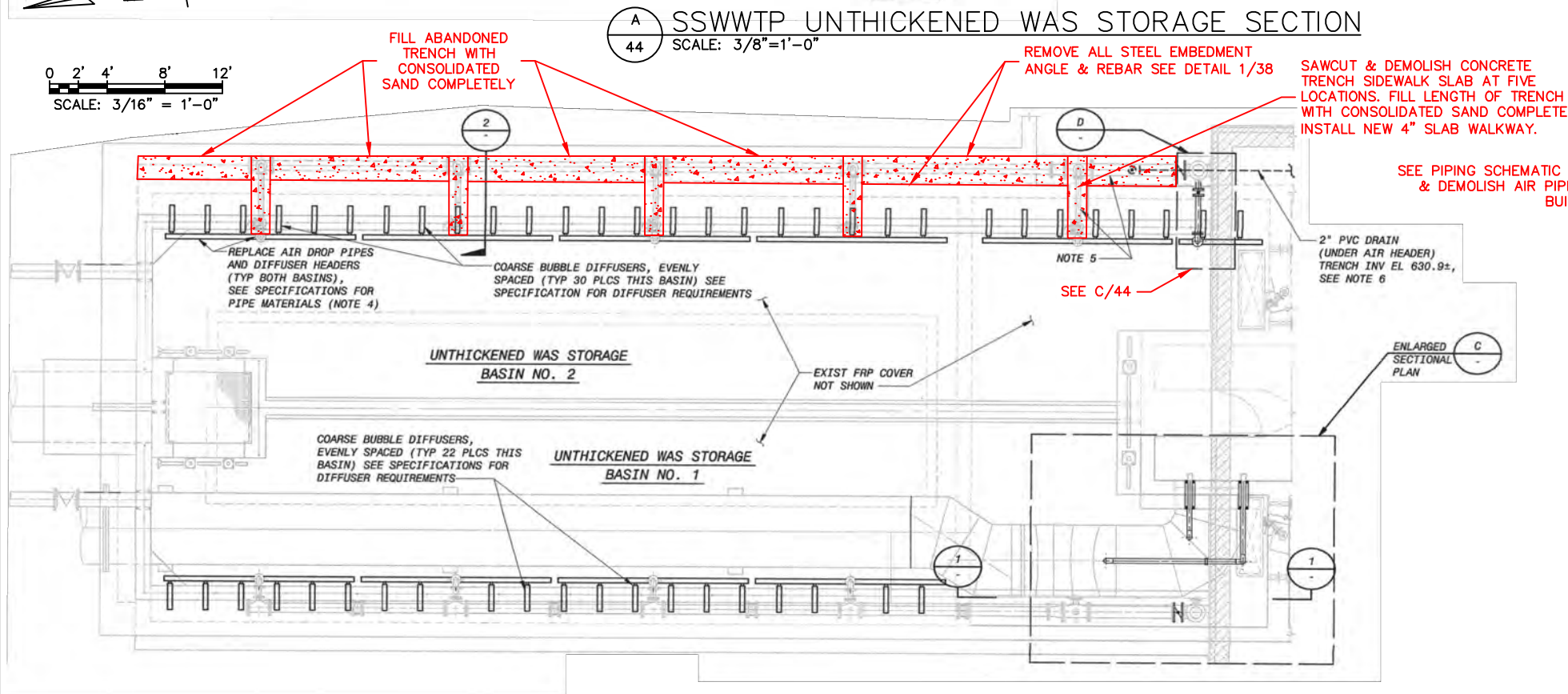
PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE & BELLEN, INC.
2001 N. WILLOW AVE., BROOKHURST AVENUE, OKLAHOMA 74102
918-258-0707, FAX 918-258-0764

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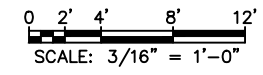


B SSWTP UNTHICKENED WAS STORAGE SECTION
 44 SCALE: 3/8"=1'-0"



C SSWTP STORAGE SECTION
 44 SCALE: 1/4"=1'-0"

1 SSWTP UNTHICKENED WAS STORAGE PLAN
 44 SCALE: 3/16"=1'-0"



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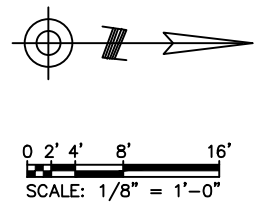
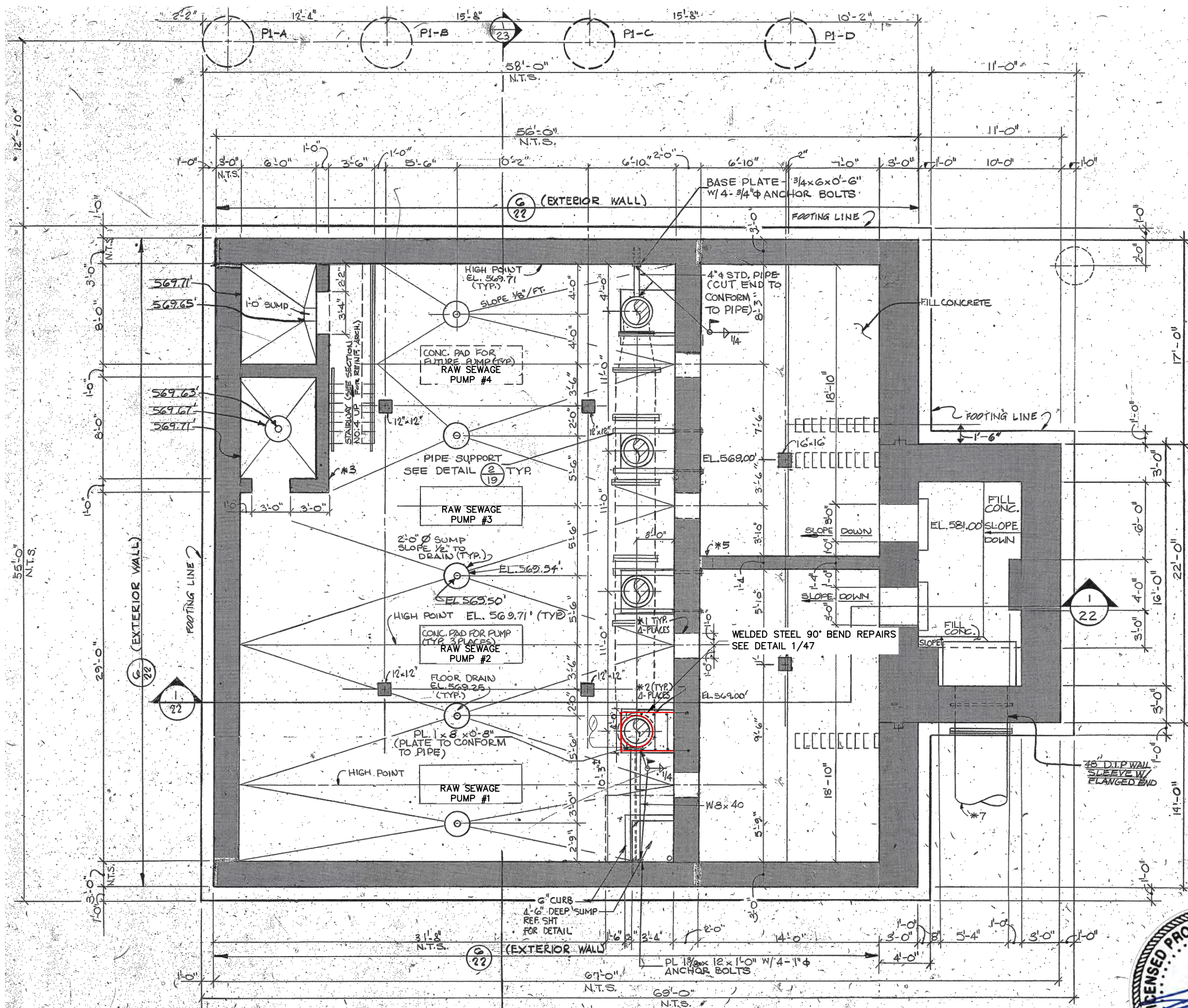
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 WATER POLLUTION CONTROL
 CAPITAL EQUIPMENT REPLACEMENTS
 TMUA PROJECT WPC 25-1
 CITY OF TULSA, OKLAHOMA
 TULSA METROPOLITAN UTILITY AUTHORITY
 WATER AND SEWER DEPARTMENT

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**ADDITIVE ALTERNATE #3
SE BASIN LIFT STATION
PIPE REPAIR**

REVISION	BY	DATE

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REFERENCE PROJECT NO. SA 87-1
RECORD DRAWING FOR ADDITIONAL
DETAILS & INFORMATION

DRAWING 203.700.A
SE BASIN LIFT STATION
PIPE REPAIRS PLAN

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

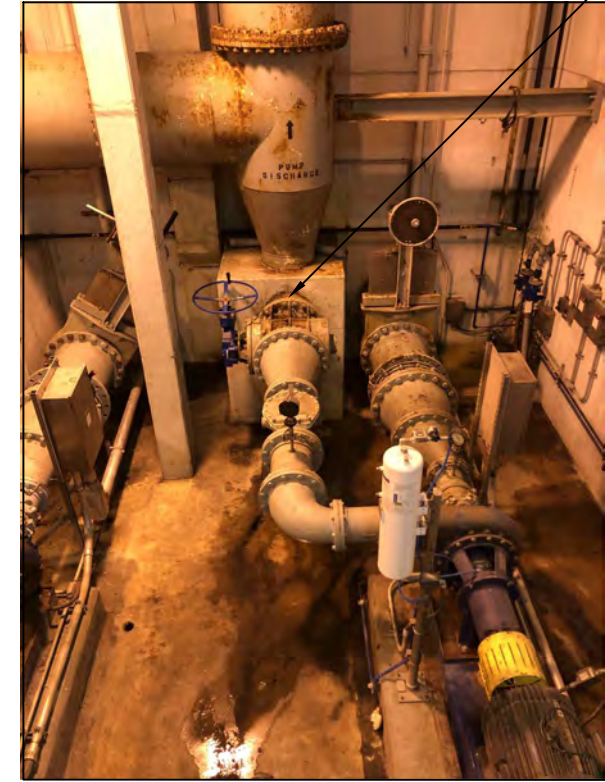
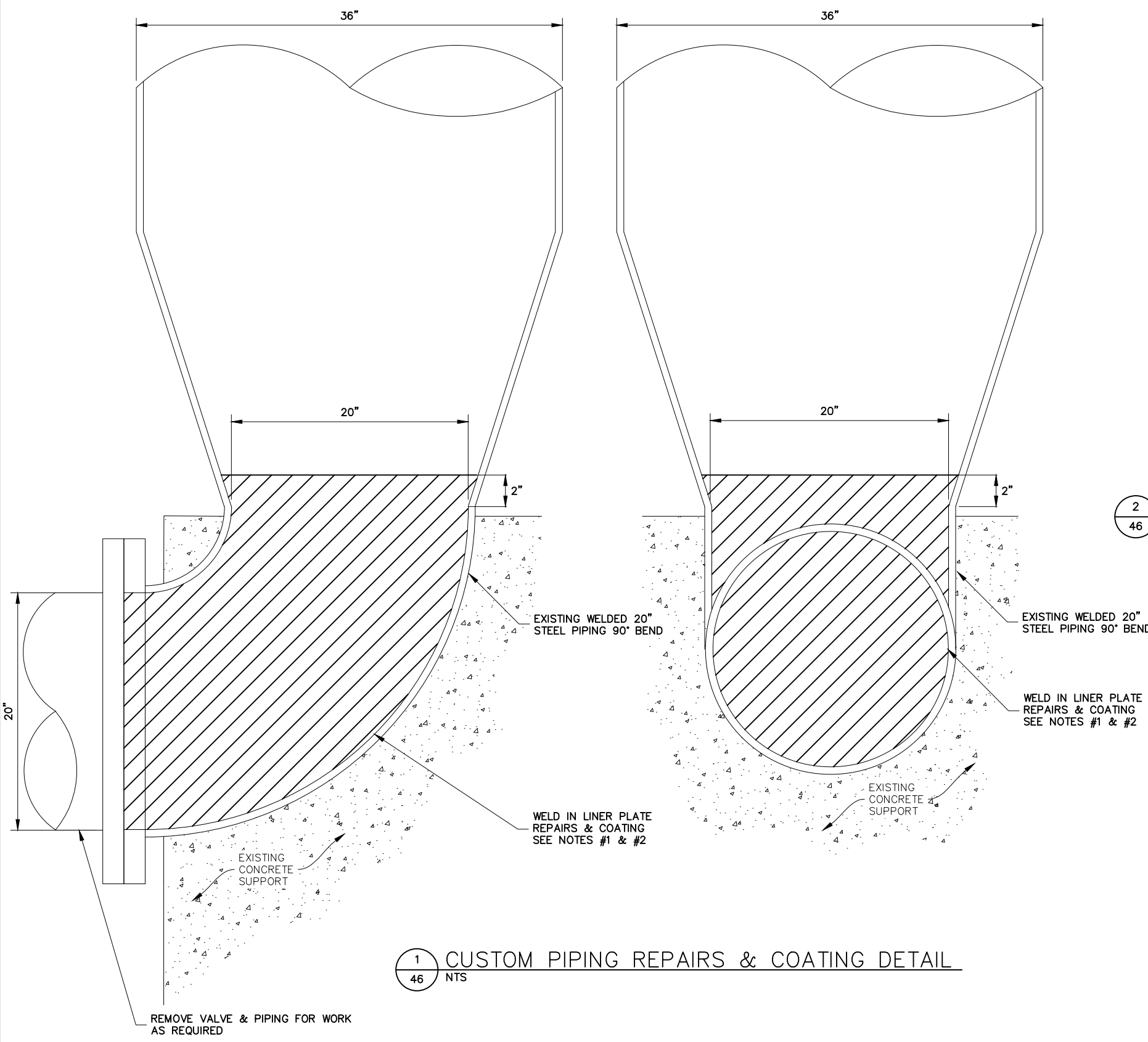
PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, Inc.**
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(918)258-0770, FAX (918)258-0764

PLAN SCALE: 1/8" = 1'-0"	DRAWN	CMW	APPROVED:
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VERTICAL:			DATE: 2025
FILE:	DRAWING:		ATLAS PAGE NO: ---
			SHEET 45 OF 48 SHEETS



1 SE BASIN LIFT STATION PLAN
45 SCALE: 1/8" = 1'-0"

PUMP DISCHARGE PIPING STEEL 90° BEND REPAIRS
SEE DETAIL 1/46



2 PHOTO - EXISTING LIFT STATION PUMP
46 NTS

NOTES:

1. ASSIST THE CITY AND PROVIDE A SIX (6) HOUR DAY TIME DURATION FOR CITY STAFF TO VIDEO, PHOTOGRAPH, INVESTIGATE AND OTHERWISE INSPECT THE INTERIOR LIFT STATION PIPING.
2. PROPOSED WELDED STEEL PIPING LINER REPAIRS. CUT TO FIT. TOTAL SUM OF ALL THE SMALL CURVED, SHAPED, BENT & CUT-TO-FIT. LINER REPAIRS DOES NOT EXCEED 10 SF. EACH PIECE SHALL BE FULLY WELDED ON ALL SIDES BEFORE ANOTHER PIECE IS WELDED IN. REPAIR STEEL PLATE MATERIAL SHALL BE 3/8" THICKNESS. MATCH CURVES, SHAPES & SIZES AS THE EXISTING STEEL 90° BEND.
3. PREPARE & COAT INTERIOR OF 90° BEND COMPLETELY. PREPARE STEEL TO SP5 WHITE BLAST & COAT WITH TNEC G435 PERMA-GLAZE OR EQUAL.
4. CONTRACTOR SHALL PROVIDE A WRITTEN WORK PLAN AND COORDINATE REQUIRED DETAILS WITH THE CITY ENGINEER PRIOR TO THE WORK.
5. THE CONTRACTOR SHALL PROVIDE BY-PASS PUMPING FOR AND AS REQUIRED FOR WORK AND COATING CURE TIME.

ADDITIVE ALTERNATE #3
SE BASIN LIFT STATION
PIPE REPAIR

REVISION	BY	DATE

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SE BASIN LIFT STATION
PIPE REPAIR DETAILS
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

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918-258-0770, FAX 918-258-0764

PLAN SCALE: 1/8" = 1'-0"	DRAWN DESIGNED SURVEY	CMW CMW	APPROVED:
PROFILE SCALE:	PROJ. MGR. LEAD ENGR. FIELD MGR.	TJR LST	DESIGN ENGINEERING MANAGER
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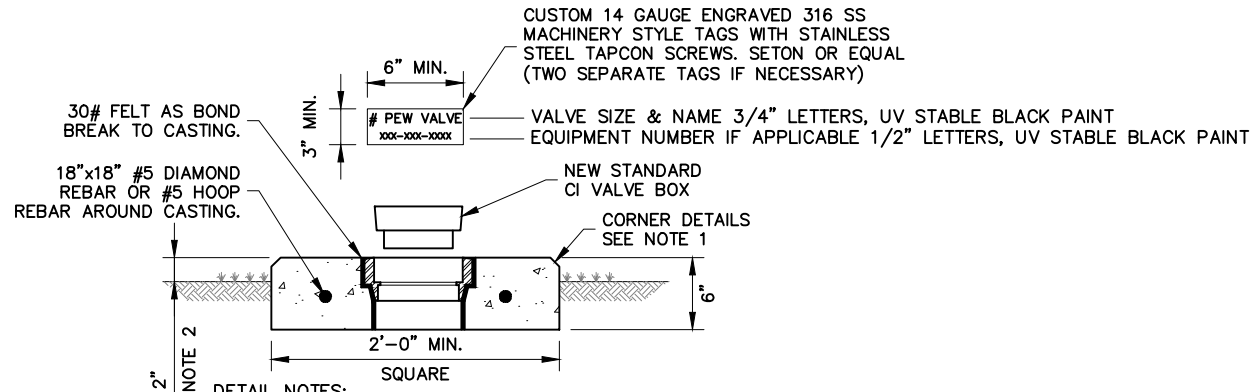


1 CUSTOM PIPING REPAIRS & COATING DETAIL
46 NTS

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REMOVE VALVE & PIPING FOR WORK AS REQUIRED

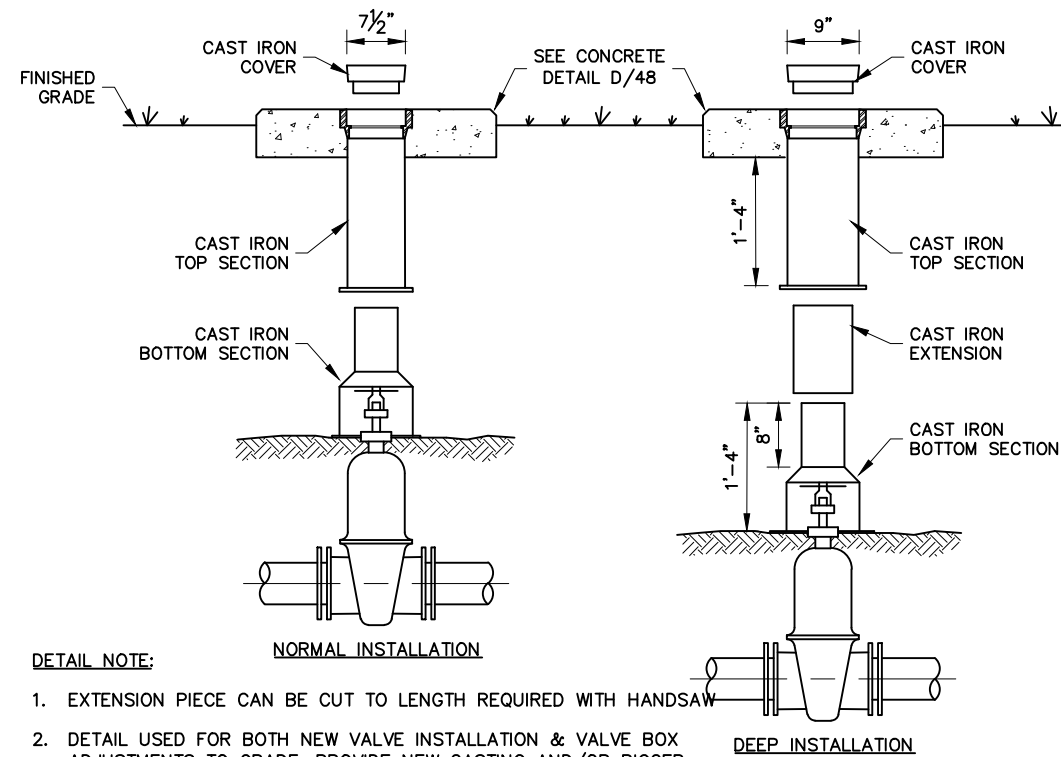
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DETAIL NOTES:

1. CHAMFER EXPOSED CORNERS IF INSTALLED IN GRASS AREA. TOOLED TOP PERIMETER EDGE IF IN PAVING. CONCRETE COLLARS SHALL BE CAST IN PLACE. PRE-CAST COLLARS WILL NOT BE ACCEPTABLE.
2. CONCRETE COLLARS IN GRASS SHALL BE 2" HIGHER IN ELEVATION THAN THE SURROUNDING GROUND. CONCRETE COLLARS IN PAVING OR HARD SURFACE SHALL BE FLUSH WITH THE SURFACE PAVING.
3. REFER TO CITY OF TULSA STANDARD SPECIFICATIONS FOR VALVE BOX REQUIREMENTS.

1 VALVE BOX CONCRETE COLLAR
SCALE: 1 1/2" = 1'-0"



DETAIL NOTE:

1. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED WITH HANDSAW
2. DETAIL USED FOR BOTH NEW VALVE INSTALLATION & VALVE BOX ADJUSTMENTS TO GRADE. PROVIDE NEW CASTING AND/OR BIGGER SECTIONS AS REQUIRED.

2 CONCRETE COLLAR & VALVE BOX INSTALLATION
SCALE: 1" = 1'-0"



REVISION	BY	DATE

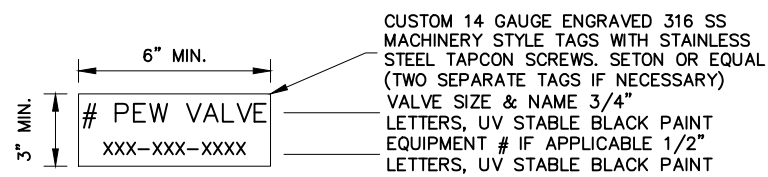
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MISCELLANEOUS DETAILS

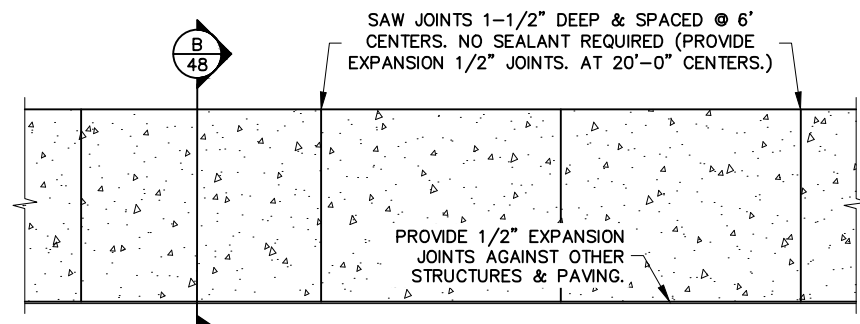
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 25-1
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **HOLLOWAY, UPDIKE + BELLEN, Inc.**
2001 N. WILLOW AVE., BROKEN ARROW, OKLAHOMA 74002
(918) 259-0707, FAX (918) 259-0764

PLAN SCALE:	DRAWN	CMW	APPROVED:
	DESIGNED	CMW	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TJR	
	LEAD ENGR.	LST	
HORIZONTAL:	FIELD MGR.		
VERTICAL:			DESIGN ENGINEERING MANAGER
FILE:	DRAWING:	DATE:	2025
ATLAS PAGE NO:	---	SHEET	48 OF 48 SHEETS

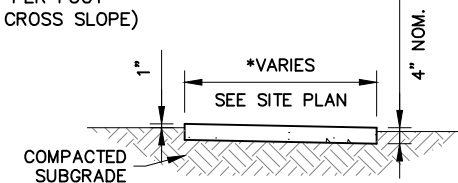


A CUSTOM EQUIPMENT TAG
SCALE: 3" = 1'-0"



3 PLAN @ SIDEWALK/MOW STRIP
SCALE: 1/2" = 1'-0"

SLOPE TOWARD CURB OR DITCH 13/64" PER FOOT (2% OR 50:1 CROSS SLOPE)



B SECTION @ SIDEWALK/MOW STRIP
SCALE: 1/2" = 1'-0"