

CONTRACT DOCUMENTS - DRAWINGS
FOR
PROJECT NO. WPC 21-1
FY'21 WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS

ATTENDANCE AT PRE-BID CONFERENCE IS MANDATORY

PREPARED BY:



HOLLOWAY, UPDIKE AND BELLEN, INC.
905-A SOUTH 9TH STREET
BROKEN ARROW, OK 74102
918-251-0717 OFFICE
918-251-0754 FAX
C.A. No. 219
EXPIRES 6-30-21



Account Numbers: 7503382-544003
7503383-531105
7503392-544003
7503395-544003


Stephen Tolar, P.E. No. OK 20679



CLAYTON EDWARDS, P.E., DIRECTOR
WATER AND SEWER DEPARTMENT

A handwritten signature in blue ink, appearing to read 'Clayton Edwards'.

Clayton Edwards, P.E.,
Director, Water & Sewer Department.

Digitally signed by Clayton
Edwards
Date: 2021.02.17 11:01:04 -06'00'

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.

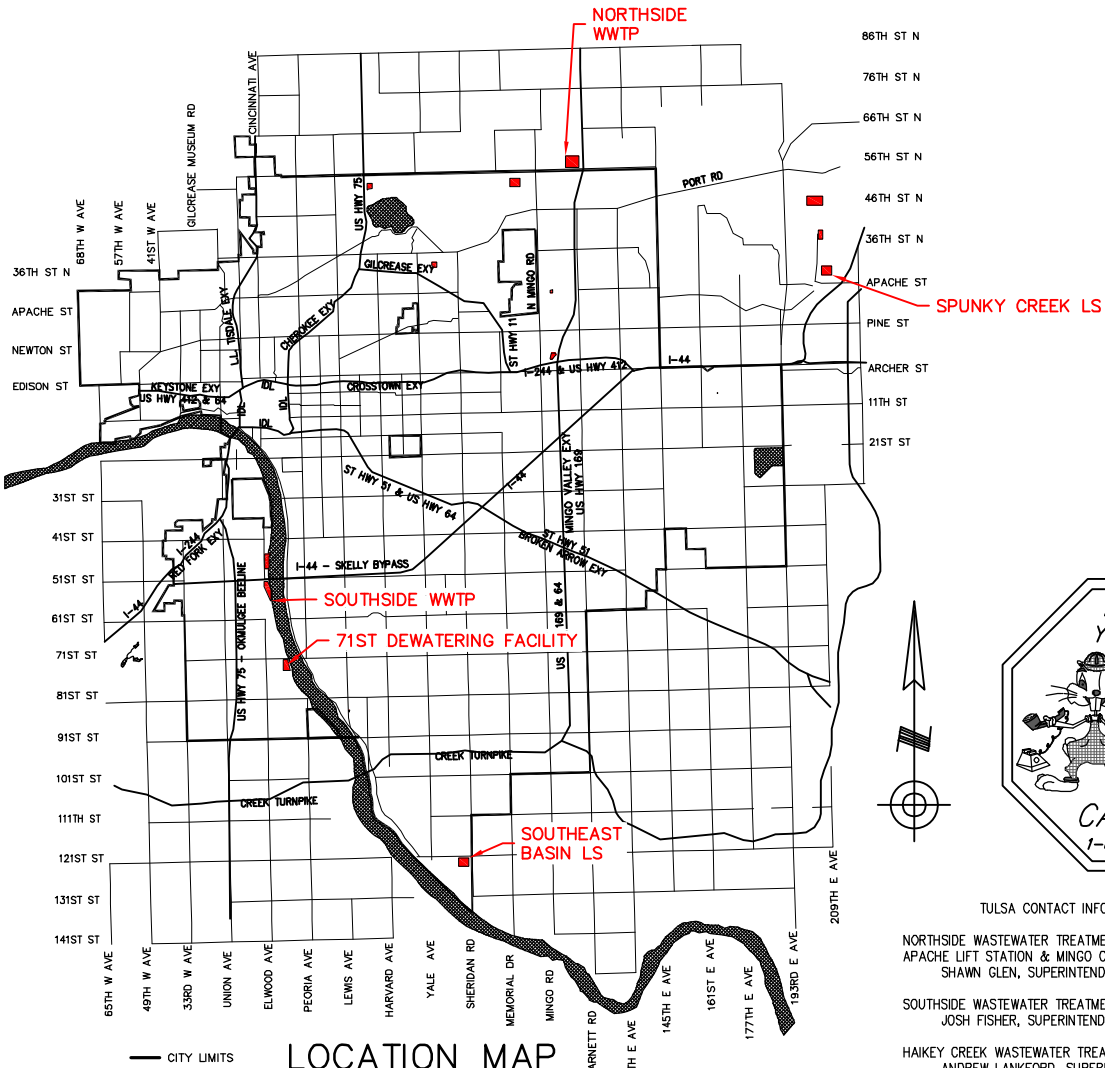
Water and Sewer Department
175 E. 2nd Street, Suite 1400
Tulsa, Oklahoma 74103
(918) 596-9845

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INDEX OF SHEETS					
PLAN SHEET NO.	DRAWING NO.	DESCRIPTION	EQUIPMENT	IDENTIFICATION NO.	LOCATION
1		COVER			
2		INDEX OF SHEETS & GENERAL NOTES			
3		LOCATION PLAN			
4		LOCATION PLAN			
5-7	203.100	OPERATIONS BUILDING REHABILITATION (ADDITIVE ALTERNATE #1)	BUILDING	S001-OPS1-BLDG1	SSWWTP
8-12	203.150	OPERATIONS BUILDING ROOF & PORCH ROOF REPLACEMENT	ROOF	S001-OPS1-ROOF1	SSWWTP
13-17	203.200	DIGESTER 3 & 4 ROOF & ROOF DRAIN REPLACEMENT	ROOF	S001-DIG3-ROOF1	SSWWTP
18	203.200	ROOF REPAIR			71ST DEWATERING FACILITY
19-20	204.300	ODOR CONTROL SYSTEM	-	S110-LFT1-OCF01	SE BASIN LS
21-22	203.400	BLEND TANK ENCLOSURES IMPROVEMENTS	-	-	NSWWTP
23-24	203.600	PUMP IMPROVEMENTS	PUMP	L102-LFT1-RSP01	SPUNKY CREEK LS
25-26		MISCELLANEOUS DETAILS	-	-	
E1		ELECTRICAL LEGEND & ABBREVIATIONS			
E2-E6	203.840	INTERIOR LIGHTING IMPROVEMENTS (ADDITIVE ALTERNATE #3)			NSWWTP
E7	203.860	DISINFECTION SURGE PROTECTION			SSWWTP
E8	203.800	BASIN LIGHTING (ADDITIVE ALTERNATE #2)			SSWWTP
E9-E11	203.600	L102-LFT1-RSP01			SPUNKY CREEK LS

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 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 DETAIL, OCTOBER 2013, 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. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CLEARED DEBRIS, BRUSH AND TIMBER AT CONTRACTOR'S EXPENSE.
6. ALL STAINLESS STEEL SHALL BE MINIMUM TYPE 316 SUITABLE FOR SANITARY APPLICATIONS, UNLESS OTHERWISE SPECIFICALLY NOTED OTHERWISE. ALL ANCHOR BOLTS, SUPPORTS, BRACKETS, FASTENERS AND UNISTRUT SHALL BE 316 SS UNLESS NOTED SPECIFICALLY OTHERWISE.
7. ALL DIMENSIONS SHOWN WITH ± SHALL BE CONFIRMED BY THE CONTRACTOR ACCORDING TO ACTUAL FIELD CONDITIONS OR EQUIPMENT REQUIREMENTS.
8. DISSIMILAR METALS SHALL BE SEPARATED BY GASKET TO PREVENT GALVANIC CORROSION.
9. 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.
10. CONTRACTOR SHALL VERIFY EXISTING UTILITIES IN THE VICINITY OF PROPOSED CONSTRUCTION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES FROM DRAWINGS.
11. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS WITH EQUIPMENT SUPPLIERS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF DISCREPANCIES.
12. CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE.
13. 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.
14. 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.
15. ALL WORKMANSHIP SHALL BE NEAT, PLUMB, SQUARE AND CONSTRUCTED IN A PROFESSIONAL MANNER.
16. 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.
17. 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 AT REQUEST FROM CITY.
18. CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING REQUIRED TO CONSTRUCT FOUNDATIONS IN DRY CONDITIONS AND TO PROTECT EXCAVATION SIDE SLOPES.
19. 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 ☉ OF ALL PIPING AT BENDS, FITTING, VALVES AND OTHER BURIED ITEMS.
20. CONTRACTOR SHALL COORDINATE WITH P.S.O. TO MAINTAIN EXISTING AND ESTABLISH NEW ELECTRIC SERVICES. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.




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.



TULSA CONTACT INFORMATION		
NORTHIDE WASTEWATER TREATMENT PLANT APACHE LIFT STATION & MINGO CREEK FEB SHAWN GLEN, SUPERINTENDENT		918-591-4570
SOUTHIDE WASTEWATER TREATMENT PLANT JOSH FISHER, SUPERINTENDENT		918-519-4450
HAKEY CREEK WASTEWATER TREATMENT PLANT ANDREW LANKFORD, SUPERINTENDENT		918-369-5961
NORTHIDE WASTEWATER TREATMENT PLANT SHAWN GLEN, SUPERINTENDENT		918-591-4570
LOWER BIRD CREEK WASTEWATER TREATMENT PLANT ZANE BRIGGS, OPERATION SUPERVISOR		918-591-6472

REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY			
INDEX OF SHEETS & GENERAL NOTES			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE + BELLEN, Inc. 500-A E. 4TH ST., BROOKHURST, OKLAHOMA 74108 (918) 477-0777, FAX (918) 477-0744	
PLAN SCALE:	DRAWN DESIGNED SURVEY	JME LST	APPROVED:
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR. PROJ. MGR.		
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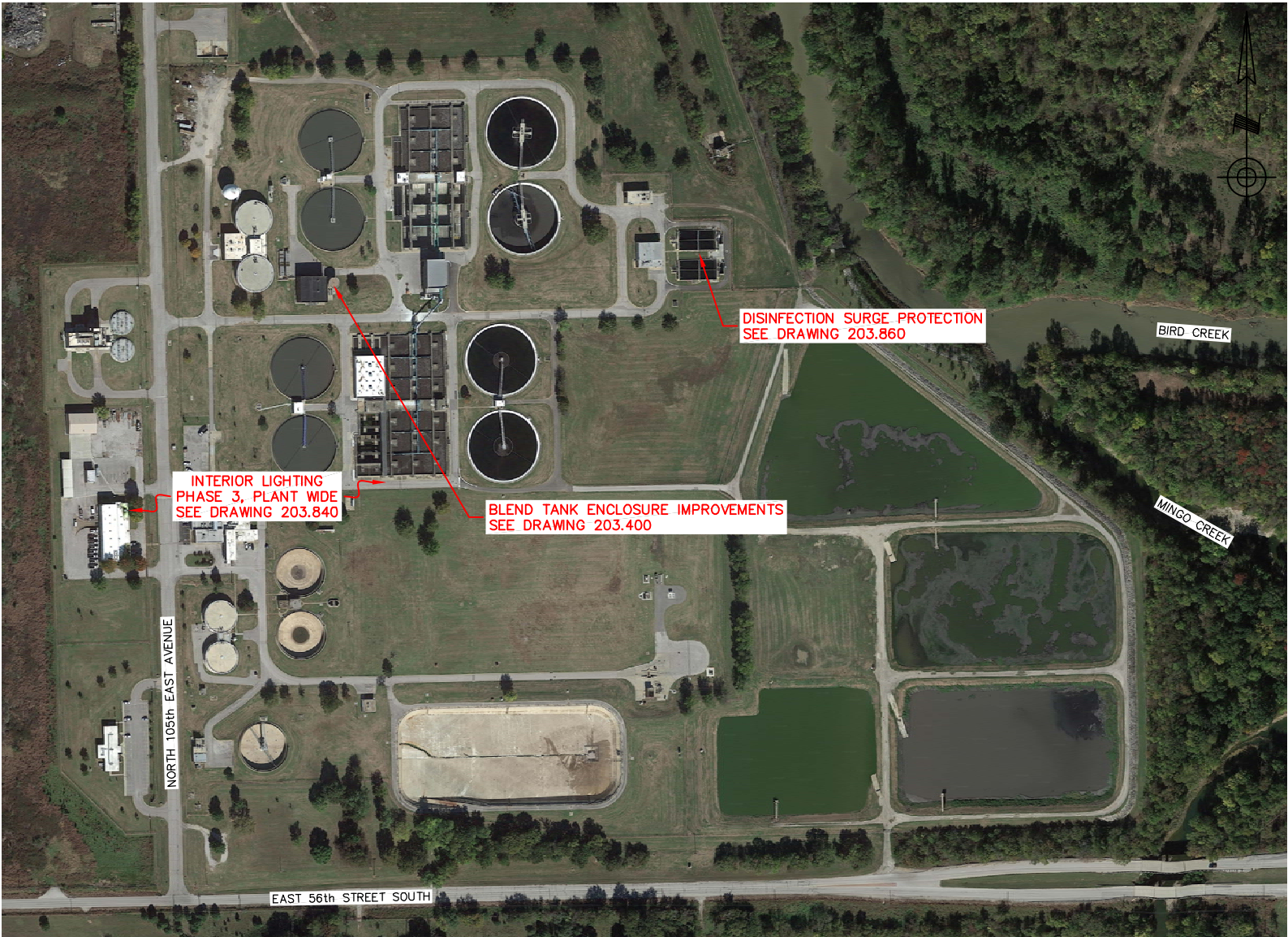
BASIN LIGHTING
SEE DRAWING 203.800

OPERATIONS BUILDING ROOF &
PORCH ROOF REPLACEMENT
SEE DRAWING 203.150

OPERATIONS BUILDING REHABILITATION
SEE DRAWING 203.100

DIGESTER 3 & 4 ROOF & ROOF DRAIN REPLACEMENT
SEE DRAWING 203.200

1 SOUTHSIDE WWTP
3 5300 S. ELWOOD AVE.



DISINFECTION SURGE PROTECTION
SEE DRAWING 203.860

INTERIOR LIGHTING
PHASE 3, PLANT WIDE
SEE DRAWING 203.840

BLEND TANK ENCLOSURE IMPROVEMENTS
SEE DRAWING 203.400

2 NORTHSIDE WWTP
3 5628 N. 105TH EAST AVE.

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LOCATION PLANS

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 21-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY

PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106
(918) 477-1777, FAX (918) 477-0744

PLAN SCALE:	DRAWN	JME	APPROVED:
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1 71ST STEET DEWATERING FACILITY
4 236 W. 71ST ST. S.



2 SPUNKY CREEK LS
4 502 N. CHEROKEE ST.

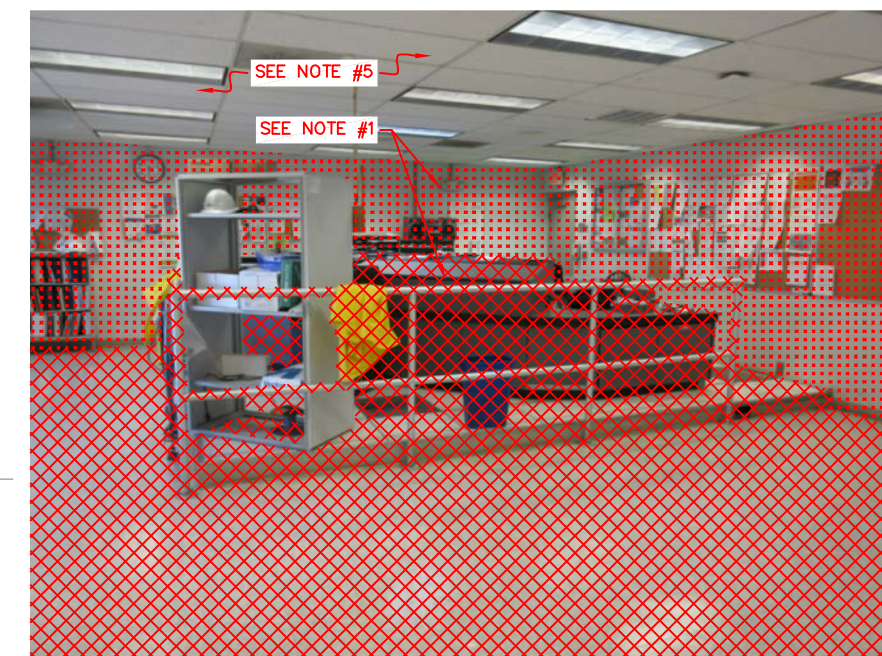
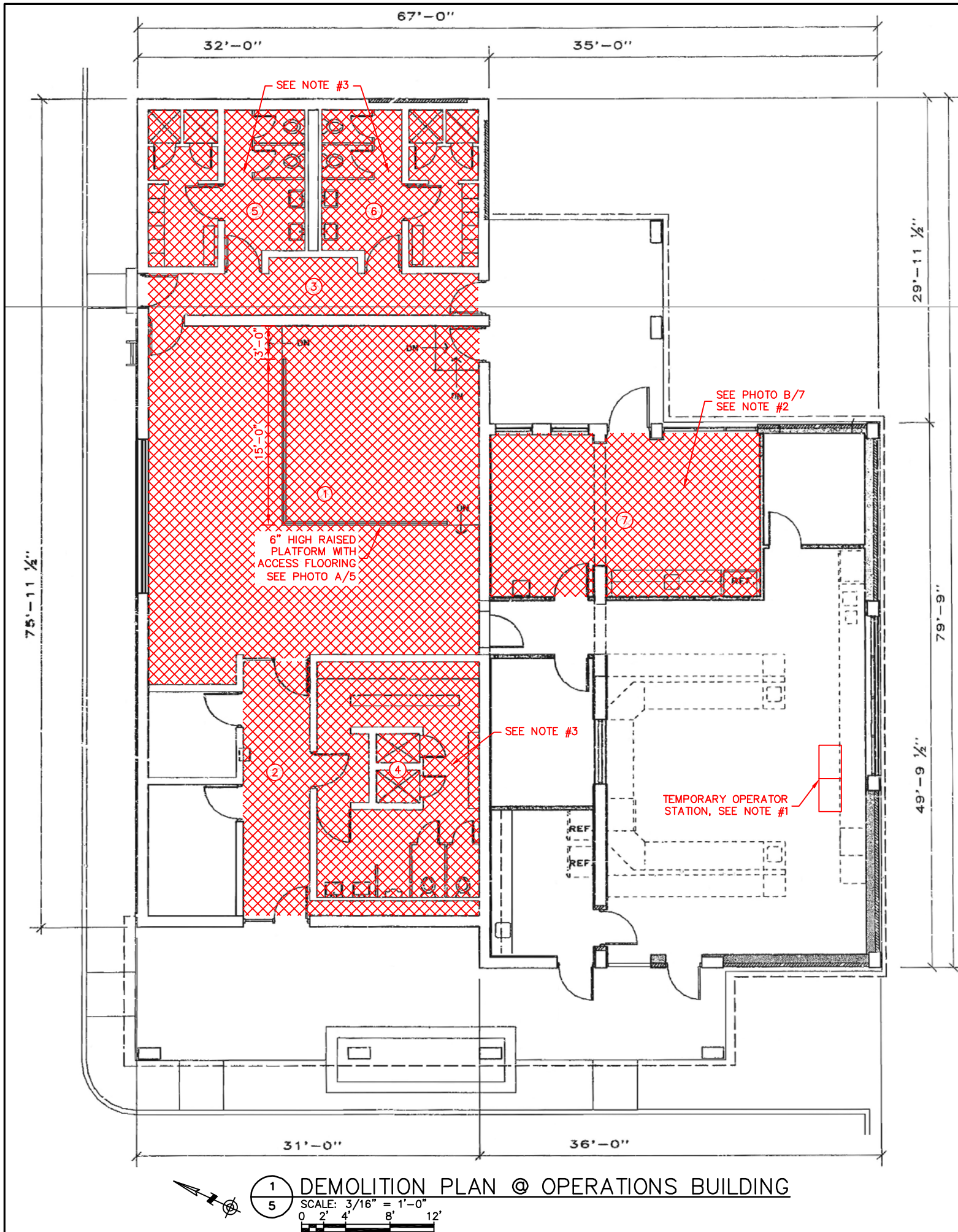


3 SOUTHEAST BASIN LS
4 12236 S. SHERIDAN RD.



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A PHOTO @ OPERATIONS BUILDING PLATFORM
5 SCALE: NTS




B PHOTO @ OPERATIONS BUILDING KITCHEN
5 SCALE: NTS

LEGEND	
①	OPERATIONS CONTROL ROOM
②	FRONT HALL
③	EAST HALL
④	WEST MENS BATHROOM
⑤	EAST WOMENS BATHROOM
⑥	EAST MENS BATHROOM
⑦	KITCHEN-BREAK ROOM



- NOTES:
1. OPERATIONS CONTROL ROOM CONSTRUCTION SEQUENCING. CONTRACTOR WILL PROVIDE PLANT OPERATIONS A TWO WEEK NOTICE ALONG WITH 30 DAYS TO RELOCATE COMPUTERS AND EQUIPMENT TO TEMPORARY DESK TOPS IN THE LABORATORY ROOM. THE CITY WILL MOVE COMPUTERS, PRINTERS, BOOKS, PAPERWORK, OTHER WALL HANGINGS AND ALL EFFORTS ASSOCIATED WITH COMPUTER AND CONTROLS. THE CONTRACTOR WILL PROVIDE TWO MEN FOR TWO FULL EIGHT (8) HOUR WORK DAYS TO HELP MOVE FURNITURE (NOT PERMANENTLY INSTALLED). ONE DAY MOVING OUT OF THE OPERATOR CONTROL ROOM AND ONE DAY BACK IN. WORK SHALL BE COMPLETED WITHIN 60 CALENDAR DAYS. CONTRACTOR SHALL IDENTIFY ALL PEOPLE WORKING IN THIS AREA, INCLUDING SUBCONTRACTORS AND CONTRACTOR STAFF. THE ENTRY DOORS SHALL REMAIN SECURED BY THE CONTRACTOR AT ALL TIME DURING CONTRACTORS WORK AND CONTRACTORS WILL HAVE TO BADGE IN TO ENTER OPERATIONS BUILDING. CITY OF TULSA SPECIAL COVID 19 MEASURES AS REQUIRED WILL ALSO BE ENFORCE.
 2. KITCHEN/BREAK ROOM CONSTRUCTION SEQUENCING. CONTRACTOR MUST COMPLETE ROOM REMODEL AND FUNCTION WITHIN 90 CALENDAR DAYS. DURING THIS PERIOD OF TIME PLANT OPERATIONS WILL USE OTHER AREAS OF THE BUILDING. PROTECT PLANT CONTROLS IN THE EAST END OF THE ROOM.
 3. BATHROOM CONSTRUCTION SEQUENCING. CONTRACTOR SHALL MAINTAIN ONE FULL BATHROOM IN SERVICE FOR PLANT OPERATIONS AT ALL TIMES.
 4. CONTRACTOR SHALL TAKE PRECAUTIONS AND WORK AREA SAFETY MEASURES DURING CONSTRUCTION TO MAINTAIN A SAFE WORK SPACE FOR PLANT OPERATIONS AT ALL TIME.
 5. PROTECT TILE FLOOR, CEILING TILE, LIGHTING AND OTHER EXISTING ITEMS THAT ARE NOT PART OF THE IMPROVEMENTS. DOCUMENT ANY DAMAGE PRIOR TO WORK AND SUBMIT PHOTOS AND DESCRIPTIONS OF EXISTING DAMAGE TO THE ENGINEER PRIOR TO WORK.

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REFERENCE ORIGINAL ES-91-10 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.100.A OPERATIONS BUILDING DEMOLITION PLAN			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744	
PLAN SCALE: 1/4" = 1'-0"	DRAWN	JME	APPROVED:
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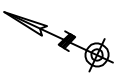
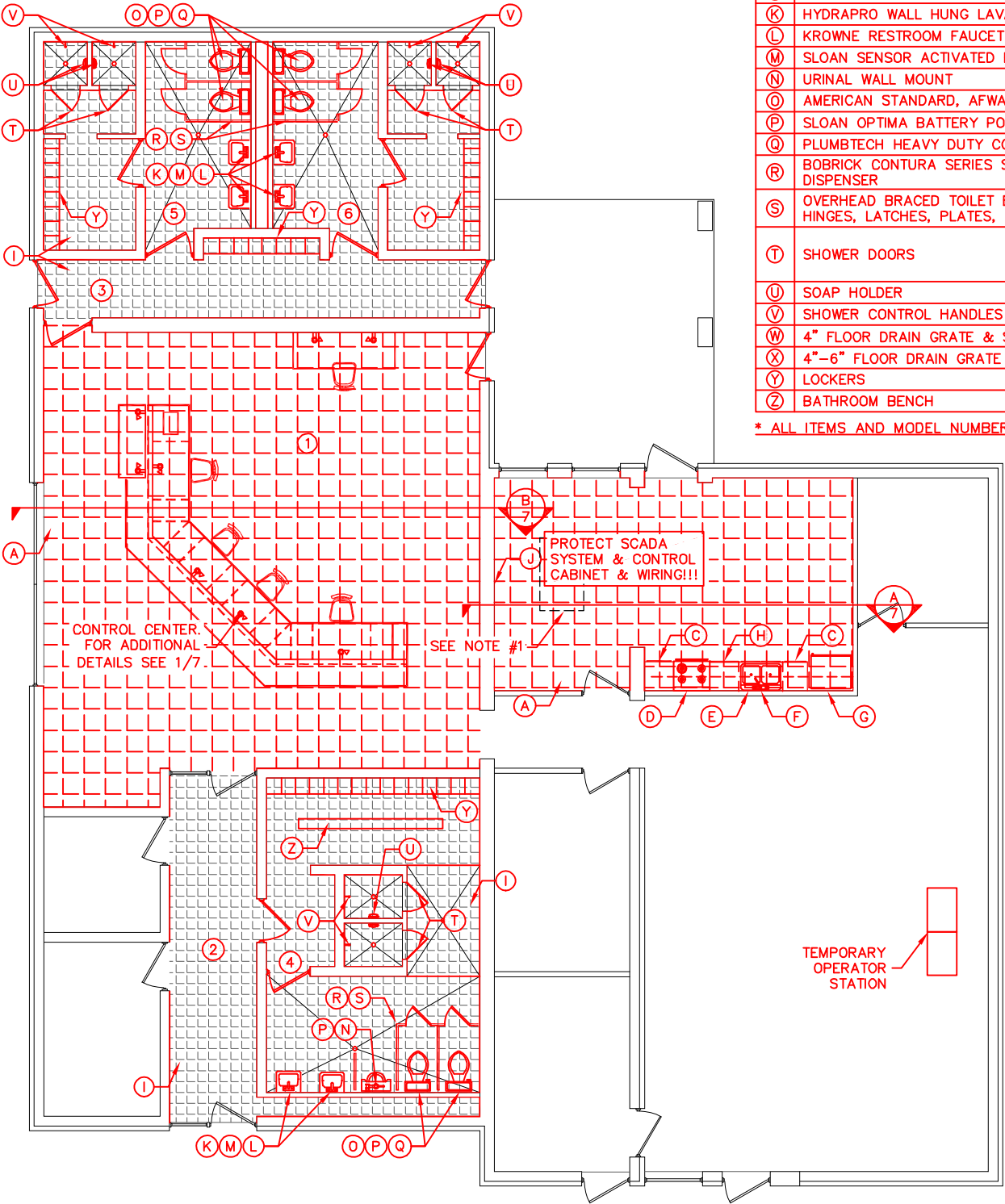
NOTES:

- 1) REMOVE, STORE IN LABORATORY ROOM AND REINSTALL THE EXISTING ICE MAKER.
- 2) REFURBISH EXISTING BATHROOM BENCH. SANDBLAST AND CUSTOM POWDER COAT "SATIN/SEMI-GLOSS BLACK" THE EXISTING BENCH SUPPORTS. PROVIDE NEW ACTUAL 2"x10" ZERO KNOT MAPLE BOARD WITH THREE COATS OF SATIN FINISH EXTERIOR GRADE POLYURETHANE. PROVIDE NEW 316 STAINLESS STEEL 5/16" ANCHOR BOLTS IN SAME LOCATION.
- 3) PROVIDE PURPOSE RATED SAFETY GLASS SHOWER DOORS. ANCHOR BOLTS SHALL BE 316 STAINLESS STEEL SIZED BY THE SHOWER DOOR MANUFACTURER. DOORS SHALL MATCH GENERAL OPERATION AS EXISTING AND UPDATE FINISHES AND STYLE. REMOVE GROUT W/HAND GROUT REMOVAL TOOL (NOT POWER TOOL) & REGROUT ALL FOUR SHOWER STALL SEAL GROUT.
- 4) EXISTING SHOWER TILE, FLOOR TILE AND SURFACES. CONTRACTOR SHALL PROTECT ALL EXISTING TILE DURING WORK OR PROVIDE REPLACEMENT TILE MATCHING IF REQUIRED FOR NEW WORK. PROTECT AND REUSE EXISTING TILE TO EXTENT POSSIBLE.
- 5) PROFESSIONALLY POWER SCRUB EXISTING RED FLOOR TILE THROUGHOUT PROJECT WORK AREAS AND PROVIDE COMMERCIAL CLEAR FLOOR SEALANT. INDEPENDENT MATERIALS, TULSA OK OR EQUAL.
- 6) DEMOLISH EXISTING FLOOR SYSTEM AND PREPARE EXISTING SLAB FOR NEW FLOOR SYSTEM AS REQUIRED. REPLACE ALL THRESHOLDS WITH NEW MACHINED HEAVY DUTY ALUMINUM AT TRANSITIONS TO THE EXISTING RED TILE FLOOR LOCATIONS & AT EXISTING THRESHOLDS.
- 7) EXISTING ELECTRIC AND CONTROLS ACCESS. PROTECT AND COORDINATE SERVICES WITH PLANT OPERATIONS DURING CONSTRUCTION. PLANT OPERATIONS COMPUTERS AND OPERATIONS SHALL REMAIN IN SERVICE AT ALL TIMES. CONTRACTOR TO MAINTAIN AND COORDINATE ALL WORK WITH PLANT OPERATIONS INCLUDING SCHEDULING A PREWORK MEETING AND COORDINATION DURING ALL WORK WITH PLANT OPERATIONS AND CITY OF TULSA NETWORK SERVICE (SEE NOTE #1/SHEET 5)
- 8) (SEE NOTE #1/SHEET 5)
- 9) PROVIDE NEW LED LIGHT FIXTURES AT ALL SINKS AND TWO WALL MIRRORS WITH BROWNLEE, MODEL #5178-48-BN-H41-35K OR EQUAL. REPAIR BATHROOM DOORS (3 EA.) & SOUTH HALL ENTRY DOOR (1 EA.) W/NEW ROLLER BEARING 304 SST HINGES. REMOVE PAINT IN JAMBS, EDGE OF SLAB DOORS, REPAIR DOORS-JAMBS & PAINT DOORS-JAMBS COMPLETELY. ADJUST ALL DOORS IN REMODELING AREA SHOWN IN "RED" IN DETAIL 1/6.
- 10) REPAIR NAIL HOLES, DAMAGE, TAPE & OTHER SHEETROCK DAMAGE. PRIME ALL WALL WITH OIL BASED "KILZ" OR EQUAL & FINISH TOP COAT PAINT SHALL BE OIL BASED SATIN FINISH.
- 11) PROVIDE TWENTY (20) EACH ACOUSTIC CEILING TILE, MATCHING EXISTING & REPLACE AS DIRECTED BY OWNERS REPRESENTATIVE.
- 12) TOP FREEZER W/ICE MAKER INSIDE, BOTTOM REFRIGERATOR.
- 13) STAINLESS STEEL FRONT W/BLACK ACCENTS.
- 14) 30" SELF CLEANING, CONTROLS IN BACKSPLASH.
- 15) TWO HANDLE (HOT/COLD) W/HIGH ARC SPOUT & SPRAY HANDLE IN SPOUT OR SEPARATE.
- 16) PROVIDE & INSTALL 3/4 HP SINK DISPOSAL. COORDINATE AND EXTEND POWER & CONDUIT FROM SOURCE AS REQUIRED.
- 17) PROVIDE & COORDINATE SUPPORT IN SPACE ABOVE ACOUSTICAL CEILING AS REQUIRED.

ROOM FINISH SCHEDULE					
ID	ROOM	FLOORING	WALLS	CEILING	NOTES
①	OPERATIONS CONTROL ROOM	(A)	PAINT	11	10
②	FRONT HALL	(H)	PAINT	11	10
③	EAST HALL	(H)	PAINT	11	10
④	WEST MENS BATHROOM	(H)	PAINT	11	9, 10
⑤	EAST WOMENS BATHROOM	(H)	PAINT	11	9, 10
⑥	EAST MENS BATHROOM	(H)	PAINT	11	9, 10
⑦	KITCHEN-BREAK ROOM	(A)	PAINT	11	10

PLUMBING & EQUIPMENT SCHEDULE				
ID	DESCRIPTION	MATERIAL/COLOR	MANUFACTURER NUMBER	NOTES
(A)	MANNINGTON 18"x18" RESILIENT TILE FLOOR	SCULPTURED TEXTURE	COLOR ANCHOR COLLECTION	6
(B)	NOT USED			
(C)	KITCHEN CABINETS	WHITE		
(D)	STOVE	STAINLESS STEEL FINISH	G.E., WHIRLPOOL	13, 14
(E)	33"x29"x9" KITCHEN SINK WITH DISPOSAL	304 STAINLESS STEEL		16
(F)	FAUCET	STAINLESS STEEL FINISH	DELTA, AMERICAN STANDARD, KOHLER	15
(G)	36" REFRIGERATOR	STAINLESS STEEL FINISH	G.E., WHIRLPOOL	12, 13
(H)	DISHWASHER	STAINLESS STEEL FINISH		13
(I)	EXISTING TILE FLOOR	RED TILE		4, 5
(J)	EXISTING POWER/SCADA			7, 8
(K)	HYDRAPRO WALL HUNG LAVATORY SINK	WHITE	#HPWHL4	9
(L)	KROWNE RESTROOM FAUCET		#14-540L	
(M)	SLOAN SENSOR ACTIVATED ELECTRONIC HANDWASHING FAUCET		#SF-2350	
(N)	URINAL WALL MOUNT	WHITE		
(O)	AMERICAN STANDARD, AFWALL ADA RETROFIT ELONGATED TOILET	WHITE	#5905.100	
(P)	SLOAN OPTIMA BATTERY POWERED FLUSHOMETER		#8110	
(Q)	PLUMBTECH HEAVY DUTY COMMERCIAL OFLC TOILET COVER	WHITE	#421	
(R)	BOBRICK CONTURA SERIES SURFACE MOUNTED MULTI-ROLL TISSUE DISPENSER	304 STAINLESS STEEL	#B-4288	
(S)	OVERHEAD BRACED TOILET ENCLOSURES W/304 SST BRACKETS, HINGES, LATCHES, PLATES, FASTENERS & ANCHOR BOLTS.			17
(T)	SHOWER DOORS	ALUMINUM FRAME, OPAQUE GLASS & STAINLESS STEEL FASTENERS/ANCHOR BOLTS.		3
(U)	SOAP HOLDER	STAINLESS STEEL		4
(V)	SHOWER CONTROL HANDLES	STAINLESS STEEL FINISH		4
(W)	4" FLOOR DRAIN GRATE & SCREWS	304 STAINLESS STEEL		4
(X)	4"-6" FLOOR DRAIN GRATE & SCREWS	304 STAINLESS STEEL		4
(Y)	LOCKERS	TAN		
(Z)	BATHROOM BENCH	MAPLE		2

* ALL ITEMS AND MODEL NUMBERS ARE NOTED TO BE "OR EQUAL".



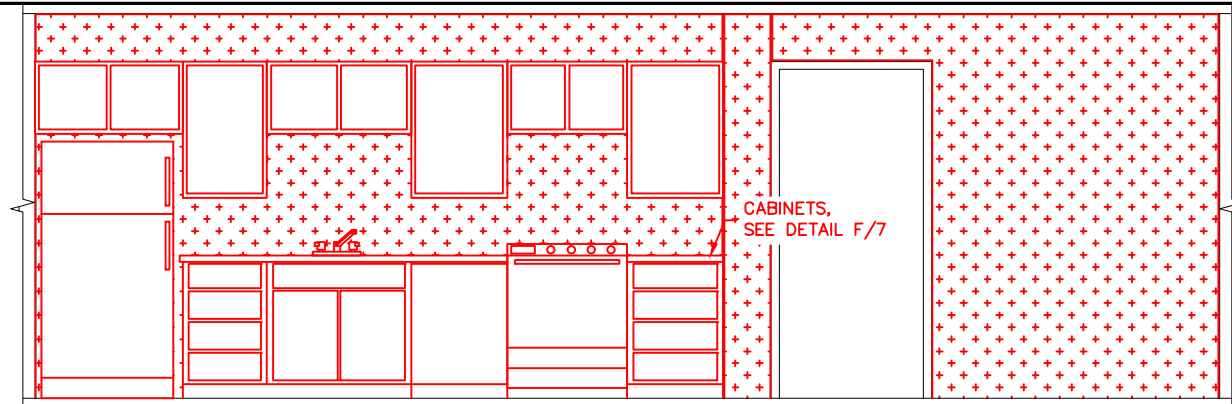
1 REHABILITATION PLAN @ OPERATIONS BUILDING

SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'



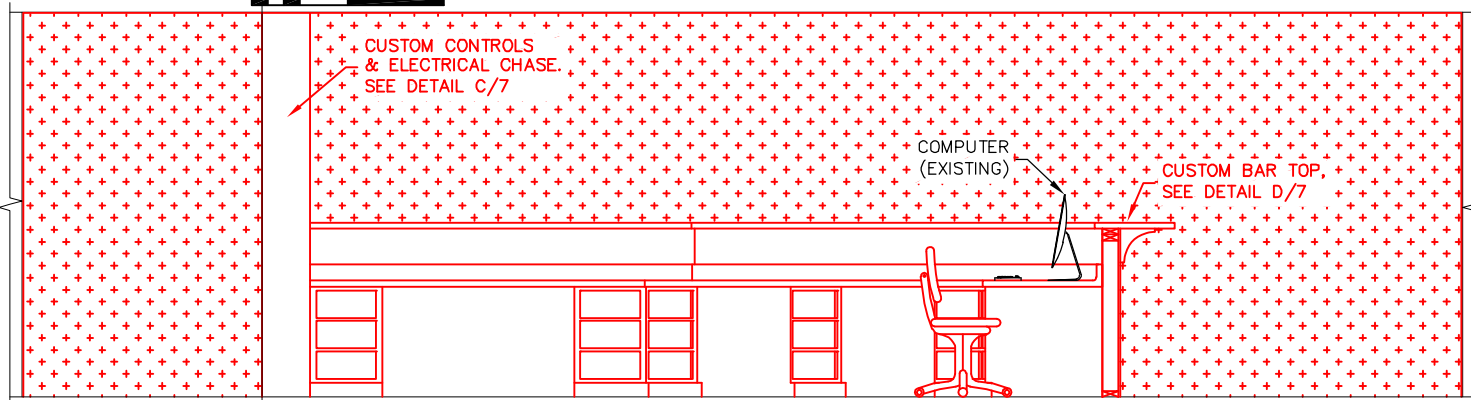
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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 947-7777, FAX (918) 947-0744	
PLAN SCALE: 1/4" = 1'-0"	DRAWN	JME	APPROVED:
	DESIGNED	LST	
PROFILE SCALE:	SURVEY		
	FIELD MGR.		
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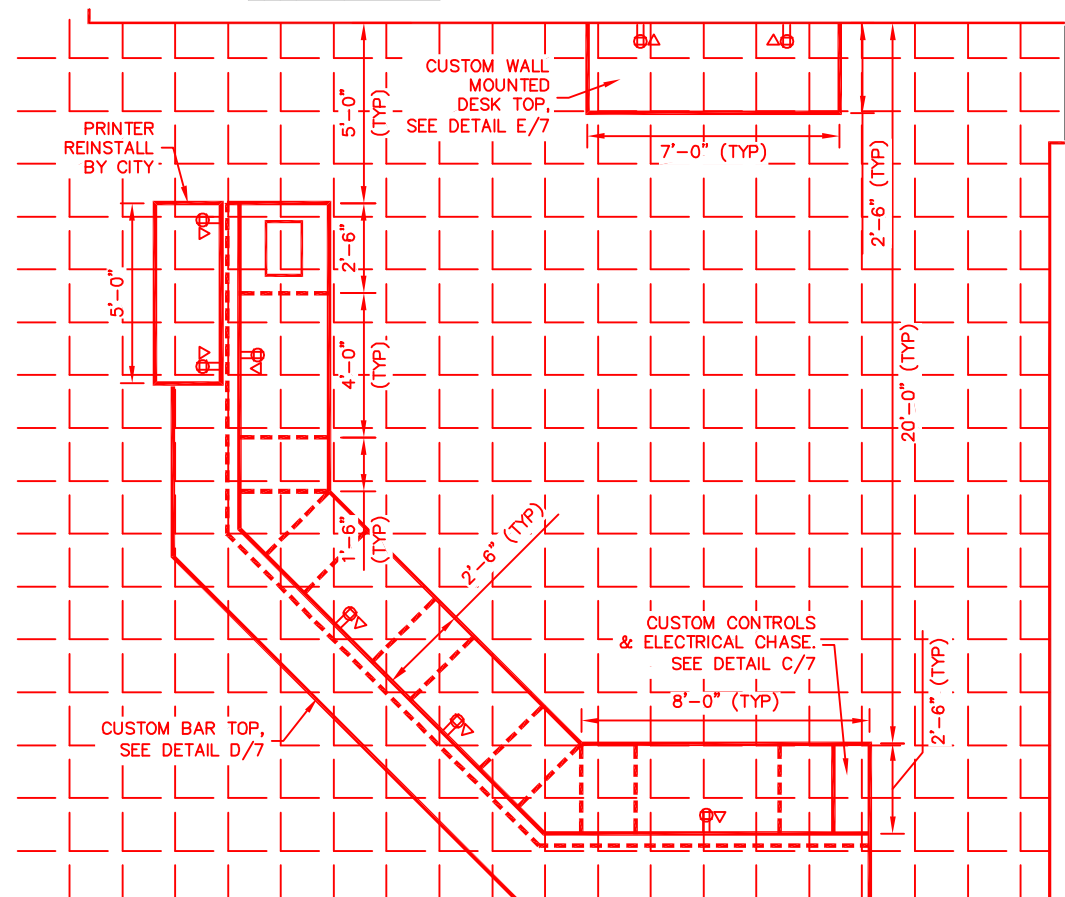
A SECTION @ OPERATIONS BUILDING KITCHEN-BREAK ROOM

SCALE: 1/2" = 1'-0"
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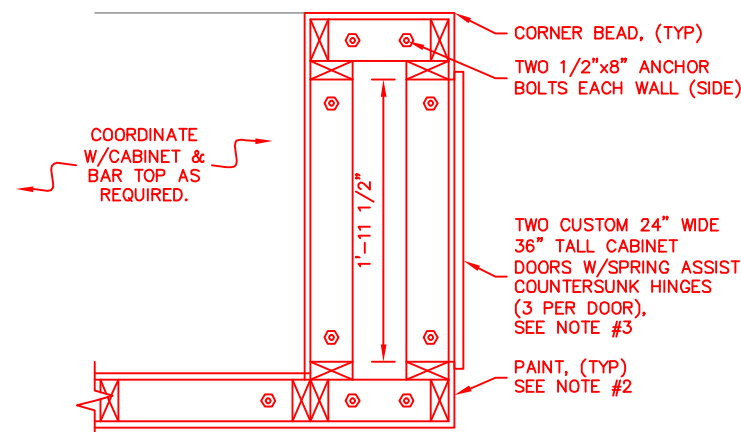
B SECTION @ OPERATIONS BUILDING CONTROL CENTER

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



1 PLAN @ OPERATIONS BUILDING CONTROL CENTER

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

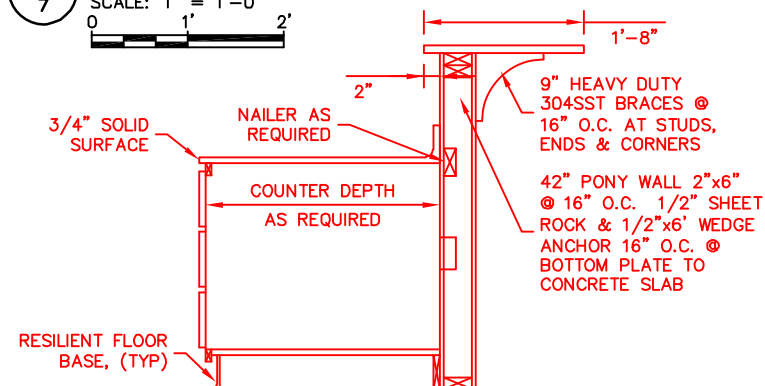


DETAIL NOTES:

- BUILT LIKE TYPICAL WOOD FRAMED WALL; SINGLE PRESSURE TREATED BOTTOM PLATE, VERTICAL STUDS W/DOUBLE TOP PLATE & SHEET ROCK CORNER BEAD. COORDINATE TOP OF CHASE 1" MAX BELOW CEILING. ADD PLATED UNI-STRUT BRACING AT BOTH ENDS OF WALL BACK TO OTHER EXISTING ROOF SUPPORT FRAMING AS REQUIRED.
- PAINT TO MATCH WALLS, INCLUDING CHASE CUSTOM DOORS, (ALL SIDES)
- CUSTOM CABINET DOORS SHALL BE CONSTRUCTED WITH 3/4" CABINET GRADE PLYWOOD & 3/4"x3/8" TRIM AT EXPOSED PLYWOOD EDGES. FINISHED & SANDED TO MATCH PLYWOOD THICKNESS.
- PROVIDE 4" BASE TRIM & CROWN TRIM FOR FINISH LOOK.

C CUSTOM POWER CONTROL CHASE

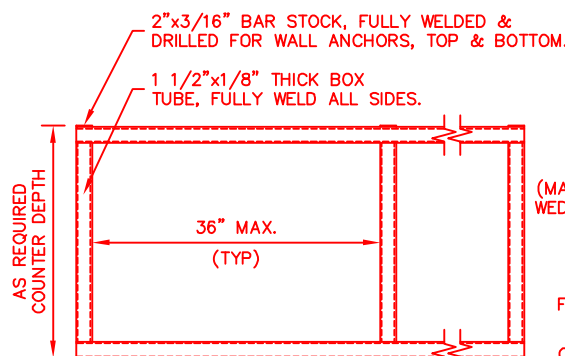
SCALE: 1" = 1'-0"
0 1' 2'



D SECTION @ CUSTOM BAR TOP

SCALE: 1" = 1'-0"
0 1' 2'

LEGEND	
	FOURPLEX RECEPTACLE
	NETWORK CONNECTION



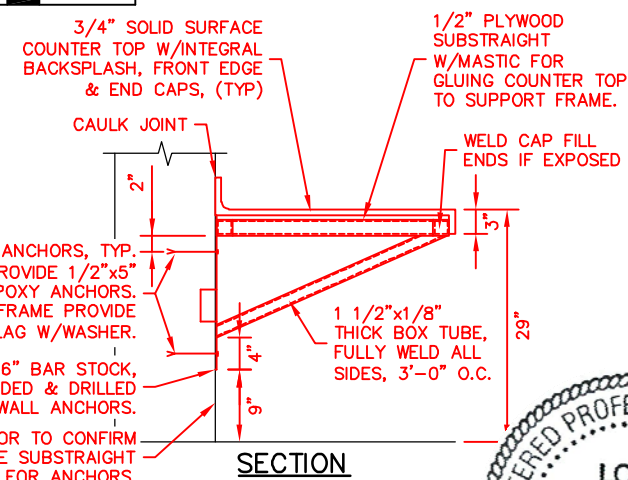
E PLAN

DETAIL NOTES:

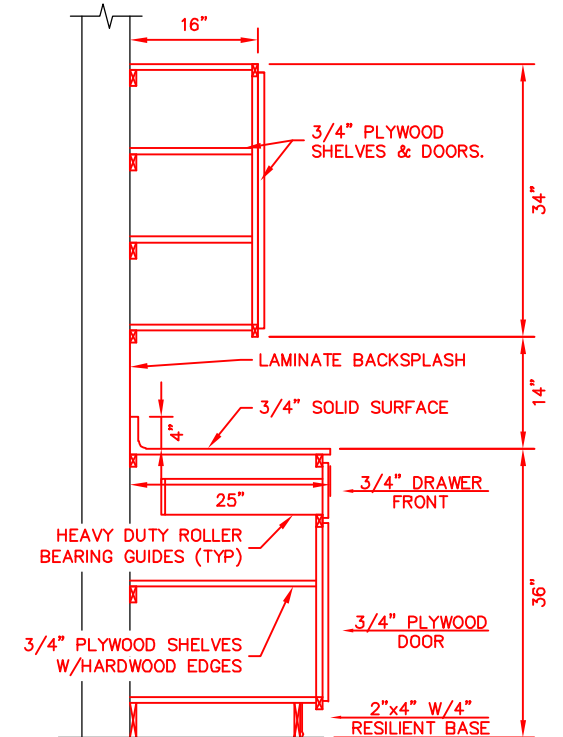
- CUSTOM SEMI-GLOSS BLACK POWDER COATED SUPPORT BRACKETS.
- COORDINATE FINAL ANCHOR BOLT LOCATION W/BUILDING FRAMING.

E CUSTOM COUNTER TOP & SUPPORT BRACKETS

SCALE: 1" = 1'-0"
0 1' 2'



E SECTION



DETAIL NOTES:

- STANDARD COLOR OF THE COUNTER TOP & CABINETS TO BE SELECTED BY OWNER.
- CABINET MATERIAL CONSTRUCTION SHALL BE PLYWOOD CONSTRUCTION. NO PARTICLE BOARD OR COMPOSITE WOOD IS PERMITTED. BRACING AND WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED. CABINET PULLS AND HINGES SHALL BE STAINLESS STEEL MATERIAL CONSTRUCTION.

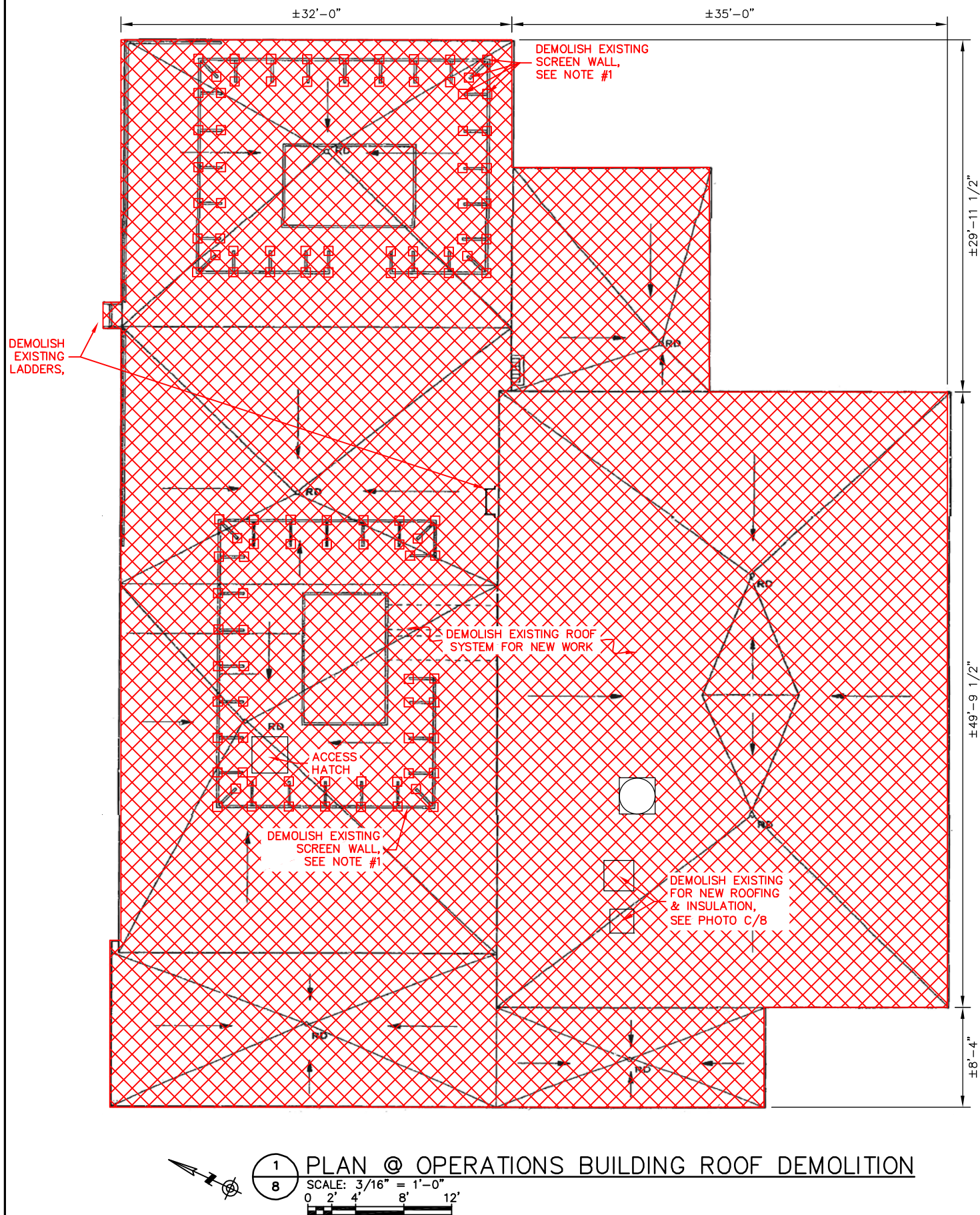
F SECTION @ CABINET

SCALE: 1" = 1'-0"
0 1' 2'

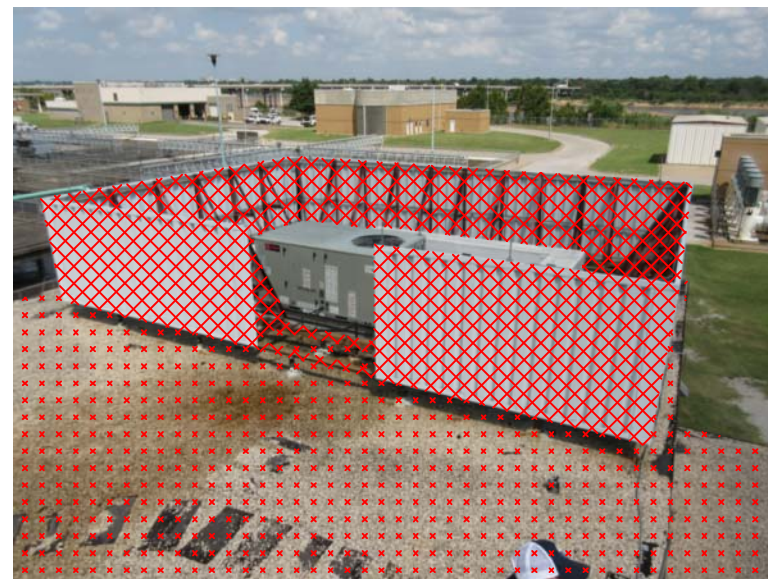
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DRAWING 203.100.C OPERATIONS BUILDING REHABILITATION DETAILS			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-4777, FAX (918) 477-4774	
PLAN SCALE: 1/4" = 1'-0"	DRAWN DESIGNED SURVEY	JME LST	APPROVED:
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HORIZONTAL:	SECT. MGR.		
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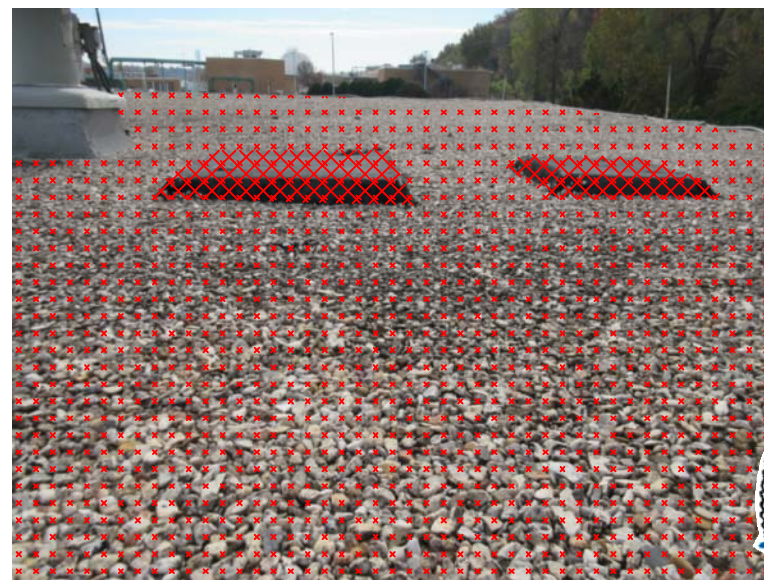
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A PHOTO @ OPERATIONS BUILDING ROOF
8 SCALE: NTS



B PHOTO @ OPERATIONS BUILDING ROOF
8 SCALE: NTS



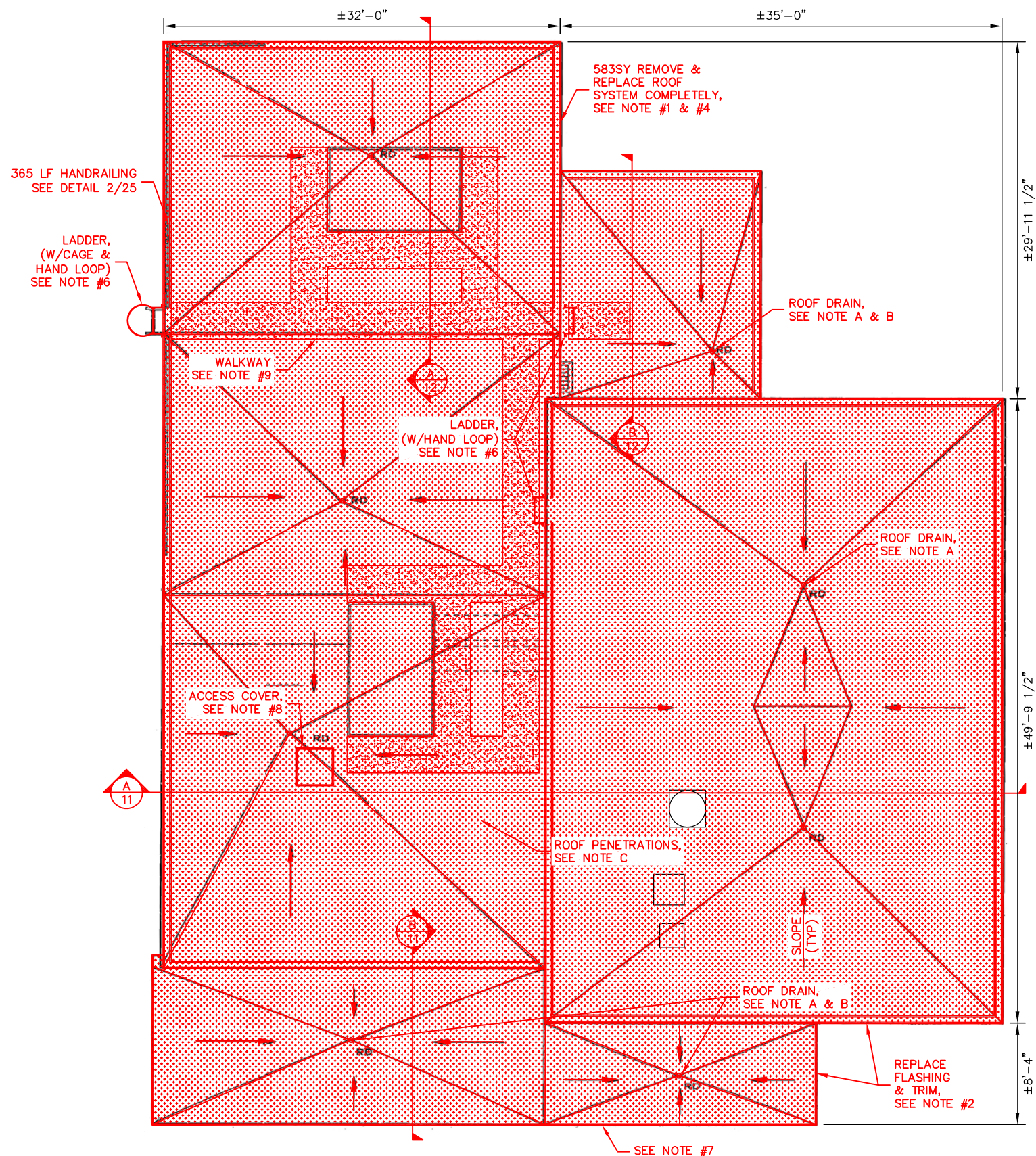
C PHOTO @ OPERATIONS BUILDING ROOF
8 SCALE: NTS

NOTES:

1. DEMOLISH EXISTING SCREEN WALLS, SEE PHOTO DETAILS A/8 & B/8. PROTECT EXISTING HVAC EQUIPMENT AND SERVICES. DEMOLITION INCLUDES ALL BRACKETS, ANCHOR BOLTS AND RELATED COMPONENTS DOWN TO ROOF DECK IN PREPARATIONS FOR NEW ROOF SYSTEM AND NEW INSULATION. REPAIR METAL ROOF DECK PRIOR TO NEW INSULATION & ROOFING SYSTEM AS REQUIRED.

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REFERENCE ORIGINAL ES-91-10 C1 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION		
DRAWING 203.150.B OPERATIONS BUILDING ROOF DEMOLITION PLAN		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A & 21TH ST, BROCKTON AVE, OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744		APPROVED:
PLAN SCALE: 3/16" = 1'-0"	DRAWN DESIGNED SURVEY	JME LST
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HORIZONTAL:	SECT. MGR.	
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ROOF DRAIN NOTES:

- FURNISH AND INSTALL NEW 4" ROOF DRAINS AT ALL EXISTING ROOF DRAIN LOCATIONS. INCLUDE UP TO 5'-0" OF PIPING, 90 BEND, REDUCERS AS REQUIRED FOR PERMANENT CONNECTIONS AND ONE ADDITIONAL CEILING MOUNTED PIPE HANGER (FINAL LOCATIONS TO BE DETERMINED BY THE OWNERS REPRESENTATIVE). ROOF DRAIN SHALL BE CONSTRUCTED OF PVC/PE WITH OPTIONAL STAINLESS OR ALUMINUM COVERS. ADD THREE NEW ROOF DRAIN LOCATIONS AS INDICATED, INCLUDING CORE DRILLING ROOF SLAB, DRAINS, SCH 40 PIPING, PIPE SUPPORTS & CONNECTION TO EXISTING DRAIN SYSTEM. COORDINATED FINAL LAYOUT WITH OWNERS REPRESENTATIVE. ALL PIPING CONNECTION SHALL BE HARD PIPE CONNECTIONS (NO FERNCO STYLE PERMITTED)
- REFURBISH EXISTING ROOF DRAIN PIPING FROM DRAIN TO CURB OUTLETS (INCLUDING WEST OF PORCH AREA AT BUILDING PARKING). CLEAR OUT ROCKS AND ANY DEBRIS OBSTRUCTIONS AS REQUIRED FOR FULL PIPE DRAIN FUNCTIONS. PORCH CEILING IS FINISHED AND HAS NO ACCESS. COORDINATE AS REQUIRE TO INSTALL THE NEW ROOF DRAINS AND ACCESS REPAIRS AS NECESSARY FOR NEW WORK.
- SPECIAL NOTE – ROOF HAS EXISTING MECHANICAL, VENTS AND OTHER ROOF RELATED ITEMS. COORDINATE ALL ROOF ITEMS AND PENETRATIONS AS REQUIRED.

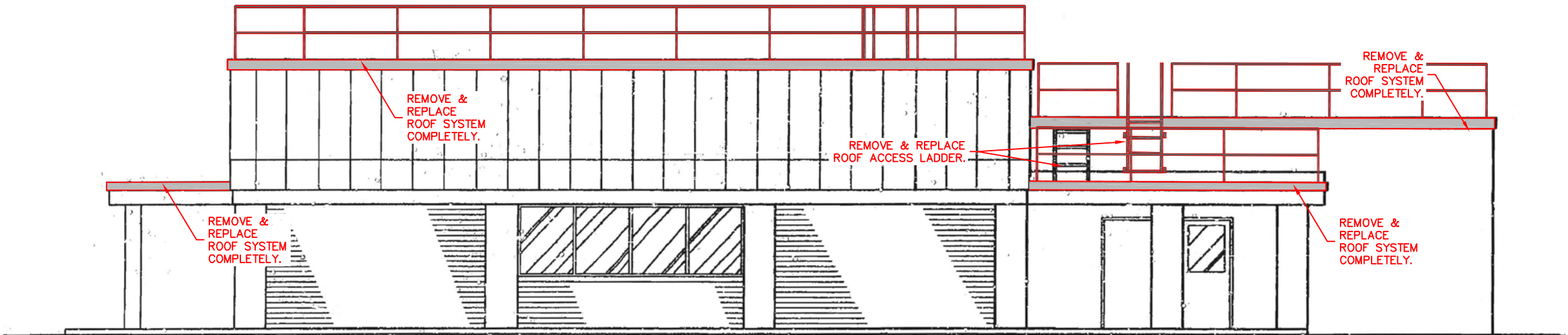
ROOF REPLACEMENT NOTES:

- INSTALL COMPLETE REPLACEMENT ROOFING SYSTEM INCLUDING BUT NOT LIMITED TO RIGID TAPERED INSULATION BOARD, ROOFING MEMBRANE, TRIM, FLASHING, DRIP EDGE, CAP FLASHING, CUSTOM ROOF PENETRATION DETAILS, NEW ROOF DRAINS TO EXISTING PIPING.
- PROVIDE ALL NEW FLASHING, TRIM, CUSTOM WELDED CORNERS, CUSTOM SCUPPERS, DRIP EDGE & OTHER RELATED ROOF COMPONENTS SHALL ALL BE "DARK BRONZE" ANODIZED ALUMINUM TRIM, SEE NOTE #7.
- PROVIDE NEW 316 STAINLESS STEEL FASTENERS & ANCHOR BOLTS. NO PLATED OR CARBON STEEL MATERIALS ARE PERMITTED.
- PROVIDE BUILD UP TAPERED INSULATION PROVIDING 2" MINIMUM THICKNESS OF INSULATION OR MORE. DIGESTER 3&4 ROOF SHALL BE 1/2" PER FOOT MINIMUM SLOPE, OPERATIONS BUILDING SHALL BE 1/4" PER FOOT MINIMUM SLOPE.
- PROVIDE SIKA 2C NS OR EQUAL AT REQUIRED CAULKING AND SEALANT LOCATION AS INDICATED. PREPARE, CLEAN, PRIME, BED AND TOOL ALL JOINTS.
- PROVIDE FULL HEIGHT ROOF ACCESS LADDERS W/TOP HANDRAIL LOOPS & ANTI-SLIP RINGS AS SHOWN. FURNISH AND INSTALL STAINLESS STEEL OR ALUMINUM ALACO, FS INDUSTRIES OR EQUAL CAGED WALL MOUNTED FULL HEIGHT LADDER WITH 316 STAINLESS STEEL EPOXY ANCHOR BOLTS. (HILTI MASONRY OR EQUAL)
- SEE PLAN SHEET DETAILS FOR TYPE OF FLASHING AND COPING. PROVIDE METAL ERA PERMA-TITE COPING CAP SYSTEM, OMG OR EQUAL WITH 20 YEAR, 120 MPH WIND SPEED WARRANTY PROVIDED BY THE MANUFACTURER AND 30 YEAR FINISH WARRANTY ON KYNAR FINISHES. SHEET METAL TYPE/THICKNESS: 050 ALUMINUM MIN. COPING COVER FORMED LENGTHS: 12'-0" AND CONCEALED SPLICE PLATES: 8" WIDE WITH FACTORY-APPLIED, DUAL, NON-CURING BUTYL SEALANT STRIPS. ANCHOR CLIPS: GALVANIZED STEEL, 12" WIDE, SPACED 4' ON CENTER AND 316 STAINLESS STEEL FASTENERS.
- PROVIDE NEW REMOVABLE 1/8" ALUMINUM DIAMOND PLATE MATERIAL WITH 6" LAPPED SIDES SIMILAR TO THE EXISTING COVER, INCLUDING DRIP EDGE BREAK AT BOTTOM AND FULLY WELDED CORNERS. INCLUDE 316 ANCHOR BOLTS/SCREWS AT 12" ON AROUND PERIMETER SIDE AND CAULK HEADS OF FASTENERS AS REQUIRED.
- PROVIDE INTEGRAL WALKING SURFACE WHERE SHOWN AND COORDINATE WITH EQUIPMENT. MAX 6" BETWEEN PADS.

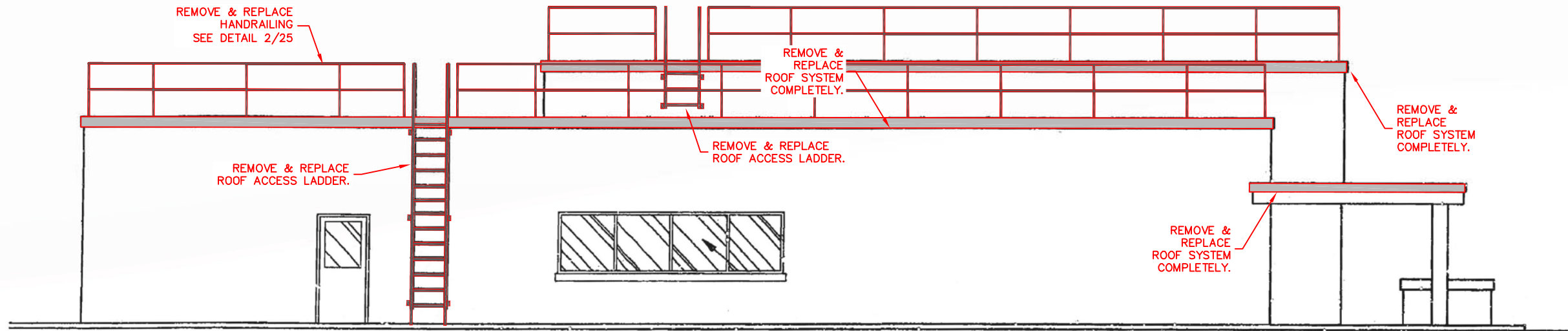
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DRAWING 203.150.A OPERATIONS BUILDING ROOF DRAIN & ROOF REPLACEMENT PLAN			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., WICKLIFF AVENUE, OKLAHOMA 74106 (918) 497-7777, FAX (918) 497-0744	
PLAN SCALE: 1/4" = 1'-0"	DRAWN DESIGNED SURVEY	JME LST	APPROVED:
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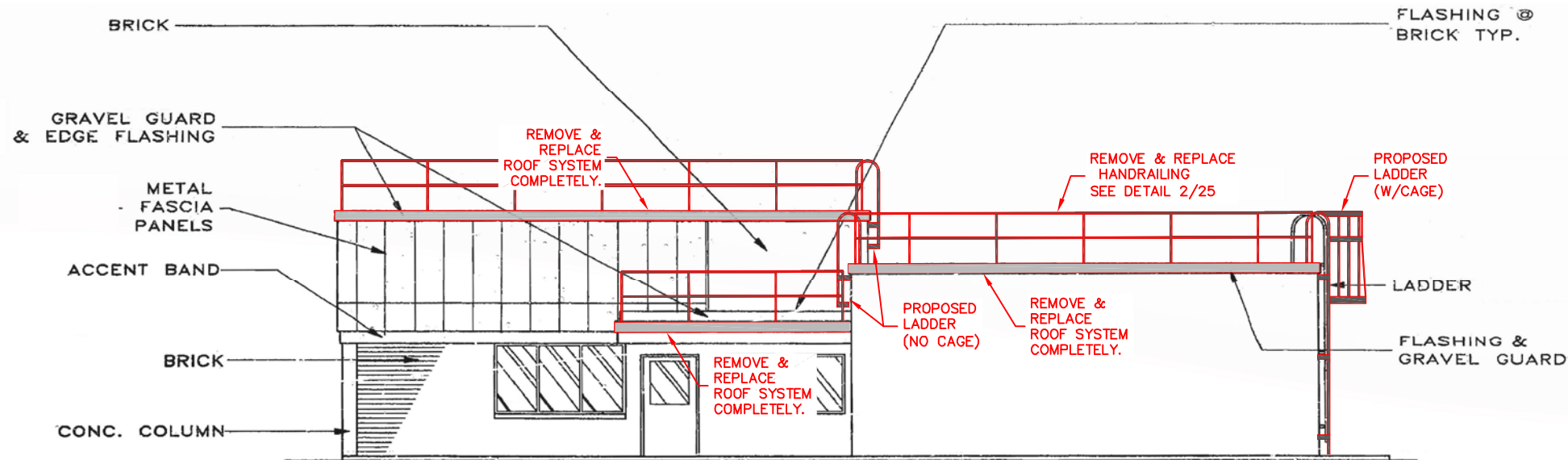
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A
10
ELEVATION @ OPERATIONS BUILDING
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8'



B
10
ELEVATION @ OPERATIONS BUILDING
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8'



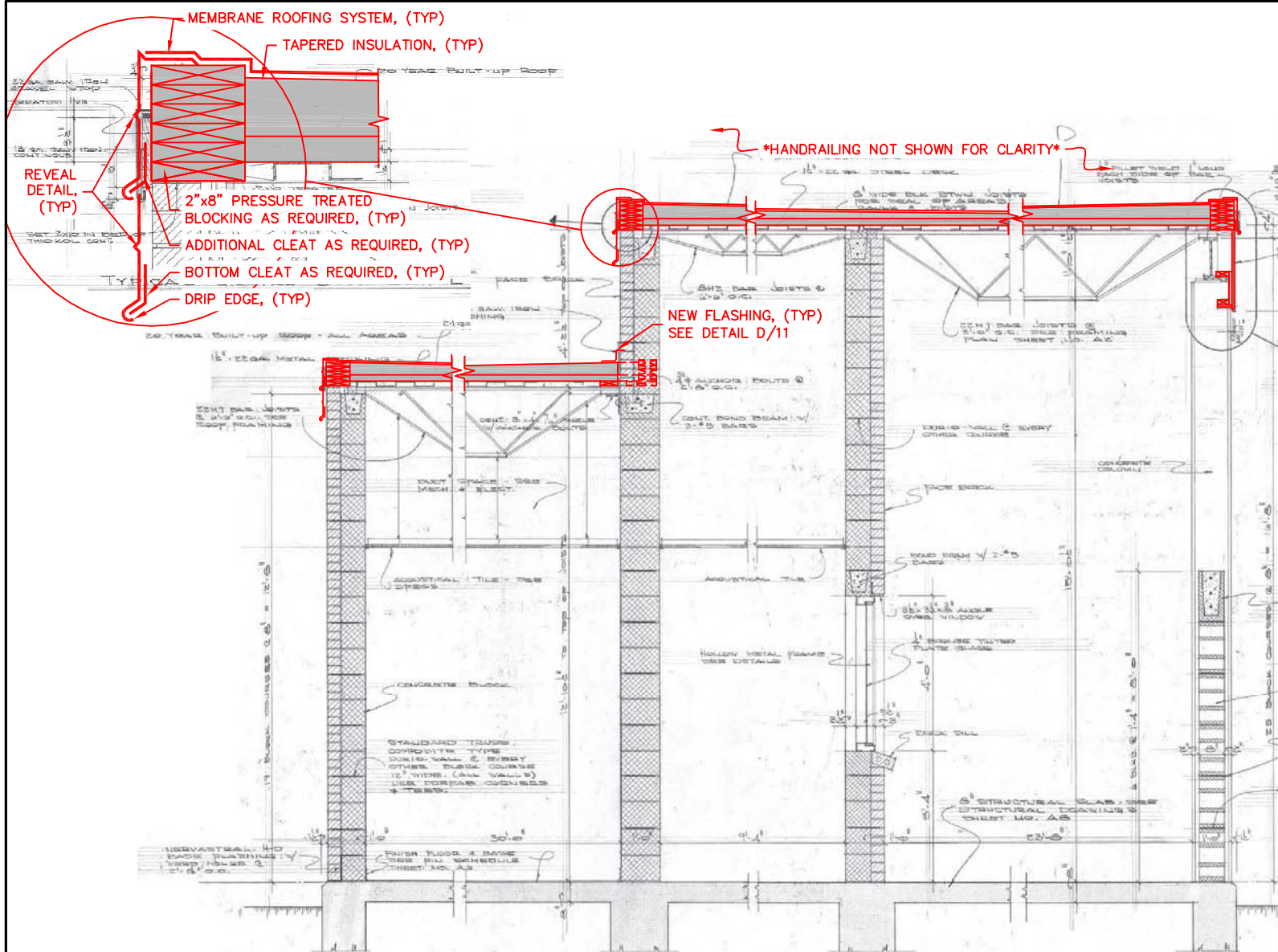
B
10
ELEVATION @ OPERATIONS BUILDING
SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'

NOTES:

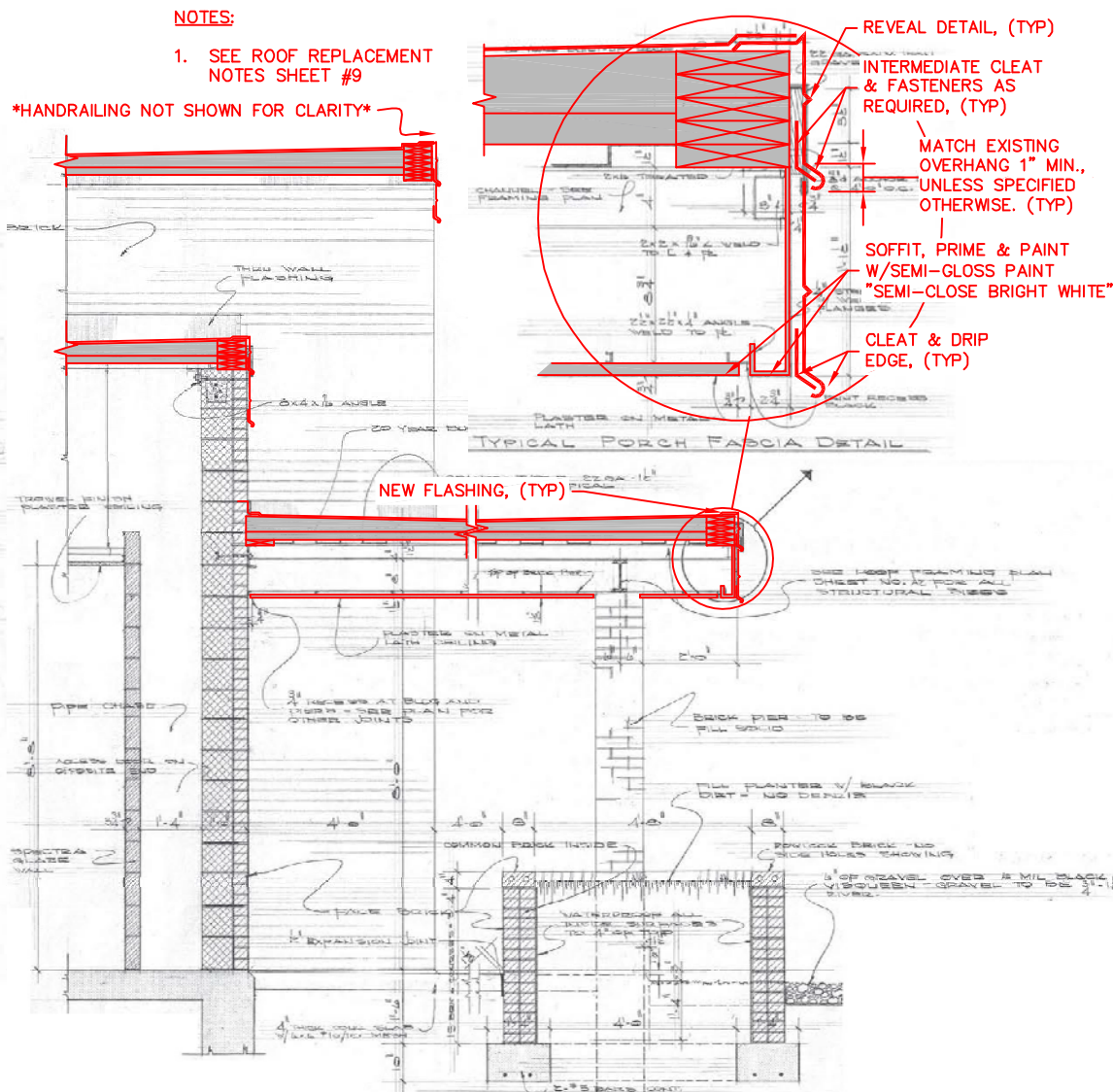
1. SEE ROOF REPLACEMENT NOTES SHEET #9

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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
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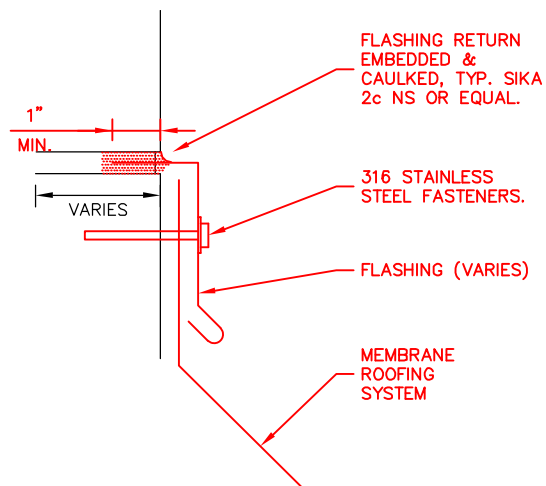




A SECTION @ OPERATIONS BUILDING ROOF REPLACEMENT
SCALE: 1/2" = 1'-0"
0 1' 2' 4'



B SECTION @ OPERATIONS BUILDING ROOF REPLACEMENT
SCALE: 1/2" = 1'-0"
0 1' 2' 4'



D CONCRETE/BLOCK CUT IN DETAIL
SCALE: NTS

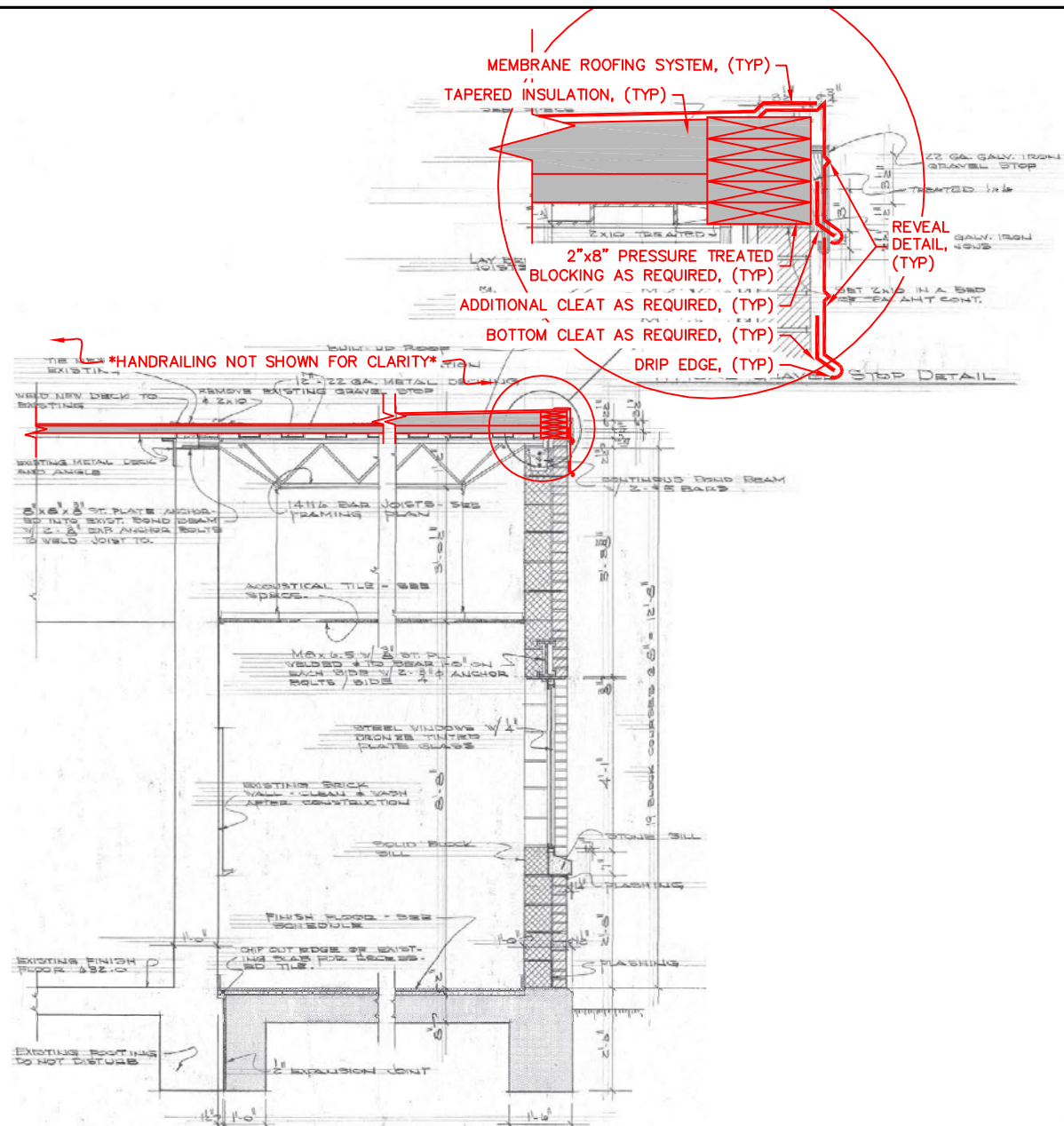


C PHOTO @ OPERATIONS BUILDING PATIO
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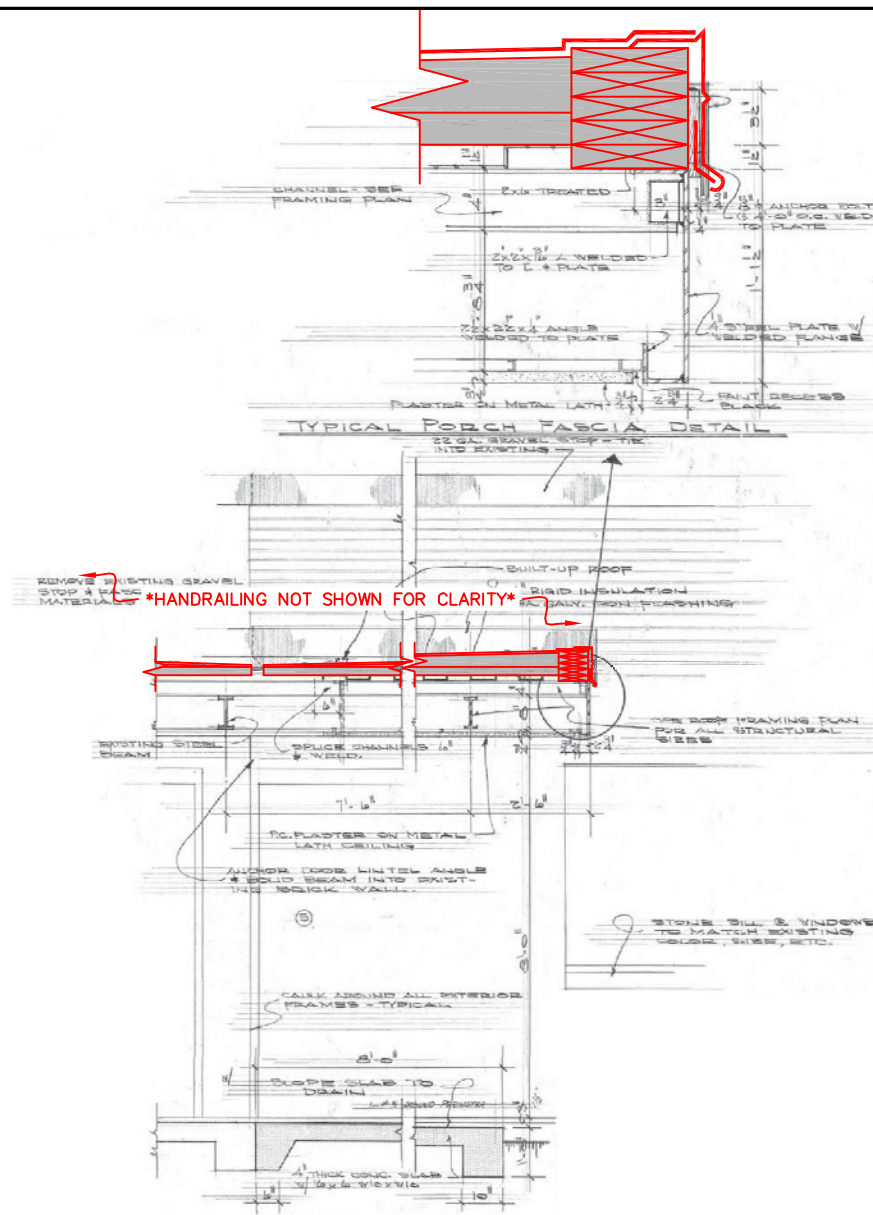


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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
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A
12 SECTION @ OPERATIONS BUILDING ROOF REPLACEMENT
SCALE: 1/2" = 1'-0"
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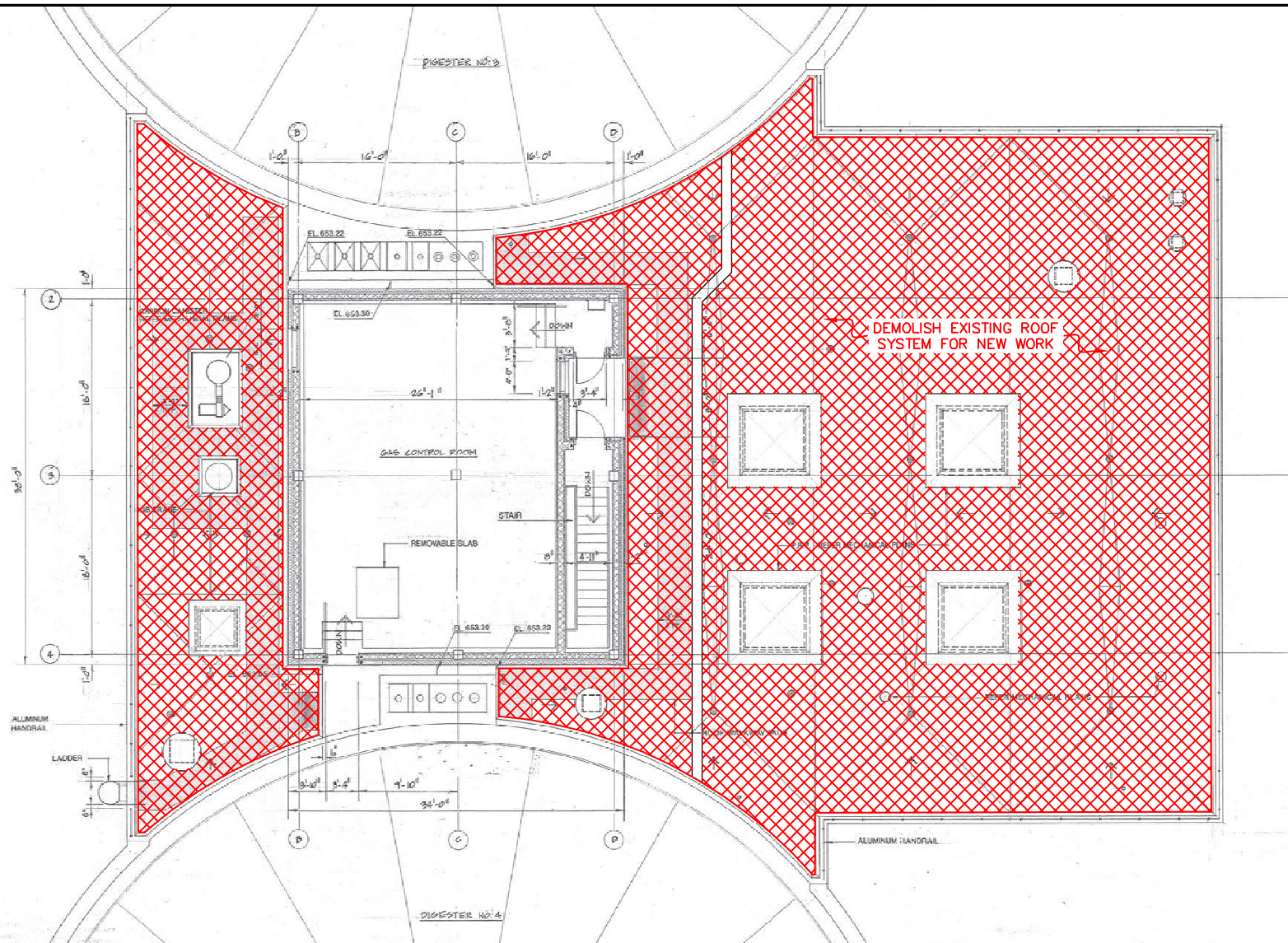
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12 SECTION @ OPERATIONS BUILDING ROOF REPLACEMENT
SCALE: 1/2" = 1'-0"
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- NOTES:
1. SEE ROOF REPLACEMENT NOTES SHEET #9

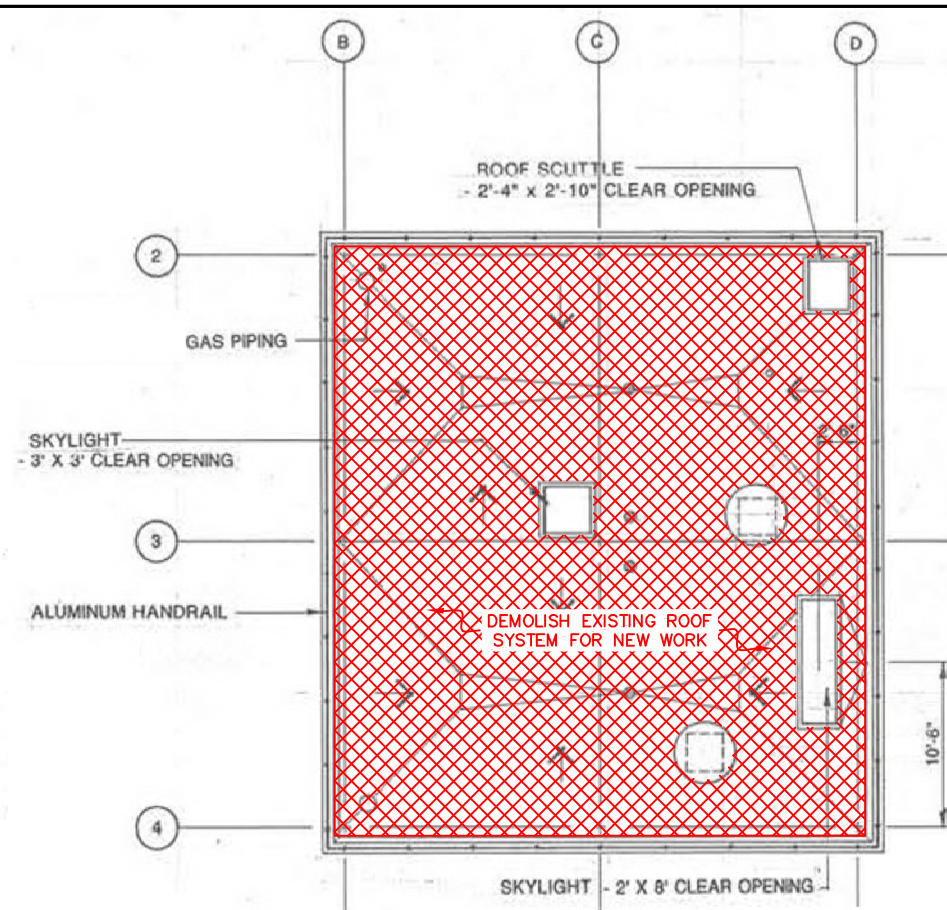
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CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 21TH ST., BROOKHURST, OKLAHOMA 74109 (918) 477-1777, FAX (918) 477-0744		
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1
13 PLAN @ DIGESTER 3&4 ROOF DEMOLITION (LOWER)

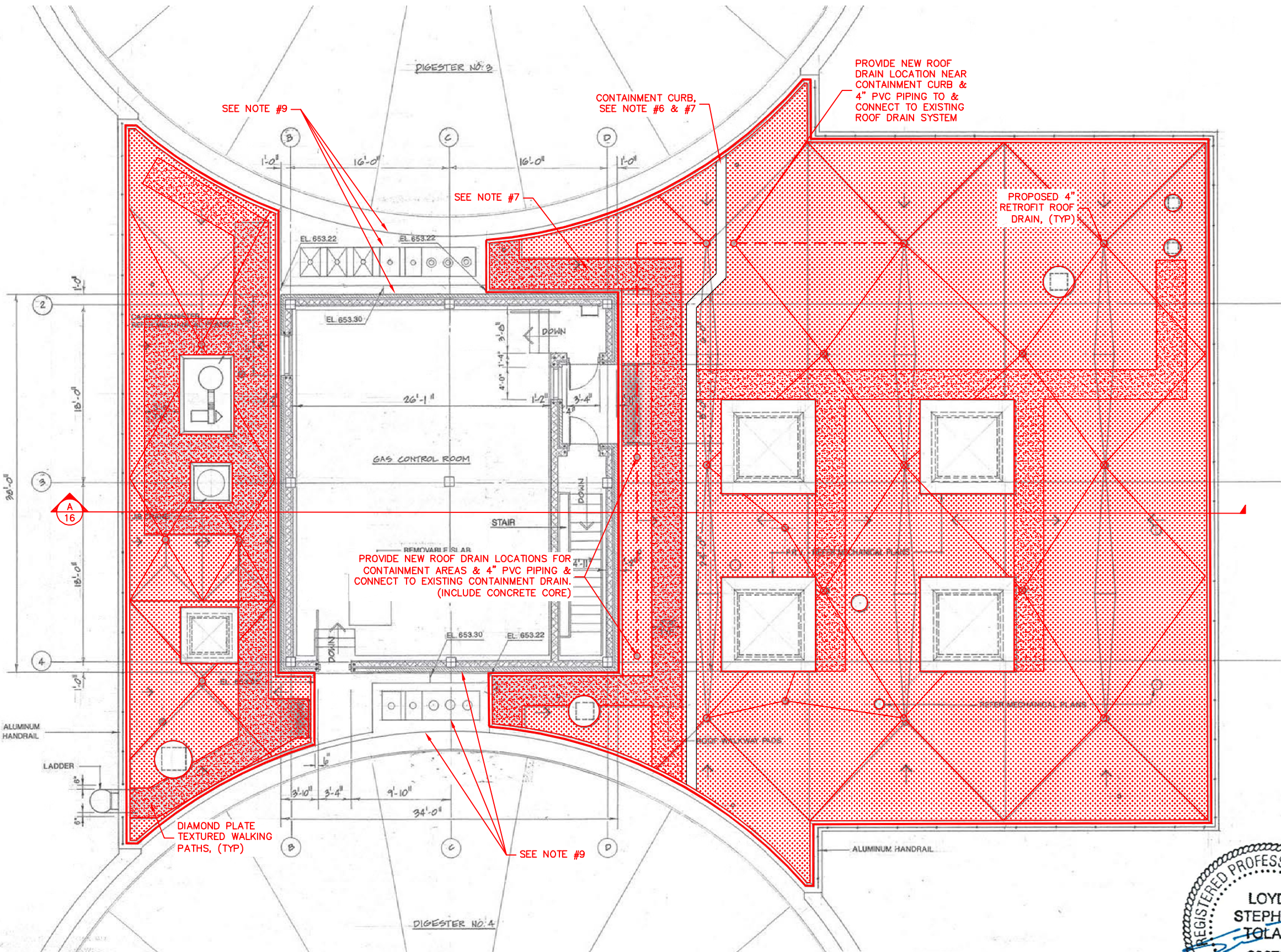


2
13 PLAN @ DIGESTER 3&4 ROOF DEMOLITION (UPPER)

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DRAWING 203.200.A DIGESTER 3&4 ROOF & ROOF DRAIN REPLACEMENT		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
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NOTES:

1. INSTALL COMPLETE REPLACEMENT ROOFING SYSTEM INCLUDING BUT NOT LIMITED TO RIGID TAPERED INSULATION BOARD, ROOFING MEMBRANE, TRIM, FLASHING, DRIP EDGE, CAP FLASHING, CUSTOM ROOF PENETRATION DETAILS AND NEW ROOF DRAINS TO EXISTING PIPING.
2. PROVIDE ALL NEW FLASHING, TRIM, CUSTOM WELDED CORNERS, CUSTOM SCUPPERS, DRIP EDGE & OTHER RELATED ROOF COMPONENTS SHALL ALL BE 316 STAINLESS STEEL
3. PROVIDE NEW 316 STAINLESS STEEL FASTENERS & ANCHOR BOLTS. NO PLATED OR CARBON STEEL MATERIALS ARE PERMITTED.
4. PROVIDE BUILD UP TAPERED INSULATION PROVIDING 2" MINIMUM THICKNESS OF INSULATION OR MORE. DIGESTER 3&4 ROOF SHALL BE 1/2" PER FOOT MINIMUM SLOPE, OPERATIONS BUILDING SHALL BE 1/4" PER FOOT MINIMUM SLOPE.
5. PROVIDE SIKA 2C NS OR EQUAL AT REQUIRED CAULKING AND SEALANT LOCATION AS INDICATED. PREPARE, CLEAN, PRIME, BED AND TOOL ALL JOINTS.
6. CONTAINMENT CURB MODIFICATIONS. GRIND 1" SOFT CHAMFER ON BOTH SIDES OF EXISTING CONTAINMENT CURB. WRAP EXISTING CONTAINMENT CURB (SEE PHOTO A/15) WITH EXTRA HEAVY DUTY TPO AND INSTALL WALKING TREAD SURFACE FULL LENGTH. PROVIDE INSULATION/FOAM "FILLET" EITHER SIDE OF CURB PER MANUFACTURES RECOMMENDATIONS.
7. PROVIDE INTEGRAL WALKING SURFACE WHERE SHOWN AND COORDINATE WITH EQUIPMENT. MAX 6" BETWEEN PADS.
8. SEE PLAN SHEET DETAILS FOR TYPE OF FLASHING AND COPING. ALL DIGESTER FLASHING, TRIM & METAL WORK SHALL BE 316SST 24 GAUGE SHEET METAL. ALL CORNERS SHALL BE FULLY WELDED & 2'-0" LONG IN BOTH DIRECTIONS MINIMUM. ALL LAPS SHALL BE 6" MINIMUM.
9. CAULK ALL EXISTING CONSTRUCTION JOINTS AND JOINTS BETWEEN THE DIGESTERS AND THE BUILDING ROOF AS REQUIRED. SEE NOTE 5 FOR ADDITIONAL RELATED INFORMATION.
10. CLEAR AND CLEAN ALL DRAIN PIPING TO OUTLETS FOR PROPER DRAINAGE.

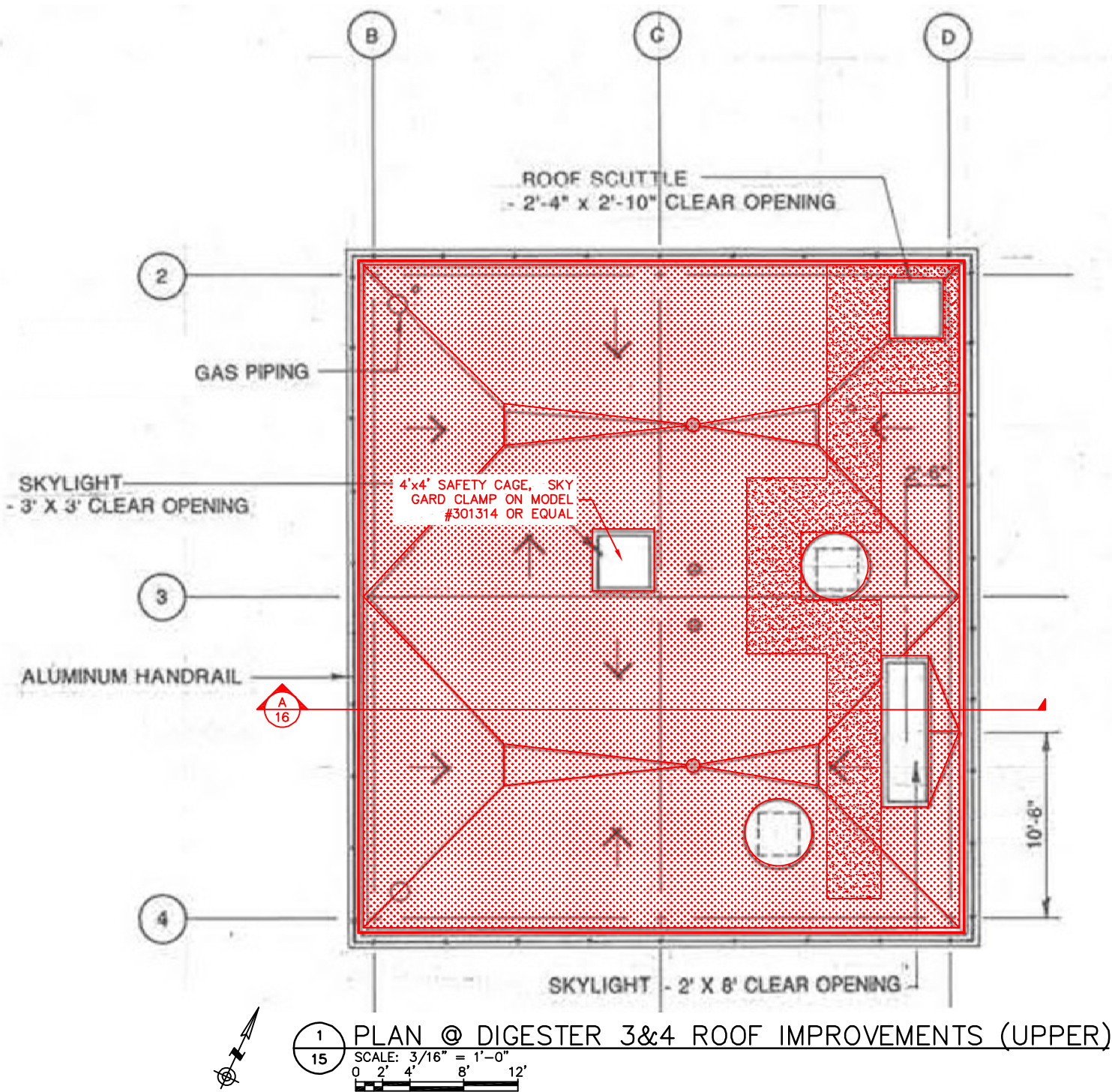
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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELLEN, Inc. 200-A & 21st ST. BROOKHURST, OKLAHOMA 74109 (918) 477-1777, FAX (918) 477-0744	
PLAN SCALE: 1/4" = 1'-0"	DRAWN	JME	APPROVED:
	DESIGNED	LST	
	SURVEY		
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR.		
VERTICAL:	PROJ. MGR.		
FILE:	DRAWING:		DATE: February 11, 2021
ATLAS PAGE NO: ---			SHEET 14 OF 26 SHEETS



1 PLAN @ DIGESTER 3&4 ROOF IMPROVEMENTS (LOWER)

SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'

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1 PLAN @ DIGESTER 3&4 ROOF IMPROVEMENTS (UPPER)

SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'





A PHOTO @ DIGESTER 3&4 ROOF IMPROVEMENTS
SCALE: NTS



B PHOTO @ DIGESTER 3&4 ROOF IMPROVEMENTS
SCALE: NTS

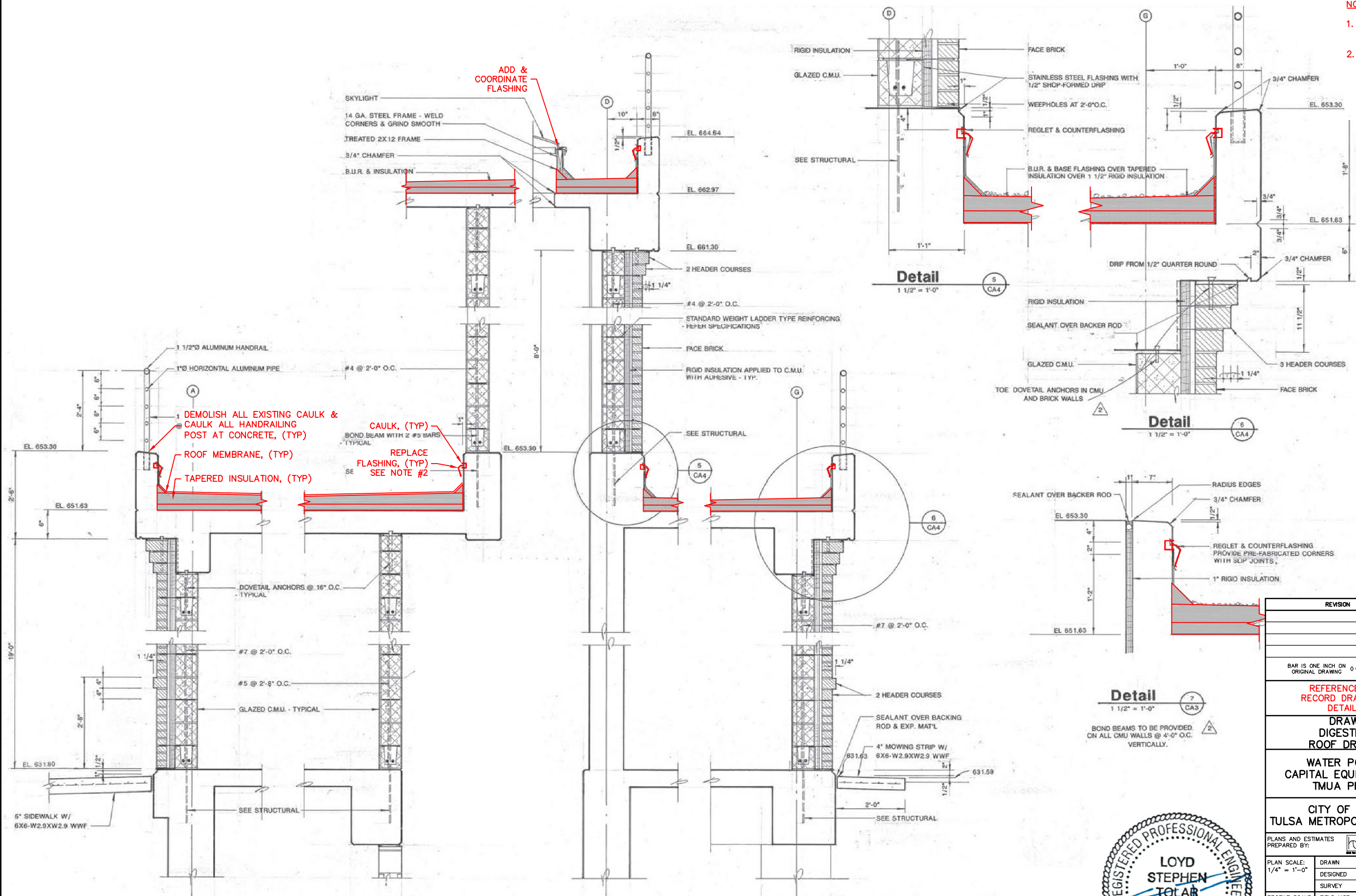
NOTES:

1. SEE ROOF REPLACEMENT NOTES SHEET 14

REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY			
REFERENCE ORIGINAL SA-83-21 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.200.C DIGESTER 3&4 ROOF & ROOF DRAIN REPLACEMENT			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELLEN, Inc. 800-A & 2TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-1171, FAX (918) 477-1174	
PLAN SCALE: 1/4" = 1'-0"	DRAWN	JME	APPROVED:
	DESIGNED	LST	
	SURVEY		
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR.		
	PROJ. MGR.		
VERTICAL:			
FILE:	DRAWING:		DATE: February 11, 2021
ATLAS PAGE NO: ---			SHEET 15 OF 26 SHEETS




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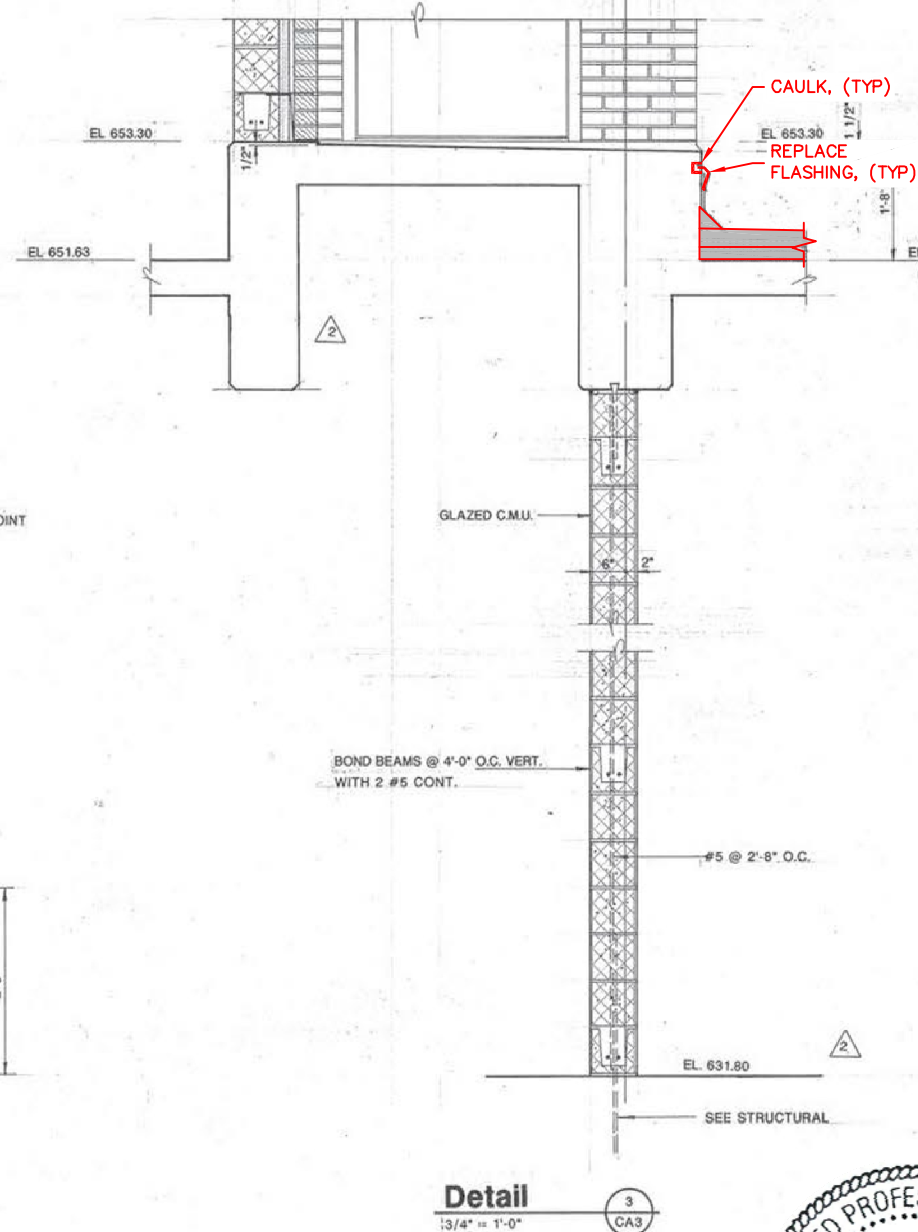
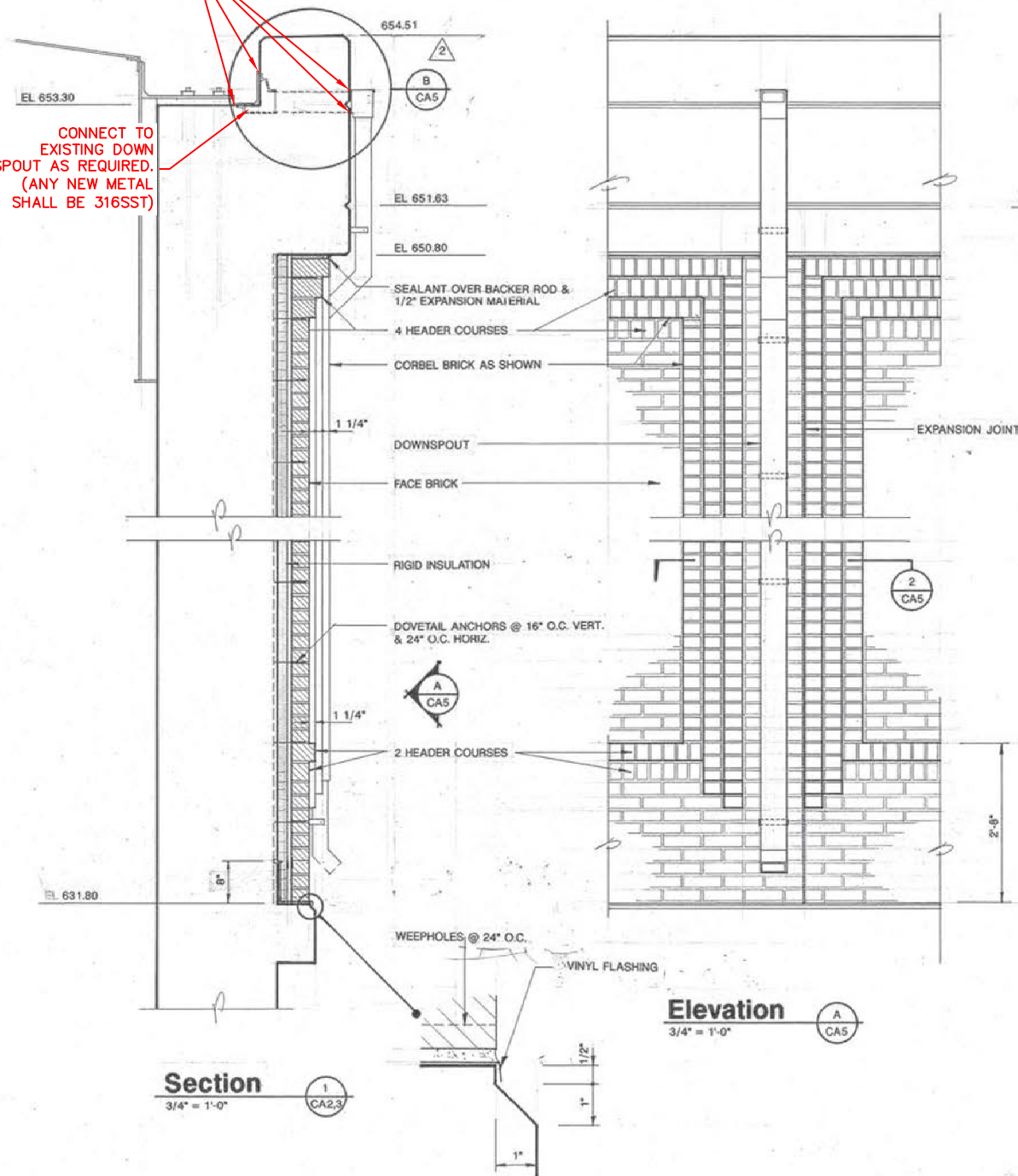
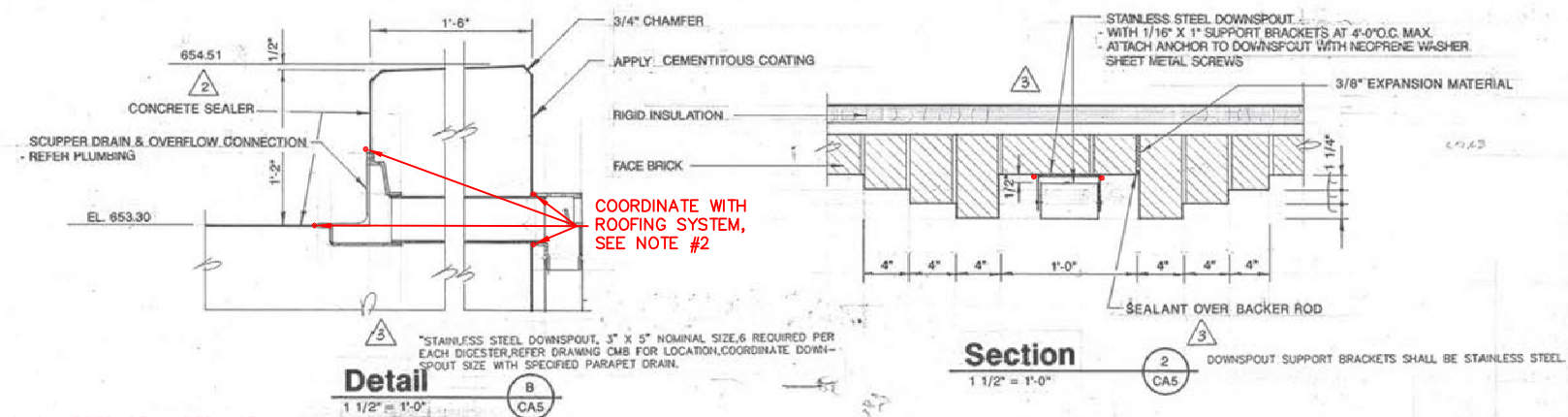
- NOTES:
1. SEE ROOF REPLACEMENT NOTES SHEET 14.
 2. PROVIDE 24 GAUGE 10' MINIMUM LENGTH SECTIONS 316 STAINLESS. MATCH EXISTING FLASHING STYLE & CONFIGURATIONS. COORDINATE W/ROOFING SYSTEM AS REQUIRED.

A SECTION @ DIGESTER 3&4 ROOF IMPROVEMENTS
SCALE: 3/4" = 1'-0"

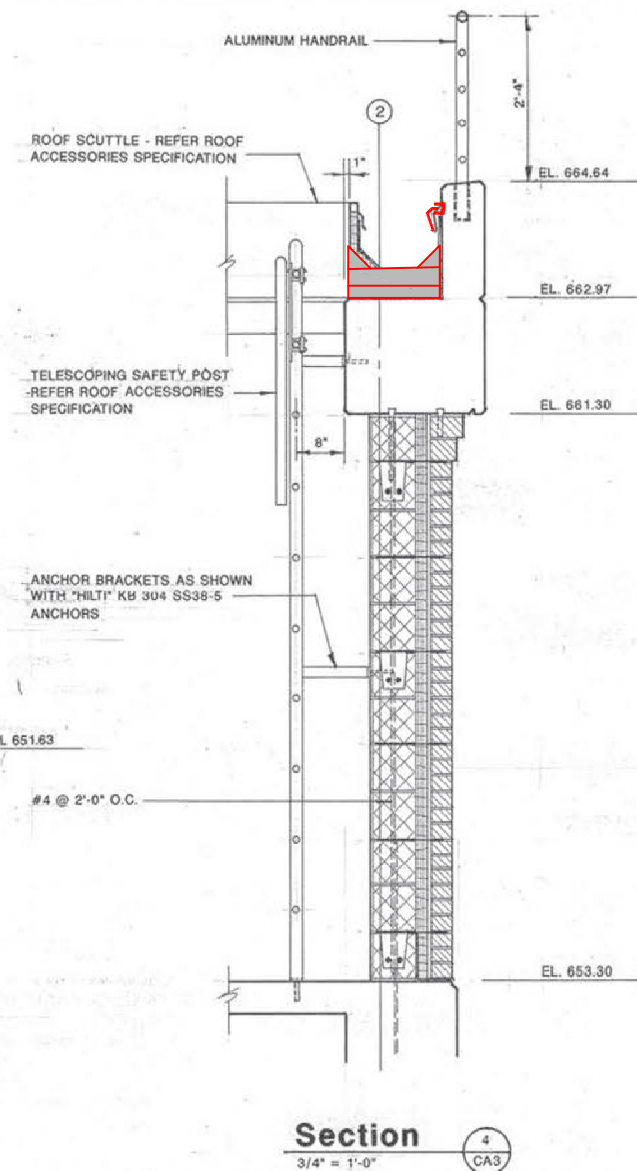



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BAR IS ONE INCH ON ORIGINAL DRAWING 0		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY 1"	
REFERENCE ORIGINAL SA-83-21 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.200.D DIGESTER 3&4 ROOF & ROOF DRAIN REPLACEMENT			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744	
PLAN SCALE: 1/4" = 1'-0"	DRAWN DESIGNED SURVEY	JME LST	APPROVED:

CONNECT TO
EXISTING DOWN
SPOUT AS REQUIRED.
(ANY NEW METAL
SHALL BE 316SST)

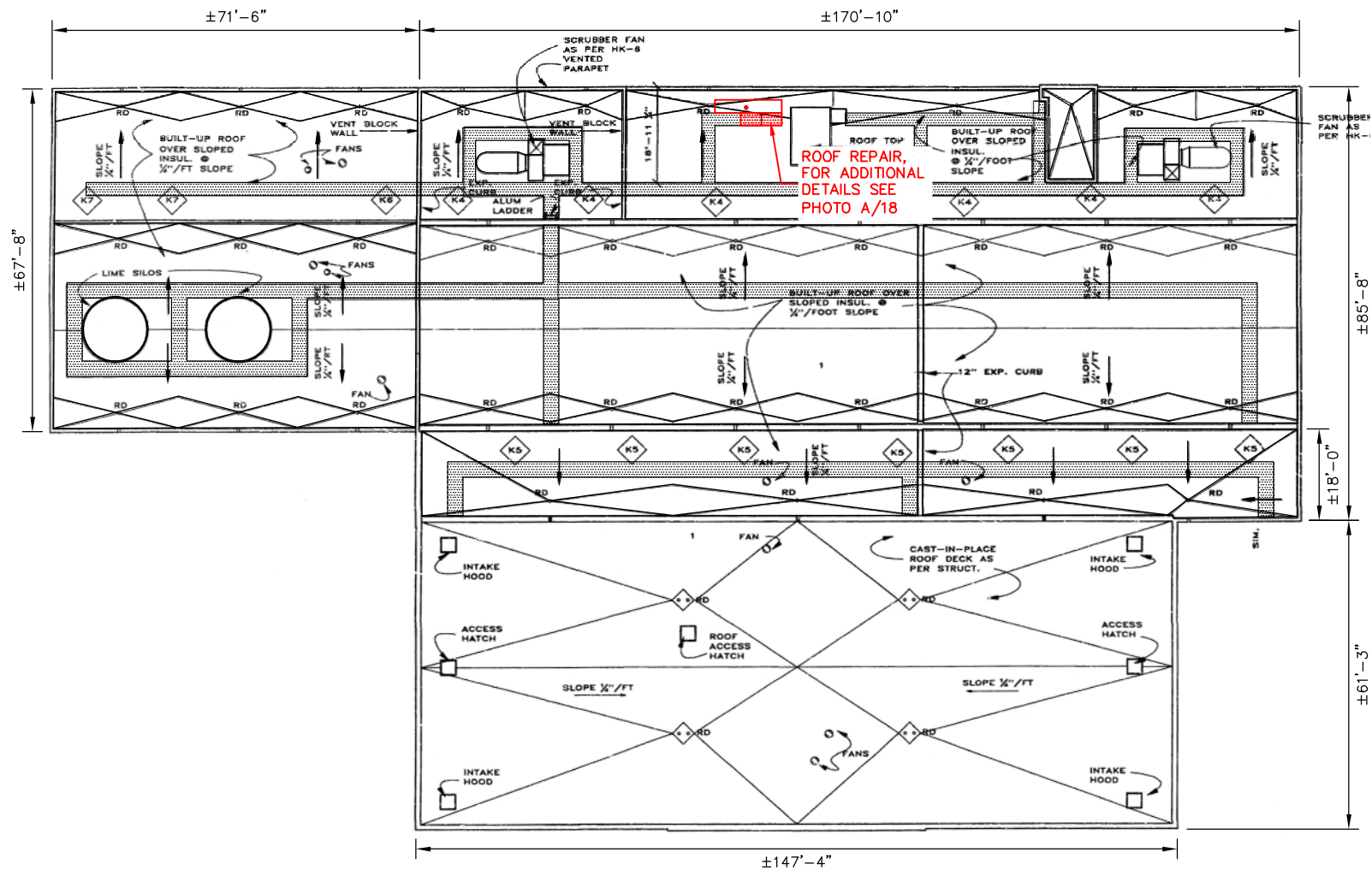


1. SEE ROOF REPLACEMENT NOTES SHEET 14.
2. PROVIDE 24 GAUGE 10' MINIMUM LENGTH SECTIONS 316 STAINLESS FLASHING & TRIM MATCH EXISTING FLASHING STYLE & CONFIGURATIONS. COORDINATE W/ROOFING SYSTEM AS REQUIRED.



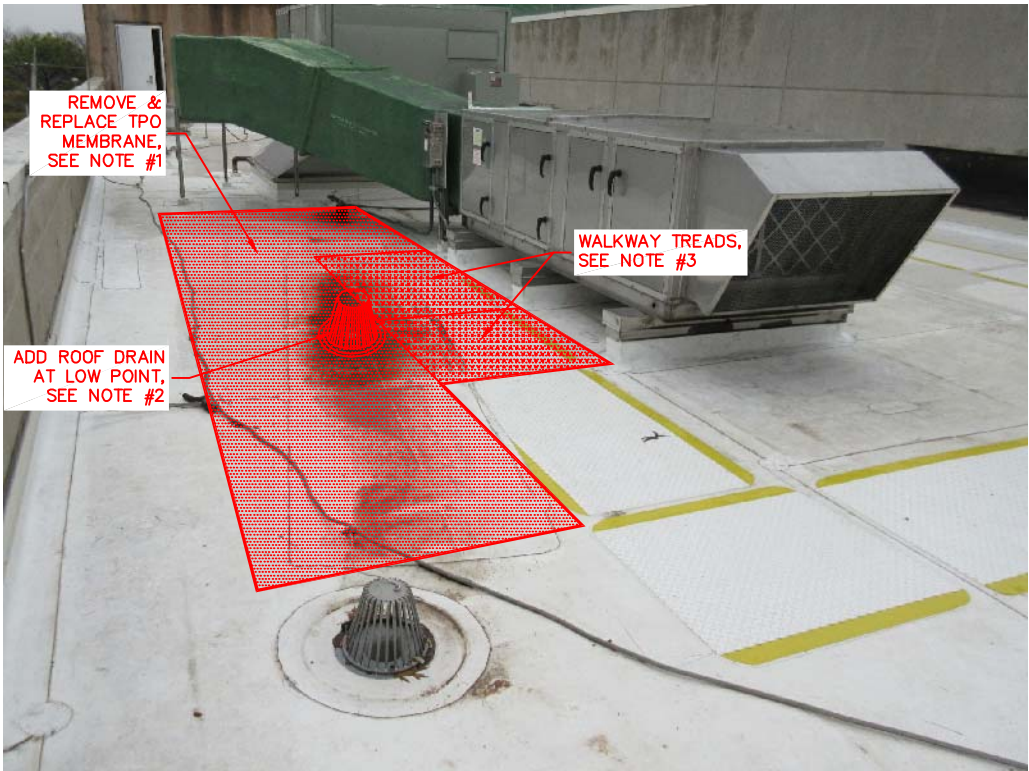
REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0 _____ 1"		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
<p align="center">REFERENCE ORIGINAL SA-83-21 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION</p>			
<p align="center">DRAWING 203.200.E DIGESTER 3&4 ROOF & ROOF DRAIN REPLACEMENT</p>			
<p align="center">WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1</p>			
<p align="center">CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY</p>			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELEN, Inc. 400-A & 8TH ST., BROOKING AVENUE, OKLAHOMA 74802 (918)471-4717, FAX (918)471-0764	
PLAN SCALE: 1/4" = 1'-0"	DRAWN	JME	APPROVED: _____
	DESIGNED	LST	
	SURVEY		
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR.		
	PROJ. MGR.		
VERTICAL:	_____		
FILE:	DRAWING:		DATE: February 11, 2021
ATLAS SCALE NO: ---			SHEET 17 OF 26 SHEETS





- NOTES:
1. REMOVE AND REPLACE TPO ROOFING MEMBRANE AND RIGID TAPERED INSULATION FOR IMPROVED DRAINAGE. REDUCE, REPLACE OR REUSE INSULATION TO EXTENT POSSIBLE AS REQUIRED TO PROVIDE FULL DRAINAGE IN THE AREA SHOWN. REDUCE THE EXISTING THICKNESS OF INSULATION AT THE NEW DRAIN LOCATION TO 0"-1" THICK TO LOWER THE NEW DRAIN ELEVATION TO EXTENT POSSIBLE. PROVIDE POSITIVE 1/4" PER FOOT SLOPE MINIMUM TO EITHER NEW OR OTHER LOCAL DRAIN IN AREA SHOWN. NO PONDING WILL BE ACCEPTED. MATERIALS SHALL MATCH TPO CARLISLE MANUFACTURE ROOFING SYSTEM PRODUCTS AND BE INSTALLED PER MANUFACTURES RECOMMENDATIONS.
 2. INSTALL A NEW 4" RETRO FIT ROOF DRAIN AS INDICATED. MATCH THE EXISTING RETROFIT ROOF DRAINS AS SHOWN. CONCRETE CORE DRILL ROOF SLAB AS REQUIRED AND REPAIR CEILING IN ROOM BELOW. COORDINATE LAYOUT AND PROVIDE UP TO 40LF OF 4" SCHEDULE PVC PIPING, FITTINGS, HDG HANGERS AND CONNECT TO THE EXISTING 4"/6" ROOF DRAIN SYSTEM NEARBY. CONNECTION(S) SHALL BE RIGID PIPE TO PIPE CONNECTIONS, NO FERNCO STYLE FITTING WILL BE ACCEPTED.
 3. PROVIDE NEW DIAMOND PLATE PATTERNED WALKWAY TREADS AS SHOWN ADJACENT TO EQUIPMENT.

1 PLAN @ 71ST STREET DEWATERING BUILDING
18 SCALE: 1/16" = 1'-0"



A PHOTO @ 71ST STREET DEWATERING BUILDING
18 SCALE: NTS

REVISION	BY	DATE
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REFERENCE ORIGINAL ES 91-10 CONTRACT 1 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION		
DRAWING 203.200.F 71ST ST. DEWATERING BUILDING ROOF PLAN & DETAILS		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 21TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744		
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	JME LST
PROFILE SCALE:	FIELD MGR.	
HORIZONTAL:	SECT. MGR.	
	PROJ. MGR.	
VERTICAL:		
FILE:	DRAWING:	DATE: February 11, 2021
ATLAS PAGE NO: ---		SHEET 18 OF 26 SHEETS



DEMOLISH WET WELL VENT.

DEMOLISH HANDRAIL, SEE NOTE #2 & #3.

DEMOLISH LADDER, SEE NOTE #3

EL. 613.00

4" HDG PIPE SUPPORTS, SEE DETAIL 4/26

DEMOLISH VALVE HANDHOLE FRAME & LID

DEMOLISH CHEMICAL STORAGE TANK, SEE NOTE #1

DEMOLISH EXISTING DRAIN/CONCRETE, SEE NOTE #1

EL. 601.50
EL. 600.00

6" CONC. ENCASEMENT

4" DRAIN LINE

Diagram Description: This is a cross-sectional diagram of a chemical storage tank enclosure. The central feature is a 'CHEMICAL STORAGE TANK' shown with a red cross-hatch pattern, indicating it is to be demolished. The tank is situated within a concrete structure. Above the tank, a curved roof structure is labeled 'EL. 613.00'. To the left of the tank, a vertical structure is labeled 'DEMOLISH WET WELL VENT.' and '4" HDG PIPE SUPPORTS, SEE DETAIL 4/26'. Below the tank, a horizontal structure is labeled 'DEMOLISH VALVE HANDHOLE FRAME & LID'. To the right of the tank, a vertical structure is labeled 'DEMOLISH LADDER, SEE NOTE #3' and 'DEMOLISH CHEMICAL STORAGE TANK, SEE NOTE #1'. Below the tank, a horizontal structure is labeled 'DEMOLISH EXISTING DRAIN/CONCRETE, SEE NOTE #1'. The base of the structure is labeled '6" CONC. ENCASEMENT' and '4" DRAIN LINE'. Elevation markers 'EL. 601.50' and 'EL. 600.00' are shown near the base of the tank. A note 'DEMOLISH HANDRAIL, SEE NOTE #2 & #3.' points to a structure on the left side of the tank.

DEMOLISH CHEMICAL STORAGE TANK

DEMOLISH HANDRAIL, PROTECT HAND RAILING ALONG SOUTH SIDE

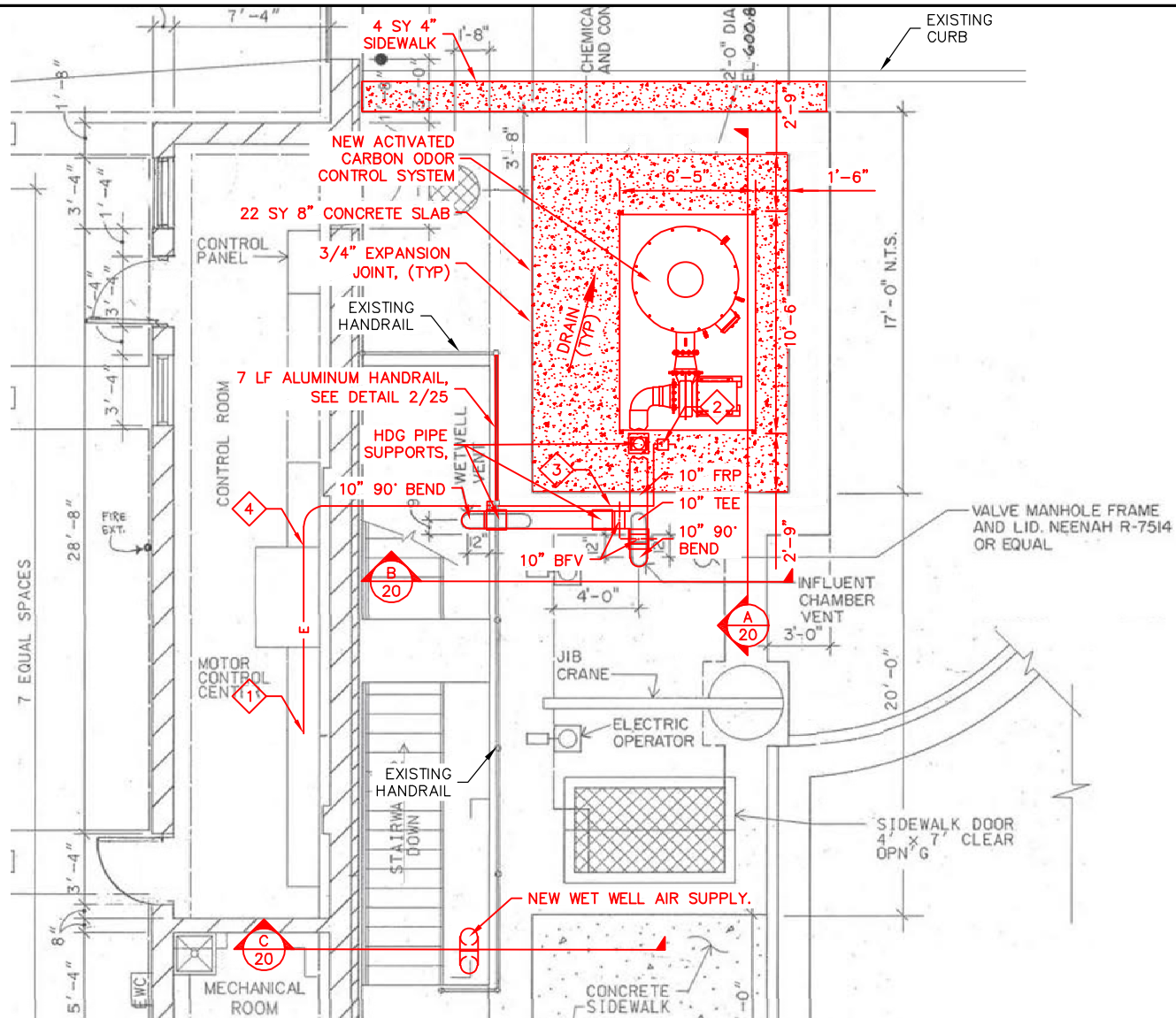
DEMOLISH LADDER

SEE NOTE #

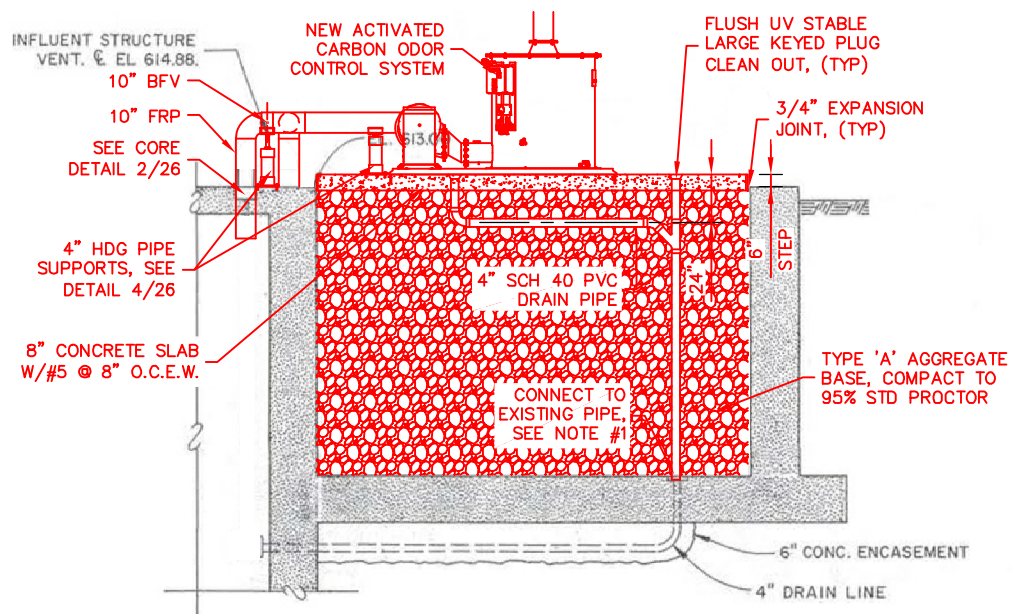
Professional Engineer Seal for Loyd Stephen Tolari, Registered Professional Engineer, No. 20679, State of Oklahoma, expires 7-16-2021.

- | | | | | |
|----------------------|--|-----------------------|-----|-------------------------|
| PLAN SCALE:
1"=X' | | DRAWN | JME | APPROVED: |
| | | DESIGNED | LST | |
| | | SURVEY | | |
| PROFILE SCALE: | | FIELD MGR. | | |
| HORIZONTAL:
1"=X' | | SECT. MGR. | | |
| VERTICAL:
1"=X' | | PROJ. MGR. | | |
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| FILE: | | DRAWING: | | DATE: February 11, 2021 |
| ATLAS PAGE NO: --- | | SHEET 19 OF 26 SHEETS | | |

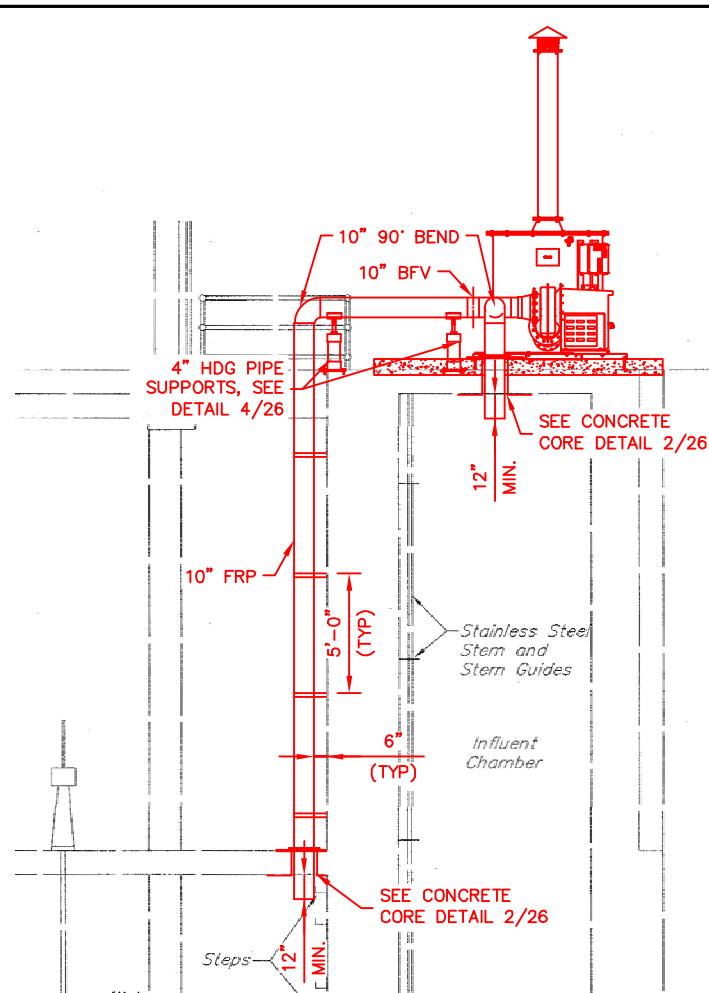
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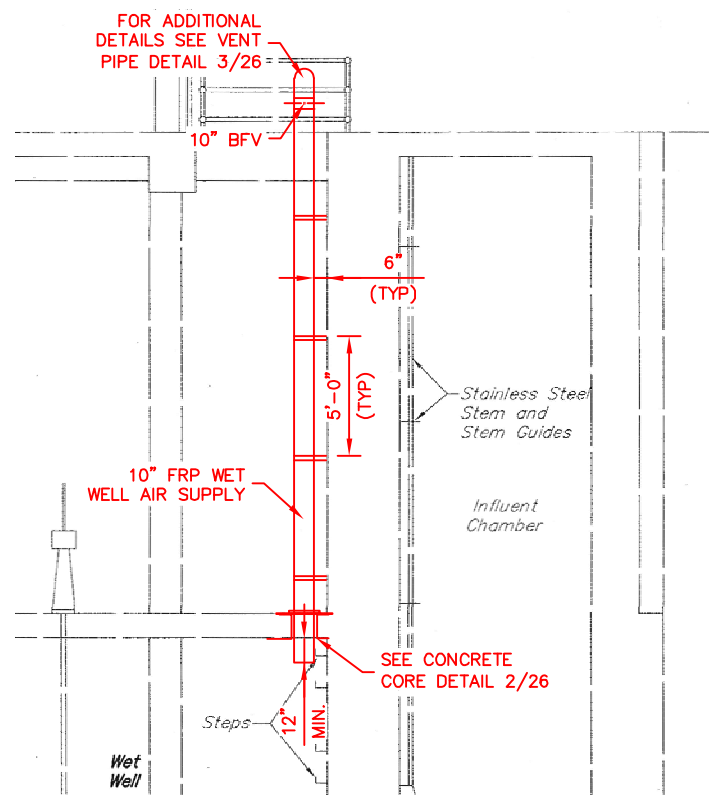
1
20
PLAN @ S.E. BASIN LIFT STATION
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8'



A
20
SECTION @ S.E. BASIN LIFT STATION
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8'



B
20
SECTION @ S.E. BASIN LIFT STATION
SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'



C
20
SECTION @ S.E. BASIN LIFT STATION
SCALE: 3/16" = 1'-0"
0 2' 4' 8' 12'


ELECTRICAL NOTES:

1. FURNISH & INSTALL NEW FEEDER BUCKET IN EXISTING MCC FOR NEW EQUIPMENT NEMA SIZE 1 MINIMUM.
2. 30A/3P STAINLESS STEEL DISCONNECT MOUNTED ON STAINLESS STEEL CHANNEL.
3. ROUTE (3#12+1#12EG)1"C OVERHEAD TO BUILDING.
4. CORE DRILL BUILDING AND ROUTE TO NEW MCC BUCKET.

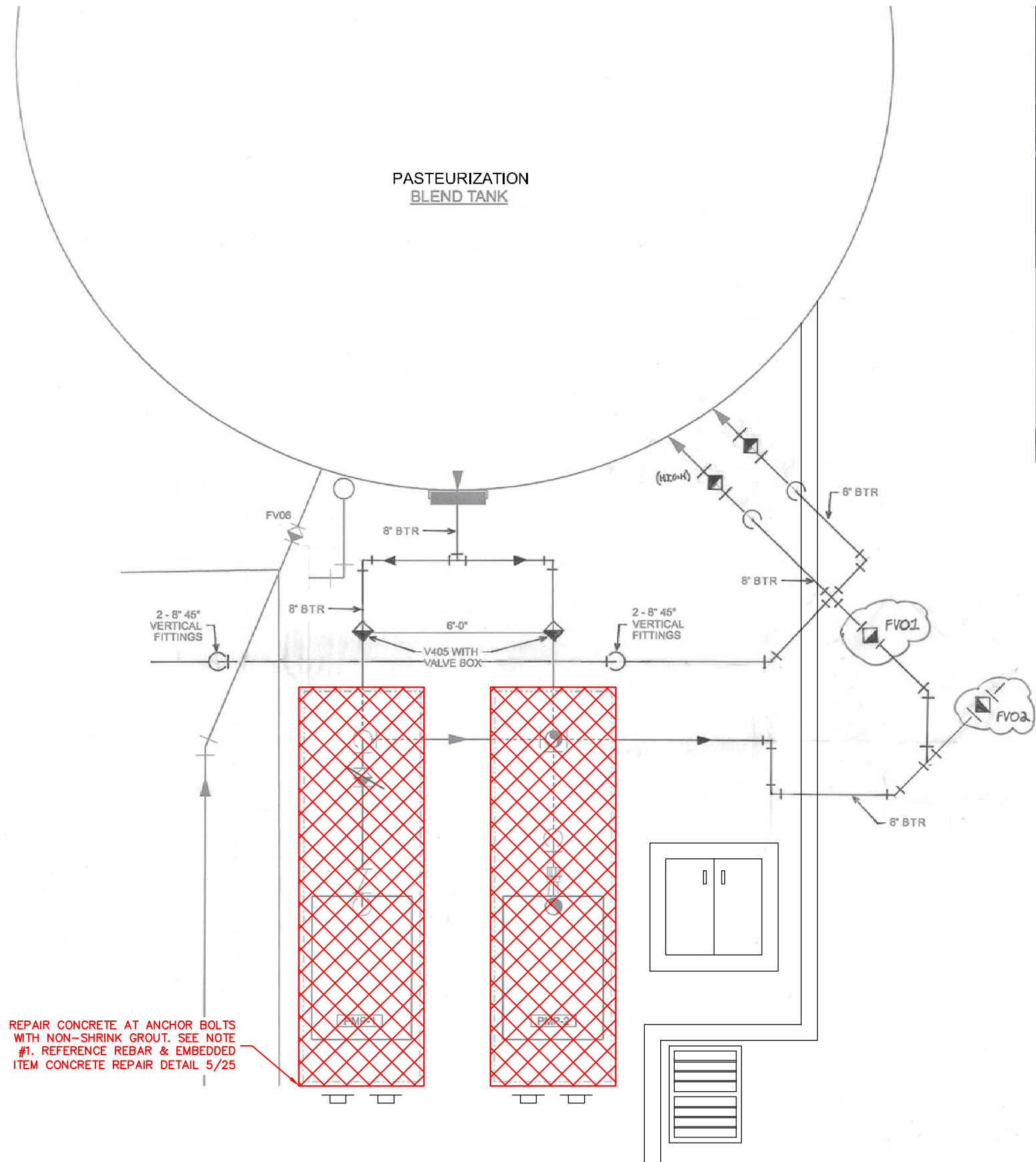
NOTES:

1. EXTEND DRAIN PIPING TO TOP OF NEW SLAB AS INDICATED.
2. PROVIDE BOND BREAK WRAP AT SLAB.
3. ALL FRP PIPE SHALL BE FLXFL CONNECTIONS. FLANGES SHALL BE POSITIONED SUCH THAT BOLTS MAY BE REMOVED.
4. ALL BOLTS & FASTENERS SHALL BE BE 316SST.
5. PROVIDE CORTROL FLANGED FRP PIPING OR EQUAL.
6. BUTTERFLY FLANGED VALVES SHALL BE BECCO OR EQUAL WITH 316SST COMPONENTS. VALVES SHALL BE ORIENTATED FOR EASE OF ACCESS BY PLANT STAFF.

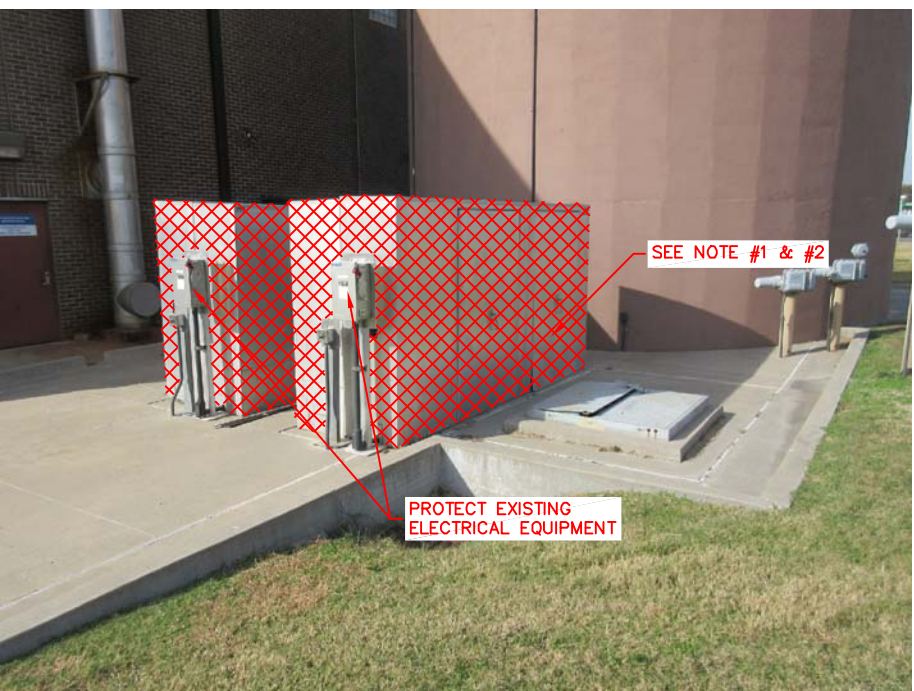
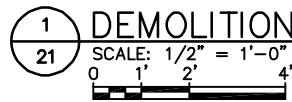


REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0		1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
REFERENCE ORIGINAL ES-2007-03 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.300.B SE BASIN SITE PLAN			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELLEN, Inc. 200-A S. 4TH ST., BROOKSIDE AVENUE, OKLAHOMA 74106 (918)831-4777, FAX (918)831-0764	
PLAN SCALE: 1"=X'	DRAWN	JME	APPROVED:
	DESIGNED	LST	
	SURVEY		
PROFILE SCALE: 1"=X'	FIELD MGR.		
	SECT. MGR.		
	PROJ. MGR.		
HORIZONTAL: 1"=X'			
VERTICAL: 1"=X'			
FILE:	DRAWING:		DATE: February 11, 2021
ATLAS PAGE NO: ---		SHEET 20 OF 26 SHEETS	

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REPAIR CONCRETE AT ANCHOR BOLTS WITH NON-SHRINK GROUT. SEE NOTE #1. REFERENCE REBAR & EMBEDDED ITEM CONCRETE REPAIR DETAIL 5/25



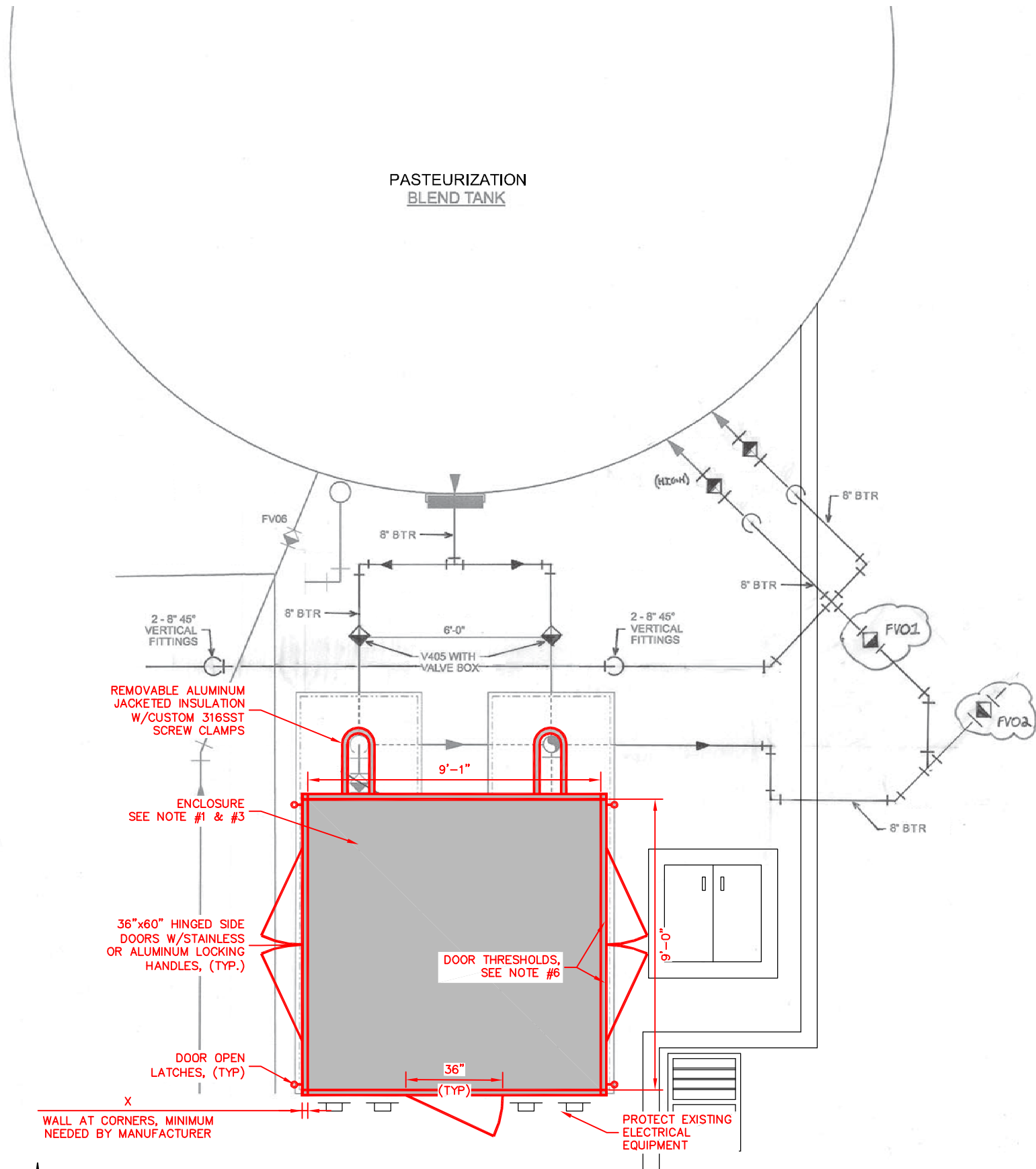
A
21 PHOTO @ EXISTING ENCLOSURE SITE
SCALE: NTS

- NOTES:**
1. DEMOLISH ENCLOSURES. DEMOLISHED ITEMS BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.
 2. PROTECT EXISTING PUMPS, PIPING, ELECTRICAL AND EQUIPMENT INCLUDING BURIED PIPING AND ELECTRICAL DURING CONSTRUCTION.
 3. SEE CONCRETE REPAIR DETAIL 5/25.

REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY			
REFERENCE ORIGINAL ES 2007-01 C1 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.400.A BLEND TANK BUILDING DEMOLITION PLAN			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVEBIDE, OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744	
PLAN SCALE: VARIES	DRAWN DESIGNED SURVEY	JME LST	APPROVED:
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR.		
	PROJ. MGR.		
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1
22 PLAN @ PASTEURIZATION BLEND SYSTEM ENCLOSURE
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

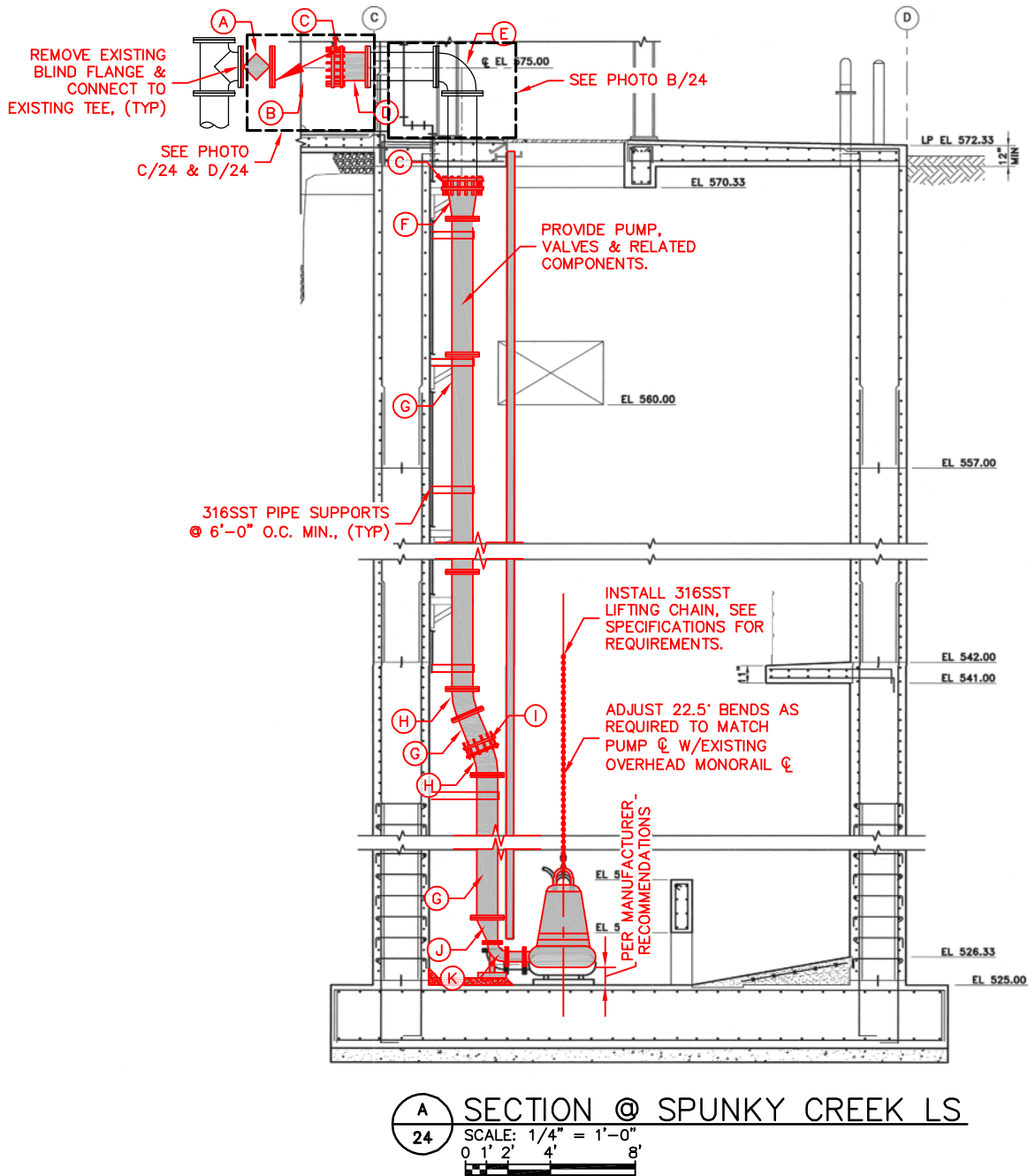
NOTES:

1. ENCLOSURE MANUFACTURER SHALL PROVIDE ANCHOR BOLT SIZE, SPACING AND DEPTH INTO BASE SIDEWALK SLAB. MINIMUM SIZE SHALL BE HILTI HY-200 1/2" 316SST ANCHOR BOLT W/6" EMBEDMENT. ENCLOSURE SHALL INCLUDE PANEL CONSTRUCTION W/LOCKABLE HANDLES & HINGED DOORS. DOORS SHALL EACH HAVE HOLD OPEN LATCHES & LOCKABLE SLIDE BAR HANDLES. ENCLOSURE INSULATION SHOULD BE 1" THICK RIGID FOAM W/ALUMINUM EXPOSED SURFACES.
2. PUMPS, PIPING, VALVES AND ANY ITEM THAT REQUIRES MAINTENANCE OR ACCESS SHALL HAVE 1'-0" MINIMUM CLEARANCE TO ENCLOSURE.
3. SAFE-T-COVER HOT BOX OR EQUAL.
4. MATERIAL CONSTRUCTION SHALL BE CORROSION RESISTANT & BE CONSTRICTED OF ALUMINUM, FRP, STAINLESS OR HDG STEEL.
5. STRUCTURE INTERIOR CLEAR SPACE & DISTANCE SHALL BE COORDINATED W/OWNERS REPRESENTATIVE & INCLUDED IN SUBMITTAL LAYOUT DRAWINGS. INTERIOR MINIMUM DIMENSIONS SHALL BE 9'-1" WIDE x 9'-0" LONG x 6'-5" HIGH.
6. PROVIDE 6'-3" TOP OF DOOR OPENING ELEVATIONS ABOVE THE SLAB & 3" THRESHOLD TYPICAL, EAST THRESHOLD MUST BE 12" TALL TO CLEAR EXISTING ELECTRICAL VAULT.

REVISION		BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY			
REFERENCE ORIGINAL ES-2007-01 C1 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION			
DRAWING 203.400.B BLEND TANK BUILDING PLAN & DETAILS			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE & BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0764	
PLAN SCALE: VARIES	DRAWN	JME	APPROVED:
	DESIGNED	LST	
	SURVEY		
PROFILE SCALE:	FIELD MGR.		
HORIZONTAL:	SECT. MGR.		
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B
24 PHOTO @ EXISTING
SCALE: NTS



C
24 PHOTO @ EXISTING
SCALE: NTS



D
24 PHOTO @ EXISTING
SCALE: NTS



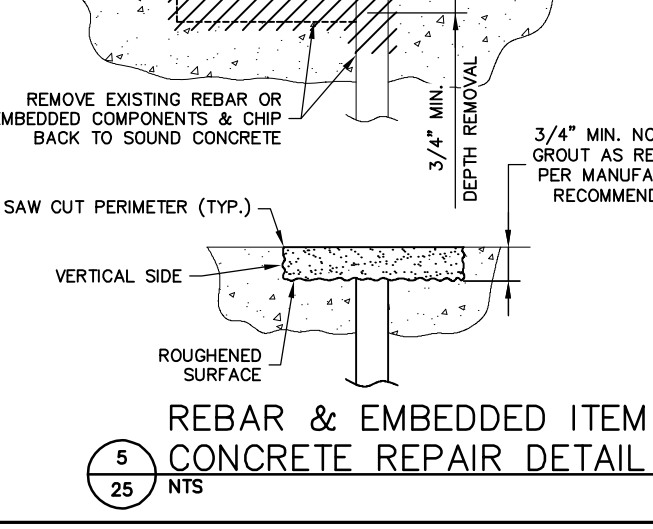
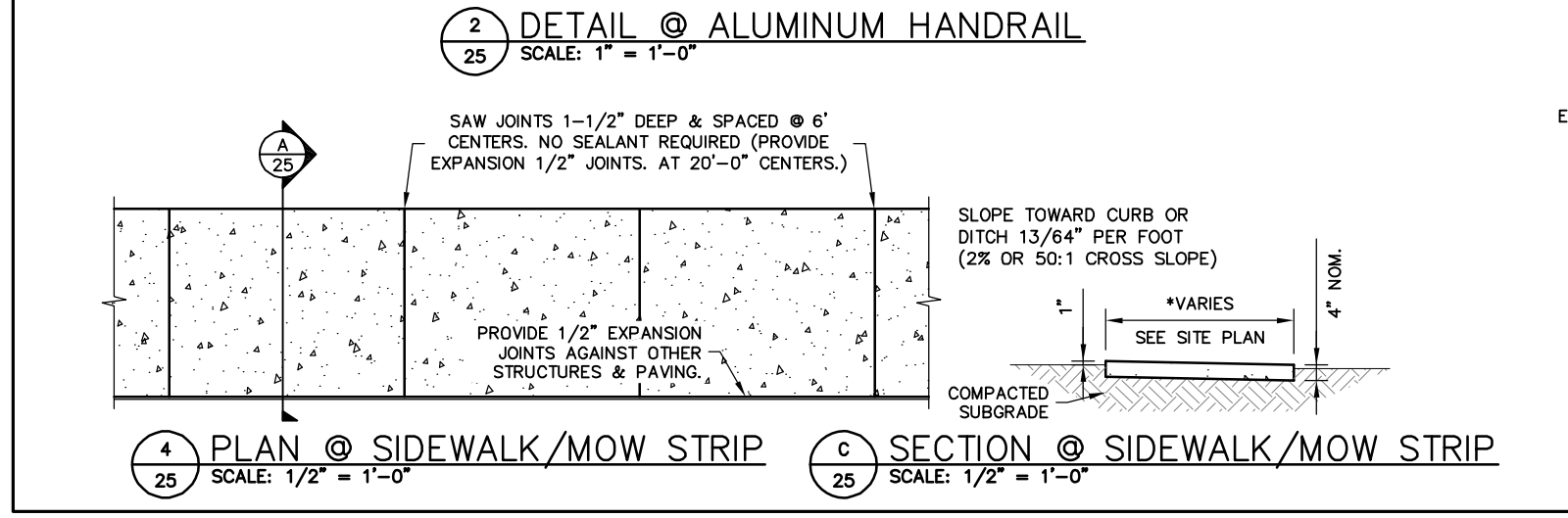
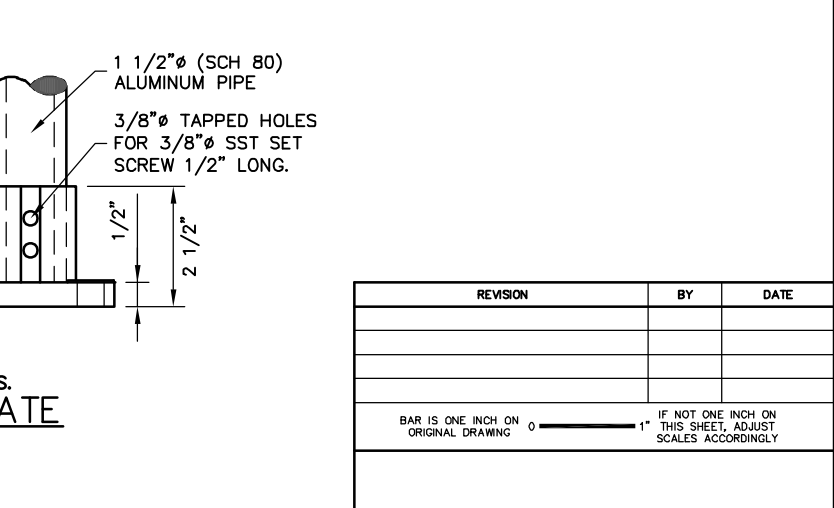
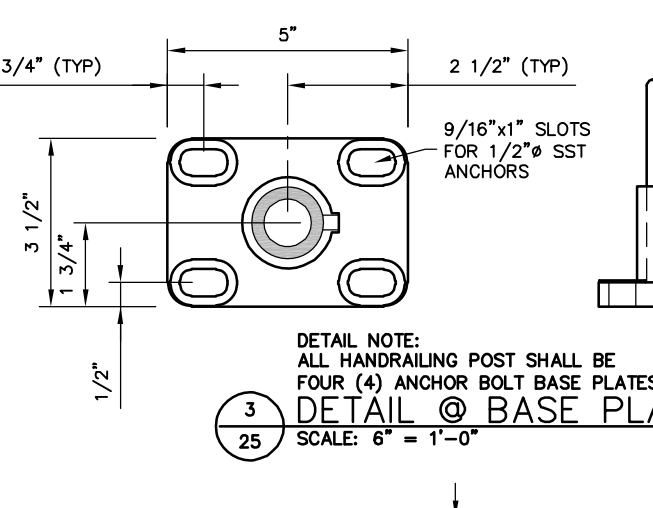
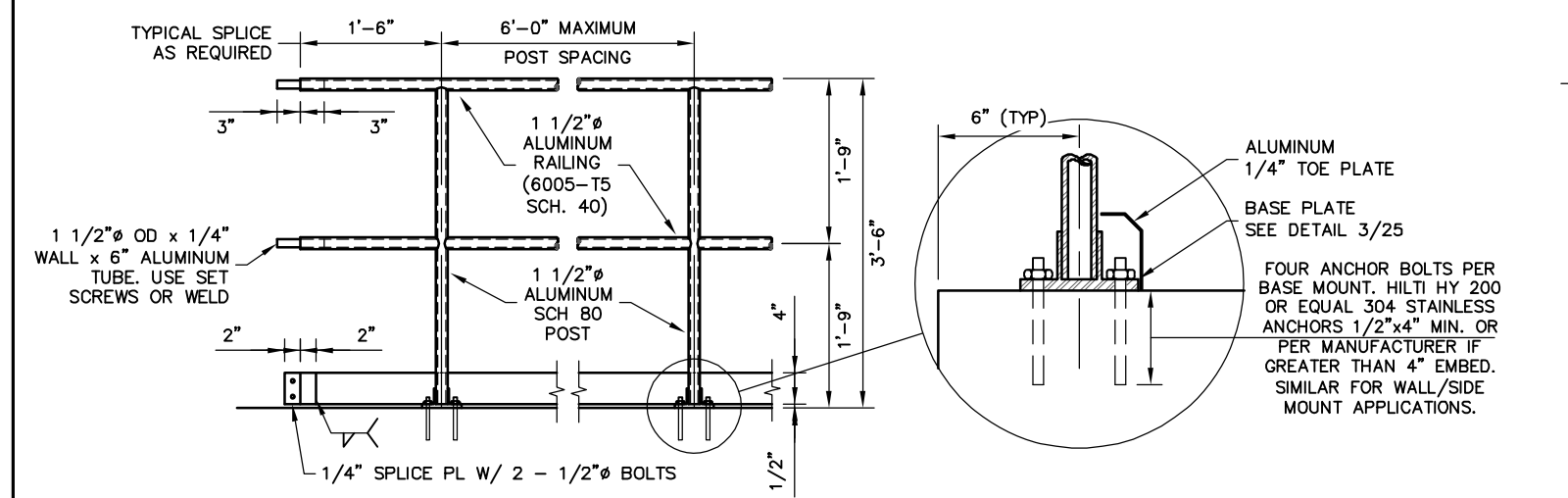
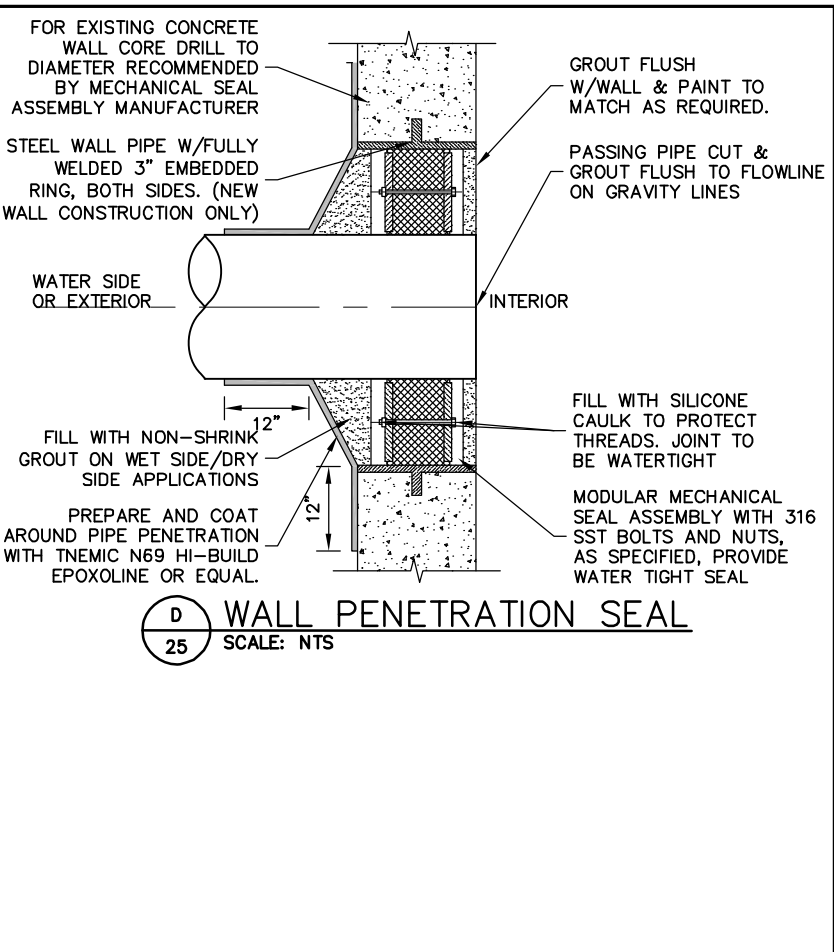
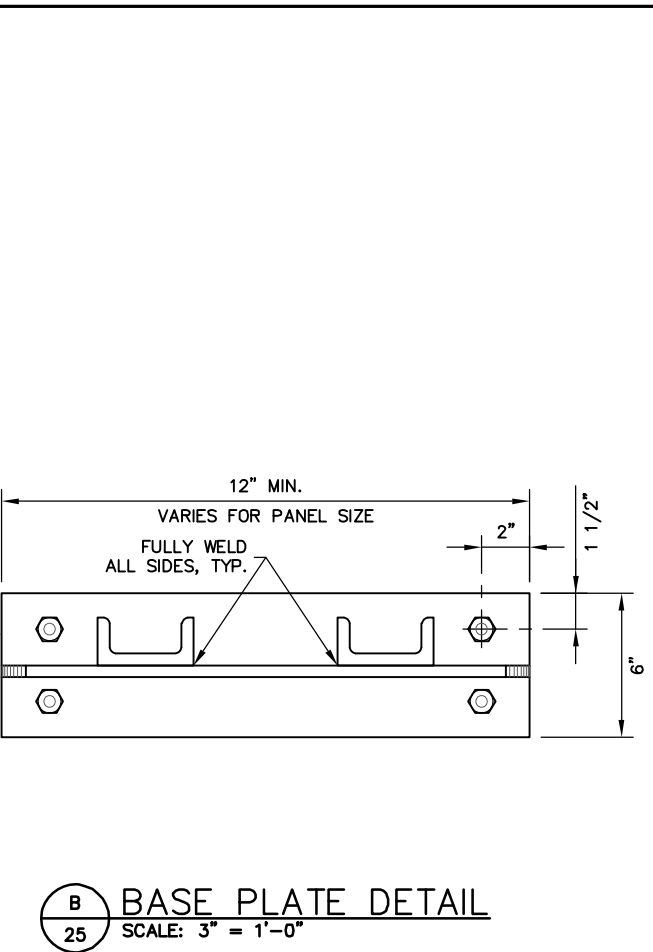
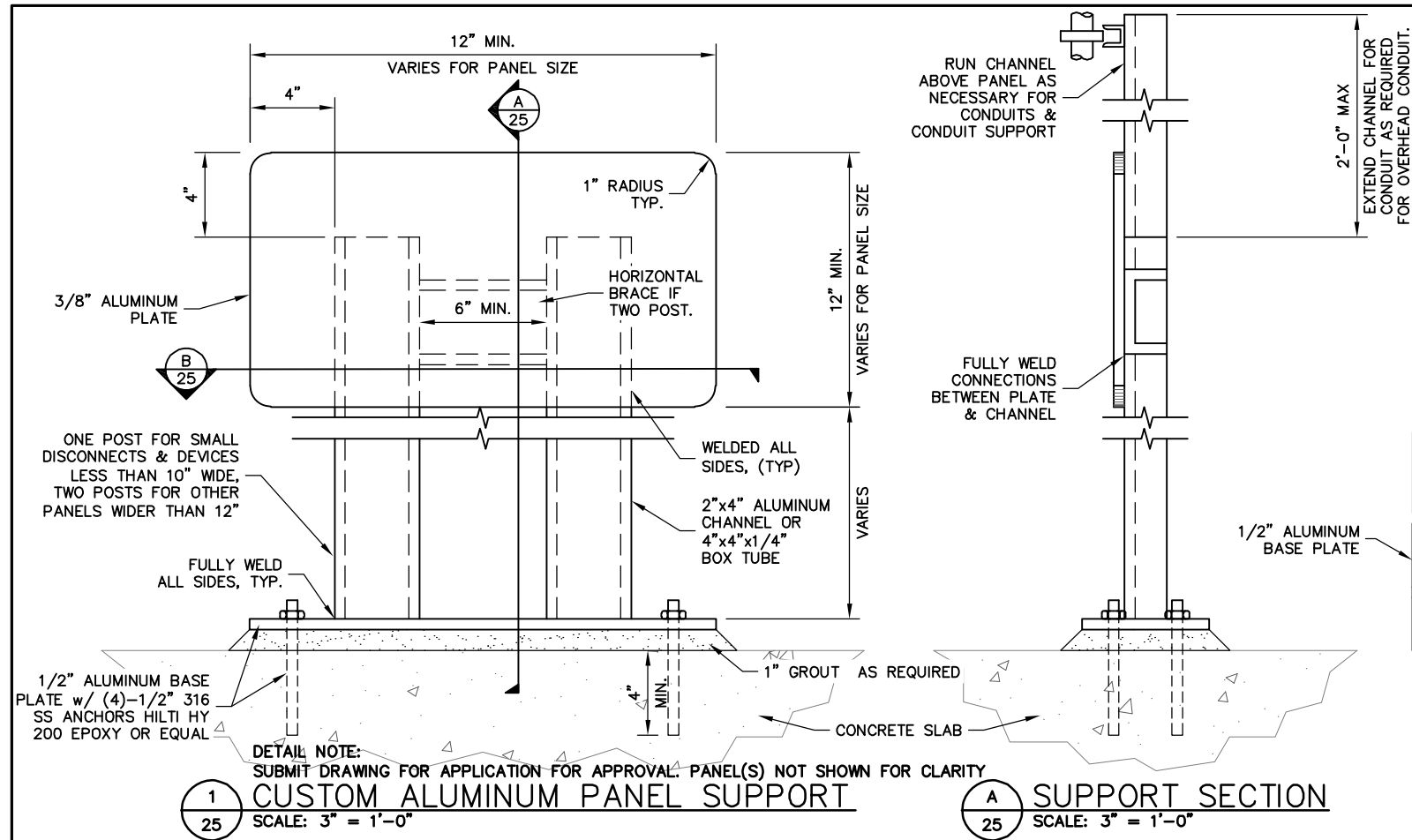
- NOTES:
1. ADJUST PUMP POSITION TO ALIGN PUMP BAIL W/EXISTING MONORAIL CENTERLINE.
 2. PREPARE & PAINT ALL NEW PIPING, VALVES & FITTINGS.
 3. REUSE EXISTING PIPING TO EXTENT POSSIBLE.

EQUIPMENT SCHEDULE	
ID	DESCRIPTION
(A)	16" PLUG VALVE
(B)	16" CHECK VALVE
(C)	16" F.C.A.
(D)	16" FLxPE PIPING
(E)	EXISTING 16" DIP
(F)	12"x16" CONCENTRIC REDUCER
(G)	12" FLxFL PIPING
(H)	12" 22.5° BEND
(I)	12" F.C.A.
(J)	6"x12" ECCENTRIC REDUCER
(K)	(*) 5" BASE 90°

(*) PER MANUFACTURER REQUIREMENTS

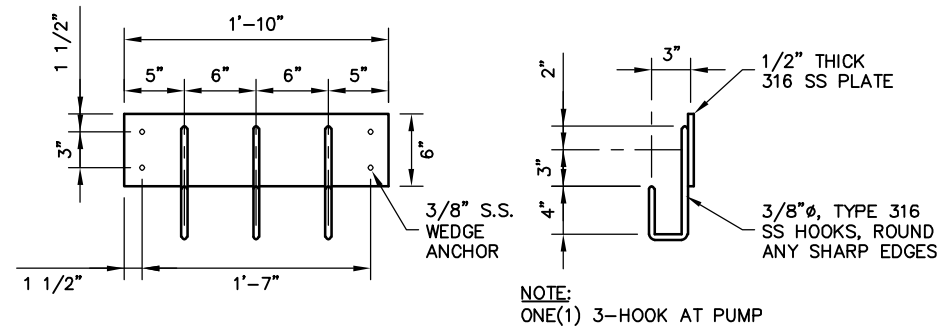
REVISION	BY	DATE
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		
REFERENCE ORIGINAL ES-2004-06 RECORD DRAWINGS FOR ADDITIONAL DETAILS & INFORMATION		
DRAWING 203.600.B SPUNKY CREEK LIFT STATION PUMP IMPROVEMENT SECTION		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROOKHURST, OKLAHOMA 74109 (918) 477-1177, FAX (918) 477-0744
PLAN SCALE: VARIES	DRAWN: JME DESIGNED: LST SURVEY:	APPROVED:
PROFILE SCALE: FIELD MGR.		
HORIZONTAL: SECT. MGR.		
	PROJ. MGR.	
VERTICAL:		
FILE:	DRAWING:	DATE: February 11, 2021
ATLAS PAGE NO: ---		SHEET 24 OF 26 SHEETS

z:\Projects\2020\20tmuawpc21-1\Design\production_plans\MISCELLANEOUS DETAILS.dwg, 2/16/2021 12:38:45 PM

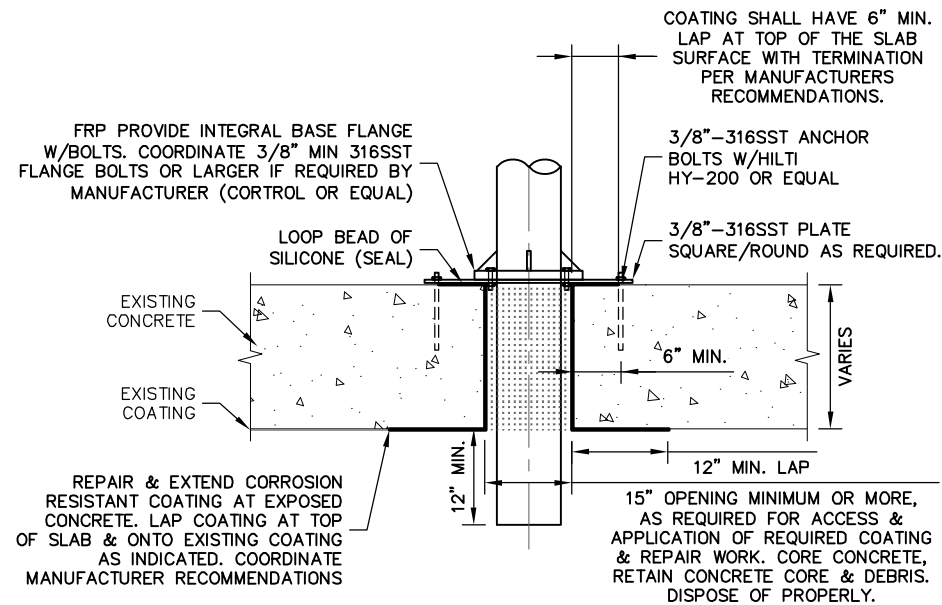


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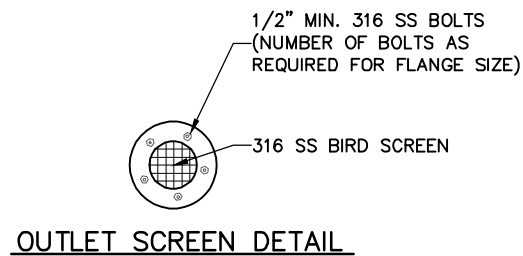
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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE & BELLEN, Inc. 200-A S. 4TH ST., BROCKTON AVE., OKLAHOMA 74106 (918) 477-4777, FAX (918) 477-4744			
PLAN SCALE: 1"=X'	DRAWN DESIGNED SURVEY	JME LST	APPROVED:
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HORIZONTAL: 1"=X'	SECT. MGR.		
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FILE:	DRAWING:	DATE: February 11, 2021	
ATLAS PAGE NO: ---	SHEET 25 OF 26 SHEETS		



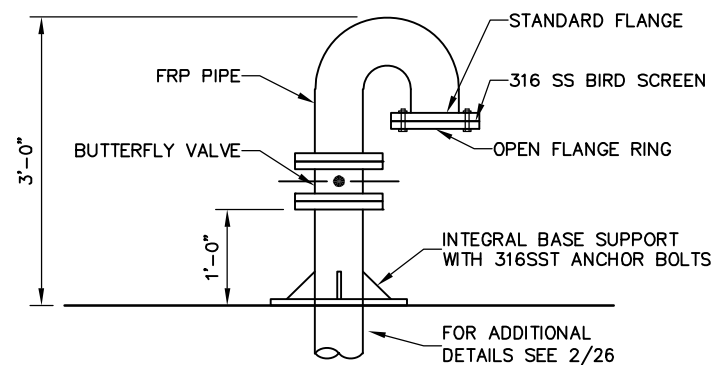
1 CHAIN/CABLE HOLDER ASSY. FOR PUMPS
SCALE: 1'-1/2" = 1'-0"



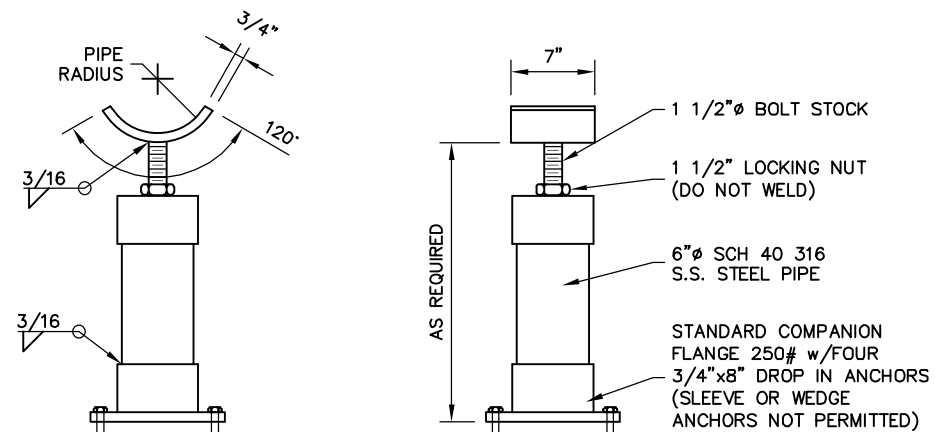
2 DETAIL @ FRP PIPING CONCRETE CORE
SCALE: 1" = 1'-0"



OUTLET SCREEN DETAIL




3 DETAIL @ FIBERGLASS VENT PIPE
SCALE: 1" = 1'-0"























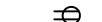









4 ADJUSTABLE PIPE SUPPORT DETAIL
SCALE: 1" = 1'-0"





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CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A S. 4TH ST., BROOKHURST, OKLAHOMA 74109 (918) 477-0777, FAX (918) 477-0744		
PLAN SCALE: 1"=X'	DRAWN DESIGNED SURVEY	JME LST
PROFILE SCALE:	FIELD MGR.	
HORIZONTAL: 1"=X'	SECT. MGR.	
VERTICAL: 1"=X'	PROJ. MGR.	
FILE:	DRAWING:	DATE: February 11, 2021
ATLAS PAGE NO: ---		SHEET 26 OF 26 SHEETS





























C:\USERS\CHARLES\SYNOLOGY\DRIVE\HUB ENGINEERS (HUB)\HUB-247 TULSA CAPITAL EQUIPMENT REPLACEMENT WPC-21\DWG\EA-1_LEGEND.DWG
1/21/2021 11:08 AM

POWER, LIGHTING & SYSTEM LEGEND

	UNDER CABINET LIGHT FIXTURE
	1x4 FLUORESCENT LIGHT
	2x4 FLUORESCENT LIGHT
	FLUORESCENT LIGHT WITH EMERGENCY LIGHT (EL) BATTERY 1400 LUMENS MINIMUM FOR 2 LAMPS
	2x2 FLUORESCENT LIGHT
	RECESSED LIGHT, UNLESS OTHERWISE SHOWN
	WALL MOUNTED LIGHT-MOUNTING HEIGHT AS INDICATED
	LED EXIT LIGHT, CEILING MOUNTED OR AS INDICATED, DARKENED AREA INDICATES FACE, ARROWS INDICATE DIRECTION OF EGRESS
	EMERGENCY EXIT LIGHT, WALL MOUNT 7'-6" A.F.F. OR AS NOTED
	4 FT. STRIP FLUORESCENT LIGHT
	LIGHT SWITCH, MTD. 4'-0" A.F.F.
	LIGHT SWITCH, 2 POLE, MTD 4'-0" A.F.F.
	LIGHT SWITCH, 3-WAY, MTD. 4'-0" A.F.F.
	LIGHT SWITCH, 4-WAY, MTD. 4'-0" A.F.F.
	LIGHT SWITCH WITH PILOT LIGHT, MTD. 4'-0" A.F.F.
	20 AMP DUPLEX RECEPTACLE MTD. HORIZ. 6" ABOVE COUNTER TOP UNLESS OTHERWISE SHOWN
	20 AMP DUPLEX RECEPTACLE MTD. 18" A.F.F., WITH #12 GROUND WIRE, GFCI INDICATES GROUND FAULT CIRCUIT INTERRUPTER, WP INDICATES WEATHERPROOF WHILE IN USE ENCLOSURE AND COVER
	SINGLE RECEPTACLE, RATINGS AS NOTED
	HP RATED TOGGLE SWITCH, 1 OR 2 POLES AS REQUIRED W/OVERLOADS
	NON-FUSED DISCONNECT SWITCH, SIZE AS NOTED
	COMBINATION DISCONNECT AND MOTOR STARTER, SIZE AS NOTED. FUSED TYPE SHOWN.
	FUSED DISCONNECT SWITCH, SIZE AS NOTED
	PUSHBUTTON STATION, NEMA 4X
	ELECTRICAL PANEL, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE
	ELECTRICAL PANEL, RECESSED MOUNTED, 5'-6" TO TOP OT ENCLOSURE
	EQUIPMENT CABINET SIZE AS NOTED, RECESSED MOUNTED, 5'-6" TO TOP OF ENCLOSURE
	EQUIPMENT CABINET SIZE AS NOTED, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE
	HOME RUN TO PANEL, RECEPTACLES AND EQUIPMENT SHALL HAVE GREEN GROUND WIRE. NUMBER OF ARROWS INDICATES NUMBER OF PHASE CONDUCTORS, LETTER(S) INDICATE NAME OF PANEL, NUMBER(S) INDICATE CIRCUIT NUMBERS
	BRANCH CIRCUIT WITH PHASE, NEUTRAL, SWITCHED PHASE AND EQUIPMENT GROUNDING CONDUCTORS
	TELEPHONE OR DATA OUTLET, SINGLE GANG BOX MTD. 18" A.F.F. WITH 3/4"C STUB TO ABOVE LAY-IN CEILING. "W" INDICATES 4'-6" MTD. HEIGHT FOR WALL PHONE.

LINE TYPES

	FURNISH + INSTALL
	EXISTING

	3/4" PLYWOOD TELEPHONE BACKBOARD, SIZE AS NOTED, MTD. 5'-6" TO TOP
	JUNCTION BOX 42 CUBIC INCH MINIMUM CAPACITY
	SMOKE DETECTOR, WALL MTD.
	SMOKE DETECTOR, CEILING MTD.
	FIRE ALARM PULL STATION MTD. 4'-0" A.F.F.
	FIRE ALARM PULL STATION MTD. 4'-0" A.F.F. AND HORN MTD. 7'-0" A.F.F.
	SMOKE DETECTOR, HVAC DUCT MTD.
	FIRE ALARM CHIME 7'-0" A.F.F.
	SPRINKLER FLOW SWITCH
	FLOOR TELEPHONE OUTLET, CAST JUNCTION-BOX
	WALL TELEPHONE/DATA OUTLET
	DOOR SWITCH MOUNTED IN DOOR JAMB
	DOOR BUTTON WEATHER PROOF, 50" A.F.F.
	DOOR BUZZER MTD 7'-0" A.F.F.
	HANDHOLE OR MANHOLE, IDENTIFIER SHOWN, REFER TO HANDHOLE OR MANHOLE SCHEDULE FOR SIZE
	CIRCUIT BREAKER, TRIP RATING SHOWN, 3-POLE UNLESS NOTED
	FUSE, CURRENT LIMITING, RATING AS SHOWN
	TRANSFORMER, RATINGS AS SHOWN
	ELECTRIC MOTOR, HORSEPOWER SHOWN
	MOTOR STARTER, SIZE AS SHOWN OR REQUIRED. FVNR UNLESS NOTED
	VARIABLE FREQUENCY DRIVE
	DUCT BANK, IDENTIFIER SHOWN. REFER TO DUCT BANK SCHEDULE FOR SIZE AND CONFIGURATION.
	3/4" x 10' COPPER CLAD GROUND ROD
	SURGE ARRESTOR
	GENERATOR
	ATS
	WEATHERHEAD
	CABLE CONNECTION


























2(3#8 + 1#8 + 1#10EG)	3/4" GRS
	CONDUIT TYPE (SEE ABBREVIATIONS) REFER TO SPECIFICATIONS IF NOT SHOWN
	CONDUIT SIZE
	GROUNDING (GROUND) CONDUCTOR, NUMBER AND SIZE
	GROUND (NEUTRAL) CONDUCTOR, NUMBER AND SIZE
	PHASE (HOT) CONDUCTOR, NUMBER AND SIZE
	NUMBER OF SETS

ABBREVIATIONS

A	AMP
ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CAPACITY
AM	AMP-METER
ANN	ANNUNCIATOR
AP	AERIAL PRIMARY
AS	AERIAL SECONDARY
AUX	AUXILIARY
BFI	BLOWN FUSE INDICATOR
BKR	BREAKER
C	CONDUIT
CGRS	PVC COATED GALVANIZED RIGID STEEL
CKT	CIRCUIT
COM	COMMON
CONT	CONTINUOUS
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CORD SET
CU	COEFFICIENT OF UTILIZATION
DEB	DIRECT EARTH BURIED
EC	EMPTY OR EMBEDDED CONDUIT
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EL	ELEVATION
EMT	ELECTRICAL METALLIC TUBING
ETM	ELAPSED TIME METER
FA	FIRE ALARM
FAP	FIRE ALARM PANEL
FC	FAN COIL
FLR	FLOOR
FOC	FIBER OPTIC CABLE
FS	FLOAT SWITCH
FT	FEET
FVNR	FULL VOLTAGE NON-REVERSING STARTER
FVR	FULL VOLTAGE REVERSING STARTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND-OFF-AUTO
HP	HORSEPOWER OR HEAT PUMP
HR	HOUR
JB	JUNCTION BOX
kVA	KILOVOLT-AMPERE
kVAR	KILOVOLT-AMPERE, REACTIVE
kW	KILOWATT
LA	LIGHTNING ARRESTOR
L.O.	LUGS ONLY
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MIN	MINIMUM
MS	MOTOR STARTER
MTD	MOUNTED
NFDS	NON-FUSED DISCONNECT SWITCH
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OL	OVERLOAD
PB	PUSH BUTTON
PEC	PHOTO ELECTRIC CELL
PF	POWER FACTOR
PL	PILOT LIGHT
PMR	PHASE MONITOR RELAY
PNL	PANEL
PTT	PUSH-TO-TEST
PVC	SCHEDULE 40 POLYVINYL CONDUIT
RECPT	RECEPTACLE
RM	ROOM
RVAT	REDUCED VOLTAGE AUTO-TRANSFORMER STARTER
S	SECOND
SA	SURGE ARRESTER
SDBC	SOFT DRAWN BARE COPPER
SE	SERVICE ENTRANCE
SHT	SHEET
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
STA	STATION
SW	SWITCH
TC	TIME CLOCK
TEL	TELEPHONE
TD	TIME DELAY
TDD	TIME DELAY ON DE-ENERGIZATION
TDE	TIME DELAY ON ENERGIZATION
TYP	TYPICAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UG	UNDER GROUND
UH	UNIT HEATER
UP	UNDERGROUND PRIMARY
US	UNDERGROUND SECONDARY

VA	VOLT-AMP
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT-METER
W	WATT OR WIRE
WH	WEATHER HEAD
WM	WATT METER
WP	WEATHERPROOF
W/	WITH
XMFR	TRANSFORMER

CONTROL SCHEMATIC LEGEND

	WIRING WITHIN PANEL
	WIRING TO FIELD DEVICE
	PUSHBUTTON SWITCH, NORMALLY OPEN
	PUSHBUTTON SWITCH, NORMALLY CLOSED
	SELECTOR SWITCH, NUMBER OF POSITIONS AND CONTACTS AS SHOWN
	RELAY CONTACT, NORMALLY OPEN
	RELAY CONTACT, NORMALLY CLOSED
	TIME DELAY CONTACT, CLOSE ON ENERGIZATION
	TIME DELAY CONTACT, OPEN ON ENERGIZATION
	TIME DELAY CONTACT, OPEN ON DE-ENERGIZATION
	TIME DELAY CONTACT, CLOSE ON DE-ENERGIZATION
	LEVEL SWITCH
	PRESSURE SWITCH
	LIMIT SWITCH CONTACT, NORMALLY OPEN
	LIMIT SWITCH CONTACT, NORMALLY CLOSED
	LIMIT SWITCH CONTACT, HELD OPEN
	LIMIT SWITCH CONTACT, HELD CLOSED
	RELAY COIL, "TR" INDICATES "TIMING RELAY"
	PILOT LIGHT; "A" INDICATES "AMBER LENS" "G" INDICATES "GREEN LENS" "R" INDICATES "RED LENS"
	SOLENOID
	ELAPSED TIME METER
	TERMINAL BLOCK
	ELECTRICAL CONNECTION
	FUSE, AMPERE RATING AS SHOWN OR REQUIRED "BFI" INDICATES "BLOWN FUSE INDICATOR" TYPE
	GROUND CONNECTION TO ENCLOSURE GROUND BAR

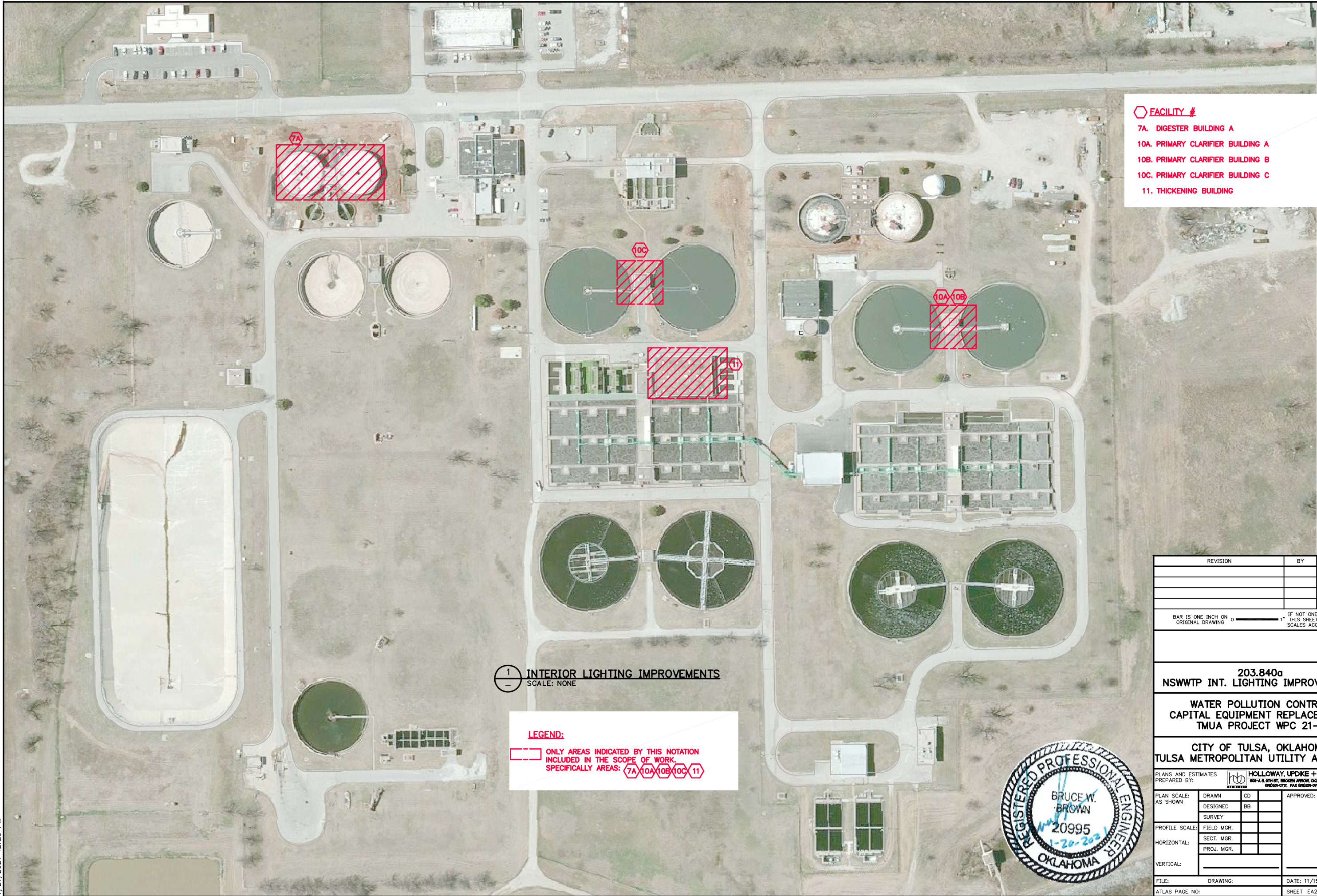
GENERAL NOTES:

1. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE UTILIZED ON THE PROJECT.



REVISION		BY	DATE
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ELECTRICAL LEGEND AND ABBREVIATIONS			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE & BELLEN, Inc. 806-A S. 9TH ST., BROKEN ARROW, OKLAHOMA 74002 (918)258-0707, FAX (918)258-0764	
PLAN SCALE: AS SHOWN	DRAWN	CD	APPROVED:
	DESIGNED	BB	
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PROFILE SCALE:	FIELD MGR.		
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HORIZONTAL:			
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ATLAS PAGE NO:		SHEET EA1 OF 8 SHEETS	

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1/21/2021 12:29 PM



- FACILITY #**
- 7A. DIGESTER BUILDING A
 - 10A. PRIMARY CLARIFIER BUILDING A
 - 10B. PRIMARY CLARIFIER BUILDING B
 - 10C. PRIMARY CLARIFIER BUILDING C
 - 11. THICKENING BUILDING

1
—
—
INTERIOR LIGHTING IMPROVEMENTS
SCALE: NONE

LEGEND:
ONLY AREAS INDICATED BY THIS NOTATION
INCLUDED IN THE SCOPE OF WORK.
SPECIFICALLY AREAS: 7A 10A 10B 10C 11

REVISION	BY	DATE
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203.840a
NSWWTP INT. LIGHTING IMPROVEMENTS

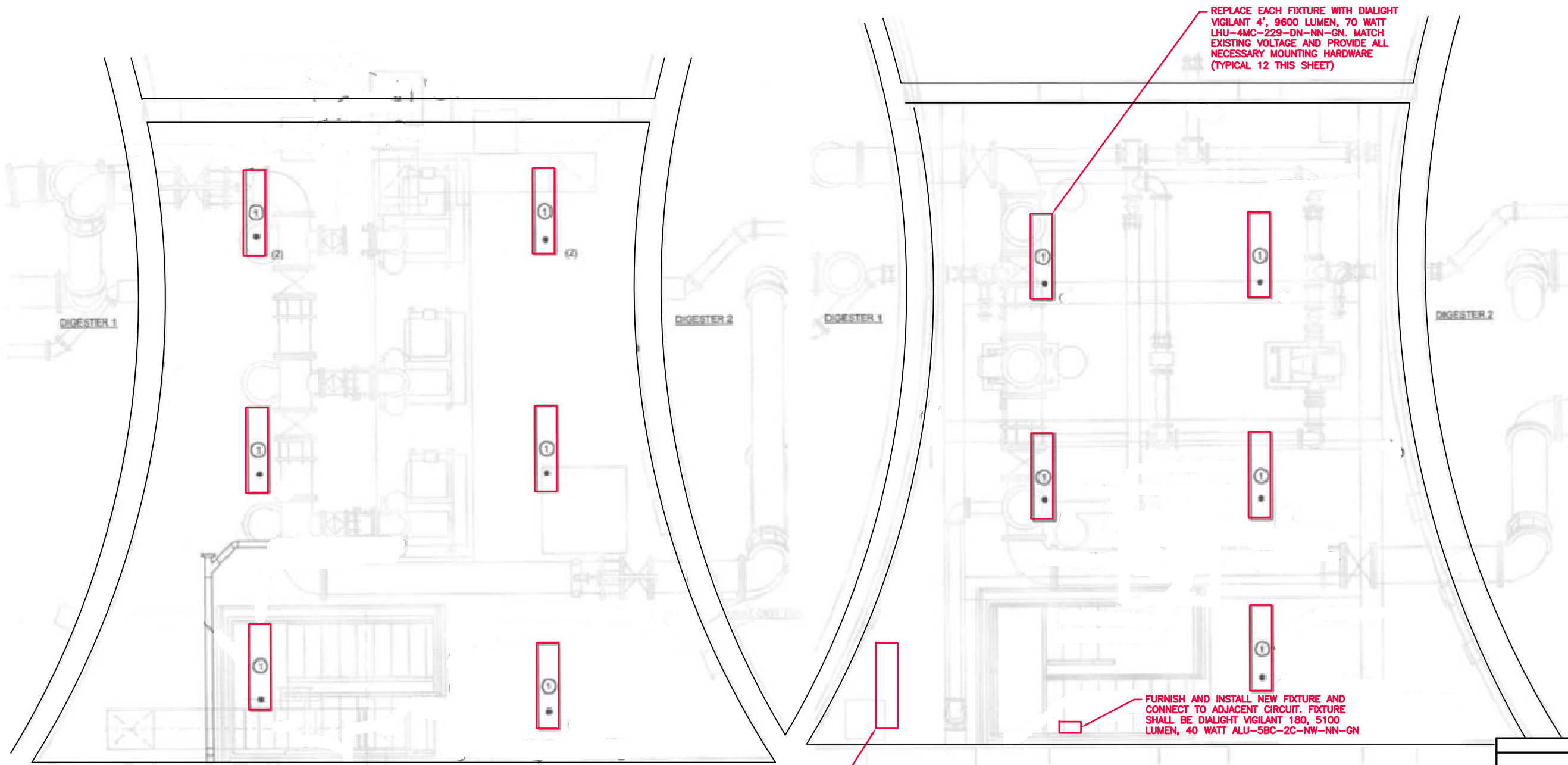
WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 21-1

CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY

PLANS AND ESTIMATES
PREPARED BY:  **HOLLOWAY, UPDIKE + BELLEN, Inc.**
800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002
(918)258-0707, FAX (918)258-0764

PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CD BB	APPROVED:
PROFILE SCALE:	FIELD MGR.		
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ATLAS PAGE NO:		SHEET EA2 OF 8	SHEETS

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FURNISH AND INSTALL NEW FIXTURE AND
CONNECT TO ADJACENT CIRCUIT.


FURNISH AND INSTALL NEW FIXTURE AND
CONNECT TO ADJACENT CIRCUIT. FIXTURE
SHALL BE DIALIGHT VIGILANT 180, 5100
LUMEN, 40 WATT ALU-5BC-2C-NW-NN-GN

REPLACE EACH FIXTURE WITH DIALIGHT
VIGILANT 4', 9600 LUMEN, 70 WATT
LHU-4MC-229-DN-NN-GN. MATCH
EXISTING VOLTAGE AND PROVIDE ALL
NECESSARY MOUNTING HARDWARE
(TYPICAL 12 THIS SHEET)

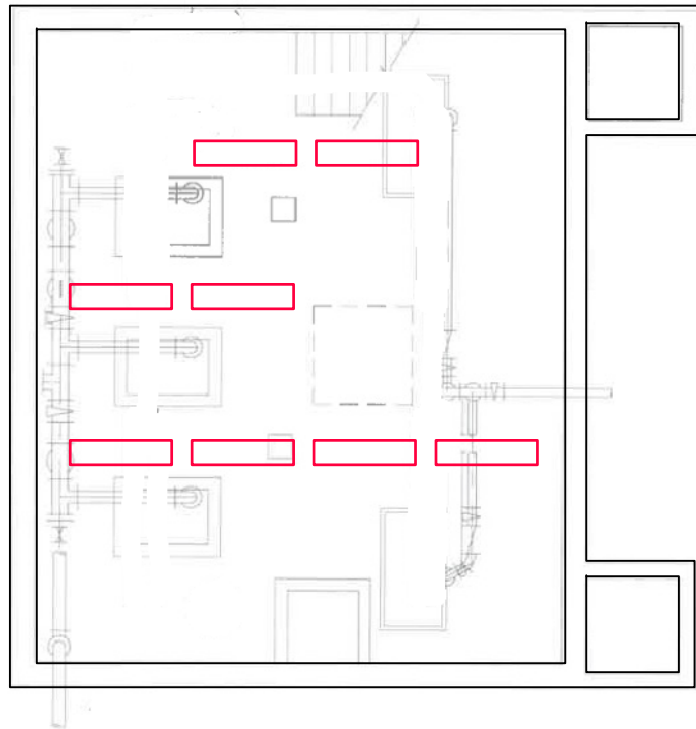
DIGESTER BUILDING A LIGHTING REPLACEMENT
(BASEMENT)
SCALE: NONE

DIGESTER BUILDING A LIGHTING REPLACEMENT
(UPPER FLOOR)
SCALE: NONE

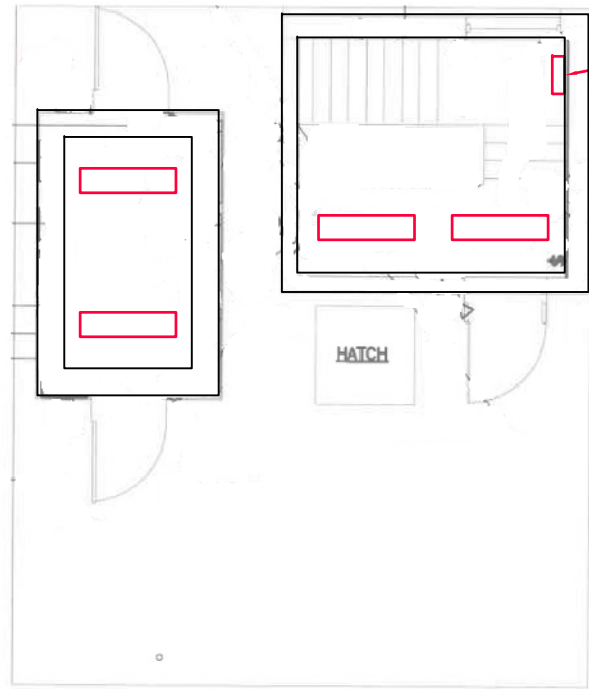


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WATER POLLUTION CONTROL			
CAPITAL EQUIPMENT REPLACEMENTS			
TMUA PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA			
TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		 HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002 (918)288-0707, FAX (918)288-0764	
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PROFILE SCALE:	FIELD MGR.		
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FILE:	DRAWING:	DATE: 11/15/2021	
ATLAS PAGE NO:		SHEET EA3 OF 8 SHEETS	

C:\USERS\CHARLES\SYNOLOGY\DRIVE\HUB ENGINEERS (HUB)\HUB-247 TULSA CAPITAL EQUIPMENT REPLACEMENT WPC-21\DWG\EA-4 1/21/2021 11:58 AM DWG

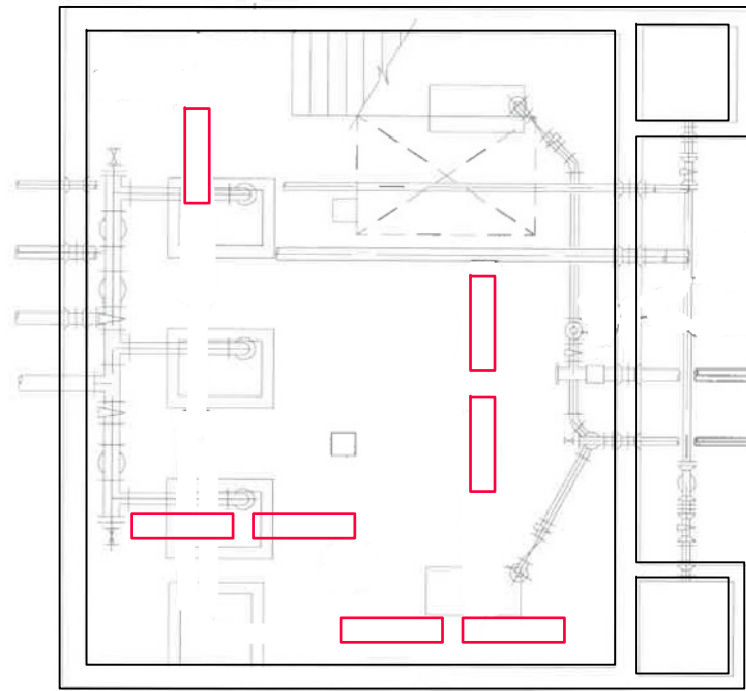


PRIMARY CLARIFIER BUILDING A&B LIGHTING REPLACEMENT
(UPPER LEVEL BASEMENT)
SCALE: NONE

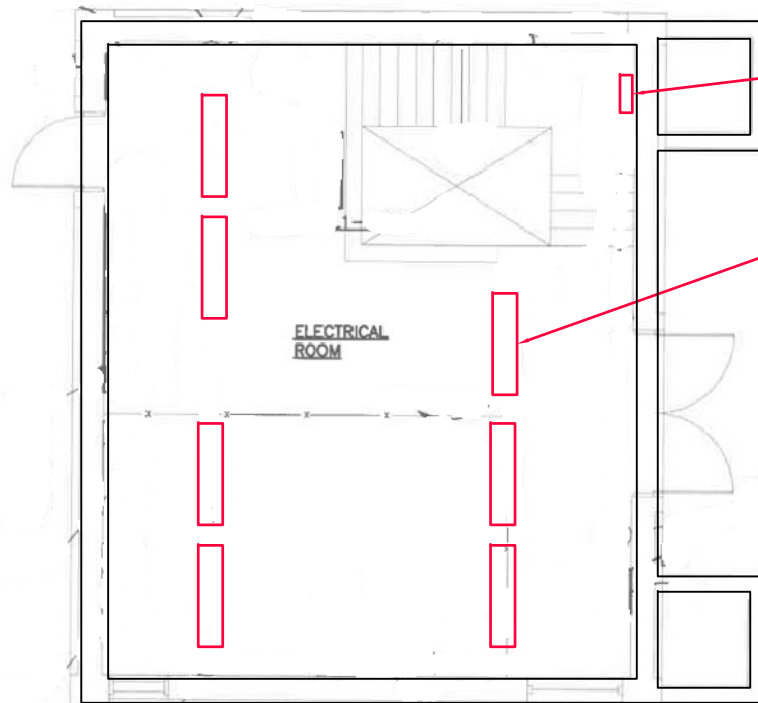


PRIMARY CLARIFIER BUILDING A&B LIGHTING REPLACEMENT
(GROUND FLOOR)
SCALE: NONE

REPLACE EACH FIXTURE WITH DIALIGHT
VIGILANT 180, 5100 LUMEN, 40 WATT,
ALU-5BC-26-NW-NN-GN. MATCH EXISTING
VOLTAGE AND PROVIDE ALL NECESSARY
MOUNTING HARDWARE (TYPICAL 2 THIS SHEET)



PRIMARY CLARIFIER BUILDING C LIGHTING REPLACEMENT
(UPPER LEVEL BASEMENT)
SCALE: NONE




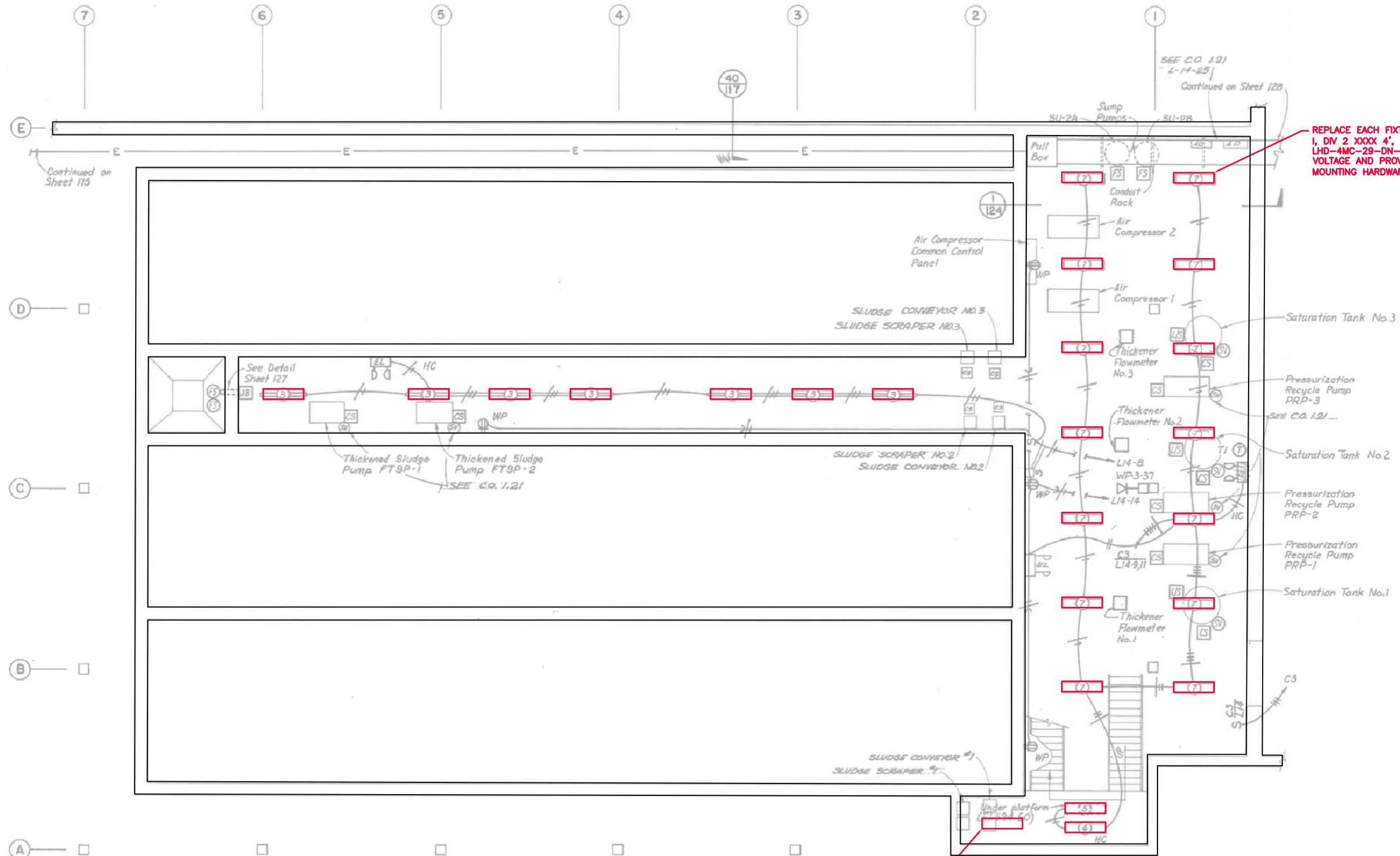
PRIMARY CLARIFIER BUILDING C LIGHTING REPLACEMENT
(GROUND FLOOR)
SCALE: NONE

REPLACE EACH FIXTURE WITH DIALIGHT
VIGILANT 180, 5100 LUMEN, 40 WATT,
ALU-5BC-26-NW-NN-GN. MATCH EXISTING
VOLTAGE AND PROVIDE ALL NECESSARY
MOUNTING HARDWARE (TYPICAL 2 THIS SHEET)

REPLACE EACH FIXTURE WITH DIALIGHT
VIGILANT 4', 9600 LUMEN, 70 WATT
LHU-4MC-229-DN-NN-GN. MATCH EXISTING
VOLTAGE AND PROVIDE ALL
NECESSARY MOUNTING HARDWARE
(TYPICAL 26 THIS SHEET)



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BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		
203.840c NSWWTP INT. LIGHTING IMPROVEMENTS		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY:  HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002 (918)288-0707, FAX (918)288-0764		
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CD BB
PROFILE SCALE:	FIELD MGR.	
HORIZONTAL:	SECT. MGR.	
VERTICAL:	PROJ. MGR.	
FILE:	DRAWING:	DATE: 11/15/2021
ATLAS PAGE NO:		SHEET EA4 OF 8 SHEETS



REPLACE EACH FIXTURE WITH DIALIGHT CLASS 1, DIV 2 XXXX 4", 9600 LUMEN, 70 WATT LHD-4MC-29-DN-NN-GN. MATCH EXISTING VOLTAGE AND PROVIDE ALL NECESSARY MOUNTING HARDWARE (TYPICAL 24 THIS SHEET)

FURNISH AND INSTALL NEW FIXTURE AND CONNECT TO ADJACENT CIRCUIT.

REVISION	BY	DATE

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203.840d
NSWWTP INT. LIGHTING IMPROVEMENTS

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 21-1

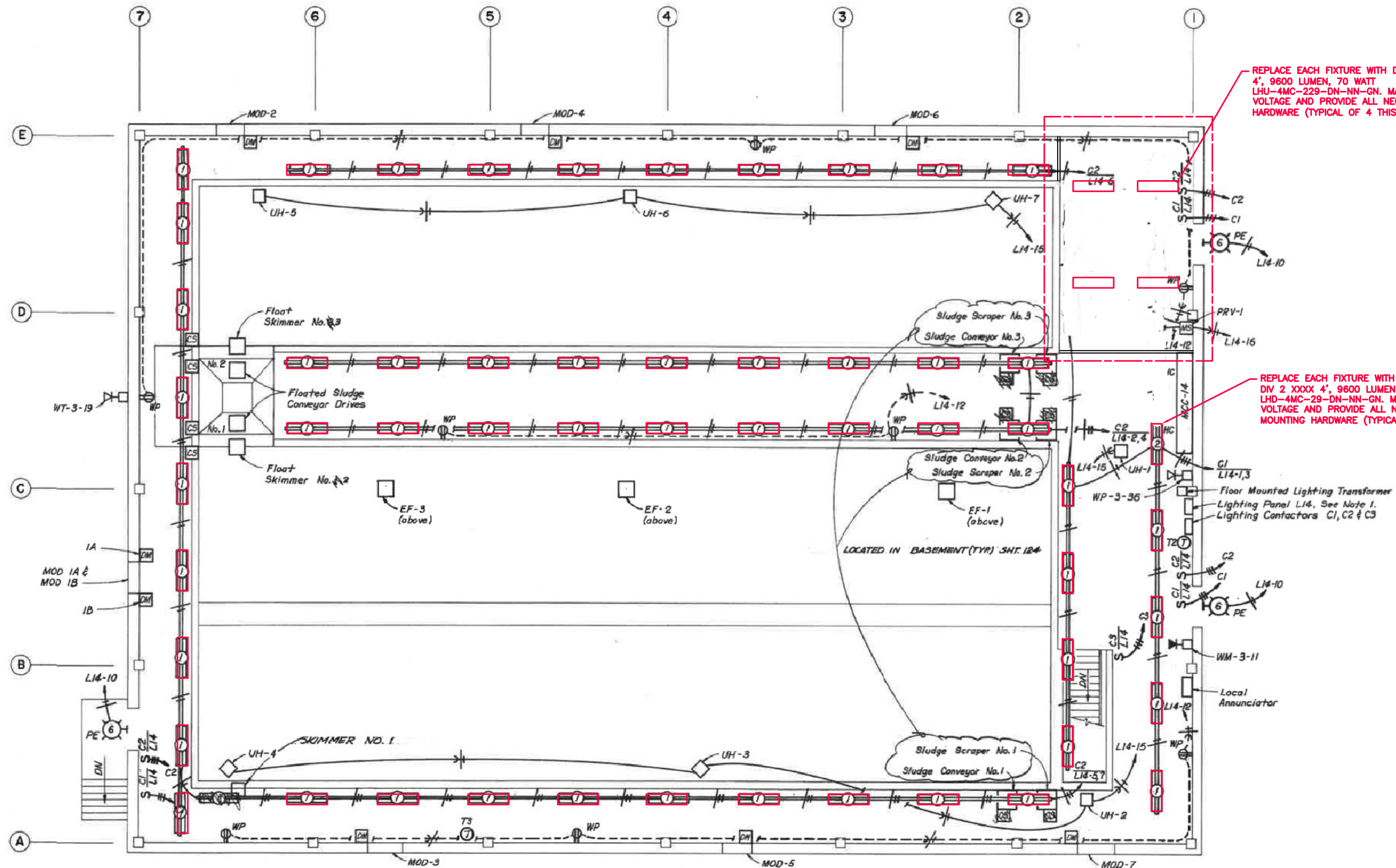
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY

PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002
(918)258-0707, FAX (918)258-0764

PLAN SCALE:	DRAWN	CD	APPROVED:
AS SHOWN	DESIGNED	BB	
	SURVEY		
PROFILE SCALE:	FIELD MGR.		
	SECT. MGR.		
HORIZONTAL:	PROJ. MGR.		
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REPLACE EACH FIXTURE WITH DIALIGHT VIGILANT 4', 9600 LUMEN, 70 WATT LHD-4MC-229-DN-NN-GN. MATCH EXISTING VOLTAGE AND PROVIDE ALL NECESSARY MOUNTING HARDWARE (TYPICAL OF 4 THIS SHEET)

REPLACE EACH FIXTURE WITH DIALIGHT CLASS I, DIV 2 XXXX 4', 9600 LUMEN, 70 WATT LHD-4MC-29-DN-NN-GN. MATCH EXISTING VOLTAGE AND PROVIDE ALL NECESSARY MOUNTING HARDWARE (TYPICAL 54 THIS SHEET)

THICKENER BUILDING OPERATIONS FLOOR LIGHTING REPLACEMENT
SCALE: NONE



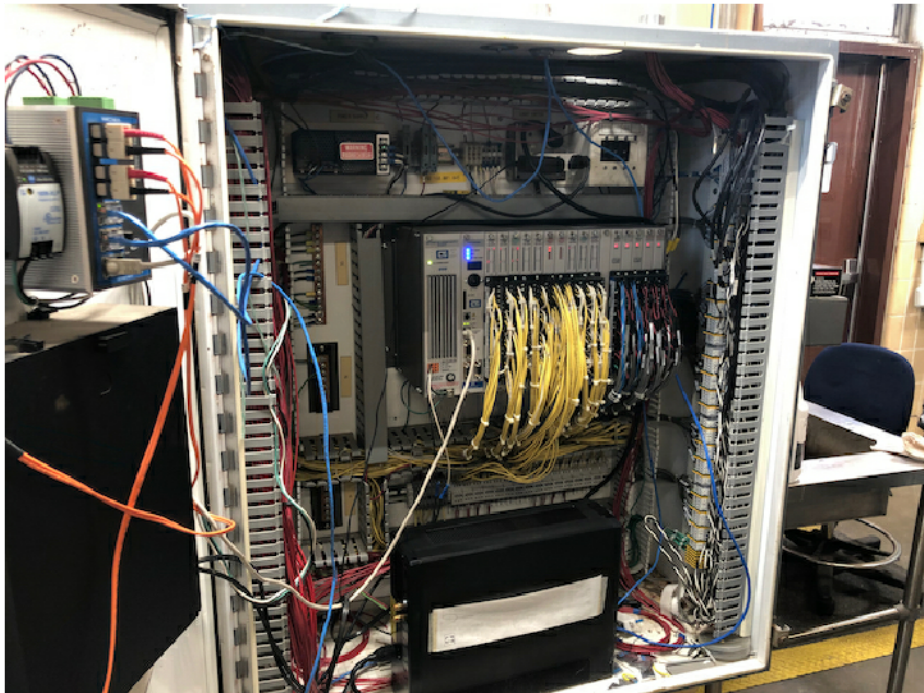
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WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002 (918)258-0707, FAX (918)258-0764		
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CD BB
PROFILE SCALE:	FIELD MGR.	
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FILE:	DRAWING:	DATE: 11/15/2021
ATLAS PAGE NO:		SHEET EA6 OF 8 SHEETS



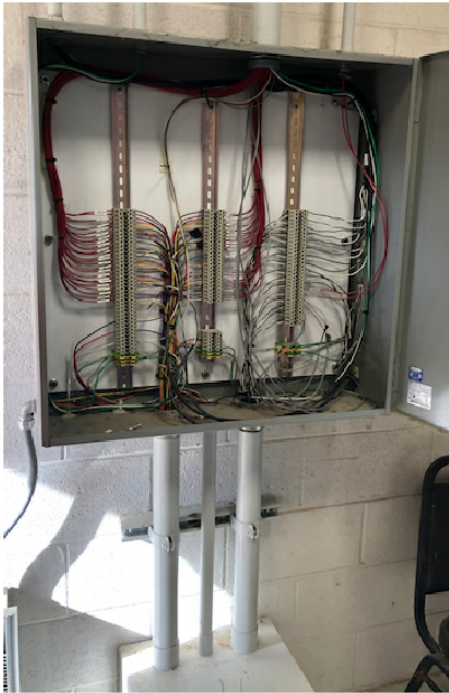
1 PRESSURE TRANSMITTER
SCALE: NONE
E



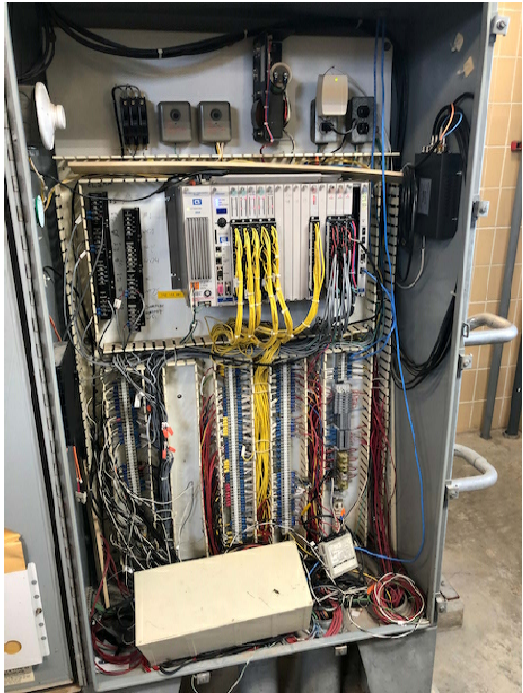
2 FLOW METER (1)
SCALE: NONE
E



3 PANEL RIO - 4A
SCALE: NONE
AC



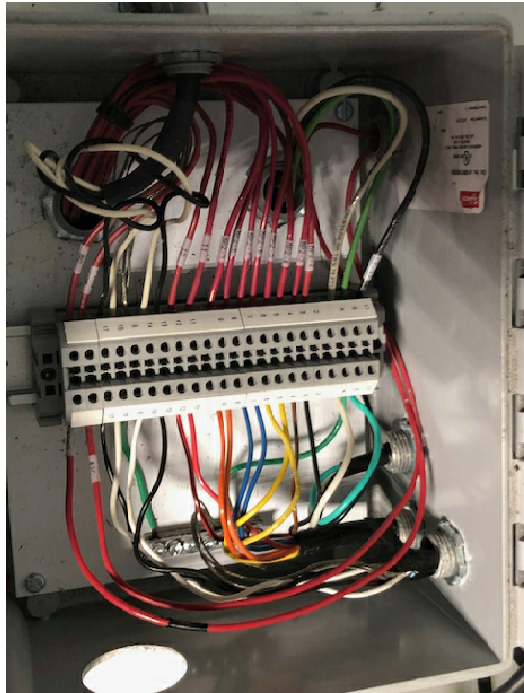
4 TERMINAL BOX
SCALE: NONE
F



5 PANEL RIO-4
SCALE: NONE
AC



6 FLOW METER (2)
SCALE: NONE
E



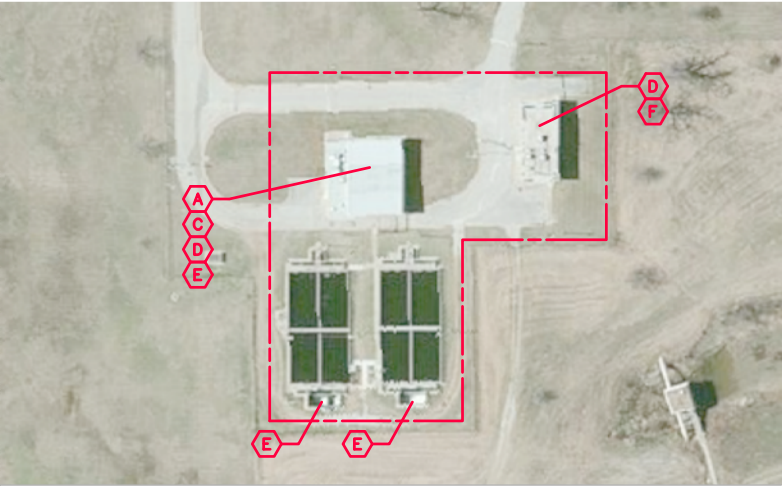
7 CHEM FEED TERMINAL BOX
SCALE: NONE
D

DISINFECTION SURGE PROTECTION NOTES:

1. ALL SURGE PROTECTION LISTED BELOW SHALL BE DIN RAIL MOUNT PHOENIX CONTACT OR EQUAL.

KEYED NOTES:

- A. FURNISH AND INSTALL NEW SURGE PROTECTION ON ALL EXISTING 24VDC, 4-20MA CIRCUITS INSIDE CONTROL PANELS RIO-4 AND RIO-4A. PROVIDE ADDITIONAL SEPARATE ENCLOSURE IF NEEDED FOR SPACE.
- B. NOT USED.
- C. FURNISH AND INSTALL NEW SURGE PROTECTION ON 120VAC CIRCUIT FEEDING CONTROL PANELS RIO-A AND RIO-4A.
- D. FURNISH AND INSTALL NEW SURGE PROTECTION ON 120VAC CIRCUITS FEEDING EACH OF 11 CHEMICAL FEED TERMINAL BOXES.
- E. FURNISH AND INSTALL NEW SURGE PROTECTION ON ON EACH OF 11 PRESSURE TRANSMITTERS AND 3 FLOW METERS.
- F. FURNISH AND INSTALL NEW SURGE PROTECTION ON ALL EXISTING 24VDC, 4-20MA CIRCUITS IN EXISTING TERMINAL BOX.



1 SURGE PROTECTIVE IMPROVEMENTS
SCALE: NONE

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203.860
DISINFECTION SURGE PROT.

WATER POLLUTION CONTROL
CAPITAL EQUIPMENT REPLACEMENTS
TMUA PROJECT WPC 21-1

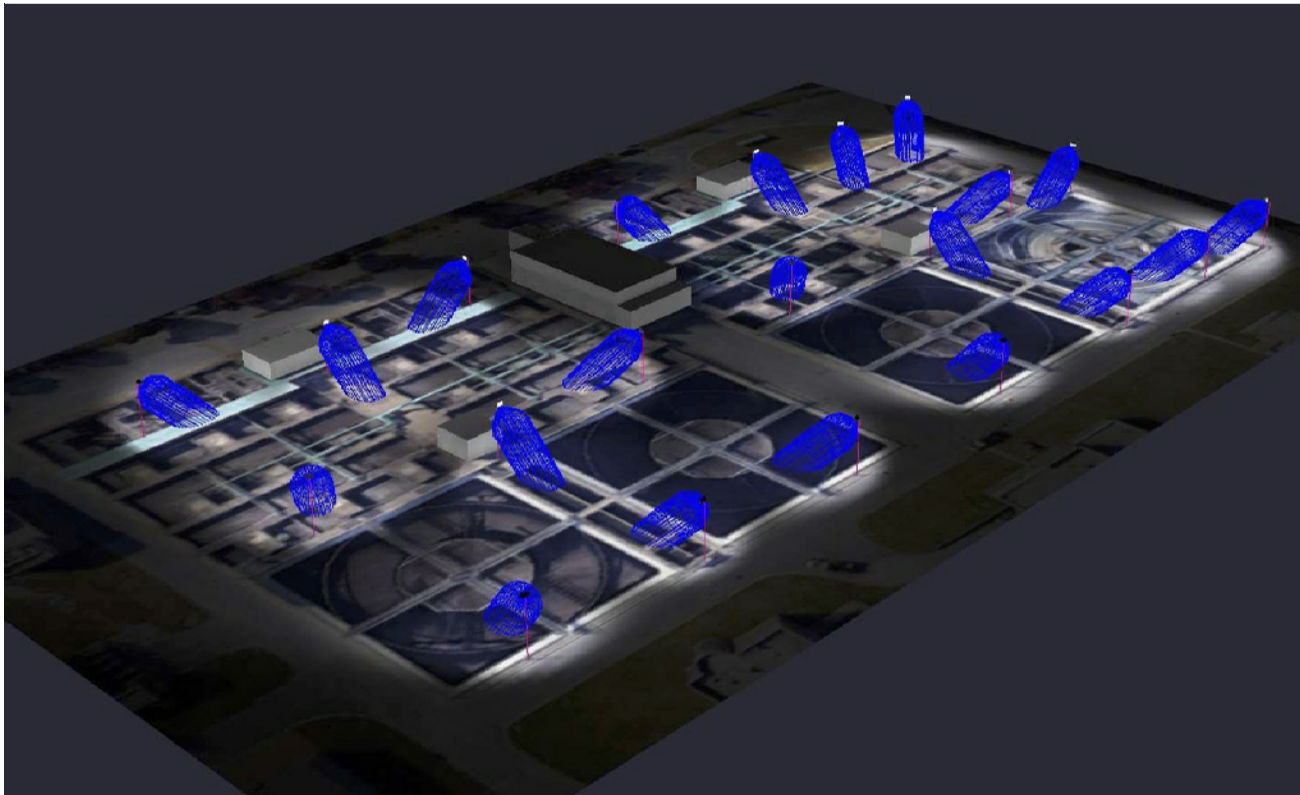
CITY OF TULSA, OKLAHOMA
TULSA METROPOLITAN UTILITY AUTHORITY

PLANS AND ESTIMATES
PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc.
800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002
(918)258-0707, FAX (918)258-0764

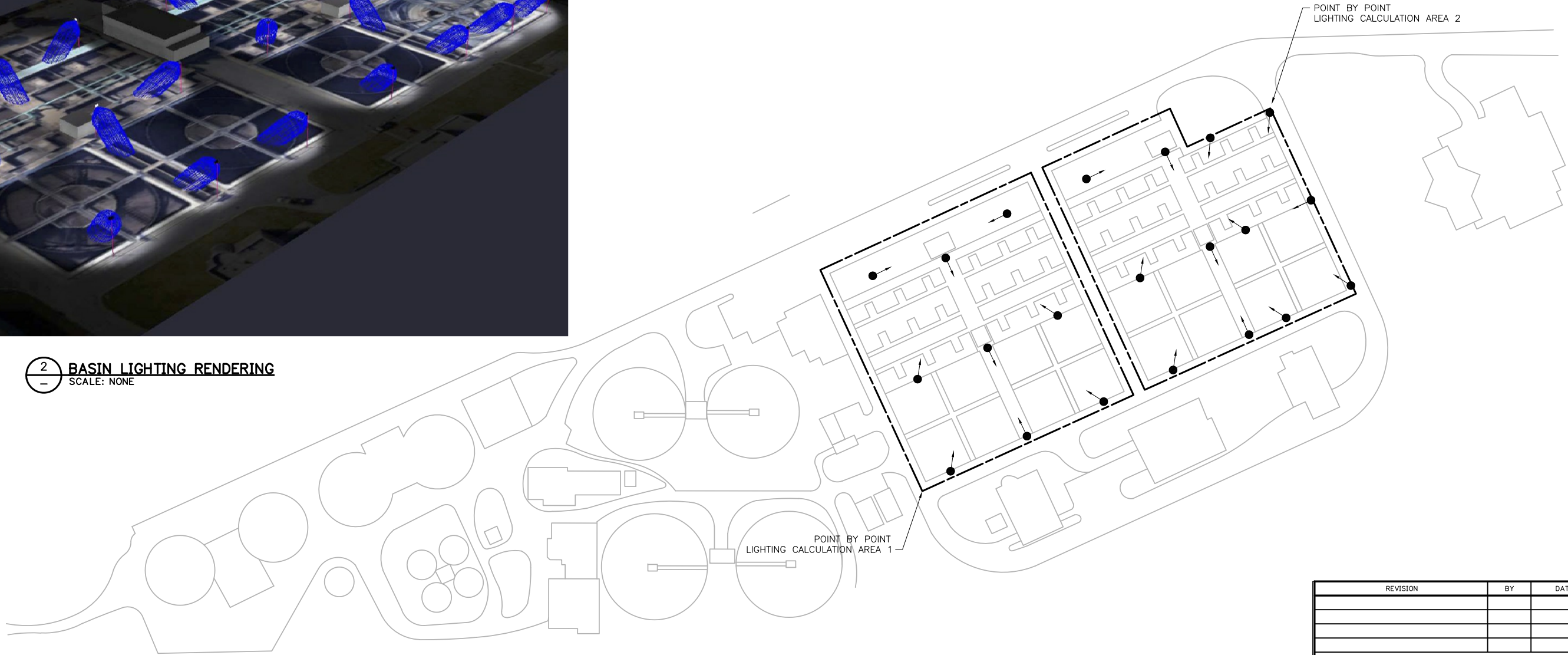
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PROFILE SCALE:	FIELD MGR.		
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1/21/2021 12:27 PM



2 BASIN LIGHTING RENDERING
SCALE: NONE



1 SOUTHSIDE WWTP BASIN LIGHTING REPLACEMENT
SCALE: 1" = 80'

LIGHTING GENERAL NOTES:

- COORDINATE/ADJUST FINAL AIMING WITH FINAL APPROVED POINT BY POINT CALCULATION.
- EACH LOCATION SHALL CONSIST OF THE FOLLOWING:
FIXTURE: DIALIGHT FDU76CAHDSNNGN/FLW966NC5NG
55,938 LUMENS
294 WATTS
480 VOLT
5000K CCT
NEMA 6 BEAM

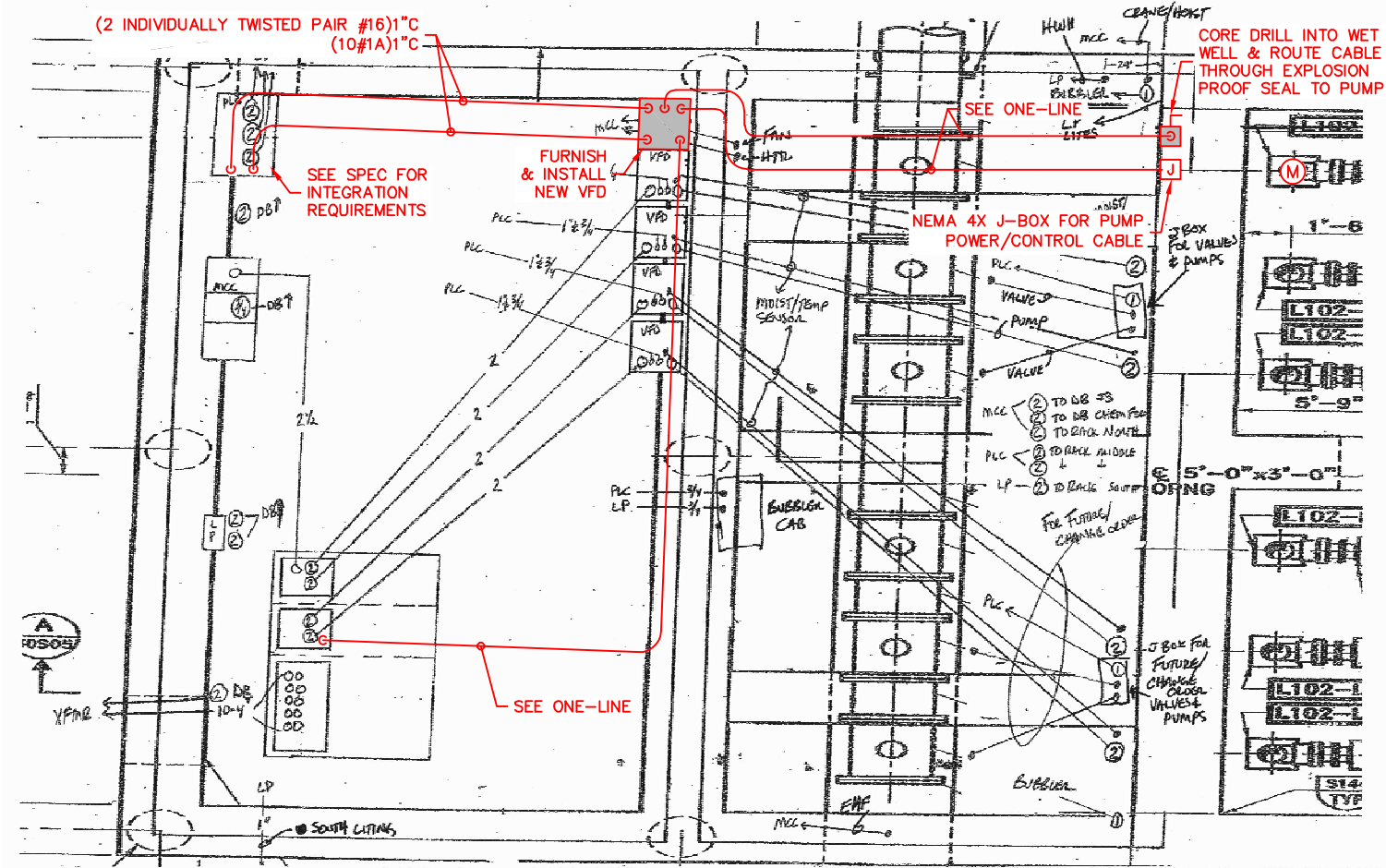
POLE: MATCH EXISTING, BID SIMILAR TO
VALMONT DSF20-6.3BA300
30' SQUARE TAPERED HINGED POLE, PROVIDE WITH POWDER COAT FINISH (FLUOROPOLYMER
POWDER) AND 10 YEAR ADHESION/CORROSION WARRANTY.
- PROVIDE EACH FIXTURE WITH ALL NECESSARY MOUNTING HARDWARE REQUIRED FOR A COMPLETE
AND FUNCTIONING SYSTEM.
- MATCH EXISTING BOLT PATTERN IN POLE BASE WITH NEW POLE.
- CONTRACTOR SHALL AIM FIXTURES IN ACCORDANCE WITH APPROVED SUBMITTAL AND SHALL
COORDINATE WITH OWNER AND MAKE FINAL AIMING ADJUSTMENTS TO FIXTURES ONCE THEY ARE
INSTALLED AND DEMONSTRATED DURING NIGHTTIME OPERATION.

LIGHTING CALCULATIONS	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
AREA 1	FC	4.91	25.50	0.50	9.82	51
AREA 2	FC	4.91	25.50	0.50	9.82	51

MINIMUM LIGHTING REQUIREMENTS SHALL BE AS LISTED IN
TABLE ABOVE. CONTRACTOR SHALL SUBMIT POINT BY
POINT LIGHTING CALCULATIONS TO ENGINEER FOR REVIEW.



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203.800 SSWWTP BASIN LIGHTING		
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1		
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY		
PLANS AND ESTIMATES PREPARED BY: HOLLOWAY, UPDIKE + BELLEN, Inc. 800-A & 9TH ST., BROKEN ARROW, OKLAHOMA 74002 (918)258-0707, FAX (918)258-0764		
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	CD BB
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	PROJ. MGR.	
VERTICAL:		
FILE:	DRAWING:	DATE: 11/15/2021
ATLAS PAGE NO:		SHEET EA8 OF 8 SHEETS



1 PLAN @ SPUNKY CREEK LS
E9 SCALE: 1/4" = 1'-0"




A PHOTO @ SPUNKY CREEK LS
E9 SCALE: 1/4" = 1'-0"

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DRAWING 203.600c L102-LFT1-RSP01			
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMAU PROJECT WPC 21-1			
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY			
PLANS AND ESTIMATES PREPARED BY:		HOLLOWAY, UPDIKE + BELLEN, Inc. 200-A & 21TH ST, BROCKTON AVE, OKLAHOMA 74106 (918) 477-1777, FAX (918) 477-0744	
PLAN SCALE: AS SHOWN	DRAWN DESIGNED SURVEY	JME BB	APPROVED:
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FILE:	DRAWING:	DATE: 10/23/2020	
ATLAS PAGE NO: ---		SHEET E9 OF E11 SHEETS	





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BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY											
DRAWING 203.600d L102-LFT1-RSP01											
WATER POLLUTION CONTROL CAPITAL EQUIPMENT REPLACEMENTS TMUA PROJECT WPC 21-1											
CITY OF TULSA, OKLAHOMA TULSA METROPOLITAN UTILITY AUTHORITY											
PLANS AND ESTIMATES PREPARED BY:											
 HOLLOWAY, UPDIKE & BELLEN, Inc. <small>800-A & 3TH ST., BROOKEN ARROW, OKLAHOMA 74012 (918)891-0777, FAX (918)891-0764</small>											
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VERTICAL:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 34%;"></td> </tr> </table>										
FILE:	DRAWING:	DATE: 10/23/2020									
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