

ENGINEERS STATEMENT - THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS AND IS ENTIRELY LOCATED WITHIN THE CORPORATE LIMITS OF THE CITY OF TULSA.

CONSTRUCTION PLANS FOR

MOHAWK WTP CHEMICAL TANK REPLACEMENT PROJECT NO. TMUA-W 24-03

WATER AND SEWER DEPARTMENT
CITY OF TULSA, OKLAHOMA

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
01 - 10	01 - COVER SHEET AND GENERALS
11 - 12	05 - SITE CIVIL
13 - 16	08 - PROCESS INSTRUMENTATION AND DIAGRAMS
17 - 35	07 - CHEMICAL BUILDING
36 - 41	90 - ELECTRICAL
42 - 46	99 - STANDARD DETAILS

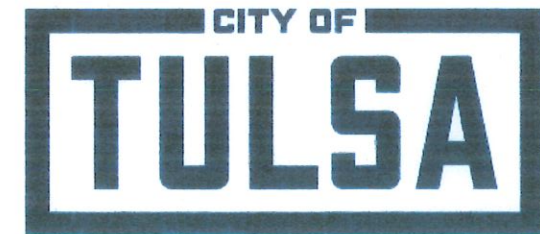
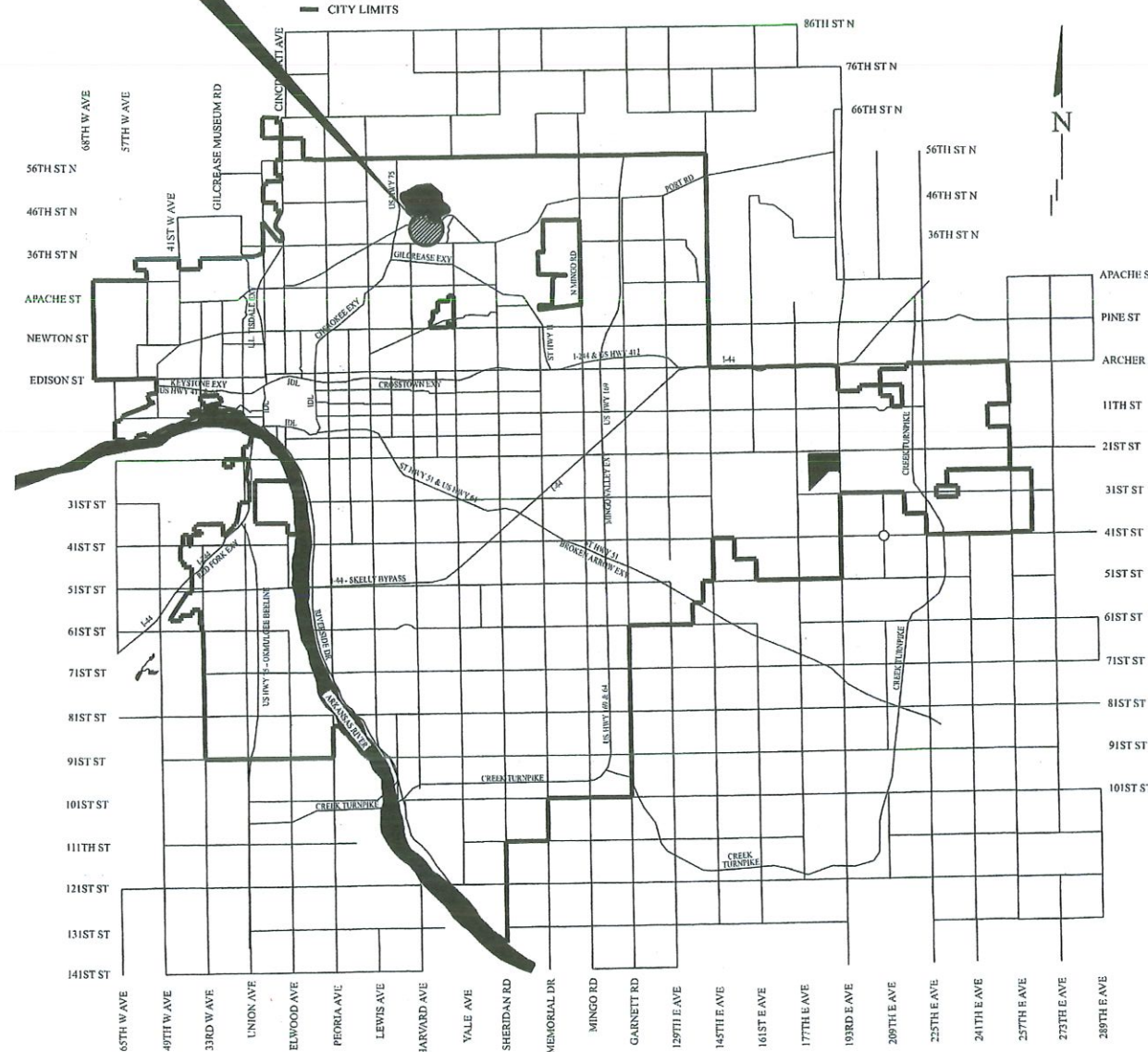
PROJECT LOCATION
3600 MOHAWK BLVD, TULSA, OK 74115

PLANS PREPARED BY
GARVER LLC
6100 SOUTH YALE SUITE 1300 TULSA, OK 74136
PHONE: 918-250-5922
FAX: 918-858-0107

OK SURVEYING AND ENGINEERING COA NO. CA4193
EXPIRATION DATE: 06/30/2026



MOHAWK WATER TREATMENT PLANT



UTILITY COORDINATION INFORMATION INSIDE OF RIGHT OF WAY		
COMPANY	CONTACT	OFFICE
City of Tulsa	Tony Glynn	918-596-9245
AEP/PSO	Emergency	888-216-3523
ONG	Emergency	800-664-5463
AT&T	Emergency	800-288-2020
Cox	Customer Service	918-806-6000
Verizon	Customer Service	888-294-6804
Windstream	Customer Service	800-347-1991
MTTA	Customer Service	918-830-0024

UTILITY COORDINATION INFORMATION TULSA ENGINEERING SERVICES DEPARTMENT	
WATER DESIGN	918-596-9580
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9741
STORMWATER DESIGN	918-596-9498

SURVEY DATUM:
HORIZONTAL - OKLAHOMA STATE PLANE COORDINATE (NAD 1983)
VERTICAL - (NAVD 1988)

APPROVED BY

WATER AND SEWER DIRECTOR



STEVEN SCHULTZ, PE
GARVER

5-7-2026

DATE

4/9/2026

DATE

MOHAWK WTP CHEMICAL TANK REPLACEMENT TMUA-W 24-03

Revit File: Autodesk Docs\MO22-2302343 - TMUA Mohawk WTP Chemical Tank\TMUA_Mohawk WTP Chemical Building.rvt
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01 - GENERAL		
SHEET NO.	DWG. NO.	DESCRIPTION
01	01-G001	COVER
02	01-G002	SHEET INDEX
03	01-G003	GENERAL CONVENTIONS AND ABBREVIATIONS
04	01-G004	CIVIL NOTES AND LEGENDS 1
05	01-G005	CIVIL NOTES AND LEGENDS 2
06	01-G006	PROCESS & INSTRUMENTATION DIAGRAM NOTES, LEGENDS, AND ABBREVIATIONS
07	01-G007	STRUCTURAL LEGEND & NOTES
08	01-G008	PROCESS MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS
09	01-G009	ELECTRICAL SYMBOL LEGEND
10	01-G010	ELECTRICAL NOTES AND ABBREVIATIONS

05 - SITE CIVIL		
SHEET NO.	DWG. NO.	DESCRIPTION
11	05-C101	EXISTING SITE PLAN - OVERVIEW
12	05-C102	PROPOSED SITE PLAN - OVERVIEW

08 - PROCESS INSTRUMENTATION AND DIAGRAMS		
SHEET NO.	DWG. NO.	DESCRIPTION
13	08-I101	ALUMINUM CHLOROHYDRATE P&ID
14	08-I102	HYDROFLUORSILICIC ACID P&ID
15	08-I103	SODIUM HYDROXIDE P&ID
16	08-I104	CATIONIC POLYMER P&ID

07 - CHEMICAL BUILDING		
SHEET NO.	DWG. NO.	DESCRIPTION
17	07-X101	CHEMICAL BUILDING - PLAN 1
18	07-X102	CHEMICAL BUILDING - PLAN 2
19	07-X103	CHEMICAL BUILDING - PLAN 3
20	07-X501	CHEMICAL BUILDING - DETAILS 1
21	07-X901	CHEMICAL BUILDING - ISOMETRICS 1
22	07-P101	CHEMICAL BUILDING - PLAN 4
23	07-P102	CHEMICAL BUILDING - PLAN 5
24	07-P103	CHEMICAL BUILDING - PLAN 6
25	07-P301	CHEMICAL BUILDING - SECTIONS 1
26	07-P302	CHEMICAL BUILDING - SECTIONS 2
27	07-P303	CHEMICAL BUILDING - SECTIONS 3
28	07-P304	CHEMICAL BUILDING - SECTIONS 4
29	07-P401	CHEMICAL BUILDING - ENLARGED VIEWS 1
30	07-P402	CHEMICAL BUILDING - ENLARGED VIEWS 2
31	07-P901	CHEMICAL BUILDING - ISOMETRICS 2
32	07-P902	CHEMICAL BUILDING - ISOMETRICS 3
33	07-P903	CHEMICAL BUILDING - ISOMETRICS 4
34	07-E101	CHEMICAL BUILDING - POWER PLAN
35	07-E601	INTERCONNECT DIAGRAM

90 - ELECTRICAL		
SHEET NO.	DWG. NO.	DESCRIPTION
36	90-E201	ELECTRICAL ELEVATIONS
37	90-E601	ONE-LINE DIAGRAM
38	90-E601	PROPOSED LIGHTING PANEL SCHEDULE
39	90-E701	SHX TRANSFER PUMP CONTROL PANEL SCHEMATIC (TYP. OF 2)
40	90-E702	CONTROL VALVE LOCAL CONTROL PANEL SCHEMATIC (TYP. OF 4)
41	90-E801	4TC-1 & 7TC-1&2 I/O LIST

99 - STANDARD DETAILS		
SHEET NO.	DWG. NO.	DESCRIPTION
42	99-S501	STRUCTURAL STANDARD DETAILS 1
43	99-S502	STRUCTURAL STANDARD DETAILS 2
44	99-P501	PROCESS STANDARD DETAILS 1
45	99-P502	PROCESS STANDARD DETAILS 2
46	99-E501	ELECTRICAL STANDARD DETAILS 1

DRAWING NUMBER EXAMPLE

FACILITY AREA CODE: 01-G002

SHEET SEQUENCE NUMBER: 01

DISCIPLINE DESIGNATOR: G

DISCIPLINE DESIGNATORS

- G - GENERAL
- C - CIVIL
- I - INSTRUMENTATION & CONTROL
- X - DEMOLITION
- F - FIRE PROTECTION
- L - LIFE SAFETY
- A - ARCHITECTURAL
- S - STRUCTURAL
- P - PROCESS MECHANICAL
- M - BUILDING MECHANICAL & PLUMBING
- E - ELECTRICAL
- T - TELECOMMUNICATIONS

SHEET TYPE DESIGNATOR

CIVIL DISCIPLINE

- 100 - SITE PLANS
- 200 - GRADING & PAVING
- 300 - PIPING & PROFILES

OTHER DISCIPLINES

- 100 - PLAN VIEWS
- 200 - ELEVATIONS
- 300 - SECTIONS

ALL DISCIPLINES

- 400 - ENLARGED VIEWS
- 500 - DETAILS
- 600 - DIAGRAM OR SCHED
- 700 - USER DEFINED
- 800 - USER DEFINED
- 900 - ISOMETRICS

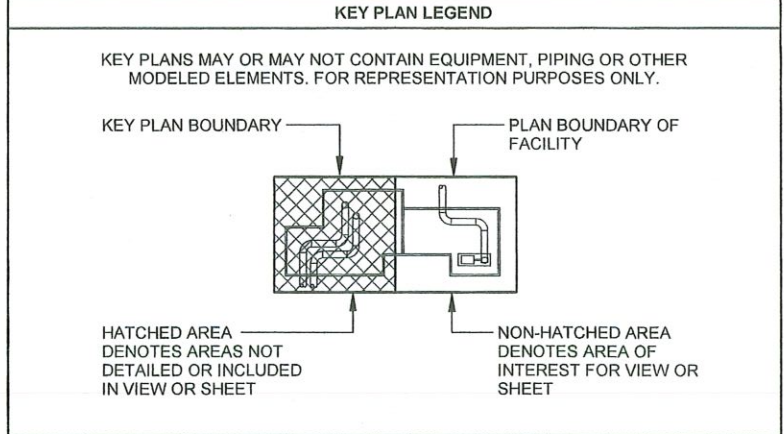


DRAWING NO. 01-G002	SHEET INDEX		
PROJECT NO. TMUA-W 24-03			
MOHAWK WTP CHEMICAL TANK REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: GARVER			
REVISION	BY	DATE	APPROVED:
AS SHOWN	DRAWN	JAS FEB 2026	
AS SHOWN	DESIGNED	SJS FEB 2026	
AS SHOWN	SURVEY		
HORIZONTAL: AS SHOWN	PROJ. MGR.		
VERTICAL: AS SHOWN	LEAD. ENGR.	CEW 4/2026	
FILE:	FIELD MGR.	SEW 4/26	
ATLAS PAGE NO:			DATE: FEBRUARY 2026
ATLAS PAGE NO:			SHEET 02 OF 46 SHEETS

SUMMARY OF PAY ITEMS					
ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	PAY NOTES	UNIT	QUANTITY
BASE BID MOHAWK WTP CHEMICAL TANK REPLACEMENT					
1	SPECIAL	ALL WORK AS DEFINED IN THE CONTRACT DOCUMENTS, EXCEPT THOSE ITEMS LISTED SEPARATELY BELOW	1	EA	1
2	02 41 00	DEMOLITION	3	EA	1
3	43 41 45	18,900 GALLON 50% SODIUM HYDROXIDE FIBERGLASS REINFORCED PLASTIC TANKS	3	EA	3
4	43 41 45	18,900 GALLON 50% ALUMINUM CHLOROHYDRATE FIBERGLASS REINFORCED PLASTIC TANKS	3	EA	3
5	43 41 45	12,600 GALLON 25% HYDROFLUORSILICIC ACID FIBERGLASS REINFORCED PLASTIC TANKS	3	EA	1
6	43 41 45	12,600 GALLON CATIONIC POLYMER FIBERGLASS REINFORCED PLASTIC TANKS	3	EA	1
7	43 41 43	500 GALLON 50% SODIUM HYDROXIDE POLYETHYLENE UPRIGHT STORAGE TANK	3	EA	2
8	40 72 23	RADAR LEVEL METERS	3	EA	8
9	40 73 45	WEIGHT SCALES	3	EA	2
10	43 42 56	SEALLESS MAGNETIC DRIVE CENTRIFUGAL PUMPS	3	EA	3
11	SPECIAL	ELECTRICAL IMPROVEMENTS	3	EA	1
12	40 68 63	DCS AND OWS PROGRAMMING	3	EA	1
13	COT 303	MOBILIZATION/DEMOLIBILIZATION	2	EA	1
14	01 20 00	CHEMICAL ALLOWANCE	3, 4	ALLOW	\$245,000.00
15	SPECIAL	OWNER ALLOWANCE	5	ALLOW	\$125,000.00
ADDITIVE ALTERNATE NO. 1 MOHAWK WTP CHEMICAL TANK REPLACEMENT					
16	01 23 00	ADD ALTERNATE NO. 1 - SODIUM HYDROXIDE TRENCH CLEANING AND COATING	3	EA	1

ABBREVIATIONS	
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUX	AUXILIARY
AWWA	AMERICAN WATER WORKS ASSOCIATION
BKR	BREAKER
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
COGEN	COMBINED HEAT AND POWER GENERATION
COL	COLUMN
CONT	CONTINUOUS
DIA	DIAMETER
EA	EXHAUST AIR, EXPANSION ANCHOR, EACH
EL., ELEV	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
FA	FIRE ALARM
FFE	FINISHED FLOOR ELEVATION
FL	FLOW LINE
FLR	FLOOR
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET, FOOT
GA	GAUGE, GAGE
GALV	GALVANIZED
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRND	GROUND
H, HT	HEIGHT
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER, HEAT PUMP
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LBS, #	POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT AVAILABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED
OH	OVERHEAD
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
PD	PROCESS DRAIN
PIV	POST INDICATOR VALVE
PNL	PANEL
PRV	PRESSURE RELIEF VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
RE:	REFERENCE, REFER
REINF	REINFORCEMENT
REQD	REQUIRED
RM	ROOM
SEC	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SQ	SQUARE
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
SURF	SURFACE
SUSP	SUSPEND, SUSPENDED
T&B	TOP AND BOTTOM
THRU	THROUGH
T/	TOP OF
(TYP)	TYPICAL
U/F	UNDER FLOOR
U/G	UNDER GROUND
U/S	UNDER SLAB
UL	UNDERWRITERS LABORATORIES, INC. UNLESS NOTED OTHERWISE
UNO	VOLT, VALVE
V	VOLT-AMPERE
VA	VOLT-AMPERE
VERT	VERTICAL
W	WATT, WIRE, WIDTH, WINDOW, WATER
W/	WITH
W/O	WITHOUT
WS	WATERSTOP
WT	WATERTIGHT, WEIGHT
XMFR	TRANSFORMER

CONTINUATION SYMBOLS	
	ROUND/CYLINDRICAL ELEMENTS
	FLAT/RECTANGULAR/ VIEW ELEMENTS
	NEW CONSTRUCTION
	BEYOND
	DEMOLISHED
	FUTURE
	EXISTING



OPERATIONAL LIMITS NOTES:

1. CONSTRUCTION SHALL COMMENCE NO EARLIER THAN NOVEMBER 1ST AND MUST REACH SUBSTANTIAL COMPLETION BY APRIL 30TH.

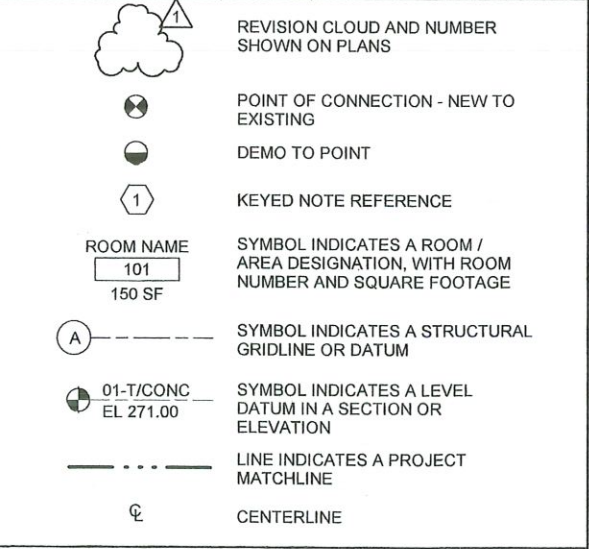
PAY ITEM NOTES:

- INCLUDES ALL WORK REQUIRED AT THE 3600 E. MOHAWK BLVD. CHEMICAL STORAGE FACILITY THAT IS NOT SPECIFICALLY ADDRESSED BY A SEPARATE PAY ITEM.
- ITEM INCLUDES THE WORK AS DESCRIBED IN THE CITY OF TULSA STANDARD SPECIFICATION AND WILL BE PAID FOR AS DESCRIBED IN THE CITY OF TULSA STANDARD SPECIFICATION.
- ITEM INCLUDES THE WORK DESCRIBED IN THE SUPPLEMENTARY SPECIFICATIONS AND PLANS AND SHALL BE PAID FOR ON A UNIT BASIS ACCORDING TO THE BID AMOUNT.
- CHEMICAL ALLOWANCE FOR USE BY THE CITY OF TULSA FOR THE PURCHASE OF CHEMICALS FOR THE TEMPORARY CATIONIC POLYMER AND HYDROFLUORSILICIC ACID SYSTEM.
- THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS:
 - THE ALLOWANCE SHALL BE USED FOR THE COST OF MATERIALS, LABOR, INSTALLATION, OVERHEAD, AND PROFIT FOR ADDITIONAL WORK AND MISCELLANEOUS ITEMS THAT ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND PLANS, AND NOT INCLUDED IN THE BID ITEMS OF THE CONTRACT. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO:
 - THE ALLOWANCE SHALL BE USED ONLY AT THE DISCRETION OF THE CITY. ANY ALLOWANCE BALANCE REMAINING AT THE COMPLETION OF THE PROJECT WILL BE CREDITED BACK TO THE CITY ON THE FINAL APPLICATION FOR PAYMENT SUBMITTED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL PROVIDE, TO THE CITY, A WRITTEN REQUEST FOR THE USE OF ANY ALLOWANCE, WITH A SCHEDULE OF VALUES, AND ALL ASSOCIATED BACKUP INFORMATION, INCLUDING ANY TIME EXTENSIONS REQUIRED TO PERFORM THE WORK.
 - THE CONTRACTOR SHALL PROCEED WITH THE WORK INCLUDED IN THE ALLOWANCE ONLY AFTER RECEIVING A WRITTEN ORDER FROM THE ENGINEER AND CITY AUTHORIZING SUCH WORK. PROCEEDING WITH WORK IN THE ALLOWANCE WITHOUT A WRITTEN ORDER FROM THE CITY WILL BE AT THE CONTRACTOR'S EXPENSE.

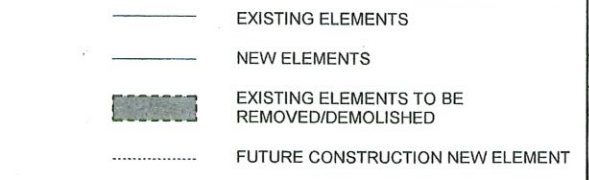
GENERAL PAY ITEM NOTES:

- REFER TO GENERAL CONDITIONS FOR ADDITIONAL INFORMATION RELATED TO BASIS OF PAYMENT FOR BID ITEMS.
- BID ITEMS SHALL COMPLY WITH ALL REQUIREMENTS IN THE LATEST VERSION OF CITY OF TULSA SPECIFICATIONS, INCLUDING SECTIONS 701, 702, AND 730.

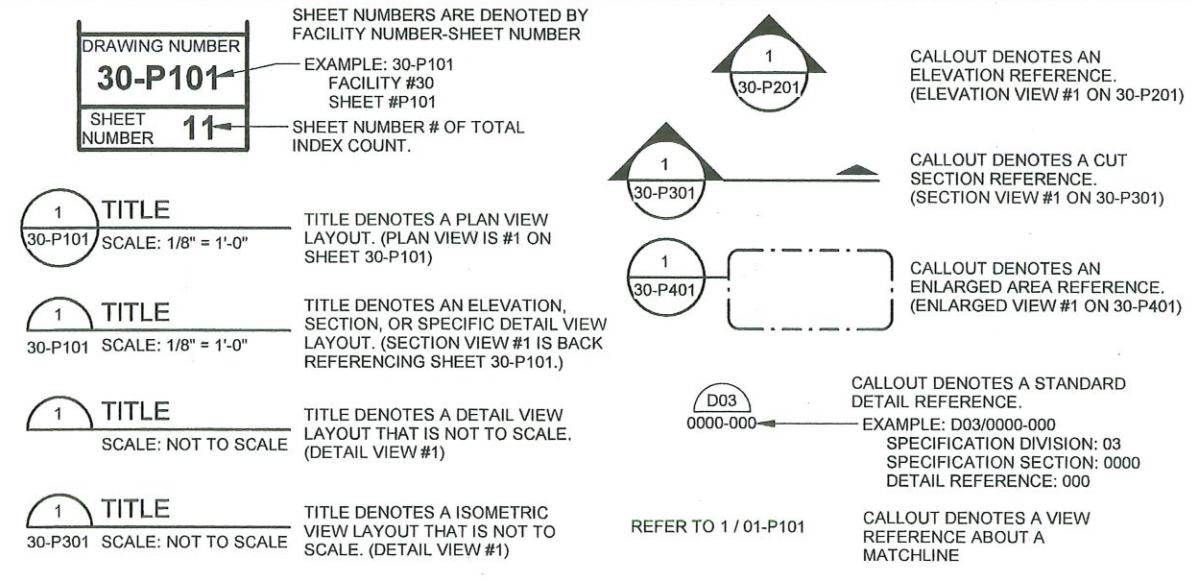
GENERAL DRAWING SYMBOLS



PHASE GRAPHICS



VIEW REFERENCE & TITLE SYMBOLS



DRAWING NO.	GENERAL CONVENTIONS AND ABBREVIATIONS
01-G003	
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	
REVISION	BY DATE
PLAN SCALE:	DRAWN JAS FEB 2026
AS SHOWN	DESIGNED SJS FEB 2026
PROFILE SCALE:	SURVEY
HORIZONTAL: AS SHOWN	PROJ. MGR.
VERTICAL: AS SHOWN	LEAD. ENGR.
FILE:	FIELD MGR. <i>John 4/16</i>
ATLAS PAGE NO:	DATE: FEBRUARY 2026
	SHEET 03 OF 46 SHEETS



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GENERAL CIVIL NOTES

1. SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR SAFETY, MEANS, OR METHODS OF THE CONTRACTOR.
2. CONTACT OKIE811 - KNOW WHAT'S BELOW - CALL BEFORE YOU DIG. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AGENCIES BEFORE WORK COMMENCES TO VERIFY THE TYPE, LOCATION, PROTECTION REQUIREMENTS, DEPTH OF ALL EXISTING UTILITIES, DRAINAGE FACILITIES, AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING AND/OR REPLACING ANY SUCH ITEMS DAMAGED DURING CONSTRUCTION.
3. CAUTION: UNDERGROUND UTILITIES SHOWN ARE TAKEN FROM EXISTING RECORDS AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS AND CONFIRM LOCATIONS OF UTILITIES AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ACCURATELY LOCATE AND UNCOVER ALL EXISTING UTILITIES BEFORE BEGINNING CONSTRUCTION. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. WHERE CROSSING OF EXISTING UTILITIES OCCUR, MEET THE STATE OF OKLAHOMA REQUIREMENTS FOR SEPARATION BETWEEN WATER AND WASTEWATER PIPES.
4. SEWER AND WATER SERVICE SHALL BE MAINTAINED DURING ENTIRE CONSTRUCTION PERIOD OR TEMPORARY FACILITIES PROVIDED.
5. APPROXIMATE LOCATIONS OF OVERHEAD POWER LINES AND UNDERGROUND ELECTRICAL LINES MAY OR MAY NOT BE SHOWN ON PLANS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VERIFYING ALL LOCATIONS IN THE FIELD AND PLAN WORK IN THESE AREAS ACCORDINGLY.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE DRAINAGE AND COMPLIANCE WITH ALL GOVERNMENTAL STORMWATER REGULATIONS AND PERMITS (SWPPP) AS REQUIRED. CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (NOI) TO APPROPRIATE STATE BODY PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PERMITS REQUIRED FOR WORK WITHIN STREAMS.
7. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE TRAFFIC CONTROL AND SIGNAGE FOR THE DURATION OF PROJECT AS REQUIRED BY THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES -PART VI, AND/OR ALL OTHER APPLICABLE GUIDELINES OF ODOT, COUNTY, CITY OR ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE PROJECT AREAS. ALL ROAD CLOSURE MUST BE APPROVED BY THE JURISDICTION AUTHORITY PRIOR TO ANY PUBLIC ROAD CLOSURES.
8. CONTRACTOR SHALL MAINTAIN TRAFFIC FLOW TO RESIDENCES AND BUSINESSES WITH MINIMUM DISRUPTION OF ACCESS.
9. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PAVING AND GRADING NOTES

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL MEET THE ODOT STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
2. ANY PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
3. ANY DISTURBED AREAS NOT SPECIFICALLY DESIGNATED TO BE GRADED SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AND SHALL BE GRADED TO DRAIN AS APPROVED BY THE ENGINEER.
4. FINAL PAVEMENT SURFACES SHALL NOT BE PLACED UNTIL ALL MAJOR CONSTRUCTION ACTIVITIES HAVE CONCLUDED.
5. ANY CHANGES TO FINAL GRADE ELEVATIONS AS SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER.
6. ALL ASPHALT AND CONCRETE PAVING REMOVED AND REPLACED SHALL BE NEAT FULL DEPTH SAW CUT.
7. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH SPECIFICATIONS AND CONTRACTOR IS RESPONSIBLE FOR ENSURING REVEGETATION IS ESTABLISHED.
8. CONTRACTOR SHALL ENSURE THE SITE DRAINS THROUGHOUT CONSTRUCTION. NO PONDING WATER SHALL BE ALLOWED.

YARD PIPING NOTES

1. MINIMUM COVER OVER PIPING SHALL BE 3'-0", MEASURED FROM FINISHED GRADE.
2. IN GENERAL LAY PIPE TO UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, UNLESS OTHERWISE APPROVED. IF EXISTING CONDITIONS PROHIBIT UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, FIELD ADJUSTMENTS SHALL BE APPROVED BY ENGINEER.
3. ALL JOINTS SHALL BE WATERTIGHT AND TESTED PER SPECIFICATIONS.
4. THRUST AT FITTINGS SHALL BE RESISTED BY RESTRAINED JOINTS AS SPECIFIED AND AS REQUIRED TO RESIST THRUST, UNLESS OTHERWISE APPROVED BY ENGINEER.
5. CONTRACTOR SHALL LOCATE AND UNCOVER ALL CONNECTIONS TO EXISTING LINES, AND ANY POSSIBLE CONFLICTS WITH PROPOSED FACILITIES AND VERIFY LOCATION, ELEVATION, PIPE MATERIAL, AND PIPE O.D. PRIOR TO ANY CONSTRUCTION. DEVIATIONS THAT WARRANT CHANGES SHALL BE BROUGHT TO ATTENTION OF ENGINEER IMMEDIATELY. CRITICAL LOCATES IDENTIFIED ON THE PLANS SHALL BE SUBMITTED 14 DAYS AHEAD OF CONSTRUCTION.
6. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING BURIED PIPING AND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGED UNDERGROUND FACILITIES AT THEIR OWN EXPENSE.
7. ANY PIPING SHOWN OR REQUIRED THAT IS NOT SPECIFICALLY DETAILED SHALL BE INSTALLED AS SHOWN OR REFERENCED WITH ALL FITTINGS AND VALVES AS REQUIRED TO PROVIDE A FUNCTIONAL PIPELINE. DEVIATIONS FROM THE PLAN SET SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AND, IF APPROVED, RECORDED ON THE RECORD DRAWINGS.
8. ALL BURIED VALVES SHALL BE INSTALLED WITH VALVE BOX AS SPECIFIED.
9. ALL PIPELINE SHUTDOWNS SHALL BE COORDINATED WITH THE OWNER. A WRITTEN WORK PLAN SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER AND OWNER A MINIMUM OF 24 HOURS PRIOR TO ANY SHUTDOWNS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF DEMOLISHED PIPE INCLUDING FITTINGS AND VALVES, MANHOLES, AND ANY EXCESS MATERIALS RESULTING FROM THE WORK. ANY SALVAGE ITEMS MUST BE COORDINATED WITH OWNER.
11. WHERE BYPASS PUMPING IS REQUIRED DURING THE PROJECT, PUMPING SHALL BE HELD TO A MINIMUM. ROUND-THE-CLOCK BYPASS PUMPING IS NOT ALLOWED WITHOUT WRITTEN CONSENT FROM OWNER. AT END OF EACH DAYLIGHT CONSTRUCTION PERIOD, EXISTING WATER WILL BE TEMPORARILY ROUTED TO NEW OR EXISTING PIPES WITH FITTINGS, PIPE, HOSE, OR OTHER APPURTENANCES AS REQUIRED AND DITCH LINES SHALL BE BACKFILLED TO EXISTING GRADE. COST OF THIS WORK SHALL BE INCLUDED IN PIPE INSTALLATION UNLESS LISTED AS A SEPARATE BID ITEM.
12. CONTRACTOR SHALL PREVENT STORMWATER AND DEBRIS FROM ENTERING PIPES AND MANHOLES AT ALL TIMES. ALL PIPES AND MANHOLES SHALL BE SECURELY PLUGGED AT THE END OF EACH DAY.
13. AS-BUILT DRAWINGS SHALL BE MAINTAINED IN ACCORDANCE WITH SPECIFICATIONS. CONTRACTOR SHALL RECORD AND PROVIDE HORIZONTAL AND VERTICAL LOCATION INFORMATION FOR PIPING, VALVES, AND FITTINGS WHERE INSTALLATION VARIES FROM CONSTRUCTION DRAWINGS.
14. ALL STREETS AND DRIVEWAYS SHALL BE OPEN CUT UNLESS NOTED OTHERWISE. CONTRACTOR MAY REQUEST HORIZONTAL DIRECTIONAL DRILLING ON A CASE-BY-CASE BASIS.
15. ROCK SHALL BE UNDERCUT A MINIMUM OF 6" AND PIPE BEDDED PER SPECIFICATION. NO SEPARATE PAY ITEM EXISTS FOR ROCK EXCAVATION. ALL EXCAVATION SHALL BE CONSIDERED TO BE UN-CLASSIFIED EXCAVATION AND SUBSIDIARY TO OTHER BID ITEMS.

ABBREVIATIONS

ABBREV	DESCRIPTION	ABBREV	DESCRIPTION	ABBREV	DESCRIPTION
ABDN	ABANDON	LG	LONG	TOS	TOP OF SIDEWALK
AC	ACRE	LIN	LINEAL, LINEAR	TS&V	TAPPING SLEEVE & VALVE
AFF	ABOVE FINISHED FLOOR	LOC	LOCATION	TOW	TOP OF WALL
APPROX	APPROXIMATE	LT	LEFT	TYP	TYPICAL
ASPH	ASPHALT	MANUF	MANUFACTURER	UNK	UNKNOWN
ASSY	ASSEMBLY	MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
BC	BACK OF CURB	MGD	MILLION GALLONS PER DAY	V	VOLT, VALVE
BLDG	BUILDING	MH	MANHOLE	VC	VERTICAL CURVE
BLK	BLOCK	MIN	MINIMUM	VERT	VERTICAL
BM	BENCHMARK	MISC	MISCELLANEOUS	VPI	VERTICAL POINT OF INTERSECTION
B, BOT	BOTTOM	MJ	MECHANICAL JOINT	VT	VENTILATOR
BOP	BEGINNING OF PAVEMENT	N	NORTH	W	WIDTH, WATER
BTW	BEGIN TOP OF WALL	NE	NORTHEAST	W/	WITH
BVCS	BEGINNING OF VERTICAL CURVE STATION	NG	NATURAL GAS	W/O	WITHOUT
C	CONDUIT	NW	NORTHWEST	WL	WATER LINE
CI	CAST IRON	NIC	NOT IN CONTRACT	WSL	WATER SERVICE LINE
CJ	CONSTRUCTION JOINT	NO,#	NUMBER	WS	WATERSTOP
CL	CENTERLINE, CLASS	NOI	NOTICE OF INTENT	WTM	WATER TRANSMISSION MAIN
CMU	CONCRETE MASONRY UNIT	NTS	NOT TO SCALE	WWF	WELDED WIRE FABRIC
CONC	CONCRETE	NWSL	NORMAL WATER SURFACE LEVEL	X	BY
CONN	CONNECTION	OC	ON CENTER		
CONT	CONTINUOUS	OD	OUTSIDE DIAMETER		
CP	CONTROL POINT	OVF	OVERFLOW		
CPB	CHEMICAL PULL BOX	PC	POINT OF CURVE		
CSL	CHEMICAL SAMPLE LINE, CHLORINE SOLUTION DRAINAGE AREA	PD	PROCESS DRAIN		
DA	DUCT BANK	PDMH	PROCESS DRAIN MANHOLE		
DB	DUCT BANK	PE	PLAIN END		
DI	DUCTILE IRON	PI	POINT OF INTERSECTION		
DIA	DIAMETER	PL, PLS	PLATE, PLACES		
DIP	DUCTILE IRON PIPE	PO	PUSH ON		
EA	EACH	PP	POWER POLE		
EOC	EDGE OF CONCRETE	PPB	POWER PULLBOX		
EFF	EFFLUENT	PRC	POINT OF REVERSE CURVE		
EOG	EDGE OF GRAVEL	PROP	PROPOSED		
EG	EXISTING GRADE	PSI	POUNDS PER SQUARE INCH		
EL, ELEV	ELEVATION	PT	POINT OF TANGENT, POINT		
ELEC	ELECTRICAL	PVC	POLYVINYL CHLORIDE		
EOP	EDGE OF PAVEMENT	PVI	POINT OF VERTICAL INTERSECTION		
EPB	ELECTRICAL PULLBOX	R, RAD	RADIUS		
ESMT	EASEMENT	RCB	REINFORCED CONCRETE BOX		
ETW	END TOP OF WALL	RCP	REINFORCED CONCRETE PIPE		
EVCS	END OF VERTICAL CURVE STATION	RED	REDUCER		
EQ	EQUAL	REINF	REINFORCEMENT		
EW	EACH WAY	REQD	REQUIRED		
EXIST.	EXISTING	RFG	RIGHT FINISHED GRADE		
EXP	EXPANSION	RJ	RESTRAINED JOINT		
FCJ	FLOOR CONSTRUCTION JOINT	ROW, R/W	RIGHT-OF-WAY		
FES	FLARED END SECTION	RP	RADIUS POINT		
FFE	FINISHED FLOOR ELEVATION	RS	RESILIENT SEAT		
FH	FIRE HYDRANT	RT	RIGHT		
FG	FINISHED GRADE	S	SOUTH, SLUDGE		
FL	FLOWLINE	SCH	SCHEDULE		
FLG	FLANGED	SD	STORM DRAIN		
FRP	FIBERGLASS REINFORCED PIPE	SDMH	STORM DRAIN MANHOLE		
FT	FEET, FOOT	SE	SOUTHEAST		
FTG	FOOTING	SECT	SECTION		
G	GUTTER	SF	SQUARE FEET, SILT FENCE		
GL	GAS LINE	SHT	SHEET		
GR	GRADE	SL	SAMPLE LINE		
GV	GATE VALVE	SPC	STANDARD PROCTOR DENSITY		
HDWL	HEADWALL	SPEC	SPECIFICATIONS		
HMA	HOT MIX ASPHALT	SQ	SQUARE		
HORIZ	HORIZONTAL	SS	SANITARY SEWER		
HWY	HIGHWAY	SSL	SANITARY SEWER SERVICE LINE		
ID	INSIDE DIAMETER	SSMH	SANITARY SEWER MANHOLE		
IN	INCHES	STA	STATION		
INF	INFLUENT	STD	STANDARD		
INV	INVERT	SURV LOC	SURVEY LOCATED		
JT	JOINT	SW	SIDEWALK, SOUTHWEST		
LEN	LENGTH	T&B	TOP AND BOTTOM		
LF	LINEAR FEET	TBM	TEMPORARY BENCHMARK		
LFG	LEFT FINISHED GRADE	TOC	TOP OF CURB		
		TEMP	TEMPORARY, TEMPERED		
		THK	THICKNESS		



DRAWING NO. 01-G004		CIVIL NOTES AND LEGENDS 1	
PROJECT NO. TMUA-W 24-03			
TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: GARVER			
REVISION	BY	DATE	APPROVED:
AS SHOWN	DESIGNED	KLB SJS FEB 2026	
PROFILE SCALE:	SURVEY		
HORIZONTAL: AS SHOWN	PROJ. MGR.		DESIGN MANAGER
VERTICAL: AS SHOWN	LEAD. ENGR.	CEW 4/2026	DATE: FEBRUARY 2026
FILE:	FIELD MGR.	CEW 4/2026	SHEET 04 OF 46 SHEETS
ATLAS PAGE NO:			

Revit File: L:\2023\W02-2302343 - TMUA Mohawk WTP Chemical Tank\Drawings\TMUA-01-G004_005-GN.dwg Last Save: 2/18/2026 3:20 PM Last saved by: KL Bass
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EQUIPMENT

SYMBOL	DESCRIPTION
M	ELECTRIC MOTOR
V	VARIABLE SPEED DRIVE
RV	REDUCED VOLTAGE SOFT STARTER
SS	FULL VOLTAGE NON-REVERSING STARTER
FV	FULL VOLTAGE NON-REVERSING STARTER
NR	FULL VOLTAGE REVERSING STARTER
FR	FULL VOLTAGE REVERSING STARTER
CAS	SUBMERSIBLE PUMP CONTROL AND STATUS MODULE
OIT	OPERATOR INTERFACE TERMINAL
GDT	GRAPHIC DISPLAY TERMINAL (VFD)
G	ELECTRIC GENERATOR
HM	HYDRAULIC MOTOR
AM	AIR MOTOR
I	SHAFT
II	COUPLING
DP	DYNAMIC PUMP
SCP	SCREW PUMP OR CONVEYOR

SYMBOL	DESCRIPTION
DC	DYNAMIC COMPRESSOR
PD	POSITIVE DISPLACEMENT PUMP
PC	POSITIVE DISPLACEMENT COMPRESSOR
EJ	EDUCTOR/EJECTOR
HG	HEATER, GENERAL
HGF	HEATER W/FAN (INDUCED DRAFT)
HGF2	HEATER W/FAN (FORCED DRAFT)
HE	HEAT EXCHANGER, GENERAL
HC	HYDRAULIC CYLINDER
AC	AIR CYLINDER
M	MIXER

ACCESSORIES AND APPURTENANCES

SYMBOL	DESCRIPTION
U	UNION
P	PLUG
BF	BLIND FLANGE
HC	HOSE CONNECTION
SN	SPRAY NOZZLE/DIFFUSER
D	DRAIN
FC	FLEXIBLE CONNECTION, GENERAL
FH	FLEXIBLE HOSE
QC	QUICK CONNECTOR
TT	THREADED TAP
F	FILTER
YS	'Y' TYPE STRAINER
S	STRAINER
EJ	EXPANSION JOINT
FCO	FLOOR CLEANOUT
G	GAUGE
P	P = PRESSURE
V	V = VACUUM
T	T = TEMPERATURE
DP	DP = PRESSURE DIFFERENTIAL
S	SILENCER

VALVES

SYMBOL	DESCRIPTION
CV	CHECK VALVE
GV	GATE VALVE
BV	BUTTERFLY VALVE
BC	BALL CHECK
BV	BALL VALVE
PV	PLUG VALVE
NV	NEEDLE VALVE
RV	ROTARY VALVE
KG	KNIFE GATE VALVE
MV	MUD VALVE
PV	PINCH VALVE
TV	THREE-WAY VALVE
TV	FOUR-WAY VALVE
GV	GLOBE VALVE
CV	CHARACTERIZED OR VEE-BALL VALVE

VALVE OPERATORS

SYMBOL	DESCRIPTION
HO	HAND OPERATOR
HO	HAND OPERATOR (LONG)
CO	CHAIN OPERATOR
FO	FLOAT OPERATOR
ADO	AIR DIAPHRAGM OPERATOR
PO	POSITIONER
SO	SOLENOID OPERATOR
CO	CYLINDER OPERATOR
PBO	PRESSURE BALANCED DIAPHRAGM OPERATOR

DIGITAL SYSTEM INTERFACES

SYMBOL	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT

SYMBOL	DESCRIPTION
SCV	STOP CHECK VALVE
DV	DIAPHRAGM VALVE (SELF CONTAINED)
AR	AIR RELIEF
PC	PRESSURE CONTROL
BPR	BACK PRESSURE REGULATOR
PRV	PRESSURE RELIEF VALVE
VRV	VACUUM RELIEF VALVE
PRVR	PRESSURE/VACUUM RELIEF VALVE
SG	STOP GATE
SLG	SLIDE GATE
HV	HOSE VALVE (HV-X) OR (V-X) X = NO. IN SPECS
S	SAMPLE
TV	TELESCOPING VALVE
FA	FLAME ARRESTOR

SYMBOL	DESCRIPTION
MO	MOTOR OPERATOR
DO	DIGITAL OPERATOR
EHO	ELECTRO-HYDRAULIC OPERATOR
FA	FAIL ARROWS INDICATE OPEN PORTS
LS	LIMIT SWITCH
MO	MOTOR OPERATOR WITH INTEGRAL CONTROL DEVICES

INSTRUMENTS OR FUNCTIONS

SYMBOL	DESCRIPTION
HS	HMI SCREEN DISPLAY ELEMENT
PM	PANEL MOUNTED DEVICE
FD	FIELD DEVICE

EQUIPMENT AND INSTRUMENTATION TAGGING

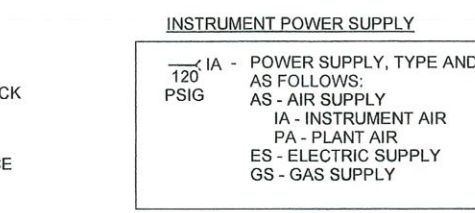
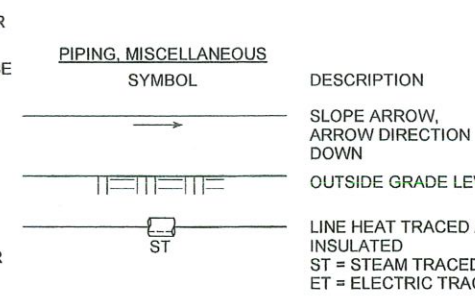
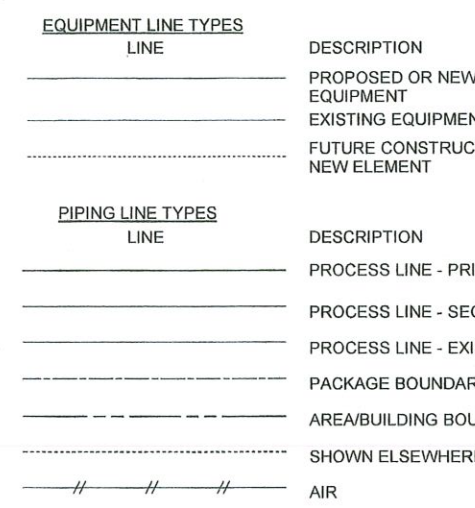
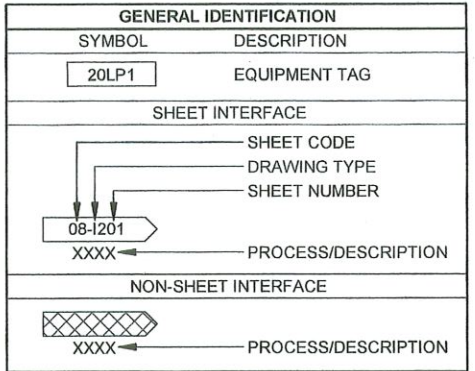
CODE	DESCRIPTION	RANGE	COMMENT
AA	FACILITY NUMBER	01 - 99	FACILITY LOCATION OR EQUIPMENT
B	UNIT PROCESS NUMBER	1 - 9	OPTIONAL IDENTIFIER USED TO DIFFERENTIATE MULTIPLE UNIT PROCESSES WITHIN A SINGLE FACILITY
CCC	EQUIPMENT ABBREVIATION / INSTRUMENT IDENTIFICATION	A - ZZZ	ONE TO THREE LETTER ABBREVIATION
D	TRAIN OR BRANCH NUMBER	0 - 9	0 USED FOR EQUIPMENT COMMON TO AN ENTIRE UNIT PROCESS 1-9 USED FOR EACH TRAIN/BRANCH WITHIN UNIT PROCESS
EE	SEQUENTIAL NUMBER IDENTIFIER	01 - 99	OPTIONAL IDENTIFIER IF NEEDED WHEN MULTIPLE EQUIPMENT WITHIN SAME TRAIN/BRANCH
X	ALPHABETIC IDENTIFIER	A - Z	OPTIONAL IDENTIFIER WHEN NEEDED FOR FURTHER DIFFERENTIATION

INSTRUMENT PRIMARY ELEMENTS

SYMBOL	DESCRIPTION
TT	THREADED TAP
TW	THERMOWELL
W	WEIR
SFI	SIGHT FLOW INDICATOR
ROT	ROTAMETER
CC	CALIBRATION COLUMN
FO	FLOW ORIFICE
FO	FLOW ORIFICE IN QUICK CHANGE FITTING
SP	SINGLE PORT PITOT
AP	AVERAGING PITOT STATION
VT	VENTURI TUBE
FL	FLUME
DF	POSITIVE DISPLACEMENT FLOWMETER
MF	MASS FLOWMETER
SF	SONIC FLOWMETER
MF	MAGNETIC FLOWMETER
MF	INSERTION MAGNETIC FLOWMETER
PEA	PH ELECTRODE ASSEMBLY
SPS	SUBMERSIBLE PRESSURE SENSOR
ULT	ULTRASONIC LEVEL TRANSMITTER
RLT	RADAR LEVEL TRANSMITTER
CLP	CONDUCTIVITY LEVEL PROBE
FS	FLOAT SWITCH
TE	TURBINE ELEMENT
VS	VORTEX SENSOR
TE	TARGET ELEMENT
WHA	WATER HAMMER ARRESTER

AUX INSTRUMENTS OR FUNCTIONS

SYMBOL	DESCRIPTION
TP	TEST POINT, TERMINAL BLOCK WITH SLIDING LINK AND MINI-BANANA SOCKETS
PFD	PURGE OR FLUSHING DEVICE
IL	INTERLOCK LOGIC WITH REFERENCE
AS	ANNULAR SEAL
DS	DIAPHRAGM SEAL
RLO	RESET FOR LATCH TYPE OPERATOR
PS	LOOP POWER SUPPLY



LINE	DESCRIPTION
—	PROCESS CONNECTION
—	UNDEFINED SIGNAL
— // —	PNEUMATIC SIGNAL
- - - - -	ELECTRIC SIGNAL
— L — L — L	HYDRAULIC SIGNAL
— X — X — X	CAPILLARY OR FILLED TUBE
— W — W — W	ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
— U — U — U	ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)
— O — O — O	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
— S — S — S	MECHANICAL LINK

SIGNAL CONDITIONERS

SYMBOL	DESCRIPTION
AD	ANALOG TO DIGITAL
DA	DIGITAL TO ANALOG
IP	CURRENT TO PRESSURE
PI	PRESSURE TO CURRENT
FI	FREQUENCY TO CURRENT
II	CURRENT BOOST/ REPEATER

SYMBOL	DESCRIPTION
Σ	SUM
Δ	DIFFERENCE
√	SQUARE ROOT
F(X)	CHARACTERIZATION
∫	INTEGRATION

MEANING OF FUNCTIONAL INSTRUMENT IDENTIFICATION LETTERS

FIRST LETTER	MEASURED OR INITIATING VARIABLE	MODIFIER	SUCCEEDING LETTERS	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM			
B	BURNER FLAME		USER CHOICE		USER CHOICE	USER CHOICE
C	CONDUCTIVITY (ELECTRICAL)				CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL				
E	VOLTAGE (EMF)		PRIMARY ELEMENT			
F	FLOW RATE	RATIO(FRACTION)				
G	GAUGING(DIMENSIONAL)		GLASS			
H	HAND(MANUALLY INITIATED)					HIGH
I	CURRENT(ELECTRICAL)		INDICATE			
J	POWER	SCAN				
K	TIME OR TIME-SCHEDULE				CONTROL STATION	
L	LEVEL		LIGHT(PILOT)			LOW
M	MOTION	MOMENTARY				MIDDLE OR INTERMEDIATE
N	USER CHOICE		USER CHOICE		USER CHOICE	USER CHOICE
O	USER CHOICE		ORIFICE(RESTRICTION)			
P	PRESSURE OR VACUUM		POINT(TEST POINT)			
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE				
R	RADIATION		RECORD OR PRINT			
S	SPEED OR FREQUENCY	SAFETY			SWITCH	
T	TEMPERATURE		TRANSMIT			
U	MULTIVARIABLE		MULTIFUNCTION		MULTIFUNC.	MULTIFUNCTION
V	VIBRATION OR MECHANICAL ANALYSIS				VALVE, DAMPER, OR LOUVER	
W	WEIGHT OR FORCE		WELL			
X	UNCLASSIFIED		UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE				RELAY OR COMPUTE	
Z	POSITION				DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

DRAWING NO. 01-G006 PROCESS & INSTRUMENTATION DIAGRAM NOTES, LEGENDS, AND ABBREVIATIONS

PROJECT NO. TMUA-W 24-03
 MOHAWK WTP CHEMICAL TANK REPLACEMENT
 CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GARVER



REVISION	BY	DATE	APPROVED:
AS SHOWN	DRAWN	JAS FEB 2026	APPROVED: <i>John S. M</i>
PROFILE SCALE:	DESIGNED	HWG FEB 2026	
HORIZONTAL: AS SHOWN	SURVEY		DESIGN MANAGER
VERTICAL: AS SHOWN	LEAD ENGR.	<i>John Wick</i>	DATE: FEBRUARY 2026
FILE:	FIELD MGR.	<i>John Wick</i>	ATLAS PAGE NO:
			SHEET 06 OF 46 SHEETS

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GENERAL NOTES:	
1. GENERAL NOTES SHALL APPLY TO THE ENTIRE PROJECT UNLESS NOTED OTHERWISE ON SPECIFIC STRUCTURAL DRAWINGS, STANDARD DETAILS, OR IN THE SPECIFICATIONS.	
2. PROJECT RISK CATEGORY----- III	
3. DESIGN LIVE LOADS • ROOF WITHOUT REDUCTION----- 20 PSF • FLOORS: • STAIRS----- 100 PSF • INDUSTRIAL AREAS----- 100 PSF • EQUIPMENT ROOMS----- 250 PSF • AREAS WITH UNRESTRICTED VEHICULAR ACCESS----- AASHTO HS-20	
4. WIND LOAD PARAMETERS----- ASCE 7-16 • BASIC WIND SPEED----- 116 MPH • EXPOSURE CATEGORY----- C • GCPI +/- 0.18 (ENCLOSED BUILDINGS)	
5. SEISMIC DESIGN PARAMETERS----- IBC 2018 • IMPORTANCE FACTOR, I _e ----- 1.25 • SITE CLASS----- D - Default • SEISMIC SPECTRAL ACCELERATIONS • S _s ----- 0.127g • S ₁ ----- 0.072g • SEISMIC DESIGN CATEGORY----- B • DESIGN SPECTRAL ACCELERATIONS • S _{DS} ----- 0.136g • S _{D1} ----- 0.115g • RESPONSE MODIFICATION FACTOR, R----- SEE INDIVIDUAL PLANS • BASIC SEISMIC FORCE RESISTING SYSTEM----- SEE INDIVIDUAL PLANS • SEISMIC RESPONSE COEFFICIENT, C _s ----- SEE INDIVIDUAL PLANS • ANALYSIS PROCEDURE----- EQUIVALENT LATERAL FORCE	
6. RAIN LOAD PARAMETERS----- ASCE 7-16 • 15 - RAIN INTENSITY----- 8.06 IN/HR • 60 - RAIN INTENSITY----- 3.93 IN/HR	
7. SNOW LOADS PARAMETERS----- ASCE 7-16 • GROUND SNOW LOAD, P _g ----- 10 PSF • IMPORTANCE FACTOR, I _e ----- 1.10 • EXPOSURE FACTOR, C _e ----- 1.00 • THERMAL FACTOR, C _t ----- 1.00	
8. FROST DEPTH----- 18 IN	
9. THE STRUCTURE SHOULD NOT BE CONSIDERED TO BE STABLE DURING CONSTRUCTION UNTIL ALL ELEMENTS ARE IN PLACE AND CONNECTED. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY CONSTRUCTION BRACING, AS REQUIRED.	
10. CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL TAKE THE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION, NEW AND EXISTING, AT ALL STAGES.	
11. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY PERTINENT WORK. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE NOTED ON THE SHOP DRAWINGS.	
12. COORDINATE WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, STRUCTURAL, AND ELECTRICAL DRAWINGS, AND VERIFY THE LOCATIONS AND SIZES OF THE CHASES, OPENING, INSERTS, SLEEVES, FINISHES, CONDUITS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS.	
13. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE DRAWINGS AND EXISTING CONDITIONS TO DETERMINE WHERE OPENINGS ARE REQUIRED IN WALLS AND SLABS.	
14. STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS THROUGHOUT THE PROJECT UNLESS NOTED OTHERWISE ON SPECIFIC STRUCTURAL DRAWINGS.	

STRUCTURAL ALUMINUM NOTES	
1. UNLESS OTHERWISE SPECIFIED, ALUMINUM PLATE AND SHEET: ASTM 209, ALLOY 5052-H32; ALUMINUM EXTRUSIONS: ASTM B 221, ALLOY 6061-T6/6005A-T61; ALUMINUM-ALLOY ROLLED TREAD PLATE: ASTM B 632, ALLOY 6061-T6.	
2. UNLESS OTHERWISE STATED, PROVIDE TYPE 304, OR 316 STAINLESS STEEL FASTENERS FOR FASTENING ALUMINUM. SELECT FASTENERS FOR TYPE, GRADE, AND CLASS REQUIRED.	
3. COAT CONCEALED SURFACES OF ALUMINUM THAT WILL COME INTO CONTACT WITH GROUT, CONCRETE, MASONRY, WOOD, OR DISSIMILAR METALS WITH A HEAVY COAT OF BITUMINOUS PAINT.	
4. WELDING SHALL CONFORM TO AWS D1.2, "STRUCTURAL WELDING CODE - ALUMINUM".	

STRUCTURAL STEEL NOTES:	
1. UNLESS OTHERWISE SPECIFIED, HOT-ROLLED STEEL BUILDING MEMBERS USING W- AND C- SHAPES SHALL BE ASTM A992; M-, AND S- SHAPES ASTM A572, GRADE 50; SQUARE, RECTANGULAR & ROUND HSS SHAPES ASTM A 500 GRADE B; ANGLES AND MISCELLANEOUS STIFFENER PLATES ASTM A572, GRADE 50.	
2. ALL SHEAR CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE STANDARD AISC WELDED OR AISC BOLTED CONNECTIONS AND SHALL HAVE SUFFICIENT CAPACITY TO SUPPORT THE END REACTION EQUAL TO ONE - HALF THE TOTAL UNIFORM CAPACITY SHOWN IN THE ALLOWABLE UNIFORM LOAD TABLES OF THE AISC STEEL CONSTRUCTION MANUAL - 15TH EDITION.	
3. WELDING SHALL CONFORM WITH AWS D1.1 STRUCTURAL WELDING CODE.	
4. ALL BOLTS FOR BEAM CONNECTIONS SHALL BE ASTM A325 WITH A MINIMUM DIAMETER OF 3/4" UNO. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED AS SLIP CRITICAL. WASHERS SHALL BE INSTALLED UNDER NUTS OF FASTENERS WHEN REQUIRED BY THE SPECIFICATION FOR STRUCTURAL JOINTS.	
5. ALL ANCHOR RODS SHALL BE ASTM F1554, GRADE 36 UNO.	

GENERAL CONCRETE MASONRY NOTES:	
1. HOLLOW CMU UNITS SHALL CONFORM TO ASTM C90 TYPE 1 OF THE NOMINAL THICKNESS SHOWN ON THE DRAWINGS. ALL CMU SHALL BE 2 CELL BLOCK AND HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI ON NET AREA AT 28 DAYS.	
2. COARSE MORTAR FOR CMU SHALL CONFORM TO ASTM C 270, TYPE S UNO.	
3. GROUT FOR CMU GROUTED CELLS, LINTELS, COLUMNS, PILASTERS, BOND BEAMS AND BLOCKS WITH EMBEDDED ANCHORS SHALL BE 3,000 PSI PEA GRAVEL CONCRETE UNO.	
4. CMU REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60. HORIZONTAL JOINT REINFORCEMENT SHALL BE COLD DRAWN WIRE WITH A MINIMUM OF 9 GAUGE, (W1.7), LONGITUDINAL WIRE SIZE, UNO, WITH THE TYPE AND SPACING AS SHOWN ON THE DRAWINGS OR SPECIFIED.	
5. VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL NOT LESS THAN 2" X 3" IN PLAN DIMENSIONS.	
6. MASONRY WALL DOWELS SHALL EXTEND INTO THE FOUNDATION CONCRETE A MINIMUM OF THE DEVELOPMENT LENGTH FOR BAR SIZE USED. LAPS OR SPLICES OF REINFORCING STEEL IN MASONRY SHALL BE AS INDICATED BELOW. THERE SHALL BE A FOUNDATION DOWEL FOR EACH VERTICAL WALL REINFORCEMENT.	
7. NORMAL VERTICAL WALL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE FOUNDATION TO EMBED AT LEAST 6" INTO THE TOP OF WALL BOND BEAM. AN ADDITIONAL ONE #4 HOOKED DOWEL SHALL BE INSTALLED IN THE TOP OF ALL MASONRY WALLS AT EACH VERTICAL WALL CELL CONTAINING VERTICAL REINFORCING. THE DOWELS SHALL PROJECT 24" INTO THE WALL AND HOOK 6" INTO THE WALL TOP BOND BEAM.	
8. MASONRY CONTROL JOINTS (MCJ) SHALL BE OF THE TYPE AND AT THE LOCATIONS SHOWN ON THE DRAWINGS.	
9. IF NOT SHOWN ON DRAWINGS, MASONRY CONTROL JOINTS SHALL BE AS DETAILED ON DRAWINGS. PROVIDE CONTROL JOINTS IN ALL MASONRY WALLS UNO. CONTROL JOINT SPACING SHALL BE AS RECOMMENDED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION WITH A MAXIMUM SPACING OF 24'. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO MASONRY WALL CONSTRUCTION. JOINT LAYOUTS DETAILED ON DRAWINGS SHALL TAKE PRECEDENCE.	
10. CORNER BLOCKS SHALL BE INTERWOVEN BETWEEN TWO WALLS.	
11. EVERY PIER OR WALL SECTION WHOSE WIDTH IS 3'-0" OR LESS WILL HAVE HORIZONTAL SHEAR STEEL IN THE FORM OF TIES AS DETAILED ON DRAWINGS.	
12. PROVIDE (2) ADDITIONAL #5 BARS ALONG SIDES, TOP AND BOTTOM OF ALL CMU WALL OPENINGS. EXTEND REINFORCING 24" BEYOND OPENING, UNO.	
13. VERTICAL WALL REINFORCING SHALL BE AS FOLLOWS: GROUT CELLS CONTAINING REINFORCEMENT, SOLID FULL HEIGHT UNO.	
14. UNO, LAP SPLICE #4 BAR - 2'-0", #5 BAR - 3'-0", #6 BAR - 5'-0", #7 BAR - 7'-0"	

FOUNDATION NOTES:	
1. DESIGN FOUNDATION BEARING PRESSURE PER GEOTECHNICAL REPORT.	
2. FLOOR SLAB CONSTRUCTION JOINTS (CJ) SHALL BE PLACED AS SHOWN ON FOUNDATION PLANS AND SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.	
3. ALL CONCRETE CORNERS SHALL BE CHAMFERED 3/4" ON THE EXTERIOR EXPOSED CORNER.	
4. COMPACTED GRANULAR FILL OR BASE COURSE ROCK SHALL BE PLACED AS INDICATED AND SPECIFIED.	
5. ALL PIPING BENEATH SLABS SHALL BE CONCRETE ENCASED.	
6. VAPOR BARRIER REQUIRED BENEATH ALL INTERIOR BUILDING SLABS THAT HAVE AN APPLIED COATING OR FLOORING MATERIAL.	

GENERAL CONCRETE NOTES:	
1. STRUCTURAL CONCRETE FOR BUILDING MEMBERS SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF 4,500 PSI UNO.	
2. CONCRETE FOR SLABS SUBJECTED TO VEHICULAR WHEEL LOADS SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF 4,500 PSI.	
3. HOLD SLUMP TO 3 TO 4 INCHES IN ALL FLOOR SLABS.	
4. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4".	
5. NON-PRESTRESSED CONCRETE REINFORCEMENT SHALL CONFORM TO ASTM A 615 GRADE 60.	
6. REINFORCEMENT LAP SPLICES SHALL CONFORM TO DETAILS ON SHEET 99-S501	
7. CONCRETE COVER OVER REINFORCEMENT SHALL CONFORM TO THE MINIMUM REQUIRED BY DETAILS ON SHEET 99-S501, UNO.	
8. REINFORCEMENT DETAILING AND PLACEMENT SHALL CONFORM TO ACI SP-86.	
9. NO REINFORCING BAR SHALL BE WELDED OR FIELD BENT IN ANY MANNER, UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS.	
10. DOWEL EMBEDMENT SHALL BE THE FULL DEVELOPMENT LENGTH OF THE BAR. IF NOT OTHERWISE SPECIFIED, DOWEL SIZE AND SPACING SHALL BE THE SAME AS MAIN REINFORCING.	
11. MECHANICAL EQUIPMENT PADS ON FLOOR SLABS SHALL BE 6" THICK AND REINFORCED WITH #4 @ 12" EW, UNO.	
12. WATERSTOP PIPE SLEEVES REQUIRED ON ALL WATERTIGHT WALLS AND FLOORS.	
13. TREMIES REQUIRED ON ALL PLACEMENTS DEEPER THAN 5 FEET.	
14. ALL WATERSTOPS TO BE 6" PVC FLAT RIBBED OR 9" PVC CENTER BULB AND PLACED AT ALL WATERTIGHT JOINTS, UNO. REFER TO DETAILS ON SHEET 99-S501 FOR WATERSTOP DETAILS.	
15. ALL WATERTIGHT "HYDRAULIC" CONCRETE STRUCTURES SHALL PASS A 72 HOUR LEAKAGE TEST PRIOR TO BACKFILLING AROUND STRUCTURE. SEE SPECIFICATION 03 30 00, CAST-IN-PLACE CONCRETE.	
16. WHEN WATERSTOP IS PLACED HORIZONTALLY IN SLABS, THE CONTRACTOR SHALL TEMPORARILY TIE UP OR CLAMP UP THE WATERSTOP UNTIL THE CONCRETE IS PLACED TO SLIGHTLY ABOVE THE DEPTH OF THE WATERSTOP.	
17. VERTICAL WATERSTOP SHALL BE FULLY EMBEDDED IN SLAB POUR AND WELDED TO ALL ADJACENT WATERSTOP.	
18. PROVIDE A MINIMUM OF SEVEN (7) DAYS CURE TIME BETWEEN ADJACENT POURS	
19. CONTRACTOR SHALL SUBMIT TO ENGINEER FOR APPROVAL A SCHEDULE AND SEQUENCE OF CONCRETE PLACEMENT. SEQUENCE SHALL INCLUDE CURE TIME BETWEEN ADJACENT PLACEMENTS.	
20. WALKWAYS AND SIDEWALKS SHALL BE PLACED WITH A SLIGHT SLOPE TO FREELY DRAIN WITH NO LOW SPOTS. ALL SLOPES SHALL COMPLY WITH ADA REQUIREMENTS.	
21. ALL CONSTRUCTION JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS FOR REVIEW. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN WALLS AND BEAMS, UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.	
22. POST INSTALLED ANCHORS SHALL NOT BE SUBSTITUTED FOR CAST IN ANCHORS UNLESS APPROVED BY ENGINEER.	
23. USE MANUFACTURER'S CERTIFIED DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT ANCHORAGE AND DETAILS. VERIFY EQUIPMENT SIZE AND WEIGHTS WITH ENGINEER PRIOR TO CONSTRUCTION OF ANY AND ALL EQUIPMENT PADS.	

GENERAL SHEET NOTE
ALL GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL DRAWINGS IN THIS SET UNLESS OTHERWISE NOTED PER DISCIPLINE. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

ABBREVIATIONS	
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ALUMINUM
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL/ARCHITECTURE
BFF	BELOW FINISH FLOOR
BM	BEAM
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CLG	CEILING
COL	COLUMN
DEMO	DEMOLISH/DEMOLITION
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ES	EACH SIDE
EW	EACH WAY
EX	EXISTING
EXP	EXPANSION
EXST	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FND	FOUNDATION FOOTING
FS	FAR SIDE
HT	HEIGHT
IJ	ISOLATION JOINT
INT	INTERIOR
KIP	1,000 POUNDS
KLF	KIPS PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSL	LONG SLOT
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
NS	NEAR SIDE
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OVS	OVERSIZED
PCF	POUNDS PER CUBIC FOOT
PFJ	PRE-FORMED JOINT
PJP	PARTIAL JOINT PENETRATION
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REF	REFERENCE
REV	REVISION
SIM	SIMILAR
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
SSL	SHORT SLOT
STL	STEEL
T&B	TOP AND BOTTOM
T/	TOP OF
T/BEAM	TOP OF BEAM
T/COLUMN	TOP OF COLUMN
T/CONC	TOP OF CONCRETE
T/FTG	TOP OF FOOTING
T/FND	TOP OF FOUNDATION
T/GRAT	TOP OF GRATING
T/JOIST	TOP OF JOIST
T/PAD	TOP OF PAD
T/PARAPET	TOP OF PARAPET
T/SLAB	TOP OF SLAB
T/STL	TOP OF STEEL
T/WALKWAY	TOP OF WALKWAY
T/WALL	TOP OF WALL
T/WEIR	TOP OF WEIR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VCJ	VERTICAL CONSTRUCTION JOINT

STRUCTURAL ANNOTATIONS	
	CENTERLINE
	FLANGE
	GRIDLINE
	PLATE
	PERCENT
	DEGREES
	PLUS/MINUS
	WATERSTOP
	DIRECTION OF DECK SPAN / GRATING
	SLAB TRANSITION - RAMP
	SLAB TRANSITION - STEP

PHASE GRAPHICS	
	EXISTING ELEMENTS
	NEW ELEMENTS
	EXISTING ELEMENTS TO BE REMOVED/DEMOLISHED
	FUTURE CONSTRUCTION NEW ELEMENT

GENERAL DRAWING SYMBOLS	
	REVISION CLOUD AND NUMBER SHOWN ON PLANS
	POINT OF CONNECTION - NEW TO EXISTING
	DEMO TO POINT
	KEYED NOTE REFERENCE
	ROOM NAME 101 150 SF SYMBOL INDICATES A ROOM / AREA DESIGNATION, WITH ROOM NUMBER AND SQUARE FOOTAGE
	SYMBOL INDICATES A STRUCTURAL GRIDLINE OR DATUM
	01-T/CONC EL 271.00 SYMBOL INDICATES A LEVEL DATUM IN A SECTION OR ELEVATION
	D00 0000-000 CALLOUT DENOTES A STANDARD DETAIL REFERENCE. EXAMPLE: D03/0000-000 SPECIFICATION DIVISION: 03 MECHANICAL SPECIFICATION SECTION: 0000 DETAIL REFERENCE: 000
	REFER TO 1 / 01-S101 CALLOUT DENOTES A VIEW REFERENCE ABOUT A MATCHLINE

STRUCTURAL TAGS	
COMPOSITE BEAM TAG W14X22 c = 3/4" ← CAMBER (10) ← NUMBER OF STUDS	STRUCTURAL FRAMING TAG AL C12X11.8 FRAMING MATERIAL FRAMING SHAPE WEIGHT PER LENGTH (LB/FT) FRAMING NOMINAL HEIGHT
PIER TAG PP ← PIER TYPE EL. 271.00 ← TOP OF PIER ELEVATION (FROM SURVEY POINT)	STRUCTURAL COLUMN TAG HSS14X14X3/4 COLUMN TYPE/SHAPE COLUMN WIDTH WALL THICKNESS COLUMN HEIGHT
SPOT ELEVATION TAG TOC ← SPOT ELEVATION ABBREVIATION/DESIGNATION EL 271.00 ELEVATION OF TAGGED ELEMENT (FROM SURVEY POINT)	STRUCTURAL REBAR TAG #X @ DIM" EF REBAR SIZE SPACING DIMENSION/DISTANCE DESCRIPTION OF DIRECTION, FACE, OR ORIENTATION

DRAWING NO. 01-G007	STRUCTURAL LEGEND & NOTES
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	TWP	FEB 2026	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	AS SHOWN	PROJ. MGR.		
			VERTICAL:	AS SHOWN	LEAD ENGR.		
			FILE:		FIELD MGR.		
			ATLAS PAGE NO:				



DESIGN MANAGER
DATE: FEBRUARY 2026
SHEET 07 OF 46 SHEETS

Revit File: Autocad Dwg/02-202530 - TMUA Mohawk WTP Chemical Tank/TMUA_Mohawk WTP Chemical Building.rvt
 Plot Date: 2/13/2026 3:59:16 PM

ABBREVIATIONS	VALVE ANNOTATION & DESIGNATIONS	GENERAL DRAWING SYMBOLS	FLUID FLOW & CONTROL SYMBOLS	PIPE SYMBOLS	PIPE PHASE GRAPHICS																																																																																																																																											
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SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.</p> <p>GENERAL PIPING NOTES</p> <ol style="list-style-type: none"> ALL PROCESS PIPING SYSTEMS SHALL BE INSTALLED AS PER SPECIFICATIONS AND GOVERNING CODES. DRAWINGS ARE REPRESENTATIVE OF EQUIPMENT AND PIPE CONNECTION REQUIREMENTS. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, FITTING TYPE, OR COMPONENT REQUIRED FOR PLANT OR FACILITY OPERATION. CONTRACTOR IS FULLY RESPONSIBLE TO ENSURE PLANT OPERATION. CONTRACTOR SHALL NOT SCALE DRAWINGS. INFORMATION AND COMPONENTS SHOWN ON P&ID'S BUT NOT SHOWN ON PLANS OR VICE-VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH. REFER TO RESPECTIVE DISCIPLINES FOR ALL OTHER DESIGN CRITERIA. COORDINATION BETWEEN DISCIPLINES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS. REFER TO CIVIL DRAWINGS FOR SPECIFIC ELEVATIONS. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES OR PENETRATION SEALS SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL. REFER TO DRAWINGS AND SPECIFICATIONS AS TO TYPE AND REQUIREMENTS FOR EACH. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER. <p>SPECIAL INSTALLATION NOTE</p> <p>INSTALLATION DETAILS FOR DIVISION 26 ELECTRICAL ARE NOT SHOWN ON MECHANICAL DRAWINGS FOR CLARITY. REFER TO DIVISION 26 INSTRUMENT SPECIFICATIONS, INSTRUMENT LIST, AND DESIGN DETAILS. COORDINATE MATERIAL AND INSTALLATION REQUIREMENTS.</p>	<p>GENERAL DRAWING SYMBOLS</p> REVISION CLOUD AND NUMBER SHOWN ON PLANS POINT OF CONNECTION - NEW TO EXISTING DEMO TO POINT KEYED NOTE REFERENCE <p>ROOM NAME 101 150 SF SYMBOL INDICATES A ROOM / AREA DESIGNATION, WITH ROOM NUMBER AND SQUARE FOOTAGE</p> <p> SYMBOL INDICATES A STRUCTURAL GRIDLINE OR DATUM</p> <p> SYMBOL INDICATES A LEVEL DATUM IN A SECTION OR ELEVATION</p> <p> CALLOUT DENOTES A STANDARD DETAIL REFERENCE. 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REFER TO TAG, P&ID DATA OR SPEC FOR MORE INFORMATION.</p> <p>PIPING INSULATION & LININGS</p> <p> PIPING INSULATION</p> <p> DOUBLE WALL PIPE</p> <p>MISCELLANEOUS PIPING SYMBOLS</p> <p> STRAINER</p> <p> SIGHT GLASS</p> <p> FLEXIBLE (ELASTOMER) PIPE CONNECTION</p> <p> GAUGE WITH COCK</p> <p> THERMOMETER</p> <p> ROTAMETER</p> <p> PIG CATCHER / LAUNCHER</p>	PLAN VIEW	SECTION VIEW				BALL			BALL CHECK			BUTTERFLY			DIAPHRAGM			GATE			GLOBE			KNIFE GATE			PINCH			PLUG			ROTARY			SWING CHECK			V-PORT			MUD			TELESCOPING			SLIDE GATE WITH HAND CRANK			SLIDE GATE WITHOUT HAND CRANK	<p>PIPE SYMBOLS</p> <table border="0"> <tr> <td></td> <td>ELBOW UP</td> </tr> <tr> <td></td> <td>ELBOW DOWN</td> </tr> <tr> <td></td> <td>TEE UP</td> </tr> <tr> <td></td> <td>TEE DOWN</td> </tr> <tr> <td></td> <td>LATERAL/WYE UP</td> </tr> <tr> <td></td> <td>LATERAL/WYE DOWN</td> </tr> <tr> <td></td> <td>CONCENTRIC REDUCER</td> </tr> <tr> <td></td> <td>ECCENTRIC REDUCER</td> </tr> <tr> <td></td> <td>CAP</td> </tr> <tr> <td></td> <td>ELBOW, 90 DEGREE</td> </tr> <tr> <td></td> <td>ELBOW, 45 DEGREE</td> </tr> <tr> <td></td> <td>LATERAL/WYE</td> </tr> <tr> <td></td> <td>FLEXIBLE CONNECTION</td> </tr> <tr> <td></td> <td>DISMANTLING JOINT</td> </tr> </table> <p>NOTES:</p> <ol style="list-style-type: none"> ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS; FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT. <p>FLOW STREAM IDENTIFIERS</p> <table border="0"> <tr> <td>ACH</td> <td>ALUMINUM CHLOROHYDRATE</td> </tr> <tr> <td>CPO</td> <td>CATIONIC POLYMER</td> </tr> <tr> <td>HFS</td> <td>HYDROFLUOROSILICIC ACID</td> </tr> <tr> <td>OF</td> <td>OVERFLOW</td> </tr> <tr> <td>SHX</td> <td>SODIUM HYDROXIDE (CAUSTIC SODA)</td> </tr> <tr> <td>V</td> <td>VENT</td> </tr> <tr> <td>W2</td> <td>NON-POTABLE WATER</td> </tr> </table>		ELBOW UP		ELBOW DOWN		TEE UP		TEE DOWN		LATERAL/WYE UP		LATERAL/WYE DOWN		CONCENTRIC REDUCER		ECCENTRIC REDUCER		CAP		ELBOW, 90 DEGREE		ELBOW, 45 DEGREE		LATERAL/WYE		FLEXIBLE CONNECTION		DISMANTLING JOINT	ACH	ALUMINUM CHLOROHYDRATE	CPO	CATIONIC POLYMER	HFS	HYDROFLUOROSILICIC ACID	OF	OVERFLOW	SHX	SODIUM HYDROXIDE (CAUSTIC SODA)	V	VENT	W2	NON-POTABLE WATER	<p>PIPE PHASE GRAPHICS</p> <table border="0"> <tr> <td></td> <td>EXISTING PIPE</td> </tr> <tr> <td></td> <td>NEW PIPE</td> </tr> <tr> <td></td> <td>EXISTING PIPE TO BE ABANDONED</td> </tr> <tr> <td></td> <td>EXISTING PIPE TO BE REMOVED</td> </tr> <tr> <td></td> <td>FUTURE CONSTRUCTION NEW PIPE</td> </tr> <tr> <td></td> <td>WELDED JOINT</td> </tr> <tr> <td></td> <td>GROOVED END JOINT</td> </tr> <tr> <td></td> <td>FLANGED JOINT</td> </tr> <tr> <td></td> <td>MECHANICAL JOINT</td> </tr> <tr> <td></td> <td>UNION</td> </tr> <tr> <td></td> <td>SOCKET & JOINT</td> </tr> <tr> <td></td> <td>BELL & SPIGOT</td> </tr> <tr> <td></td> <td>FLANGED COUPLING ADAPTER</td> </tr> <tr> <td></td> <td>WELD NECK</td> </tr> <tr> <td></td> <td>FLEXIBLE COUPLING</td> </tr> <tr> <td></td> <td>FLEXIBLE COUPLING WITH THRUST TIES</td> </tr> <tr> <td></td> <td>STEEL BELLOWS EXP. 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HFS	HYDROFLUOROSILICIC ACID																																																																																																																																															
OF	OVERFLOW																																																																																																																																															
SHX	SODIUM HYDROXIDE (CAUSTIC SODA)																																																																																																																																															
V	VENT																																																																																																																																															
W2	NON-POTABLE WATER																																																																																																																																															
	EXISTING PIPE																																																																																																																																															
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	ELASTOMER BELLOWS EXP. JOINT																																																																																																																																															
<p>DRAWING NO. 01-G008 PROCESS MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS</p> <p>PROJECT NO. TMUA-W 24-03</p> <p>MOHAWK WTP CHEMICAL TANK REPLACEMENT</p> <p>CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT</p> <p>PLANS AND ESTIMATES PREPARED BY: GARVER</p> <table border="1"> <tr> <th>REVISION</th> <th>BY</th> <th>DATE</th> <th>PLAN SCALE:</th> <th>DRAWN</th> <th>JAS</th> <th>FEB. 2026</th> <th>APPROVED:</th> </tr> <tr> <td>AS SHOWN</td> <td>DESIGNED</td> <td>SJS</td> <td></td> <td></td> <td></td> <td>FEB. 2026</td> <td rowspan="4"> </td> </tr> <tr> <td>PROFILE SCALE:</td> <td>SURVEY</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HORIZONTAL: AS SHOWN</td> <td>PROJ. MGR.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VERTICAL: AS SHOWN</td> <td>FIELD MGR.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FILE:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DATE: FEBRUARY 2026</td> </tr> <tr> <td colspan="7">ATLAS PAGE NO:</td> <td>SHEET 08 OF 46 SHEETS</td> </tr> </table>					REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:	AS SHOWN	DESIGNED	SJS				FEB. 2026		PROFILE SCALE:	SURVEY						HORIZONTAL: AS SHOWN	PROJ. MGR.						VERTICAL: AS SHOWN	FIELD MGR.						FILE:							DATE: FEBRUARY 2026	ATLAS PAGE NO:							SHEET 08 OF 46 SHEETS																																																																																							
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CONTROL SCHEMATIC SYMBOLS

TRANSFORMER, RATINGS AS SHOWN
 SURGE PROTECTION DEVICE
 TRANSFER SWITCH
 ATS - AUTOMATIC TRANSFER SWITCH
 MTS - MANUAL TRANSFER SWITCH
 GENERATOR
 POWER METER
 PHASE MONITOR
 CIRCUIT BREAKER, RATINGS AS NOTED.

L	LONG TIME
S	SHORT TIME
I	INSTANTANEOUS
G	GROUND

 VARIABLE FREQUENCY DRIVE (VFD)
 REDUCED VOLTAGE SOFT-START
 DISCONNECT
 FUSED DISCONNECT
 MOTOR
 HORSEPOWER AS NOTED
 DRAW OUT CONSTRUCTION
 FULL VOLTAGE NON-REVERSING MOTOR STARTER. SIZE AS NOTED.
 FULL VOLTAGE REVERSING MOTOR STARTER. SIZE AS NOTED.
 KEY INTERLOCK
 GROUND
 INDUCTOR/LINE REACTOR
 CAPACITOR
 KVAR AS NOTED
 MEDIUM VOLTAGE CIRCUIT BREAKER
 CURRENT TRANSFORMER
 VOLTAGE TRANSFORMER

CONTROL SCHEMATIC SYMBOLS

WIRING WITHIN PANEL
 WIRING TO FIELD DEVICE
 ELECTRICALLY CONNECTED
 NOT ELECTRICALLY CONNECTED
 ELECTRICAL CONNECTION
 TERMINAL BLOCK LOCAL
 TERMINAL BLOCK EXTERNAL
 CIRCUIT BREAKER SINGLE POLE
 CIRCUIT BREAKER THREE POLE
 FUSE, AMPERE RATING AS NOTED
 FUSED TERMINAL BLOCK, AMPERE RATING AS NOTED
 GROUND
 HS (MOMENTARY) PB NC
 HS (MOMENTARY) PB NO
 HS (MAINTAINED) PB WITH RED MUSHROOM HEAD OPERATOR
 HS THREE POSITION
 X = CLOSED
 O = OPEN
 HS TWO POSITION
 MOTOR
 OVERLOAD ELECTRONIC
 OVERLOAD ELECTRONIC THREE POLE
 OVERLOAD THERMAL
 OVERLOAD THERMAL THREE POLE
 POTENTIOMETER
 ELAPSED TIME METER
 HEATER
 VFD LINE REACTOR
 PILOT LIGHT - COLOR AS INDICATED

- A - AMBER
- G - GREEN
- R - RED
- B - BLUE
- W - WHITE

 PTT - PUSH-TO-TEST

CONTROL SCHEMATIC SYMBOLS

SOLENOID
 RELAY COIL
 CR - CONTROL RELAY
 M - MOTOR STARTER COIL
 RELAY CONTACT NC
 RELAY CONTACT NO
 TIME DELAY RELAY COIL
 NO TIME DELAY CLOSE WHEN ENERGIZED
 NC TIME DELAY OPEN WHEN ENERGIZED
 NO TIME DELAY OPEN WHEN DE-ENERGIZED
 NC TIME DELAY CLOSE WHEN DE-ENERGIZED
 SWITCH - THREE POLE
 SWITCH - LIMIT NORMALLY OPEN (NO)
 SWITCH - LIMIT NORMALLY OPEN HELD CLOSED (NOHC)
 SWITCH - LIMIT NORMALLY CLOSED (NC)
 SWITCH - LIMIT NORMALLY CLOSED HELD OPEN (NCHO)

A	B
	PRESSURE
	LEVEL
	TEMPERATURE
	FLOW

NORMALLY OPEN, CLOSES ON RISING "B"
 NORMALLY CLOSED, OPENS ON RISING "B"
 HELD CLOSED, OPENS ON DROPPING "B"
 HELD OPEN, CLOSES ON DROPPING "B"

CONDUIT & CABLE TRAY SYMBOLS

CABLE TRAY BEND
 CABLE TRAY JUNCTION / TEE
 CABLE TRAY RISE / DROP
 CABLE TRAY CROSS FITTING
 CABLE TRAY TRANSITION / REDUCER
 CONDUIT JUNCTION BOX / TEE / TAKEOFF
 CONDUIT BEND
 CONDUIT JUNCTION BOX / RISE / DROP
 CABLE TRAY RISE / DROP

RECEPTACLE SYMBOLS

20 AMP DUPLEX RECEPTACLE, MTD. 18" AFF TO BOTTOM, UNLESS NOTED OTHERWISE, WITH #12 GROUND WIRE.
 • "GFCI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER.
 • "WP" INDICATES HEAVY-DUTY, WEATHERPROOF WHILE-IN-USE ENCLOSURE AND COVER.
 BOX INDICATES FLOOR OUTLET WITH RECESSED CAST JUNCTION BOX
 DUPLEX FLOOR/CEILING RECEPTACLE

ELECTRICAL TAGS

CONDUIT WIRE TAG

2(3#14+4#14G+4#14SPARE)
 DENOTES TWO (2) SETS OF:
 • THREE (3) NO. 14 AWG CONDUCTORS
 • ONE (1) NO. 14 AWG GROUND CONDUCTOR
 • FOUR (4) NO. 14 AWG SPARE CONDUCTORS.

CONDUIT RUN TAG

XXXX = PANEL/EQUIPMENT IDENTIFIER
 Y = CONDUIT FUNCTION
 P = (480VAC POWER)
 L = (240/120VAC POWER)
 C = (CONTROL/DISCRETE)
 S = (SIGNAL/ANALOG)
 N = (COMMUNICATION)
 ## = SEQUENTIAL CIRCUIT NUMBER

CONDUIT HOME RUN TAG

HOME RUN TO PANEL IN DEDICATED CONDUIT, RECEPTACLES AND EQUIPMENT SHALL HAVE DEDICATED GREEN GROUND WIRE.

PULL BOX TAG

XX = FACILITY NUMBER
 Y = ELECTRICAL/CONTROLS P (480VAC/POWER) E (240/120VAC/CONTROL) S (SIGNAL) H (MEDIUM VOLTAGE) N (FIBER)
 ZZ = SEQUENTIAL NUMBER
 A = DUCT BANK PROFILE LETTER

ELECTRICAL EQUIPMENT SYMBOLS

ELECTRICAL PANEL OR EQUIPMENT CABINET, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE
 ELECTRICAL PANEL OR EQUIPMENT CABINET, RECESSED MOUNTED, 5'-6" TO TOP OF ENCLOSURE
 JUNCTION BOX
 SAFETY NON-FUSED DISCONNECT SWITCH
 SAFETY FUSED DISCONNECT SWITCH

LIGHTING SWITCH SYMBOLS

\$ SWITCH, SINGLE POLE
 3 SWITCH, THREE WAY
 4 SWITCH, FOUR WAY
 D SWITCH, DIMMER

GENERAL ELECTRICAL LINE STYLES

EQUIPMENT PACKAGE
 GROUND
 ABOVE GRADE ELECTRICAL
 BELOW GRADE ELECTRICAL
 LIGHTNING PROTECTION CONDUCTORS
 WIRE CONTINUATION

SECURITY SYMBOLS

SURVEILLANCE CAMERA
 SECURITY & ACCESS:
 • DS = DOOR SWITCH
 • KP = KEY PAD
 • MD = MOTION DETECTOR
 • ML = MAGNETIC LOCK
 • OC = OCCUPANCY SENSOR
 • PC = PHOTO CELL
 • WS = WINDOW SWITCH

DATA & COMMUNICATION SYMBOLS

PHONE OUTLET
 DATA OUTLET
 DATA AND TELEPHONE DUAL OUTLET
 TELEVISION OUTLET

GROUNDING & LIGHTNING PROTECTION

GROUND ROD AND TEST WELL
 GROUND ROD
 LIGHTNING AIR TERMINAL

LIGHT FIXTURE ANNOTATIONS

TYP LIGHT FIXTURE
 LIGHT FIXTURE WITH EMERGENCY BATTERY PACK

LIGHTING FIXTURE SYMBOLS

RECESSED LIGHT
 EMERGENCY EXIT SIGN WITH LIGHTS
 EMERGENCY EXIT SIGN WITH DIRECTION
 POLE MOUNTED LIGHT - SINGLE FIXTURE
 POLE MOUNTED LIGHT - TWO FIXTURES
 WALL MOUNTED EXTERIOR LIGHT

ELECTRICAL SHEET NOTE

ALL SYMBOLS ON THIS SHEET ARE TO BE APPLIED TO ALL ELECTRICAL DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

PHASE GRAPHICS

EXISTING ELEMENTS
 NEW ELEMENTS
 EXISTING ELEMENTS TO BE REMOVED/DEMOLISHED
 FUTURE CONSTRUCTION NEW ELEMENT

GENERAL ELECTRICAL SYMBOLS

REVISION CLOUD AND NUMBER SHOWN ON PLANS
 POINT OF CONNECTION - NEW TO EXISTING
 DEMO TO POINT
 KEYED NOTE REFERENCE
 ROOM NAME
 101
 150 SF
 SYMBOL INDICATES A STRUCTURAL GRIDLINE OR DATUM
 SYMBOL INDICATES A LEVEL DATUM IN A SECTION OR ELEVATION
 01-T/CONC
 EL 271.00
 CALLOUT DENOTES A VIEW REFERENCE ABOUT A MATCHLINE
 REFER TO 1/01-E101
 CENTERLINE
 CALLOUT DENOTES A STANDARD DETAIL REFERENCE.
 D00
 0000-000
 EXAMPLE: D03/0000-000
 SPECIFICATION DIVISION: 00
 SPECIFICATION SECTION: 0000
 DETAIL REFERENCE: 000
 DUCT-BANK SECTION CUT
 SECTION "#"
 DUCT BANK TAG "A"
 BRANCH "1" OF DUCT BANK "A"
 SHEET REFERENCE
 #A1
 90-E601

DRAWING NO. 01-G009 ELECTRICAL SYMBOL LEGEND

PROJECT NO. TMUA-W 24-03

MOHAWK WTP CHEMICAL TANK REPLACEMENT

CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **GARVER**

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
AS SHOWN	DESIGNED	HGW	DESIGNED	HGW	FEB. 2026		
PROFILE SCALE:	SURVEY						
HORIZONTAL: AS SHOWN	PROL MGR.						
VERTICAL: AS SHOWN	LEAD. ENGR.						
FILE:	FIELD MGR. <i>Ben White</i>						<i>Thomas G. [Signature]</i>
ATLAS PAGE NO:	DATE: FEBRUARY 2026						SHEET 09 OF 46 SHEETS



GENERAL NOTES

- THESE NOTATIONS ARE INTENDED TO BE GENERAL IN NATURE. THEY MAY OR MAY NOT APPLY TO SOME OR ALL OF THE PLAN SHEETS AND SPECIFICATIONS.
- CONDUIT RUNS INDICATED ON THE PLAN SHEETS ARE INTENDED TO BE SCHEMATIC ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ROUTING ALL CONDUIT RUNS AND SHALL COORDINATE ANY DEVIATION FROM ROUTING AS INDICATED HEREIN WITH THE ENGINEER. ALL CONDUIT SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT CONFLICTS WITH EQUIPMENT. EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BEAMS OR STRUCTURAL CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ROUTING ALL CONDUITS NOT INDICATED ON THE PLAN SHEETS. THIS INCLUDES CIRCUITS FOR LIGHTING, RECEPTACLES AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
- ALL CONDUITS SHALL BE ROUTED AND SUPPORTED IN SUCH A MANNER AS TO NOT COMPROMISE THE STRUCTURAL INTEGRITY OF WALLS, FLOORS, CEILINGS, AND ROOFS. WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE ADDITIONAL STRUCTURAL SUPPORTING MEMBERS FOR THE INSTALLATION AND SHALL COORDINATE SUCH MEMBERS WITH ENGINEER.
- ALL SURFACE MOUNTED PANELS AND PANELBOARDS ON THE INTERIOR OF EXTERIOR WALLS OR IN OTHER LOCATIONS CONSIDERED DAMP OR WET SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4" MINIMUM AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
- PULLBOXES, IF SHOWN ON THE PLANS, ARE SCHEMATIC IN NATURE. THE CONTRACTOR SHALL PROVIDE ADDITIONAL PULLBOXES WHERE REQUIRED TO MAKE A WORKABLE INSTALLATION.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS WHETHER OR NOT THEY ARE REFERENCED ON THE DRAWINGS.
- ALL CONDUIT RUNS PASSING THROUGH EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS. FOR LOCATIONS OF EXPANSION JOINTS, REFER TO THE STRUCTURAL DRAWINGS.
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. IF EQUIPMENT SUPPLIED BY THE MANUFACTURER HAS A LARGER LOAD THAN THE VALUE SHOWN OR INDICATED, THE CABLE, CONDUIT AND ELECTRICAL EQUIPMENT MAY BE ENLARGED AS REQUIRED TO ACCOMMODATE THE HIGHER LOADING. HOWEVER, THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- ALL MOTOR STARTER CONTROL POWER TRANSFORMERS SHALL BE SIZED TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL LOCAL AND REMOTE ELECTRICAL DEVICES ASSOCIATED WITH CONTROL OF THE MOTOR IN ADDITION TO THE STARTER COIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL LOADING REQUIREMENTS FOR CONTROL POWER TRANSFORMERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR ALL EQUIPMENT INSTALLED.
- MOTOR CONTROL CENTERS AND ALL FREE STANDING PANELS SHALL BE SET ON CONCRETE HOUSEKEEPING PADS.
- IN GENERAL, SEPARATE POWER, CONTROL AND SIGNAL WIRING. PROVIDE SEPARATE CONDUIT, PULL AND JUNCTION BOXES. PROVIDE SUITABLE CABLE BARRIER WITHIN PULL OR JUNCTION BOXES WHERE SEPARATION OF WIRING IS NOT SHOWN ON THE DRAWINGS. CONTROL AND SIGNAL CONDUCTORS OF LIKE VOLTAGES MAY BE COMBINED INTO A SINGLE CONDUIT, AS LONG AS NEC CONDUIT FILL REQUIREMENTS ARE MET.
- UNLESS OTHERWISE NOTED ALL CONDUIT TO BE ROUTED EXPOSED. ALL EXPOSED CONDUIT AND PORTIONS OF THE CONDUIT SYSTEM SHALL BE SURFACE MOUNTED. SEE SPECIFICATIONS FOR CONDUIT, BOXES, SUPPORTS, HANGAR, UNISTRUT AND OTHER PORTIONS OR THE CONDUIT SYSTEM MATERIAL REQUIREMENTS.
- VERIFY LOCATION OF ALL EQUIPMENT PRIOR TO INSTALLATION.
- PROVIDE SEPARATE CONDUITS FOR 480VAC POWER CIRCUITS. SIGNAL AND CONTROL CONDUCTORS OF LIKE VOLTAGES MAY BE COMBINED IN A SINGLE CONDUIT WHERE COMPLIANT WITH NEC CONDUIT FILL REQUIREMENTS.
- CONTRACTOR TO SUBMIT CONDUIT ROUTING PLANS TO ENGINEER PRIOR TO CONSTRUCTION.
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, DOORS OR OTHER SIMILAR ITEMS, NO CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO CONFLICT WITH PROPER OPERATION OF SUCH EQUIPMENT.
- CONTRACTOR SHALL FURNISH AND INSTALL ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL SYSTEMS. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED AND SHALL PROVIDE CONDUIT, WIRING AND TERMINATIONS FOR ALL ITEMS AS REQUIRED.
- CONTRACTOR SHALL REFER TO OTHER PLAN SHEETS FOR LOCATIONS OF FIREWALLS. ALL CONDUIT PENETRATIONS IN THESE WALLS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO NOT REDUCE THE RATING OF THE FIREWALL THROUGH THE USE OF BOXES, SEALANTS AND OTHER ACCESSORIES AS MAY BE REQUIRED.
- CONTRACTOR SHALL REFER TO MECHANICAL PLAN SHEETS AND SPECIFICATIONS FOR ITEMS RELATED TO THE MECHANICAL SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ITEMS AS NECESSARY FOR COMPLETE AND OPERABLE MECHANICAL HEREIN INCLUDING, BUT NOT LIMITED TO: CONTROL POWER TRANSFORMERS, STARTERS, THERMOSTATS, CONTROL STATIONS, AND OTHER ELECTRICAL ITEMS AS RELATED TO THE INSTALLATION OF THE MECHANICAL SYSTEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DISCONNECTS FOR ALL MECHANICAL MOTORS UNLESS THE EQUIPMENT IS FURNISHED WITH AN INTEGRAL DISCONNECT FROM THE MANUFACTURER. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL CONDUIT, WIRING AND TERMINATIONS FOR ALL COMPONENTS AS MAY BE NECESSARY FOR THE MECHANICAL SYSTEMS.
- ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH HEAVY-DUTY WEATHERPROOF COVERS.
- EQUIPMENT LOCKOUTS SHALL BE IN STRICT ACCORDANCE WITH OWNER'S REQUIREMENTS.
- ALL CONDUITS SHALL HAVE A GROUNDING CONDUCTOR, SIZED PER NEC.
- ALL LIGHTING FIXTURES INSTALLED IN INSULATED LOCATIONS SHALL BE RATED FOR SUCH INSTALLATION REGARDLESS OF THE FIXTURE SCHEDULE DESIGNATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NEW SERVICE INSTALLATIONS WITH OWNER, ENGINEER AND SERVICE UTILITY. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AS REQUIRED BY SERVICE UTILITY FOR NEW SERVICE CONNECTIONS.
- UNLESS NOTED OTHERWISE, ALL CONTROL PANELS SHALL BE FABRICATED SUCH THAT ALL OPERATORS AND INDICATING DEVICES INDICATED ON THE SCHEMATICS BE LOCATED ON THE FRONT DOOR OR COVER OF THE PANEL. OPERATING AND INDICATING DEVICES SHALL BE VISIBLE AND OPERABLE WITHOUT HAVING TO OPEN THE CONTROL PANEL UNLESS OTHERWISE IDENTIFIED ON THE DRAWING.

ABBREVIATIONS

A, AMP	AMPERES	MTD	MOUNTED
AC	ALTERNATING CURRENT	MV	MEDIUM VOLTAGE
AF	AMP FRAME	N	COMMUNICATION CIRCUIT
AFF	ABOVE FINISHED FLOOR	NC	NORMALLY CLOSED
AIC	AMPS INTERRUPTING CAPACITY	NGHC	NORMALLY CLOSED HELD OPEN
AM	AMP-METER	NCTC	NORMALLY CLOSED TIMED CLOSED
ARMS	ARC REDUCTION MAINTENANCE SWITCH	NCTO	NORMALLY CLOSED TIMED OPEN
AT	AMP TRIP	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
AWG	AMERICAN WIRE GAUGE	NEUT	NEUTRAL
BFI	BLOWN FUSE INDICATOR	NFDS	NON-FUSED DISCONNECT SWITCH
C	CONDUIT, CONTROL/DISCRETE CIRCUIT	NO	NORMALLY OPEN
CAS	CONTROL AND STATUS RELAY	NOHC	NORMALLY OPEN HELD CLOSED
CB	CIRCUIT BREAKER	NOTC	NORMALLY OPEN TIMED CLOSED
CCTV	CLOSED CIRCUIT TELEVISION	NOTO	NORMALLY OPEN TIMED OPEN
COM	COMMON	OHE	OVERHEAD ELECTRIC
CP	CONTROL PANEL	OIT	OPERATOR INTERFACE TERMINAL
CPT	CONTROL POWER TRANSFORMER	OL	OVERLOAD
CR	CONTROL RELAY	OOR	ON-OFF-REMOTE
CRI	COLOR RENDERING INDEX	P	480VAC POWER CIRCUIT, POLE
CT	CURRENT TRANSFORMER	PP	POWER PANEL
DB	DECIBEL	PB	PUSH BUTTON OR PULLBOX
DC	DIRECT CURRENT	PCC	POINT OF COMMON COUPLING
DISC	DISCONNECT	PEC	PHOTO ELECTRIC CELL
DP	DISTRIBUTION PANEL	PF	POWER FACTOR
DWG	DRAWING	PFCC	POWER FACTOR CORRECTION CAPACITOR
EF	EXHAUST FAN	PH	PHASE
EG	EQUIPMENT GROUND	PL	PILOT LIGHT
EMT	ELECTRICAL METALLIC TUBING	PM	PHASE MONITOR
ENCL	ENCLOSURE	PTT	PUSH-TO-TEST
ETM	ELAPSED TIME METER	RECPT	RECEPTACLE
FACP	FIRE ALARM CONTROL PANEL	RVAT	REDUCED VOLTAGE AUTO-TRANSFORMER
FDS	FUSED DISCONNECT SWITCH	RVSS	REDUCED VOLTAGE SOFT STARTER
FLA	FULL LOAD AMPERES	S	SECOND, SIGNAL/ANALOG CIRCUIT
FOC, FO	FIBER OPTIC CABLE	SCCR	SHORT CIRCUIT CURRENT RATING
FRP	FIBERGLASS REINFORCED POLYESTER	SS	STAINLESS STEEL
FS	FLOAT SWITCH	SA	SURGE ARRESTER
FVNR	FULL VOLTAGE NON-REVERSING STARTER	SDBC	SOFT DRAWN BARE COPPER
FVR	FULL VOLTAGE REVERSING STARTER	SE	SERVICE ENTRANCE
G, GEN	GENERATOR	SPD	SURGE PROTECTION DEVICE
GDT	GRAPHIC DISPLAY TERMINAL	SSOL	SOLID STATE OVERLOAD RELAY
G, GND	GROUND	STP	SHIELDED TWISTED PAIR
GRS	GALVANIZED RIGID STEEL	SV	SOLENOID VALVE
HH	HANDHOLE	SW	SWITCH
HID	HIGH INTENSITY DISCHARGE	SWB,	SWITCHBOARD
HMI	HUMAN MACHINE INTERFACE	SWBD	
HOR	HAND-OFF-REMOTE	SWGR	SWITCHGEAR
HR	HOUR	T, XFMR	TRANSFORMER
HS	HAND SWITCH	TC	TIME CLOCK
HV	HIGH VOLTAGE	TD	TIME DELAY
HZ	HERTZ	TEL	TELEPHONE
IG	ISOLATED GROUND	THD	TOTAL HARMONIC DISTORTION
JB	JUNCTION BOX	TM	THERMAL MAGNETIC TRIP
KAIC	KILOAMP INTERRUPTING CAPACITY	UG	UNDERGROUND
KVAR	KILOVOLT-AMPERE, REACTIVE	UGE	UNDERGROUND ELECTRIC
KWH	KILOWATT-HOUR	UH	UNIT HEATER
L	240/208/120VAC CIRCUIT	UL	UNDERWRITERS LABORATORIES, INC
LA	LIGHTNING ARRESTER	UTP	UNSHIELDED TWISTED PAIR
LCP	LOCAL CONTROL PANEL	V	VOLTS
LLF	LIGHT LOSS FACTOR	VAC	VOLTAGE ALTERNATING CURRENT
LOR	LOCAL-OFF-REMOTE	VFD, V	VARIABLE FREQUENCY DRIVE
LP	LIGHTING PANEL	VM	VOLT-METER
LRA	LOCKED ROTOR AMPERES	W	WIRE
LV	LOW VOLTAGE	WH	WEATHER HEAD
MCA	MINIMUM CIRCUIT AMPACITY	WM	WATT METER
MCB	MAIN CIRCUIT BREAKER	WP	WEATHERPROOF
MCC	MOTOR CONTROL CENTER	1P	SINGLE POLE
MCP	MOTOR CIRCUIT PROTECTOR	1PH	SINGLE PHASE
MH	MANHOLE	3P	THREE POLE
MLO	MAIN LUG ONLY	3PH	THREE PHASE
MOCP	MAXIMUM OVER CURRENT PROTECTION		
MS	MOTOR STARTER		

- DUCT BANKS INDICATED AND THE BELOW GRADE CONDUIT ROUTING AS SHOWN IS DIAGRAMMATIC IN NATURE AND SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL REVIEW PLAN SHEETS RELATED TO INDIVIDUAL STRUCTURES AND VERIFY CONDUITS THAT MAY BE REQUIRED. THE CONTRACTOR SHALL VERIFY NUMBER OF CONDUITS AS INDICATED IN THE DUCT BANK PRIOR TO INSTALLATION WITH THE ENGINEER. PROVIDE AT A MINIMUM ONE SPARE CONDUIT EQUAL IN SIZE TO THE LARGEST CONDUIT IN USE, IN EACH DUCT BANK. FOR EACH SET OF FOUR USED CONDUITS IN EACH DUCT BANK PROVIDE A SPARE CONDUIT EQUAL TO THE LARGEST CONDUIT IN USE: (1-4 CONDUITS, 1 SPARE; 5-8 CONDUITS, 2 SPARE; AND SO ON).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HEAT TRACING FOR ALL EXPOSED WATER LINES TO BE INSTALLED UNDER THIS PROJECT. THE CONTRACTOR SHALL REVIEW OTHER SECTIONS OF THE PLANS AND SPECS AND PROVIDE SUITABLE HEAT TRACING COMPONENTS AS MAY BE REQUIRED, WHETHER INDICATED ON THE ELECTRICAL PLAN SHEETS OR NOT.
- VERIFY LOCATION OF ALL LIGHTING FIXTURES WITH OWNER AND ENGINEER PRIOR TO INSTALLATION. COORDINATE LIGHT FIXTURE LOCATIONS AND MOUNTING HEIGHTS WITH HVAC DUCTS AND OVERHEAD CONDUIT RUNS. USE RIGID CONDUIT WHEN SUSPENDING LIGHT FIXTURES TO PREVENT SWAYING.
- USE CRIMPED OR BOLTED CONNECTIONS FOR ALL BONDING CONNECTIONS BETWEEN CONDUCTORS AND BUILDING SYSTEM COMPONENTS. USE EXOTHERMIC WELDED CONNECTIONS FOR ALL UNDERGROUND PORTIONS OF THE GROUNDING SYSTEM WITH THE EXCEPTION OF GROUND ROD TEST WELLS.
- SEE DEMOLITION SPECIFICATION 02 41 00 FOR ALL EQUIPMENT, CONDUIT, AND CONDUCTOR SALVAGE AND DISPOSAL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

DRAWING NO. 01-G010 ELECTRICAL NOTES AND ABBREVIATIONS

PROJECT NO. TMUA-W 24-03

MOHAWK WTP CHEMICAL TANK REPLACEMENT

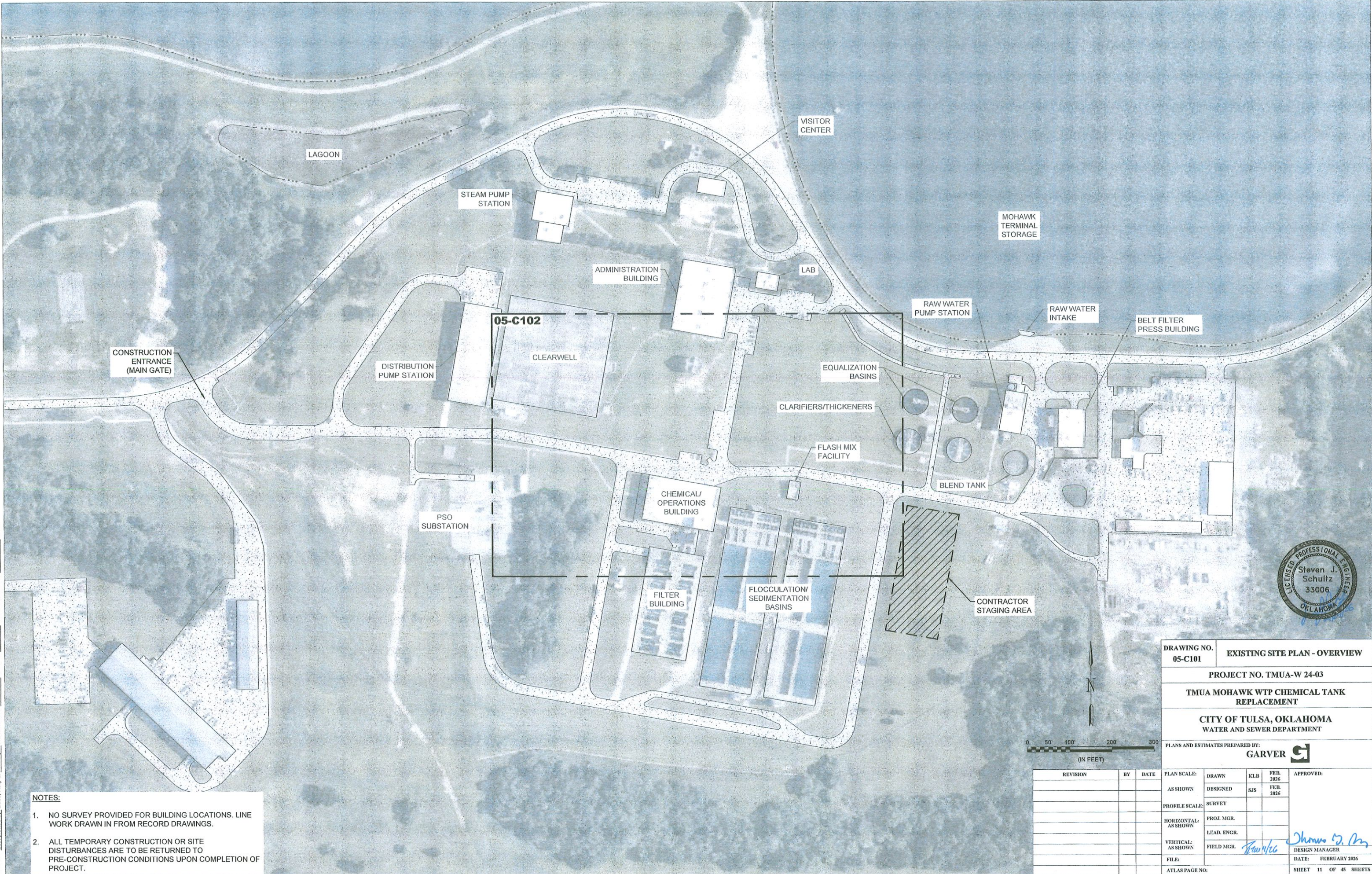
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GARVER



REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB 2026	APPROVED:
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			ATLAS PAGE NO:				DATE: FEBRUARY 2026
							SHEET 10 OF 46 SHEETS

Revit File: K:\2023\W02-2302243 - TMUA Mohawk WTP Chemical Tank Drawings\TMUA-05-C101-SI.dwg Last Save: 2/18/2026 3:21 PM Last saved by: KLBass
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DRAWING NO. 05-C101 **EXISTING SITE PLAN - OVERVIEW**
PROJECT NO. TMUA-W 24-03
TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER

REVISION	BY	DATE	PLAN SCALE:	DRAWN	KLB	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 11 OF 45 SHEETS
			PROFILE SCALE:	SURVEY			
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			VERTICAL: AS SHOWN	LEAD. ENGR.			
			FILE:	FIELD MGR.			
			ATLAS PAGE NO:				

- NOTES:**
- NO SURVEY PROVIDED FOR BUILDING LOCATIONS. LINE WORK DRAWN IN FROM RECORD DRAWINGS.
 - ALL TEMPORARY CONSTRUCTION OR SITE DISTURBANCES ARE TO BE RETURNED TO PRE-CONSTRUCTION CONDITIONS UPON COMPLETION OF PROJECT.

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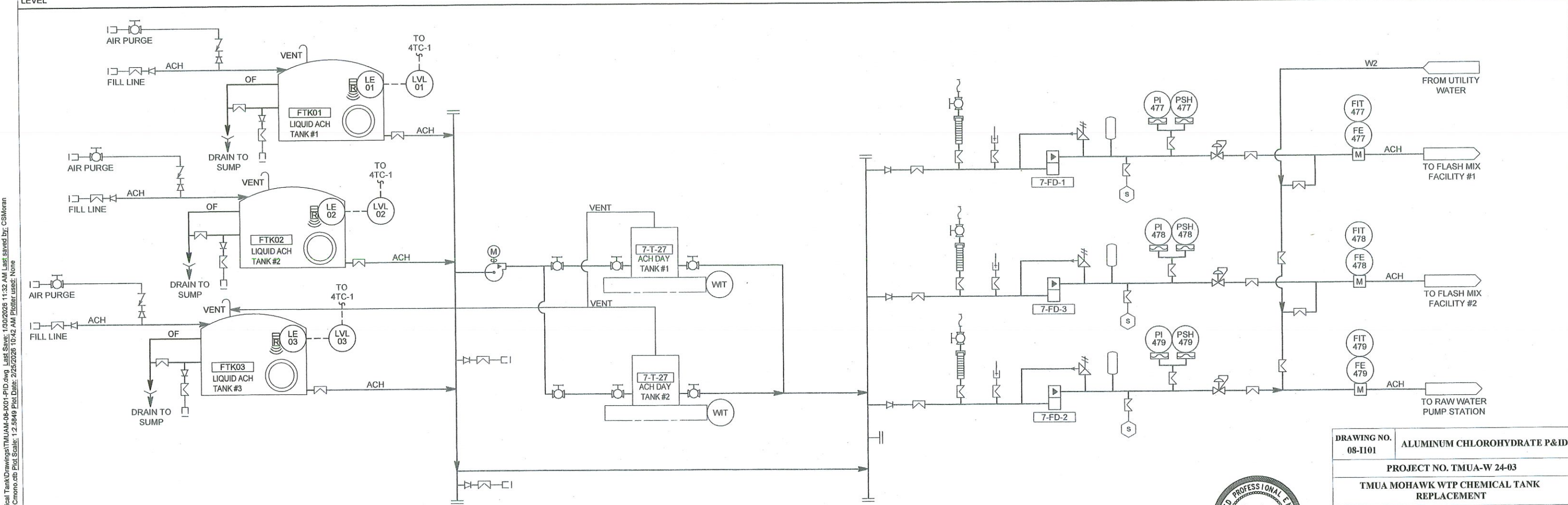
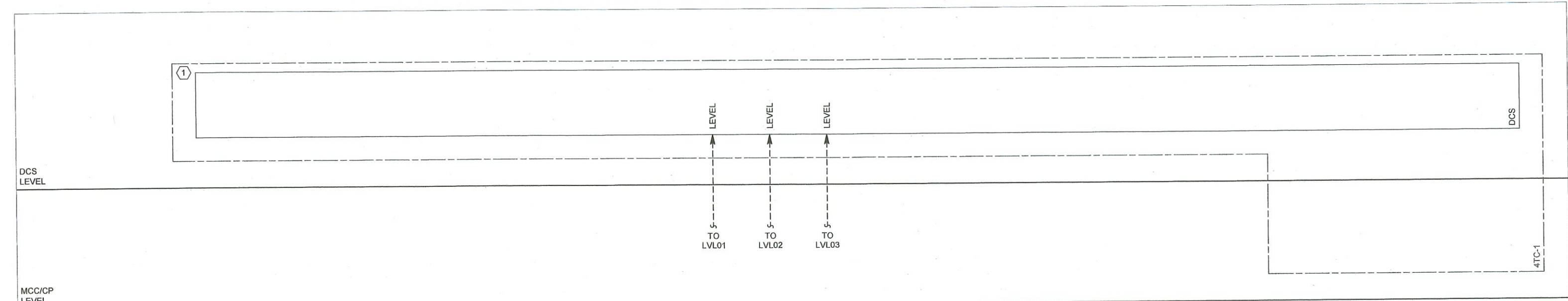


NOTES:

- NO SURVEY PROVIDED FOR BUILDING LOCATIONS. LINE WORK DRAWN IN FROM RECORD DRAWINGS.

DRAWING NO. 05-C102		PROPOSED SITE PLAN - OVERVIEW			
		PROJECT NO. TMUA-W 24-03			
		TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT			
		CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
		PLANS AND ESTIMATES PREPARED BY: GARVER			
REVISION	BY	DATE	PLAN SCALE:	DRAWN	APPROVED:
			AS SHOWN	KL.B	
			DESIGNED	SJS	
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					SHEET 12 OF 46 SHEETS

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GENERAL NOTES:

- SIGNAL LINES TO EQUIPMENT INTENDED ONLY TO INDICATE A REQUIRED ELECTRICAL CONNECTION. REFER TO PLAN SHEETS, CONTROL SCHEMATICS, AND I/O LIST FOR ADDITIONAL INFORMATION ABOUT NUMBER AND TYPES OF SIGNAL WIRING.
- EQUIPMENT TAGS WITH X, INSERT CORRESPONDING EQUIPMENT NUMBER
- GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

KEYED NOTES:

- CONTRACTOR TO PROVIDE AND INSTALL SPC600 CONTROLLER TO DCS AND THE APPROPRIATE I/O MODULES FROM THE SYMPHONY PLUS SD SERIES FOR THE PROPOSED SIGNALS. EACH I/O TYPES SHALL HAVE A MINIMUM OF 25% SPARE I/O POINTS.

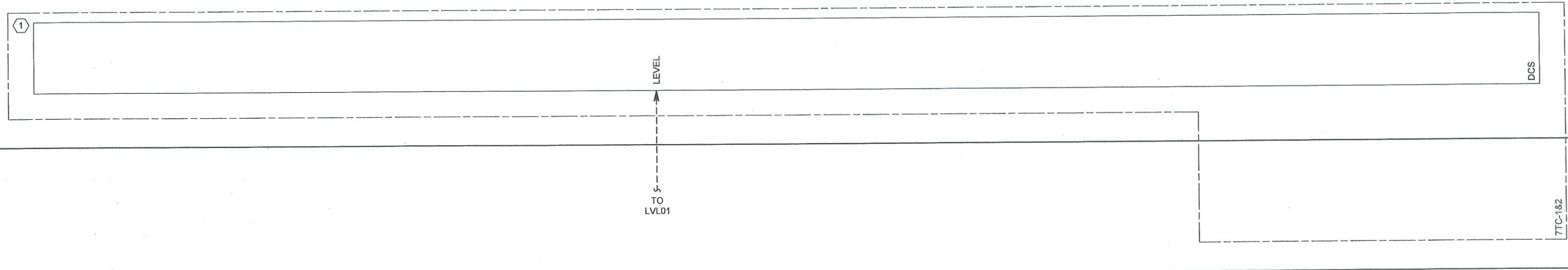
GENERAL TAG CONVENTION NOTE:

- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_ACH_".



DRAWING NO. 08-1101	ALUMINUM CHLOROHYDRATE P&ID
PROJECT NO. TMUA-W 24-03	
TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
AS SHOWN	DESIGNED	SJS	FEB 2026				
PROFILE SCALE:	SURVEY						
HORIZONTAL: AS SHOWN	PROJ MGR.						
VERTICAL: AS SHOWN	LEAD. ENGR.						
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ATLAS PAGE NO:	DATE: FEBRUARY 2026						
							SHEET 13 OF 46 SHEETS



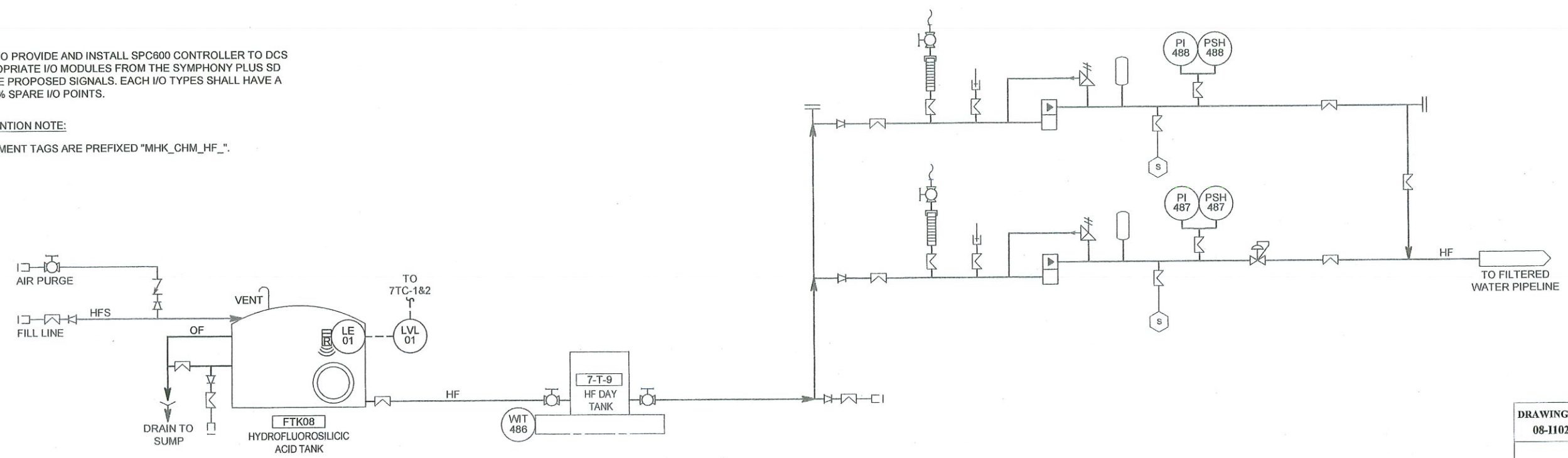
DCS LEVEL

MCC/CP LEVEL

- GENERAL NOTES:**
1. SIGNAL LINES TO EQUIPMENT INTENDED ONLY TO INDICATE A REQUIRED ELECTRICAL CONNECTION. REFER TO PLAN SHEETS, CONTROL SCHEMATICS, AND I/O LIST FOR ADDITIONAL INFORMATION ABOUT NUMBER AND TYPES OF SIGNAL WIRING.
 2. EQUIPMENT TAGS WITH X, INSERT CORRESPONDING EQUIPMENT NUMBER
 3. GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

- KEYED NOTES:**
1. CONTRACTOR TO PROVIDE AND INSTALL SPC600 CONTROLLER TO DCS AND THE APPROPRIATE I/O MODULES FROM THE SYMPHONY PLUS SD SERIES FOR THE PROPOSED SIGNALS. EACH I/O TYPES SHALL HAVE A MINIMUM OF 25% SPARE I/O POINTS.

- GENERAL TAG CONVENTION NOTE:**
1. ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_HF_".



DRAWING NO. 08-1102 **HYDROFLUORSILICIC ACID P&ID**

PROJECT NO. TMUA-W 24-03

TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: **GARVER**

REVISION	BY	DATE	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
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			ATLAS PAGE NO:				

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GENERAL NOTES:

- SIGNAL LINES TO EQUIPMENT INTENDED ONLY TO INDICATE A REQUIRED ELECTRICAL CONNECTION. REFER TO PLAN SHEETS, CONTROL SCHEMATICS, AND I/O LIST FOR ADDITIONAL INFORMATION ABOUT NUMBER AND TYPES OF SIGNAL WIRING.
- EQUIPMENT TAGS WITH X, INSERT CORRESPONDING EQUIPMENT NUMBER
- GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

KEYED NOTES:

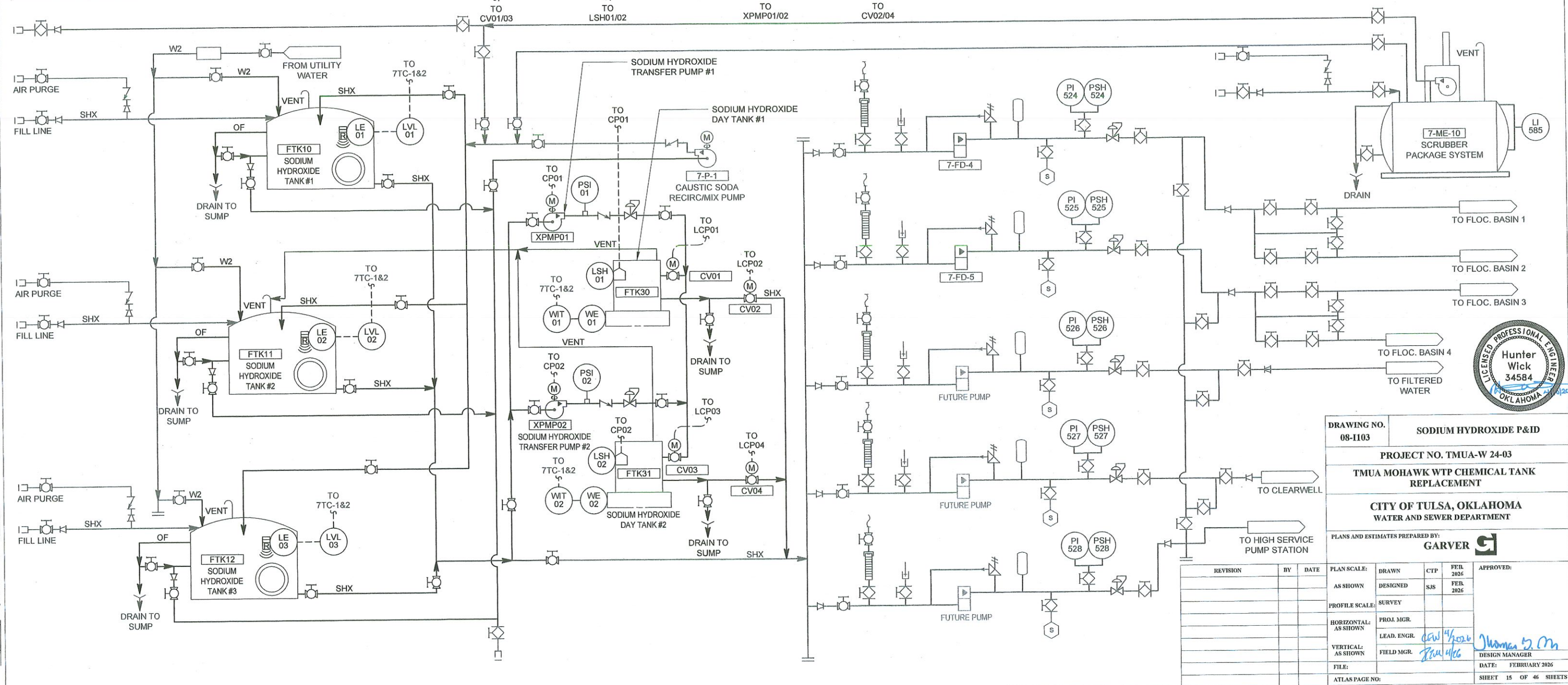
- CONTRACTOR TO PROVIDE AND INSTALL SPC600 CONTROLLER TO DCS AND THE APPROPRIATE I/O MODULES FROM THE SYMPHONY PLUS SD SERIES FOR THE PROPOSED SIGNALS. EACH I/O TYPES SHALL HAVE A MINIMUM OF 25% SPARE I/O POINTS.

DCS
LEVEL

GENERAL TAG CONVENTION NOTE:

- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH_".

M
L1



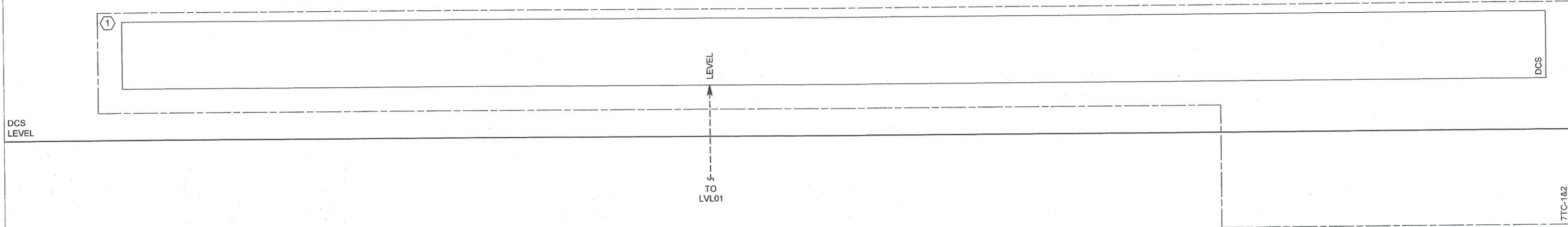
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DRAWING NO. 08-1103		SODIUM HYDROXIDE P&ID			
PROJECT NO. TMUA-W 24-03					
TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: GARVER					
REVISION		BY	DATE	PLAN SCALE:	APPROVED:
				AS SHOWN	DESIGNED CTP FEB 2026
				PROFILE SCALE:	SJS FEB 2026
				HORIZONTAL: AS SHOWN	PROJ. MGR.
				VERTICAL: AS SHOWN	LEAD. ENGR. <i>Jan 4/2026</i>
				FILE:	FIELD MGR. <i>Jan 4/26</i>
				ATLAS PAGE NO:	DATE: FEBRUARY 2026
					DESIGN MANAGER <i>Thomas M. M</i>
					SHEET 15 OF 46 SHEETS



7TC-1&2

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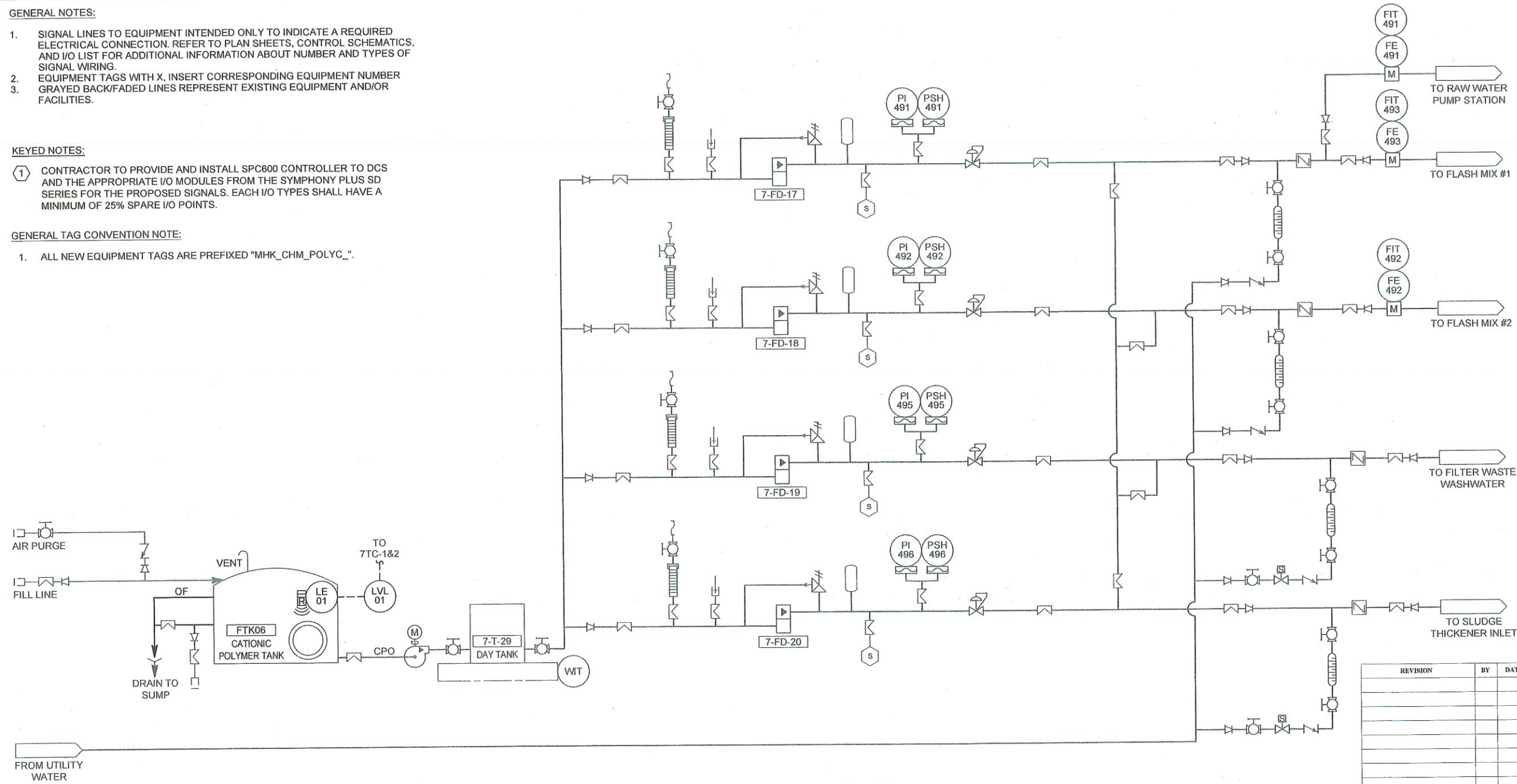


MCC/CP LEVEL

- GENERAL NOTES:**
- SIGNAL LINES TO EQUIPMENT INTENDED ONLY TO INDICATE A REQUIRED ELECTRICAL CONNECTION. REFER TO PLAN SHEETS, CONTROL SCHEMATICS, AND I/O LIST FOR ADDITIONAL INFORMATION ABOUT NUMBER AND TYPES OF SIGNAL WIRING.
 - EQUIPMENT TAGS WITH X, INSERT CORRESPONDING EQUIPMENT NUMBER
 - GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

- KEYED NOTES:**
- CONTRACTOR TO PROVIDE AND INSTALL SPC600 CONTROLLER TO DCS AND THE APPROPRIATE I/O MODULES FROM THE SYMPHONY PLUS SD SERIES FOR THE PROPOSED SIGNALS. EACH I/O TYPES SHALL HAVE A MINIMUM OF 25% SPARE I/O POINTS.

- GENERAL TAG CONVENTION NOTE:**
- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_POLYC_".



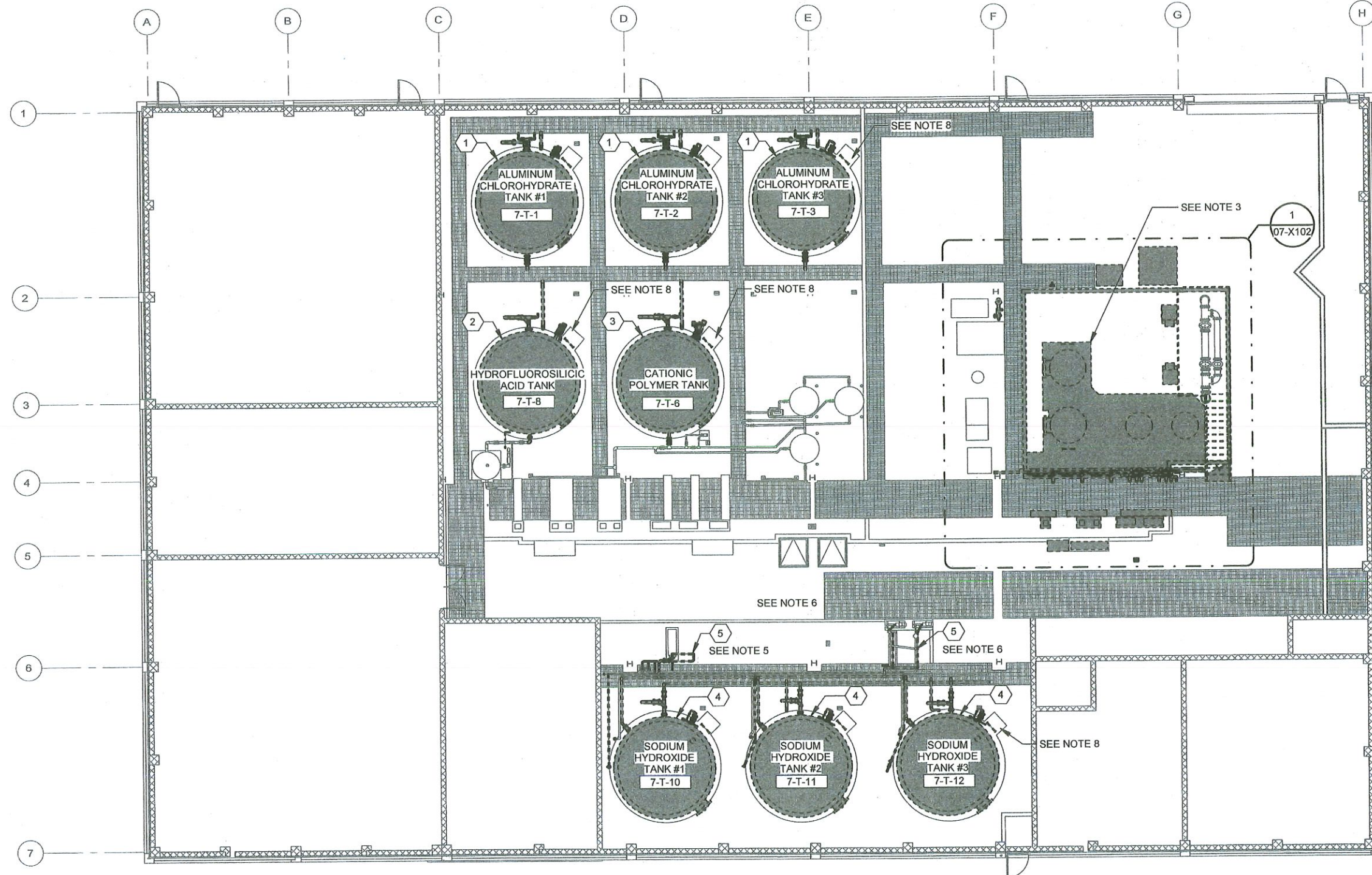
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	PROJECT NO. TMUA-W 24-03				
	TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT				
	CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
	PLANS AND ESTIMATES PREPARED BY: GARVER				
	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
	AS SHOWN	DESIGNED	SIS	FEB 2026	
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	ATLAS PAGE NO:	DATE: FEBRUARY 2026			
		SHEET 16 OF 46 SHEETS			



KEYNOTES

1	DEMOLISH ACH TANKS 7-T-1, 7-T-2, AND 7-T-3
2	DEMOLISH HFS TANK 7-T-8
3	DEMOLISH CPO TANK 7-T-6
4	DEMOLISH SHX 7-T-10, 7-T-11, AND 7-T-12
5	DEMOLISH PIPING

NOTES:


- REMOVE ALL VALVES FROM ACH, HFS, AND CPO. STORE CAREFULLY FOR RE-INSTALLATION ON NEW TANKS.
- ALL PIPING, INSTRUMENTATION AND OTHER APPURTENANCES TO BE REMOVED TO WHERE CONNECTED INSIDE THE EXISTING PIPING TRENCHES AND WILL BE REPLACED WITH NEW PIPE. ALL EXISTING VALVES TO BE RETAINED TO REINSTALL.
- DEMOLISH DRY POLYMER EQUIPMENT. LEAVE WATER PIPING IN PLACE. ALL EQUIPMENT ASSOCIATED WITH PILOT FILTRATION TO BE RETAINED. COORDINATE WITH OWNER ON EXACT EQUIPMENT AND STORAGE LOCATION. ALL ELECTRICAL EQUIPMENT ASSOCIATED TO BE RETAINED. CONTRACTOR SHALL TERMINATE AND LABEL ALL ELECTRICAL CONNECTS IN A MANNER THAT ALLOWS THE RE-INSTALLATION OF EQUIPMENT IN SAME LOCATIONS. CONTRACTOR SHALL CAP ANY EMBEDDED CONDUITS FLUSH WITH THE FLOOR AS TO NOT CREATE A TRIPPING HAZARD.
- SEE ELECTRICAL SHEETS FOR DEMO OF ELECTRICAL EQUIPMENT.
- CONTRACTOR TO FOLLOW ALL TMUA LOCKOUT/TAGOUT PROCEDURES.
- ALL PIPING ASSOCIATED WITH THE TRANSFER OF CONCENTRATED SODIUM HYDROXIDE TO BE DEMOLISHED.
- ALL PIPING FROM THE SODIUM HYDROXIDE TANK DISCHARGE TO THE SUCTION SIDE OF THE METERING PUMPS TO BE DEMOLISHED.
- DISCONNECT FILL LINES FROM ALL TANKS, BUT DO NOT DEMOLISH. RECONNECT LINES UPON INSTALLATION OF TANKS.
- CONTRACTOR TO INSPECT ALL TANK PADS UPON REMOVAL OF TANKS AND NOTIFY OWNER AND ENGINEER WITH AN RFI IF ANY CRACKING OR SPALLING OF CONCRETE IS OBSERVED.
- CONSTRUCTION SHALL COMMENCE NO EARLIER THAN NOVEMBER 1ST AND MUST REACH SUBSTANTIAL COMPLETION BY APRIL 30TH.





DEMOLITION PLAN
 PROJECT NORTH
 07-X101 SCALE: 1/8" = 1'-0"




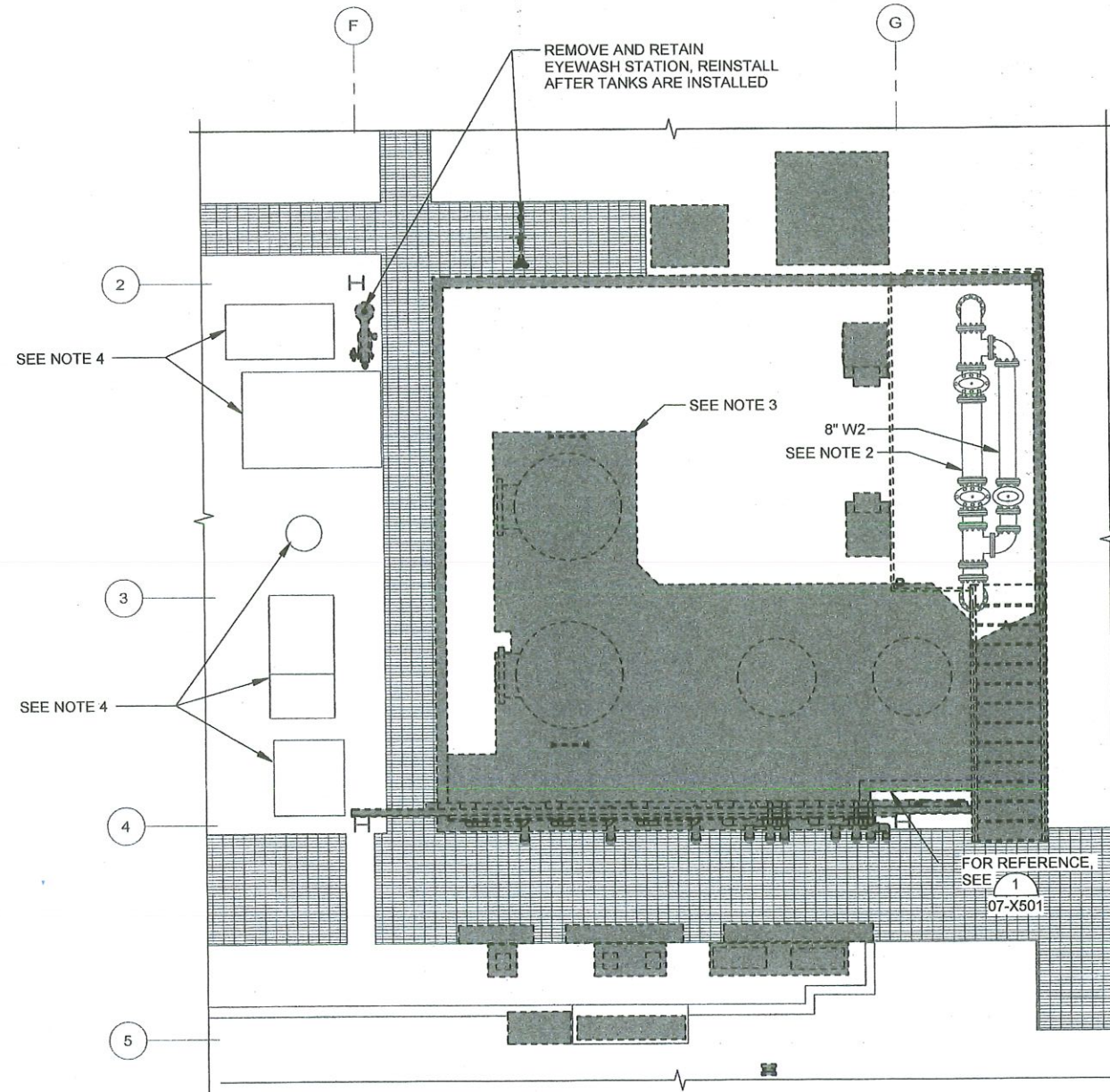
DRAWING NO. 07-X101	CHEMICAL BUILDING - PLAN 1
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	


REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 17 OF 46 SHEETS
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 Plot Date: 4/8/2026 4:57:56 PM

NOTES:


1. CONTRACTOR TO FIELD VERIFY ALL PIPES FOR DEMOLITION ASSOCIATED WITH THE DRY POLYMER EQUIPMENT AREA. PIPING TO BE PERMANENTLY SEALED BEFORE LEAVING THE BUILDING. TRENCH GRATING TO BE REMOVED, STORED AND REPLACED AFTER DEMOLITION.
2. 8" WATER PIPING, AND VALVES TO REMAIN IN PLACE AND PROTECTED FROM DEMOLITION ACTIVITIES IN THIS AREA.
3. POLYMER PLATFORM AND CONTAINMENT CURBING, ISOLATING DRY POLYMER EQUIPMENT, TO BE INCLUDED IN DEMOLITION OF DRY POLYMER AREA.
4. RETAIN FILTER PILOT EQUIPMENT. COORDINATE WITH OWNER ON STORAGE. FOR REFERENCE, SEE  07-X501
5. REFERENCED RECORD DRAWINGS ARE BASED ON PREVIOUSLY FURNISHED INFORMATION AND ARE PROVIDED FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH ANY NEW CONSTRUCTION OR WORK




1
ENLARGED DEMOLITION PLAN
07-X102
SCALE: 1/4" = 1'-0"

DRAWING NO. 07-X102	CHEMICAL BUILDING - PLAN 2
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	

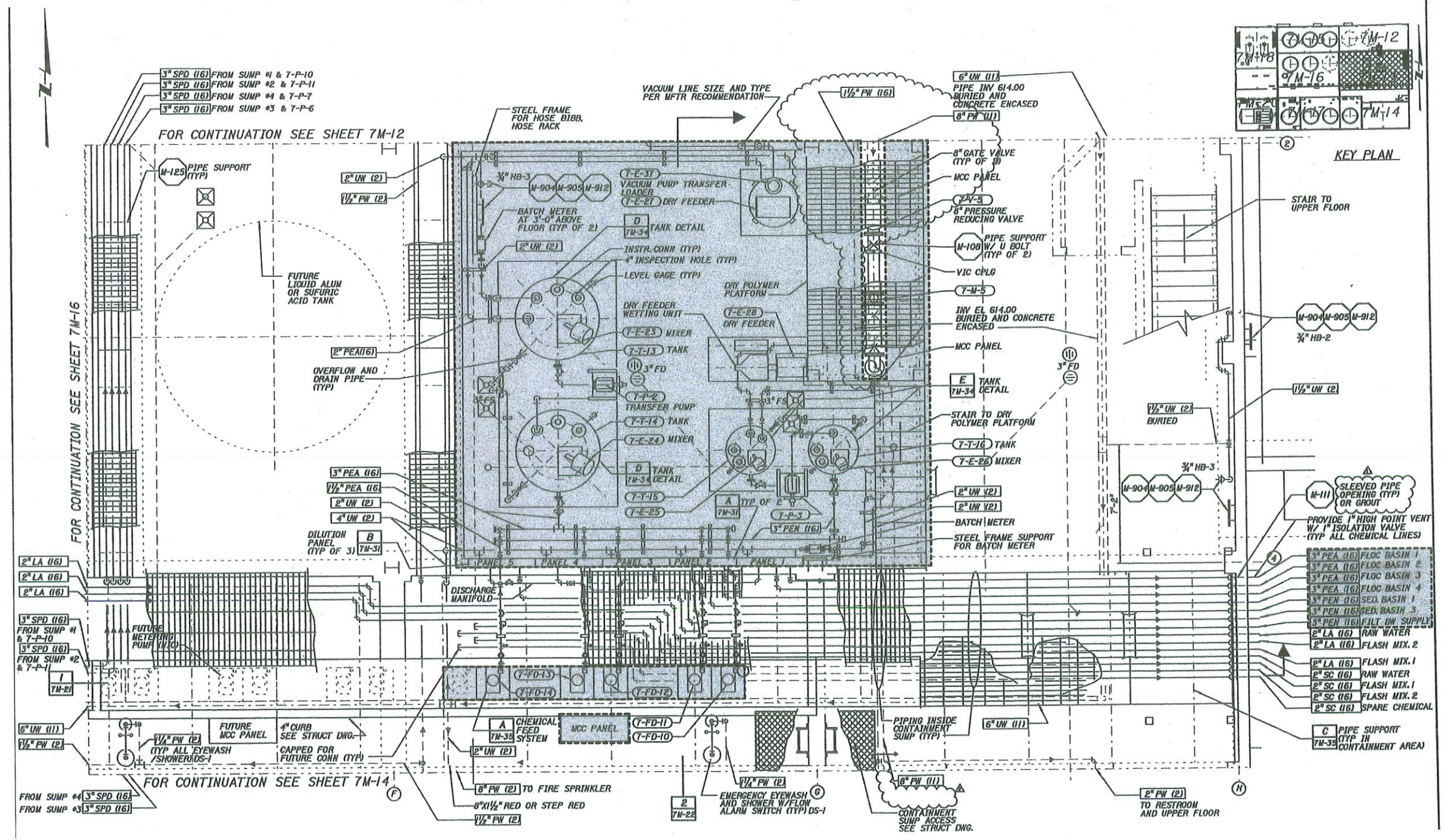


PLANS AND ESTIMATES PREPARED BY:
GARVER 

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			DATE: FEBRUARY 2026 SHEET 18 OF 46 SHEETS
			VERTICAL: AS SHOWN	LEAD ENGR.	<i>Dev 4/25/26</i> <i>Dev 4/26</i>		
			FILE:	FIELD MGR.			
			ATLAS PAGE NO:				

NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL PIPES FOR DEMOLITION ASSOCIATED WITH THE DRY POLYMER EQUIPMENT AREA. PIPING TO BE PERMANENTLY SEALED BEFORE LEAVING THE BUILDING. TRENCH GRATING TO BE REMOVED, STORED AND REPLACED AFTER DEMOLITION.
2. 8" WATER PIPING, AND VALVES TO REMAIN IN PLACE AND PROTECTED FROM DEMOLITION ACTIVITIES IN THIS AREA.
3. POLYMER PLATFORM AND CONTAINMENT CURBING, ISOLATING DRY POLYMER EQUIPMENT, TO BE INCLUDED IN DEMOLITION OF DRY POLYMER AREA.
4. RETAIN FILTER PILOT EQUIPMENT. COORDINATE WITH OWNER ON STORAGE. FOR REFERENCE, SEE (2) 07-X501
5. REFERENCED RECORD DRAWINGS ARE BASED ON PREVIOUSLY FURNISHED INFORMATION AND ARE PROVIDED FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH ANY NEW CONSTRUCTION OR WORK

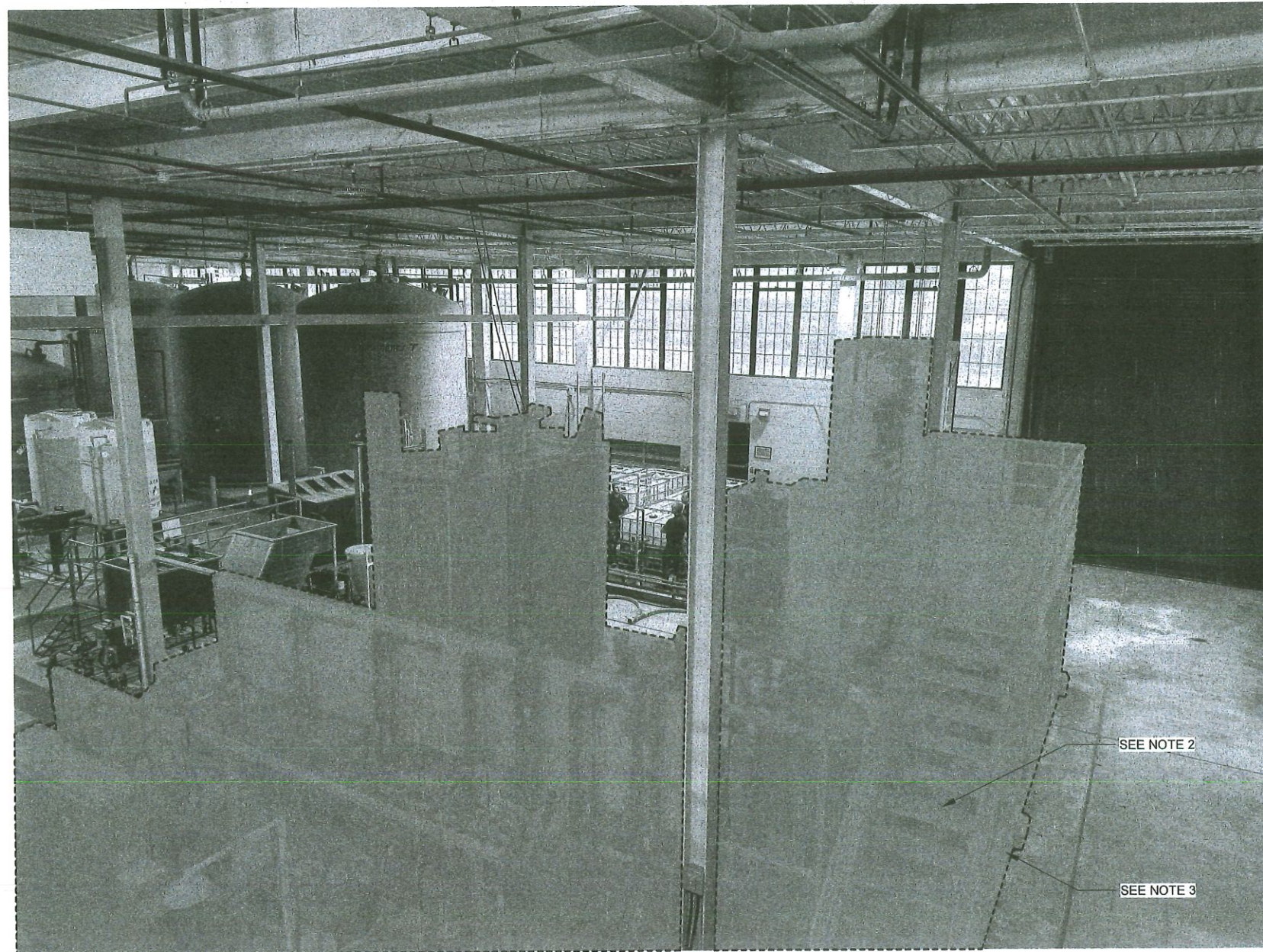


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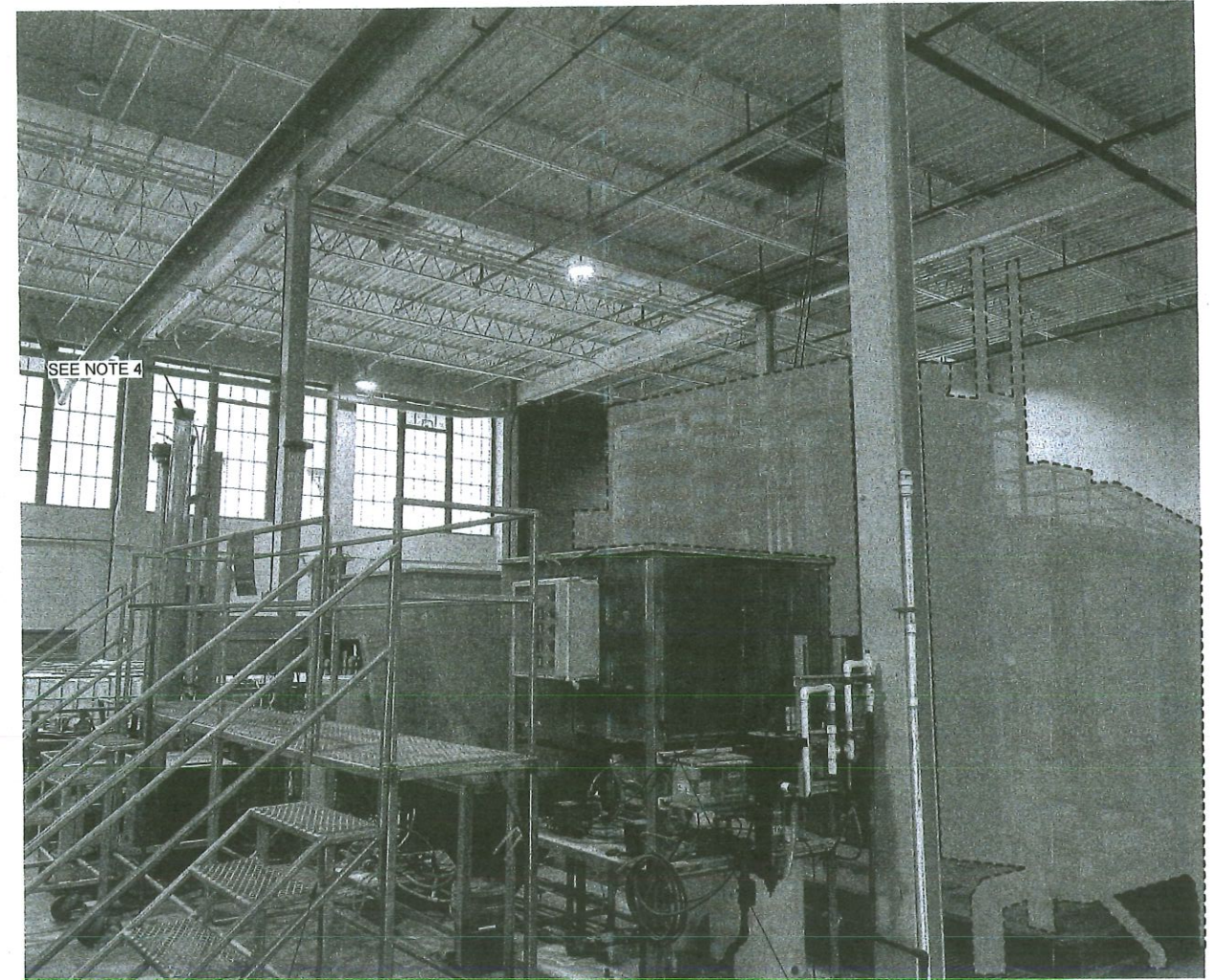


DRAWING NO. 07-X103	CHEMICAL BUILDING - PLAN 3
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB	
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			HORIZONTAL: AS SHOWN	PROJ. MGR.			
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			ATLAS PAGE NO:				



1 IMAGE
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2 IMAGE
SCALE: NOT TO SCALE

NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL PIPES FOR DEMOLITION ASSOCIATED WITH THE DRY POLYMER EQUIPMENT AREA. PIPING TO BE PERMANENTLY SEALED BEFORE LEAVING THE BUILDING. TRENCH GRATING TO BE REMOVED, STORED AND REPLACED AFTER DEMOLITION.
2. 8" WATER PIPING, AND VALVES TO REMAIN IN PLACE AND PROTECTED FROM DEMOLITION ACTIVITIES IN THIS AREA.
3. POLYMER PLATFORM AND CONTAINMENT CURBING, ISOLATING DRY POLYMER EQUIPMENT, TO BE INCLUDED IN DEMOLITION OF DRY POLYMER AREA.
4. RETAIN FILTER PILOT EQUIPMENT, COORDINATE WITH OWNER ON STORAGE. FOR REFERENCE, SEE 2 07-X501
5. REFERENCED RECORD DRAWINGS ARE BASED ON PREVIOUSLY FURNISHED INFORMATION AND ARE PROVIDED FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH ANY NEW CONSTRUCTION OR WORK

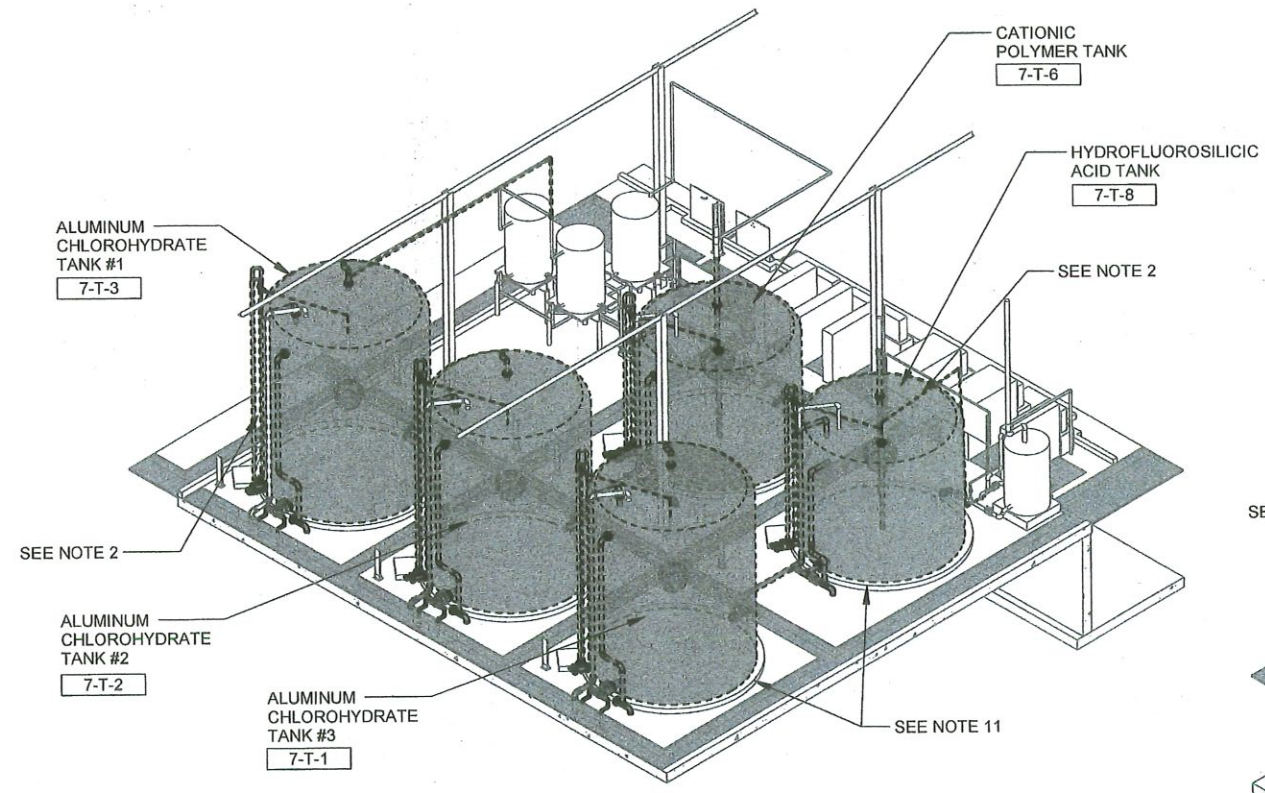


DRAWING NO. 07-X501	CHEMICAL BUILDING - DETAILS 1
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

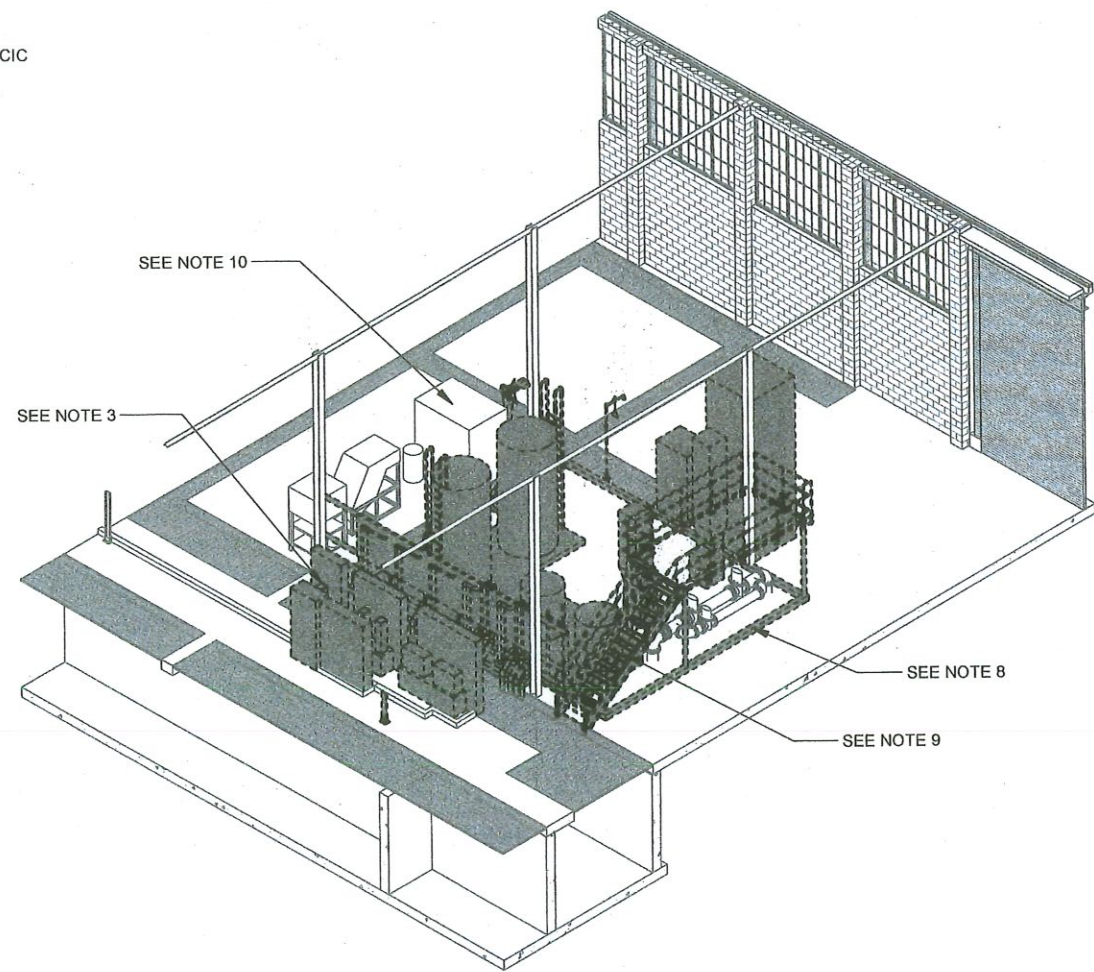
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			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 20 OF 46 SHEETS
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			HORIZONTAL: AS SHOWN	PROJ. MGR.			
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			FILE:	FIELD MGR.	EJA 4/26		
			ATLAS PAGE NO:				

NOTES:

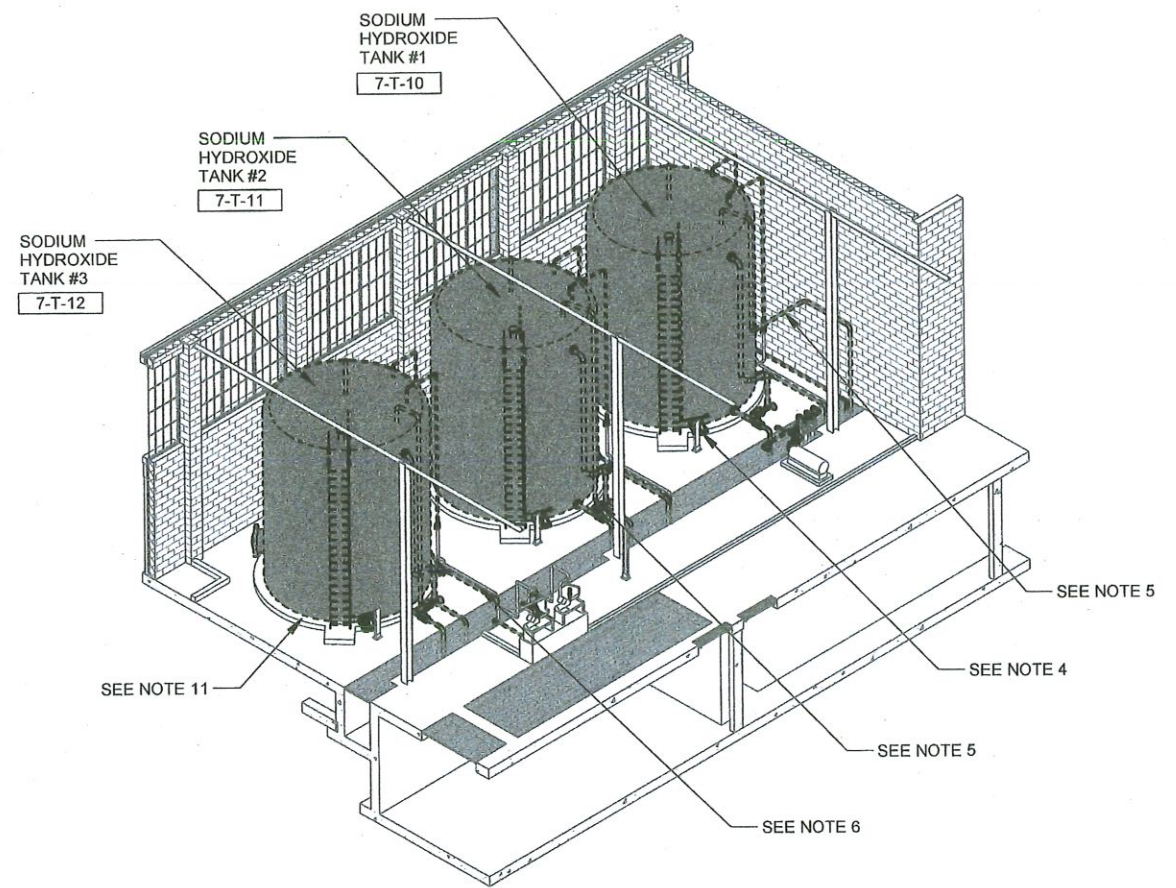
1. REMOVE ALL VALVES FROM ACH, HFS, AND CPO. STORE CAREFULLY FOR RE-INSTALLATION ON NEW TANKS.
2. ALL PIPING, INSTRUMENTATION AND OTHER APPURTENANCES TO BE REMOVED TO WHERE CONNECTED INSIDE THE EXISTING PIPING TRENCHES AND WILL BE REPLACED WITH NEW PIPE. ALL EXISTING VALVES TO BE RETAINED TO REINSTALL.
3. DEMOLISH DRY POLYMER EQUIPMENT. LEAVE WATER PIPING IN PLACE. ALL EQUIPMENT ASSOCIATED WITH PILOT FILTRATION TO BE RETAINED. COORDINATE WITH OWNER ON EXACT EQUIPMENT AND STORAGE LOCATION.
4. CONTRACTOR SHALL DEMOLISH ALL ELECTRICAL EQUIPMENT ASSOCIATED. CONTRACTOR SHALL DEMO ALL CONDUIT AND WIRE ASSOCIATED WITH EQUIPMENT. PULL ALL CONDUCTORS BACK TO SOURCE AND RE-LABEL BREAKERS AS "SPARE" ACCORDINGLY.
5. ALL PIPING ASSOCIATED WITH THE TRANSFER OF CONCENTRATED SODIUM HYDROXIDE TO BE DEMOLISHED.
6. ALL PIPING FROM THE SODIUM HYDROXIDE TANK DISCHARGE TO THE SUCTION SIDE OF THE METERING PUMPS TO BE DEMOLISHED.
7. DISCONNECT FILL LINES FROM ALL TANKS, BUT DO NOT DEMOLISH. RECONNECT LINES UPON INSTALLATION OF TANKS.
8. 8" WATER PIPING, AND VALVES TO REMAIN IN PLACE AND PROTECTED FROM DEMOLITION ACTIVITIES IN THIS AREA.
9. POLYMER PLATFORM AND CONTAINMENT CURBING, ISOLATING DRY POLYMER EQUIPMENT, TO BE INCLUDED IN DEMOLITION OF DRY POLYMER AREA.
10. RETAIN FILTER PILOT EQUIPMENT, COORDINATE WITH OWNER ON STORAGE. FOR REFERENCE, SEE **2** 07-X501
11. CONTRACTOR TO RETURN ALL FILTER PILOT EQUIPMENT PRE-ASSEMBLED AT COMPLETION OF PROJECT.
12. CONTRACTOR TO INSPECT ALL TANK PADS UPON REMOVAL OF TANKS AND NOTIFY OWNER AND ENGINEER WITH AN RFI IF ANY CRACKING OR SPALLING OF CONCRETE IS OBSERVED.
13. CONSTRUCTION SHALL COMMENCE NO EARLIER THAN NOVEMBER 1ST AND MUST REACH SUBSTANTIAL COMPLETION BY APRIL 30TH.



1 ISOMETRIC
 07-X901 SCALE: NOT TO SCALE



2 ISOMETRIC
 07-X901 SCALE: NOT TO SCALE



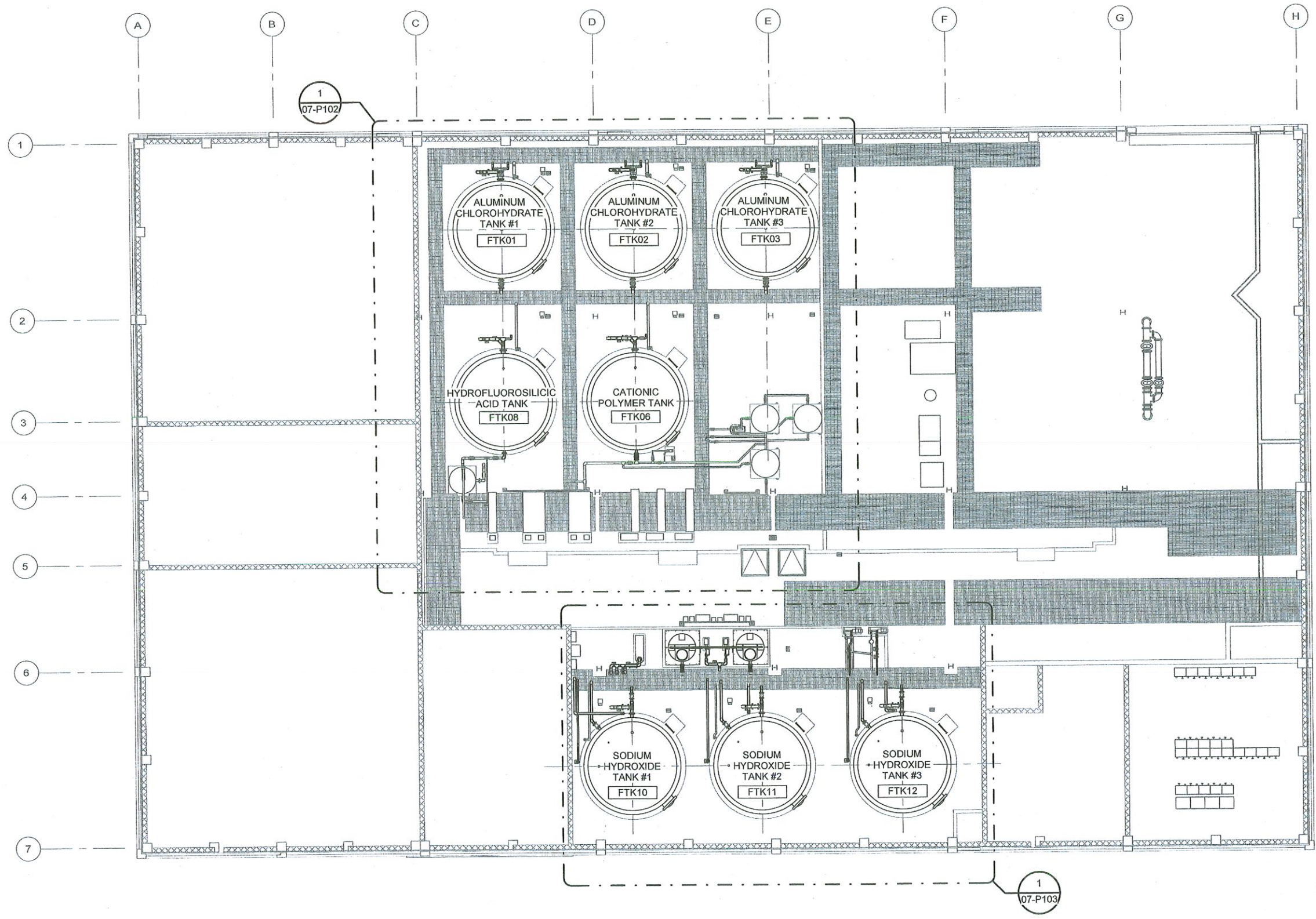
3 ISOMETRIC
 07-X901 SCALE: NOT TO SCALE



DRAWING NO. 07-X901		CHEMICAL BUILDING - ISOMETRICS 1					
PROJECT NO. TMUA-W 24-03							
MOHAWK WTP CHEMICAL TANK REPLACEMENT							
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: GARVER							
REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	
			PROFILE SCALE:	SURVEY			 DESIGN MANAGER DATE: FEBRUARY 2026
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			FILE:	FIELD MGR.			DATE: FEBRUARY 2026
ATLAS PAGE NO:							SHEET 21 OF 46 SHEETS

Revt File: Atmodest_Direct\W02-230224-6 - TMUA - Mohawk WTP Chemical Tank\TMUA_Mohawk WTP Chemical Building.rvt
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Project File: Atlatask Draw: TMUA-W 24-03 - TMUA Mohawk WTP Chemical Tank/TMUA Mohawk WTP Chemical Building.rvt
 Plot Date: 4/6/2026 5:08:01 PM




- NOTES:**
- REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
 - CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
 - IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT 1 OR 2
99-P501 99-P501
 - CONSTRUCTION SHALL COMMENCE NO EARLIER THAN NOVEMBER 1ST AND MUST REACH SUBSTANTIAL COMPLETION BY APRIL 30TH.

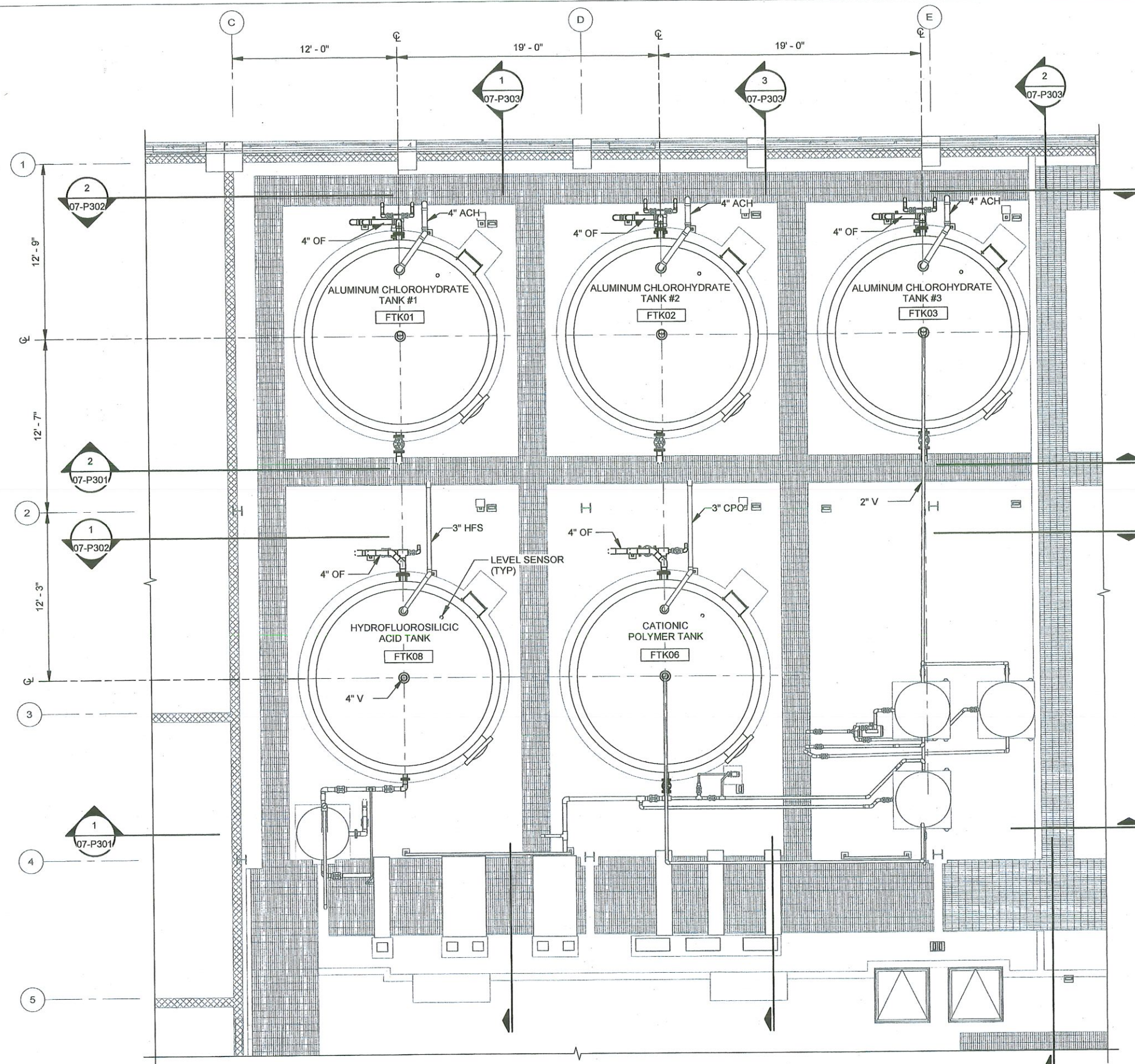

 PROJECT NORTH
 1 PLAN
 07-P101 SCALE: 1/8" = 1'-0"



DRAWING NO. 07-P101	CHEMICAL BUILDING - PLAN 4
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER 	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
			PROFILE SCALE:	SURVEY			
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			VERTICAL: AS SHOWN	LEAD. ENGR.	<i>John Schultz</i>		
			FILE:	FIELD MGR.	<i>John Schultz</i>		
			ATLAS PAGE NO:				SHEET 22 OF 46 SHEETS

Revit File: Autodesk_Dwg/07-P102-03-03-03-03 - TMUA_Mohawk_WTP_Chemical_Tank/07-P102-03-03-03-03 - TMUA_Mohawk_WTP_Chemical_Building.rvt
 Plot Date: 2/12/2026 3:59:21 PM





- NOTES:**
- REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
 - CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
 - IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT 1 OR 2
99-P501 99-P501

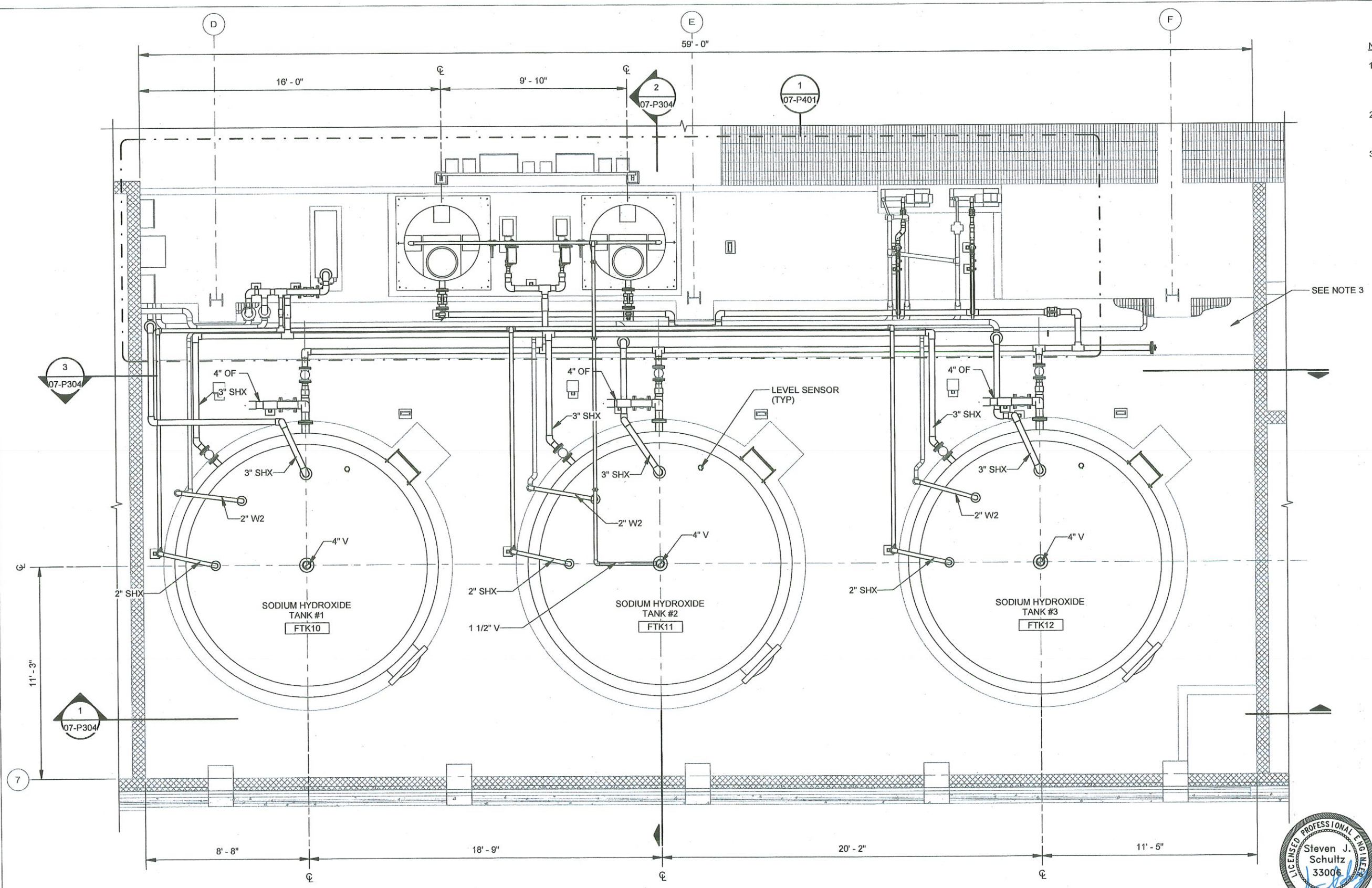
1 **PLAN**
 PROJECT NORTH 07-P101 SCALE: 1/4" = 1'-0"



DRAWING NO. 07-P102	CHEMICAL BUILDING - PLAN 5							
PROJECT NO. TMUA-W 24-03								
MOHAWK WTP CHEMICAL TANK REPLACEMENT								
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT								
PLANS AND ESTIMATES PREPARED BY: GARVER								
	REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
				AS SHOWN	DESIGNED	SJS	FEB	DESIGN MANAGER
				PROFILE SCALE:	SURVEY		FEB	
				HORIZONTAL: AS SHOWN	PROJ. MGR.			
				VERTICAL: AS SHOWN	LEAD ENGR.			
				FILE:	FIELD MGR.			DATE: FEBRUARY 2026
				ATLAS PAGE NO:				SHEET 23 OF 46 SHEETS

NOTES:

1. CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
2. IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT  OR 
3. SODIUM HYDROXIDE PIPE TRENCH TO BE CLEANED AND RE-COATED.




SEE NOTE 3

DRAWING NO. 07-P103	CHEMICAL BUILDING - PLAN 6
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	



1 PLAN
07-P101 SCALE: 3/8" = 1'-0"
PROJECT NORTH



REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 24 OF 46 SHEETS
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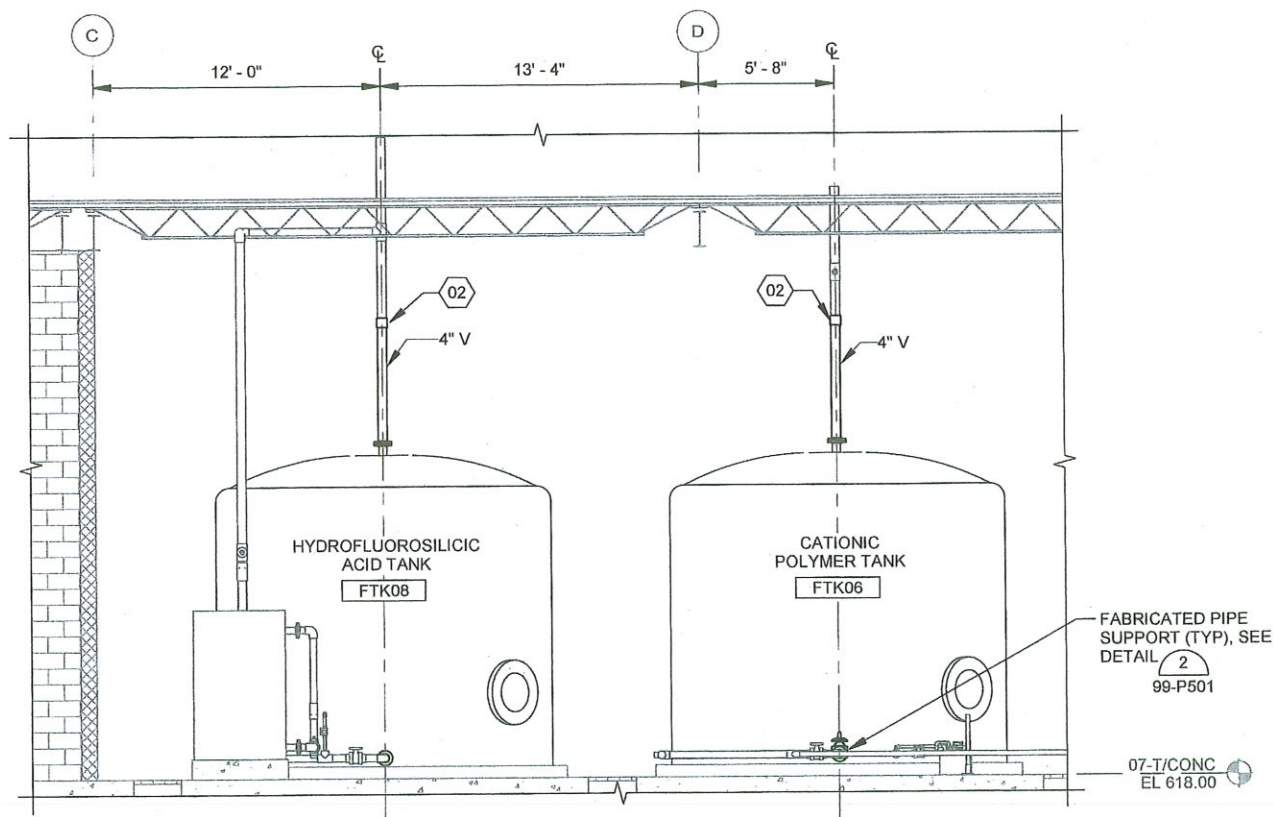
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KEYNOTES

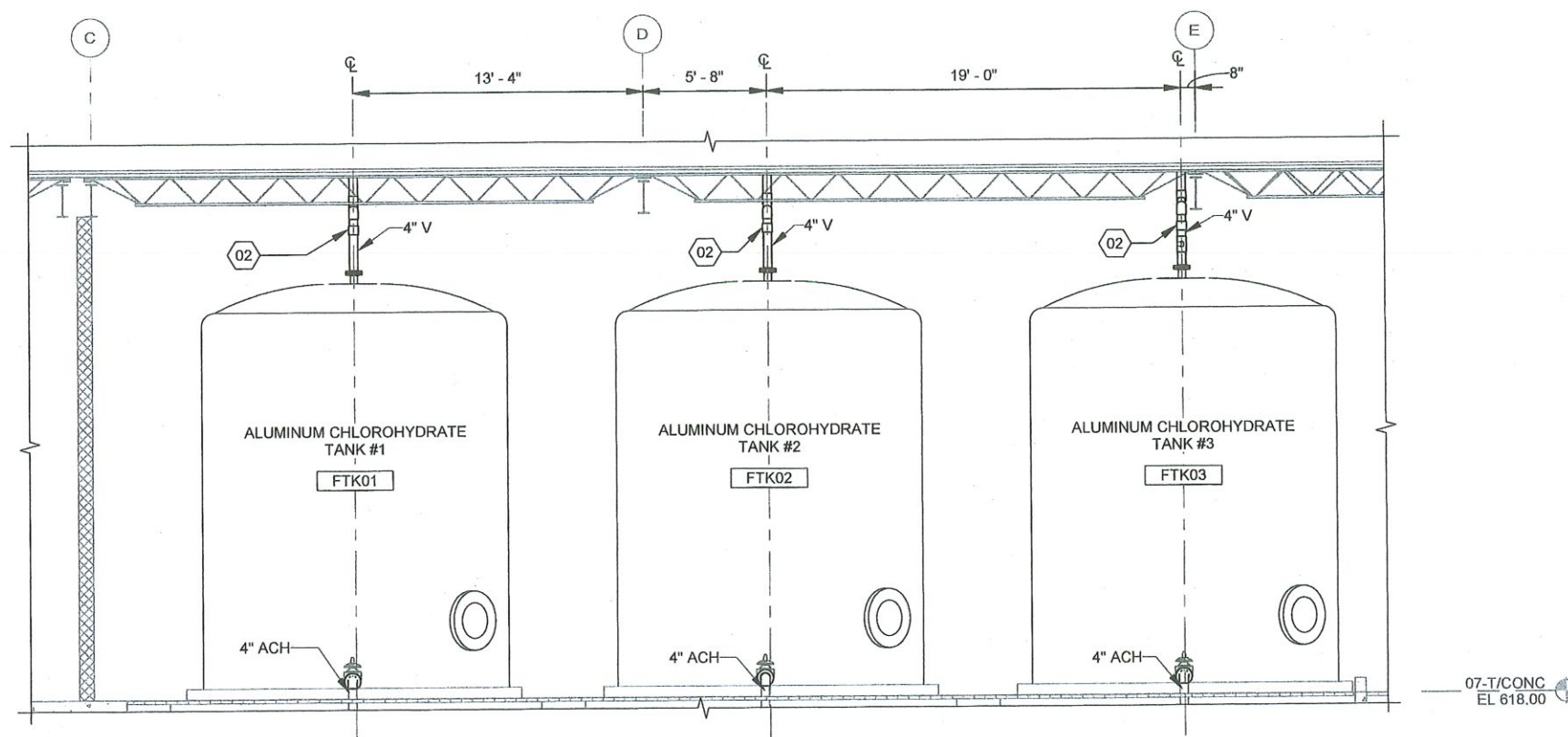
02 4" COUPLING (SOC x SOC)

NOTES:

1. REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
2. CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
3. IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT  OR 




1 SECTION
07-P102 SCALE: 1/4" = 1'-0"



2 SECTION
07-P102 SCALE: 1/4" = 1'-0"



DRAWING NO. 07-P301	CHEMICAL BUILDING - SECTIONS 1
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 25 OF 46 SHEETS
			PROFILE SCALE:	SURVEY			
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				FIELD MGR.	Tom 4/20		
			FILE:				
			ATLAS PAGE NO:				

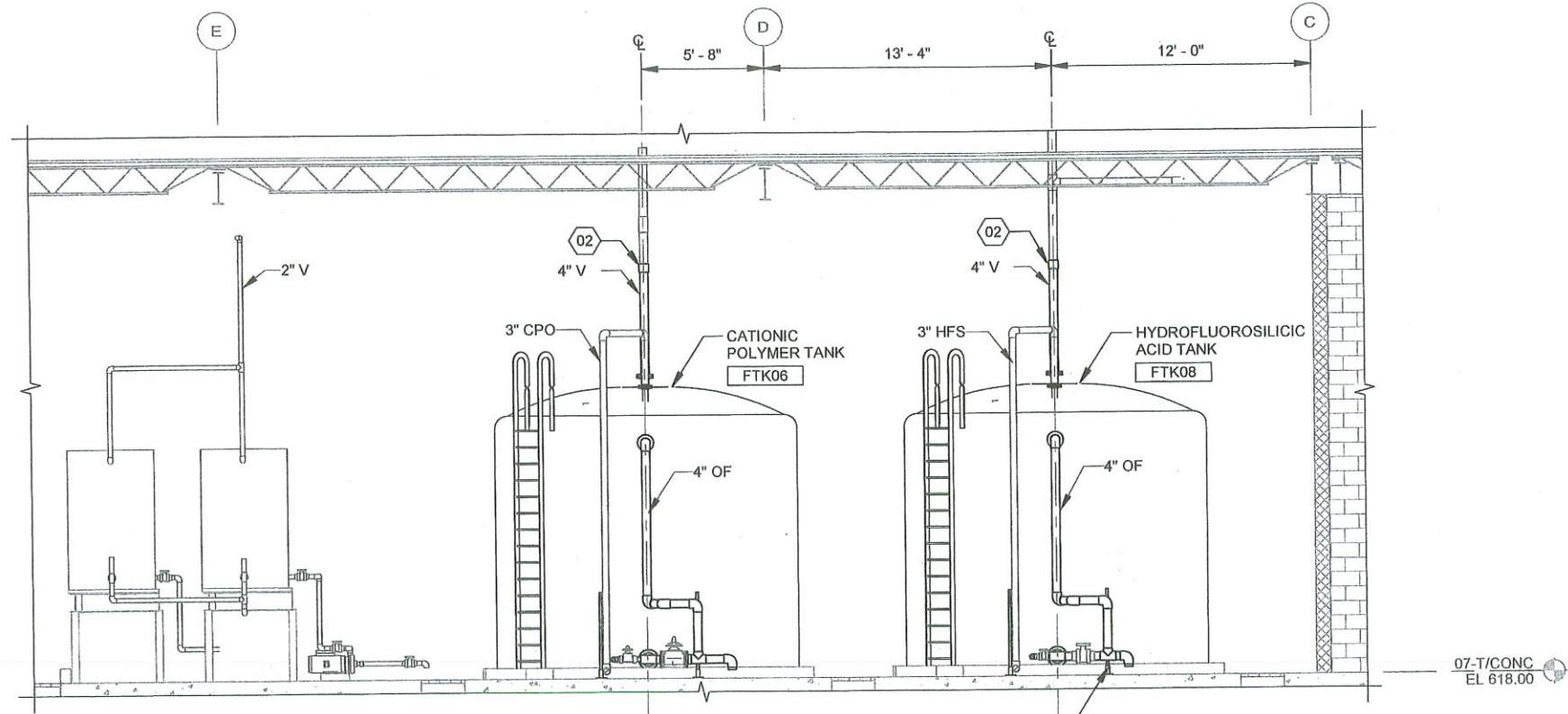
Revis File: Atmodak Desc: /W02-2302343 - TMUA, Mohawk WTP Chemical Tank/TMUA, Mohawk WTP Chemical Building.rvt
 Plot Date: 2/12/2026 3:59:23 PM

KEYNOTES

02 4" COUPLING (SOC x SOC)

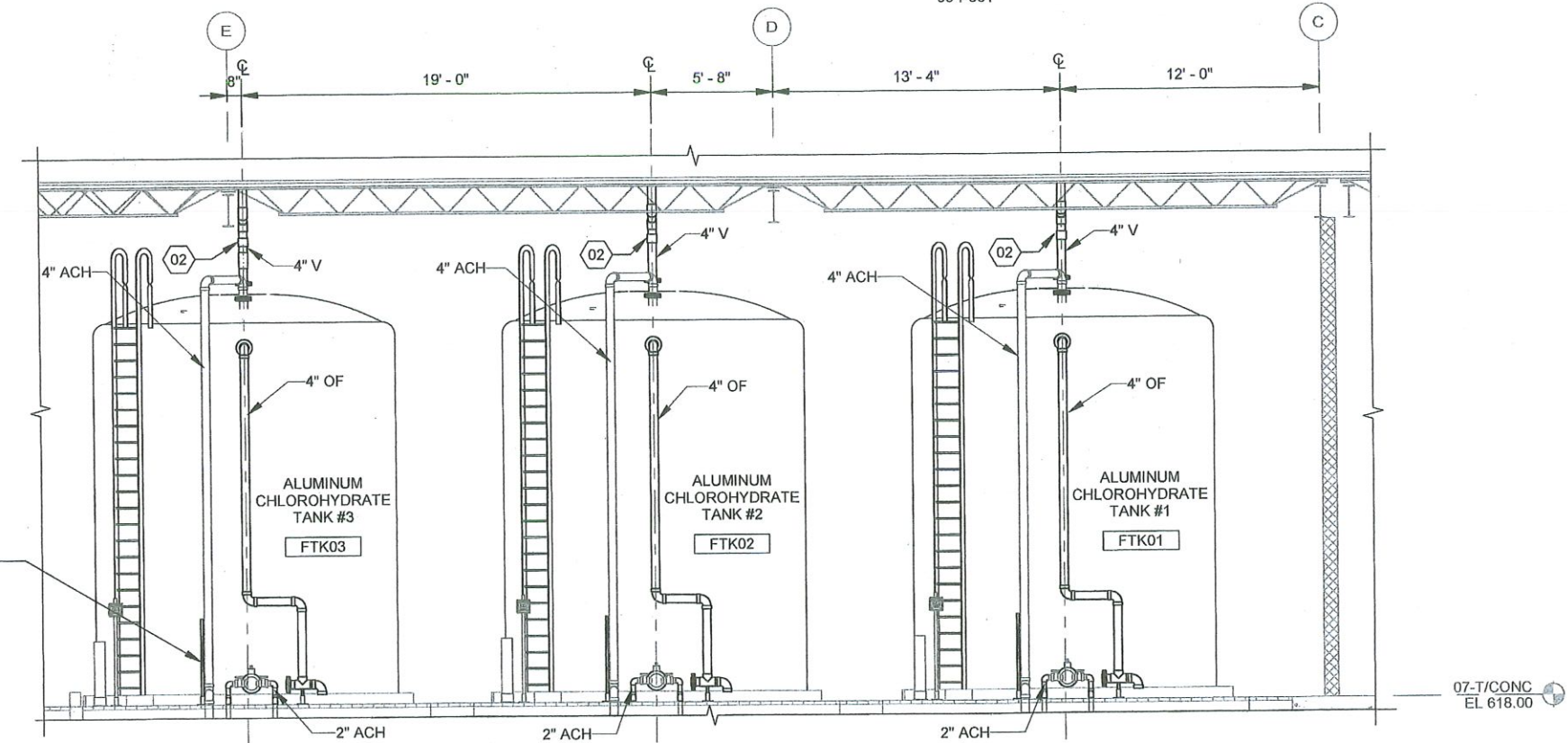
NOTES:

1. REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
2. CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
3. IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT $\frac{1}{99-P501}$ OR $\frac{2}{99-P501}$



1 SECTION
07-P102 SCALE: 1/4" = 1'-0"

FABRICATED PIPE SUPPORT (TYP), SEE DETAIL $\frac{2}{99-P501}$



2 SECTION
07-P102 SCALE: 1/4" = 1'-0"

FABRICATED PIPE SUPPORT (TYP), SEE DETAIL $\frac{2}{99-P501}$



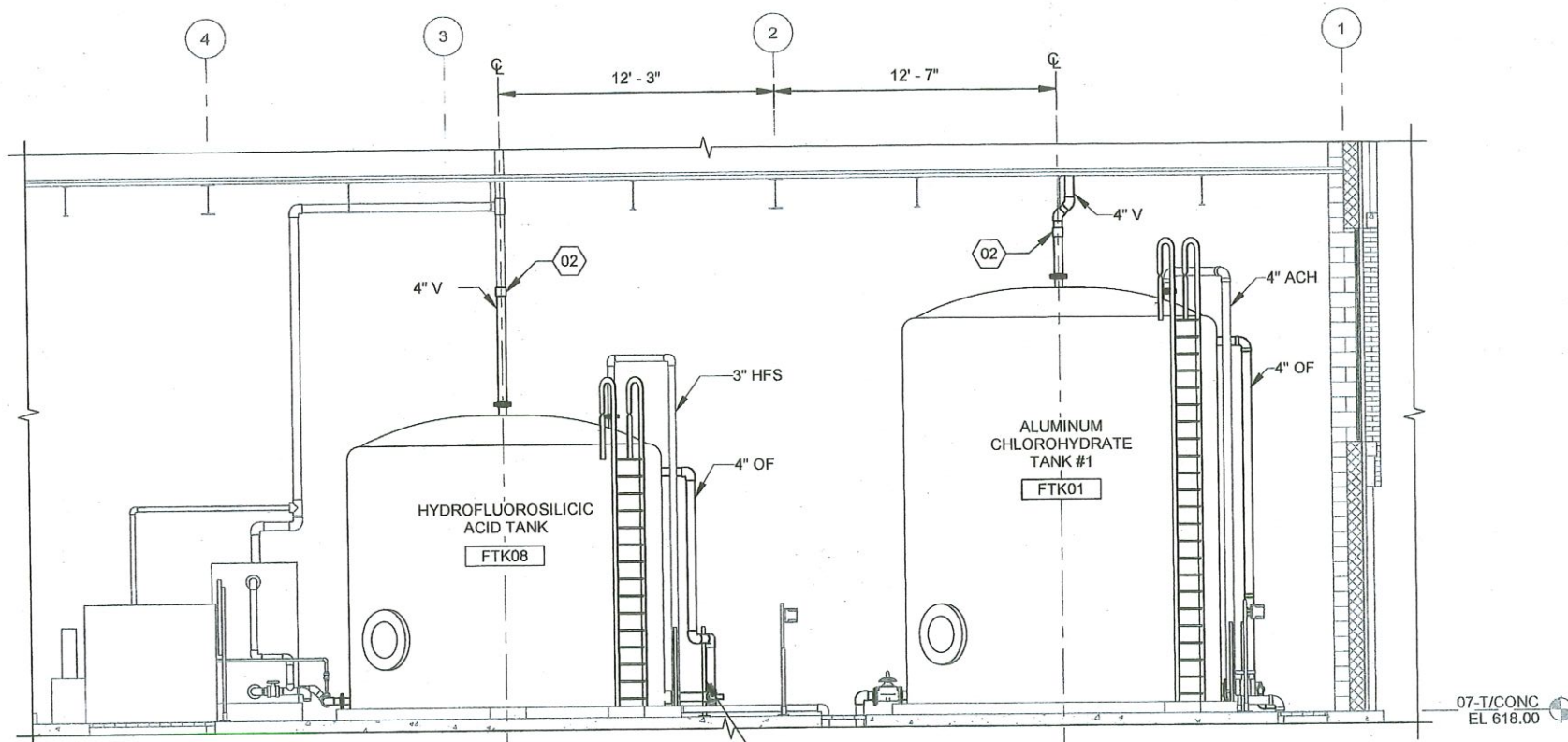
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PROJECT NO. TMUA-W 24-03							
MOHAWK WTP CHEMICAL TANK REPLACEMENT							
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: GARVER							
REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			AS SHOWN	LEAD ENGR.	<i>Ken Y...</i>		
			VERTICAL:	FIELD MGR.	<i>Ken Y...</i>		
			AS SHOWN				
			FILE:				DATE: FEBRUARY 2026
			ATLAS PAGE NO:				SHEET 26 OF 46 SHEETS

KEYNOTES

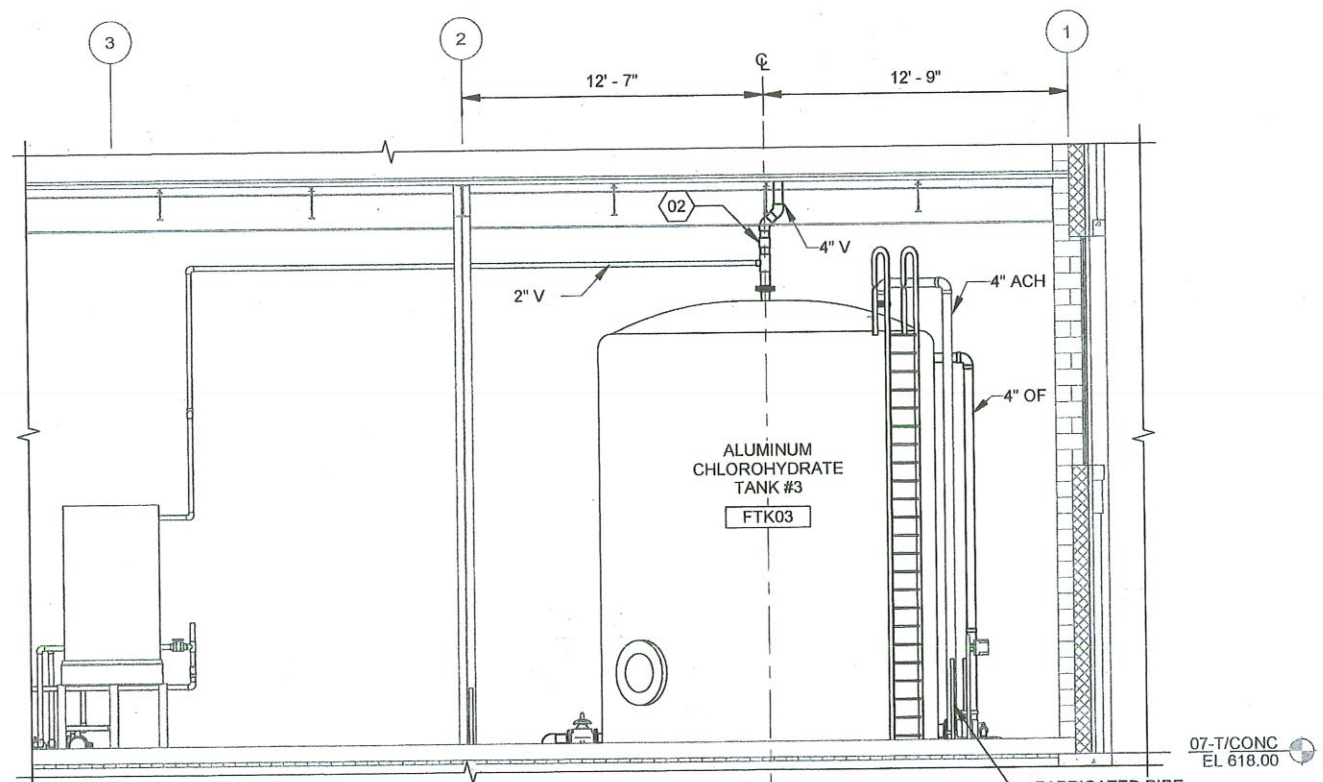
02 4" COUPLING (SOC x SOC)

NOTES:

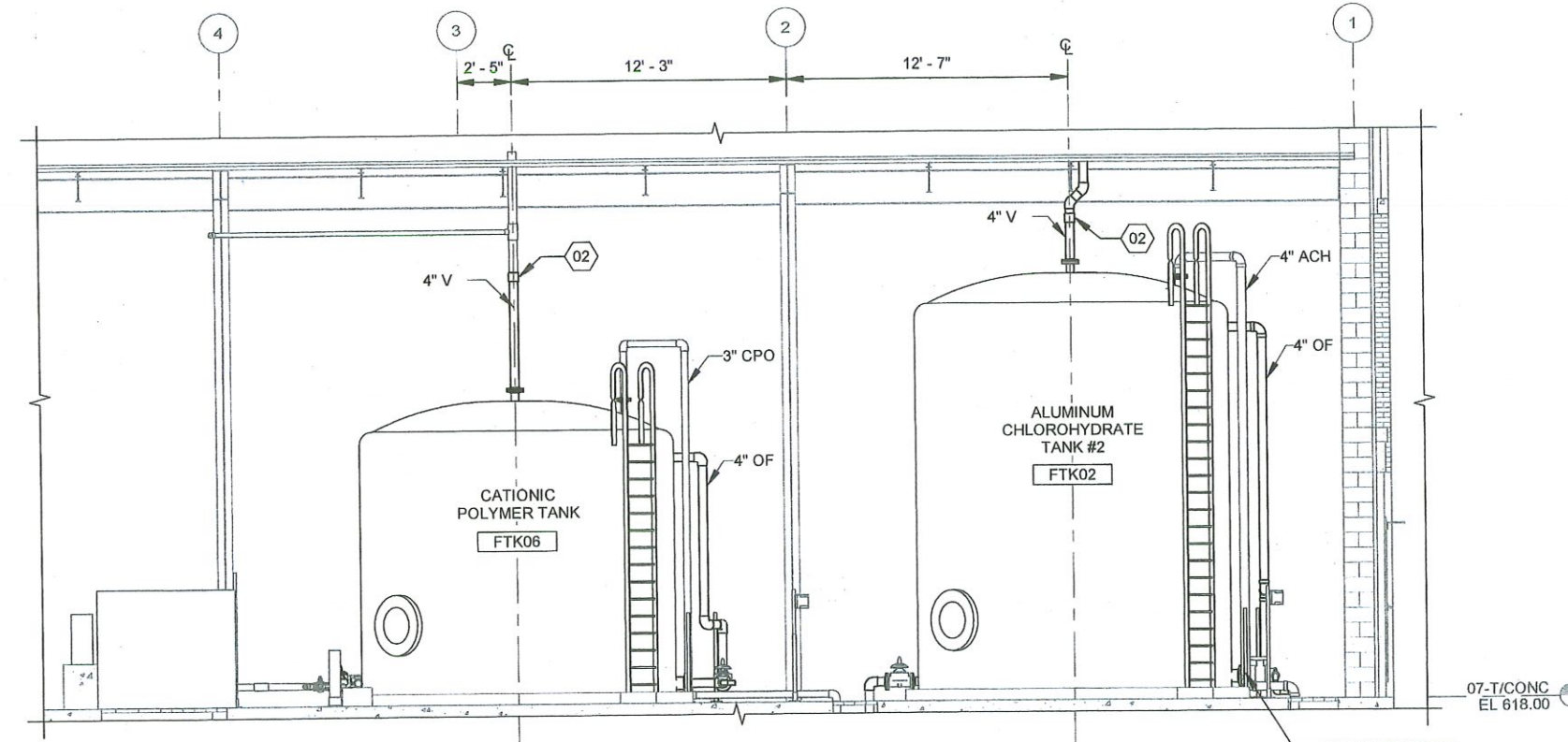
1. REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
2. CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
3. IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT ¹ OR ²
99-P501 99-P501



1 SECTION
07-P102 SCALE: 1/4" = 1'-0"



2 SECTION
07-P102 SCALE: 1/4" = 1'-0"



3 SECTION
07-P102 SCALE: 1/4" = 1'-0"



DRAWING NO. 07-P303		CHEMICAL BUILDING - SECTIONS 3					
PROJECT NO. TMUA-W 24-03							
MOHAWK WTP CHEMICAL TANK REPLACEMENT							
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: GARVER							
REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	
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			AS SHOWN				
			FILE:				DATE: FEBRUARY 2026
			ATLAS PAGE NO:				SHEET 27 OF 46 SHEETS

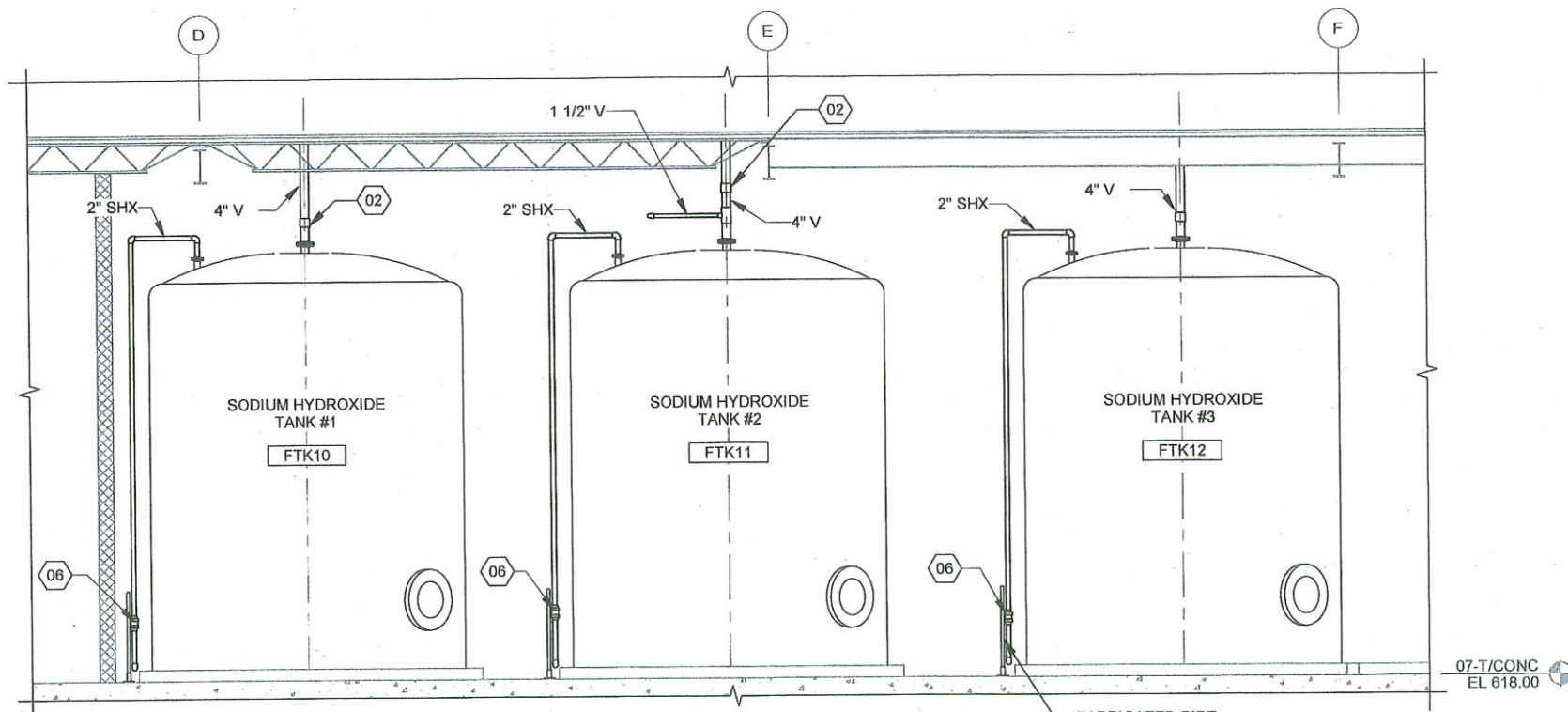
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KEYNOTES

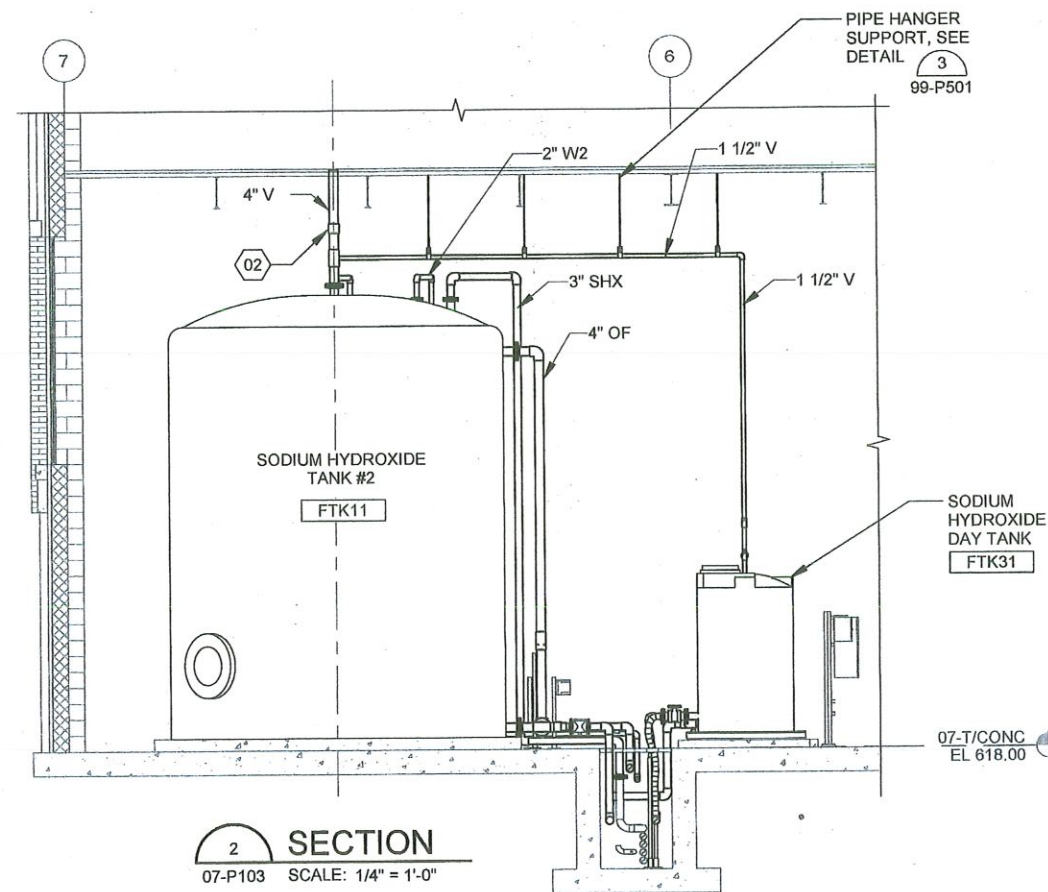
02	4" COUPLING (SOC x SOC)
04	3" MOTORIZED BALL VALVE V330 (FLG x FLG)
05	3" FLEXIBLE HOSE
06	2" BALL VALVE V330 (SOC x SOC)
07	1 1/2" BALL VALVE V330 (SOC x SOC)
08	1 1/2" MOTORIZED BALL VALVE V330 (SOC x SOC)
09	1 1/2" BALL CHECK VALVE V633 (SOC x SOC)
10	1 1/2" ANTISIPHON/BACK PRESSURE VALVE V903 (SOC x SOC)

NOTES:

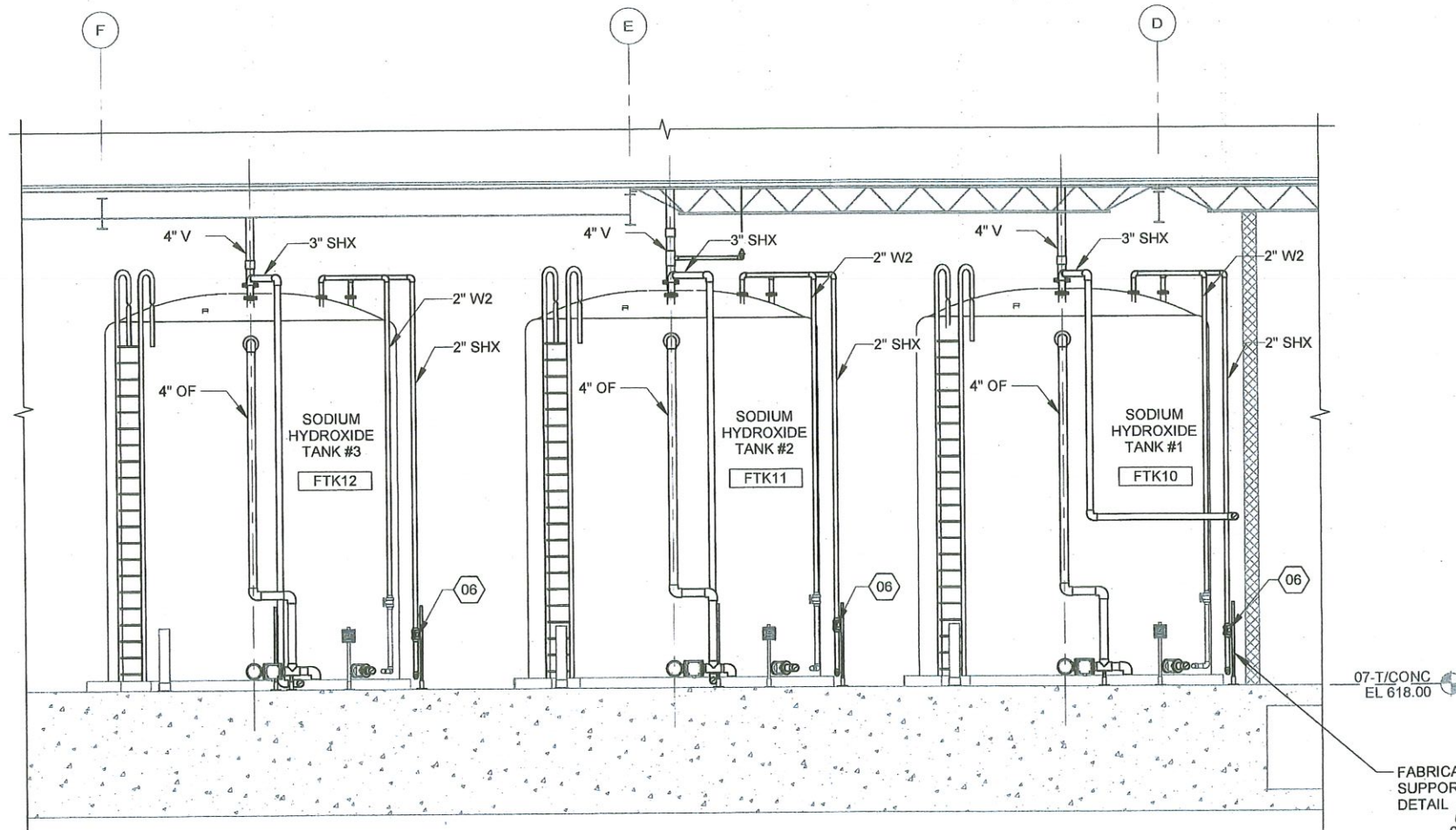
- REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
- CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
- IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT ¹ OR ²
99-P501 99-P501



1 SECTION
07-P103 SCALE: 1/4" = 1'-0"



2 SECTION
07-P103 SCALE: 1/4" = 1'-0"



3 SECTION
07-P103 SCALE: 1/4" = 1'-0"

DRAWING NO. 07-P304 CHEMICAL BUILDING - SECTIONS 4

PROJECT NO. TMUA-W 24-03

MOHAWK WTP CHEMICAL TANK REPLACEMENT

CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

GARVER



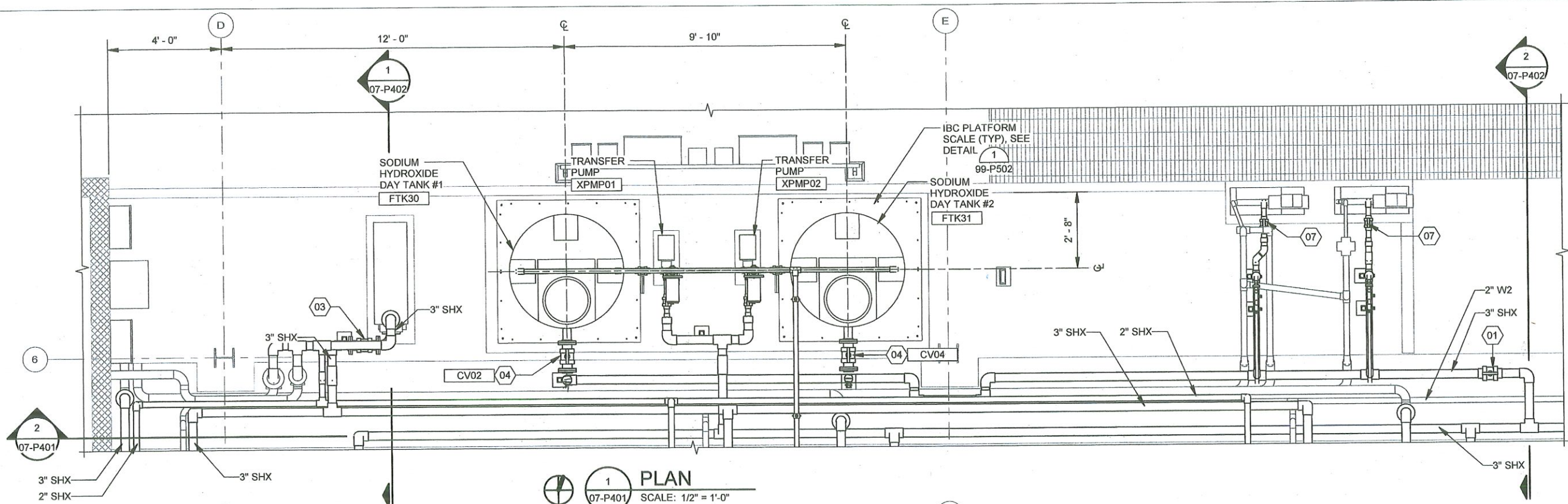
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			FILE:	FIELD MGR.	Ran 4/26		
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KEYNOTES

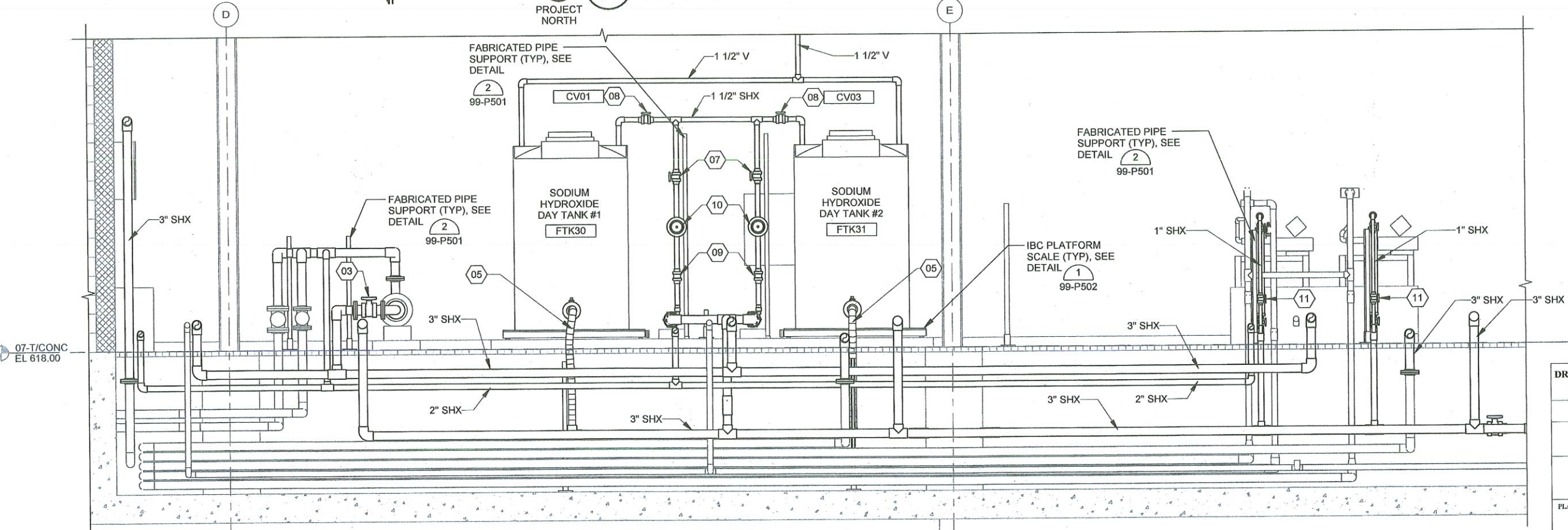
01	3" BALL VALVE V330 (SOC x SOC)
03	3" BALL VALVE V330 (FLG x FLG)
04	3" MOTORIZED BALL VALVE V330 (FLG x FLG)
05	3" FLEXIBLE HOSE
07	1 1/2" BALL VALVE V330 (SOC x SOC)
08	1 1/2" MOTORIZED BALL VALVE V330 (SOC x SOC)
09	1 1/2" BALL CHECK VALVE V633 (SOC x SOC)
10	1 1/2" ANTISIPHON/BACK PRESSURE VALVE V903 (SOC x SOC)
11	1" BALL VALVE V330 (SOC x SOC)
12	1" UNION (SOC x SOC)
13	CALIBRATION COLUMN

NOTES:

1. ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH_".




1 PLAN
07-P401 SCALE: 1/2" = 1'-0"
PROJECT NORTH



2 SECTION
07-P401 SCALE: 1/2" = 1'-0"



DRAWING NO. 07-P401	CHEMICAL BUILDING - ENLARGED VIEWS 1
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 29 OF 46 SHEETS
			PROFILE SCALE:	SURVEY			
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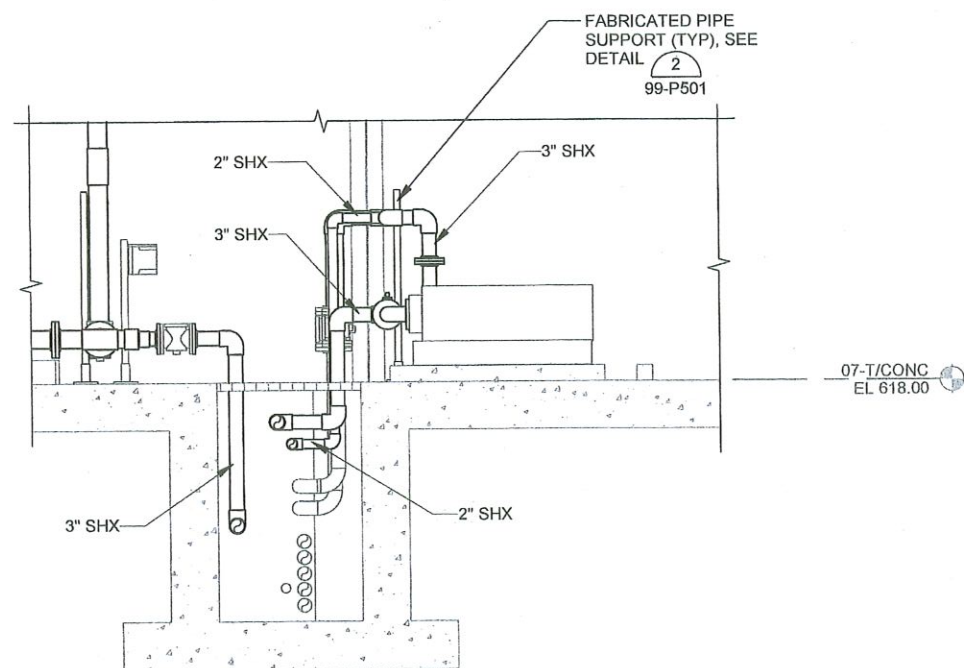
Revit File: Autodesk Docs\W02-230216 - TMUA - Mohawk WTP Chemical Tank\TMUA - Mohawk WTP Chemical Building.rvt
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KEYNOTES

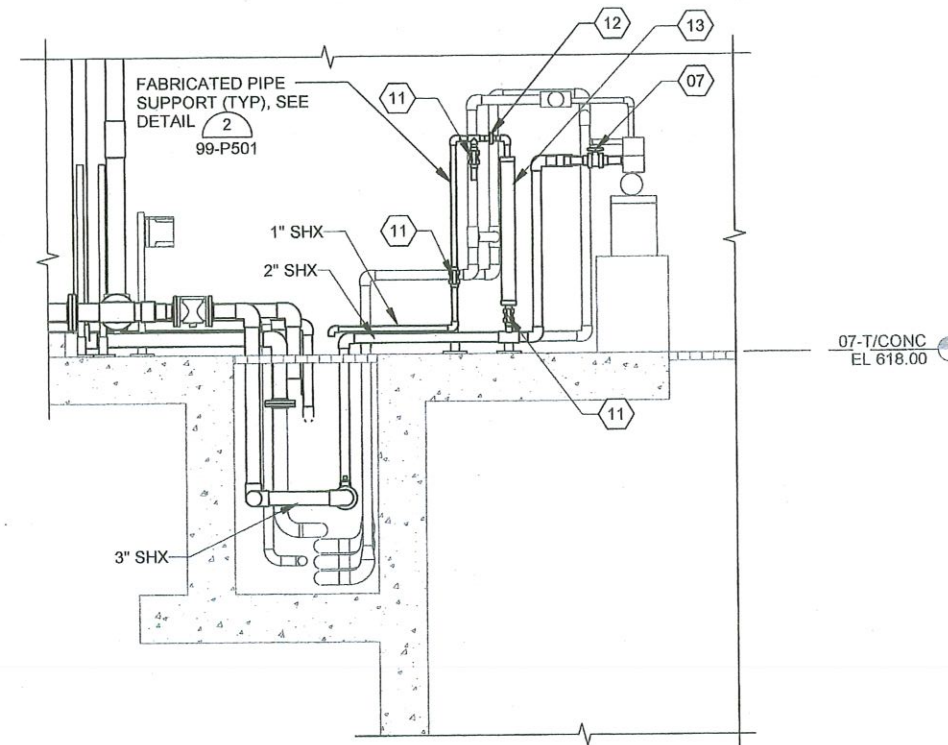
01	3" BALL VALVE V330 (SOC x SOC)
03	3" BALL VALVE V330 (FLG x FLG)
07	1 1/2" BALL VALVE V330 (SOC x SOC)
11	1" BALL VALVE V330 (SOC x SOC)
12	1" UNION (SOC x SOC)
13	CALIBRATION COLUMN

NOTES:

- REINSTALL ALL STORED PIPING, VALVES, AND APPURTENANCES THAT HAD BEEN REMOVED FROM ACH, HFS, AND CPO SYSTEMS DURING TANK DEMOLITION.
- CONTRACTOR TO REPLACE ALL GASKETS BETWEEN VALVES AND PIPES WITH A NEW CHEMICALLY COMPATIBLE GASKET FOR ACH, HFS, AND CPO RETAINED VALVES.
- IN CHEMICAL PIPE TRENCH, CONTRACTOR TO UTILIZE PIPE SUPPORT $\frac{1}{99-P501}$ OR $\frac{2}{99-P501}$



SECTION 1
07-P401 SCALE: 1/2" = 1'-0"



SECTION 2
07-P401 SCALE: 1/2" = 1'-0"




DRAWING NO. 07-P402 CHEMICAL BUILDING - ENLARGED VIEWS 2

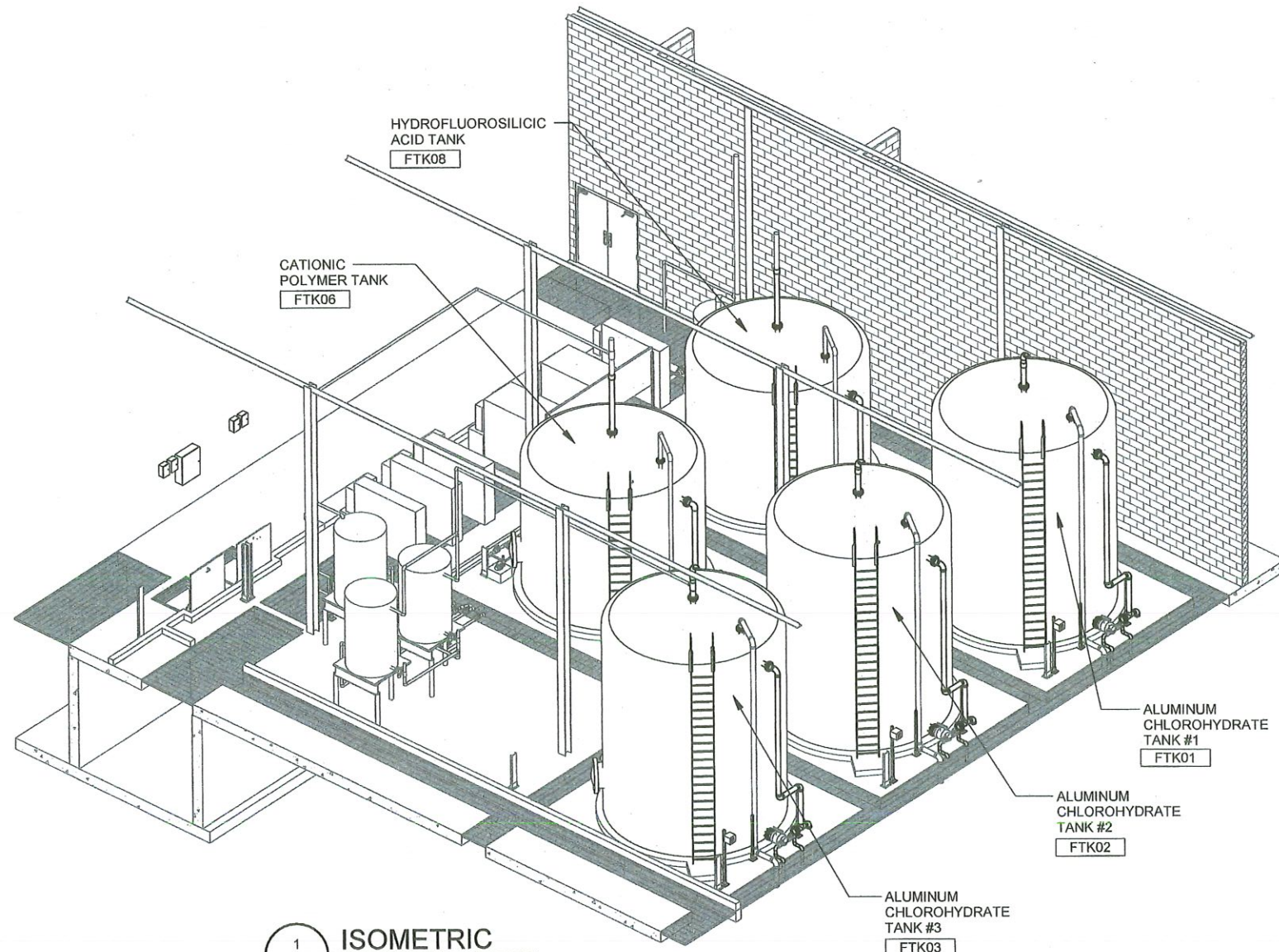
PROJECT NO. TMUA-W 24-03

MOHAWK WTP CHEMICAL TANK REPLACEMENT

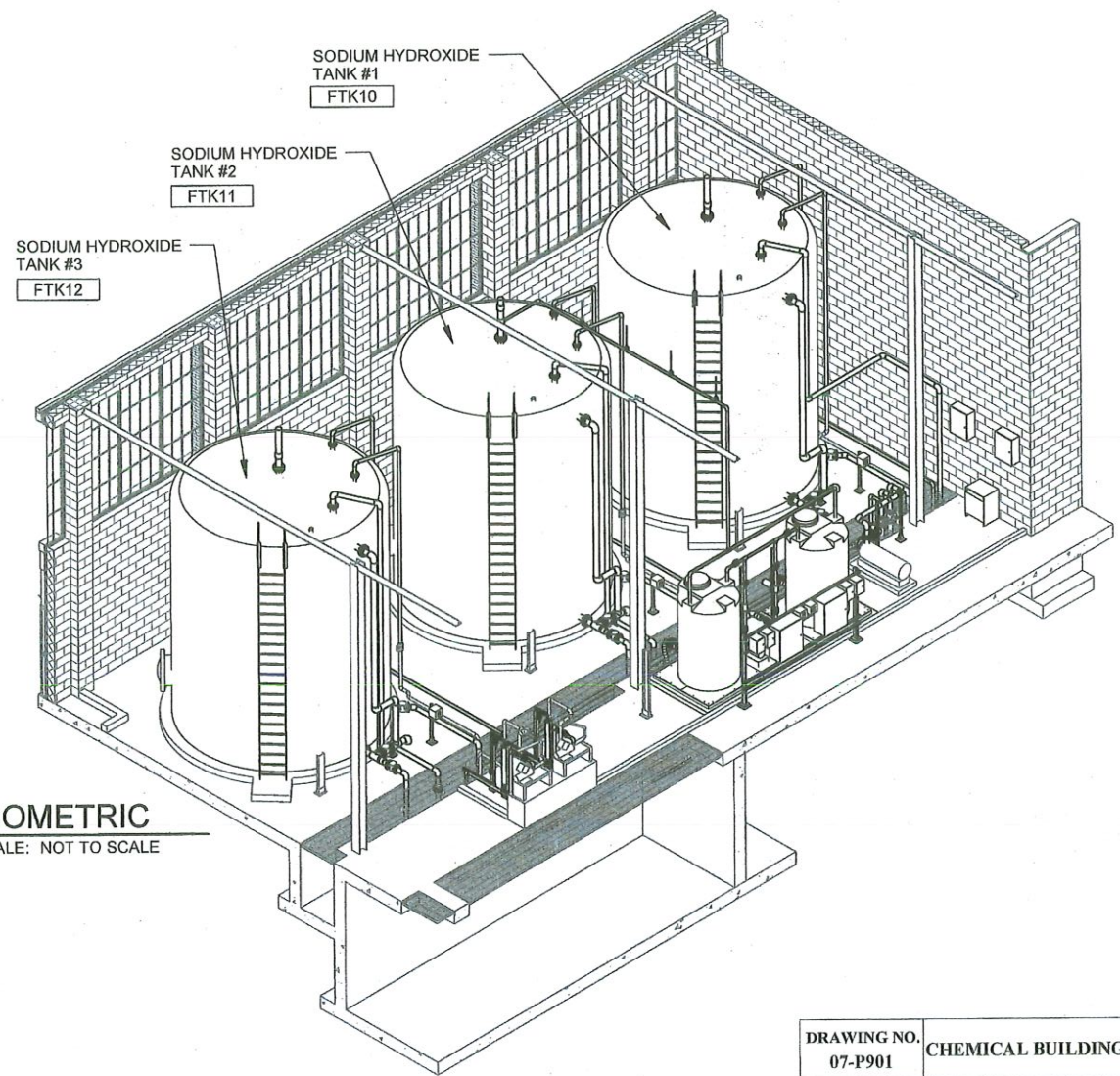
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GARVER

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD. ENGR.	NEW 2/2026		
				FIELD MGR.	NEW 4/26		
			FILE:				
			ATLAS PAGE NO:				SHEET 30 OF 46 SHEETS



1 ISOMETRIC
07-P901 SCALE: NOT TO SCALE



2 ISOMETRIC
07-P901 SCALE: NOT TO SCALE

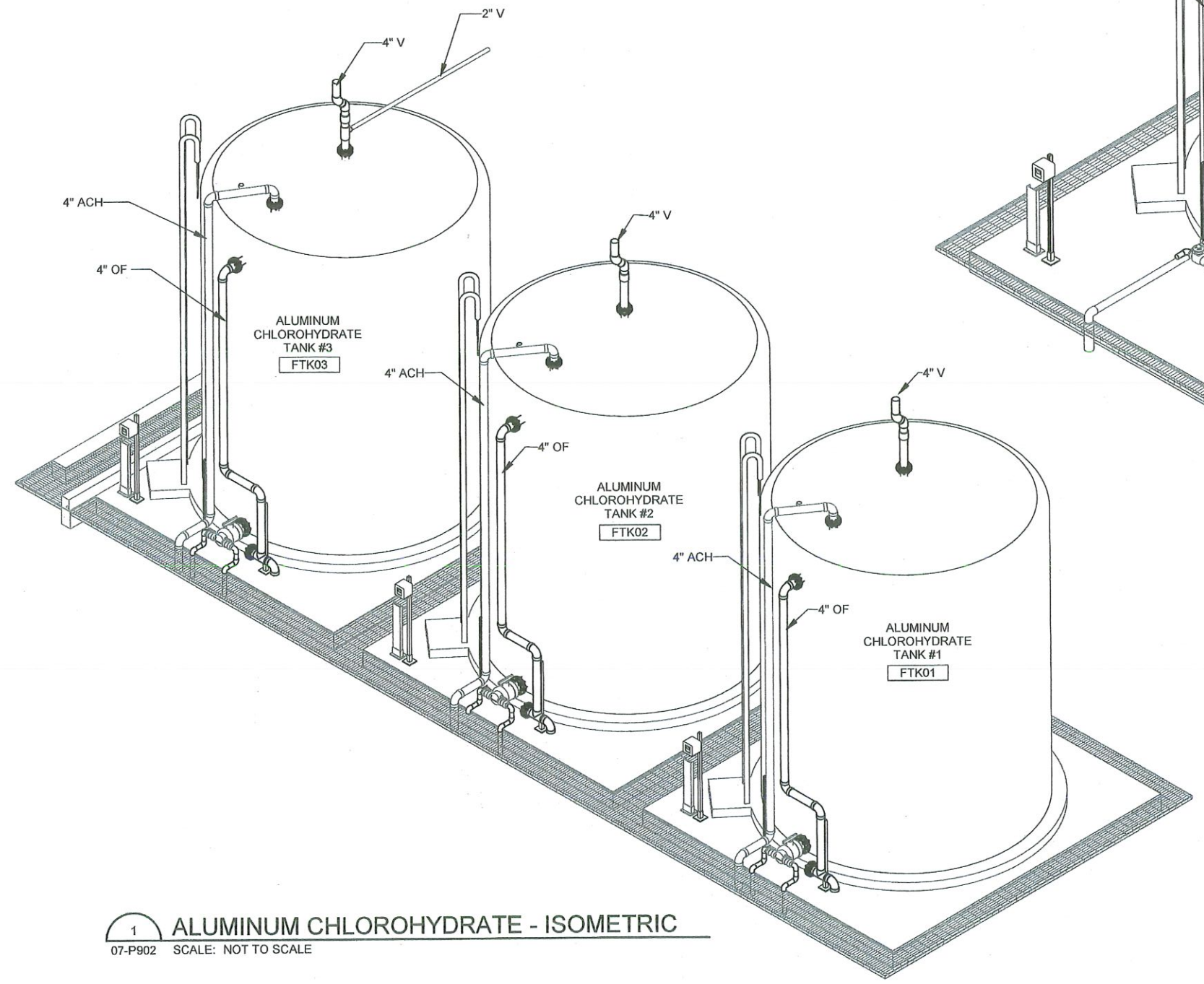


DRAWING NO. 07-P901	CHEMICAL BUILDING - ISOMETRICS 2
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

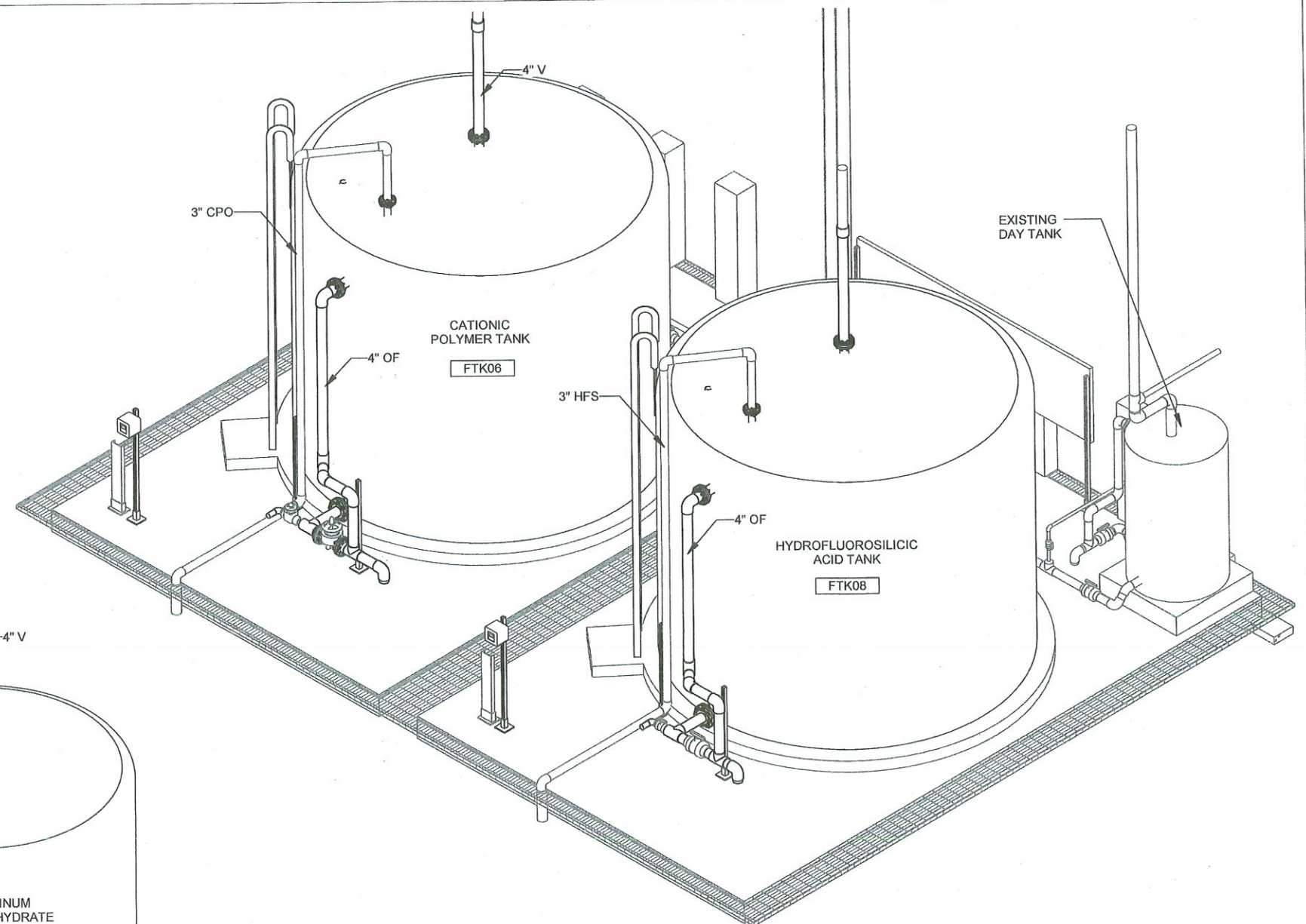
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			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 31 OF 46 SHEETS
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD. ENGR.	REW 4/2026		
			FILE:	FIELD MGR.	Tom 4/26		
			ATLAS PAGE NO:				

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 Plot Date: 2/13/2026 3:59:59 PM

Revit File: A:\revit\Drawings\WPC\2023\03-03-TMUA_Mohawk_WTP_Chemical_Tank\TMUA_Mohawk_WTP_Chemical_Building.rvt
 Plot Date: 4/11/2026 3:48:42 PM



1 ALUMINUM CHLOROHYDRATE - ISOMETRIC
 07-P902 SCALE: NOT TO SCALE

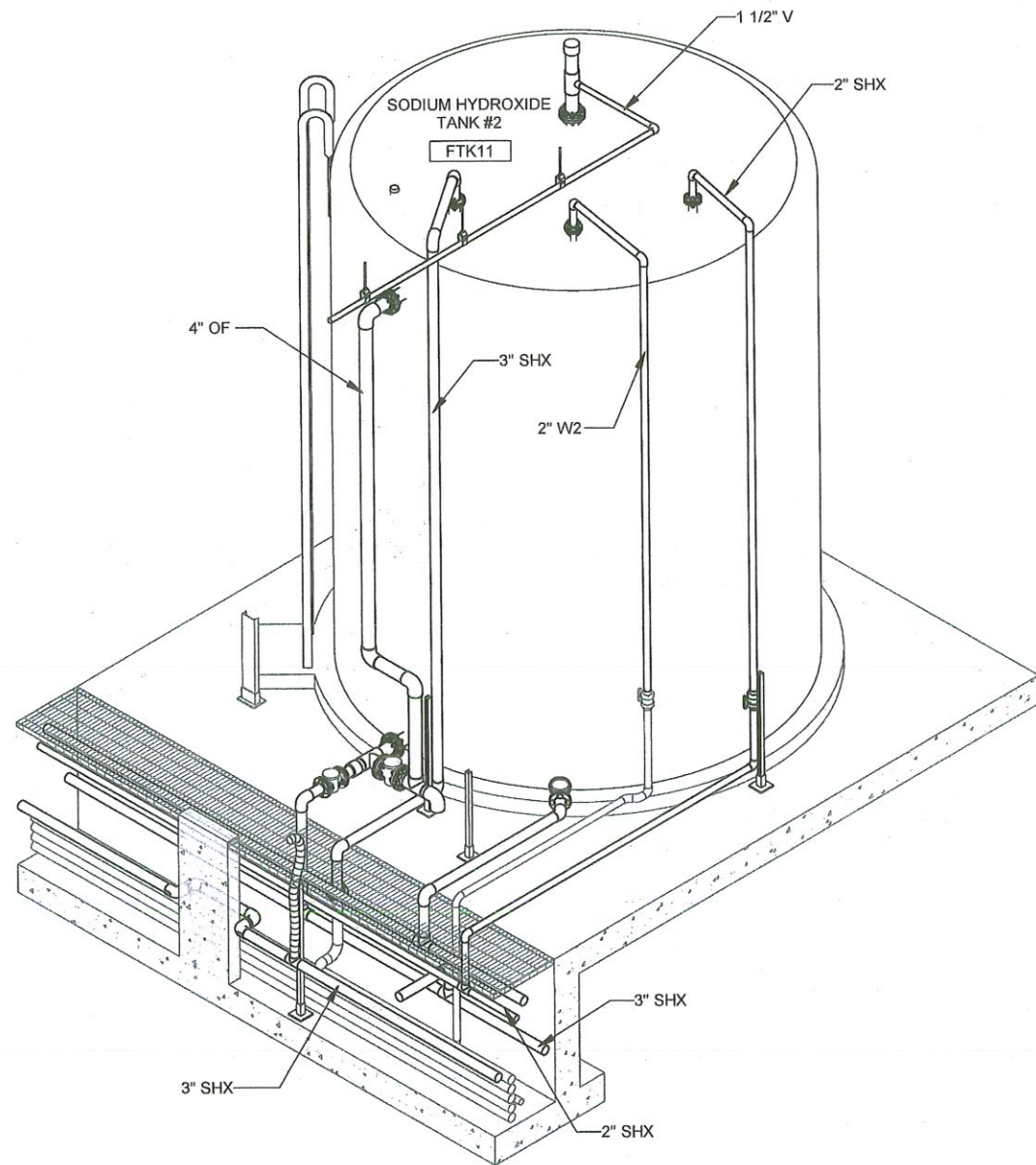


2 CATIONIC POLYMER AND HYDROFLUOROSILICIC ACID TANKS - ISOMETRIC
 07-P902 SCALE: NOT TO SCALE

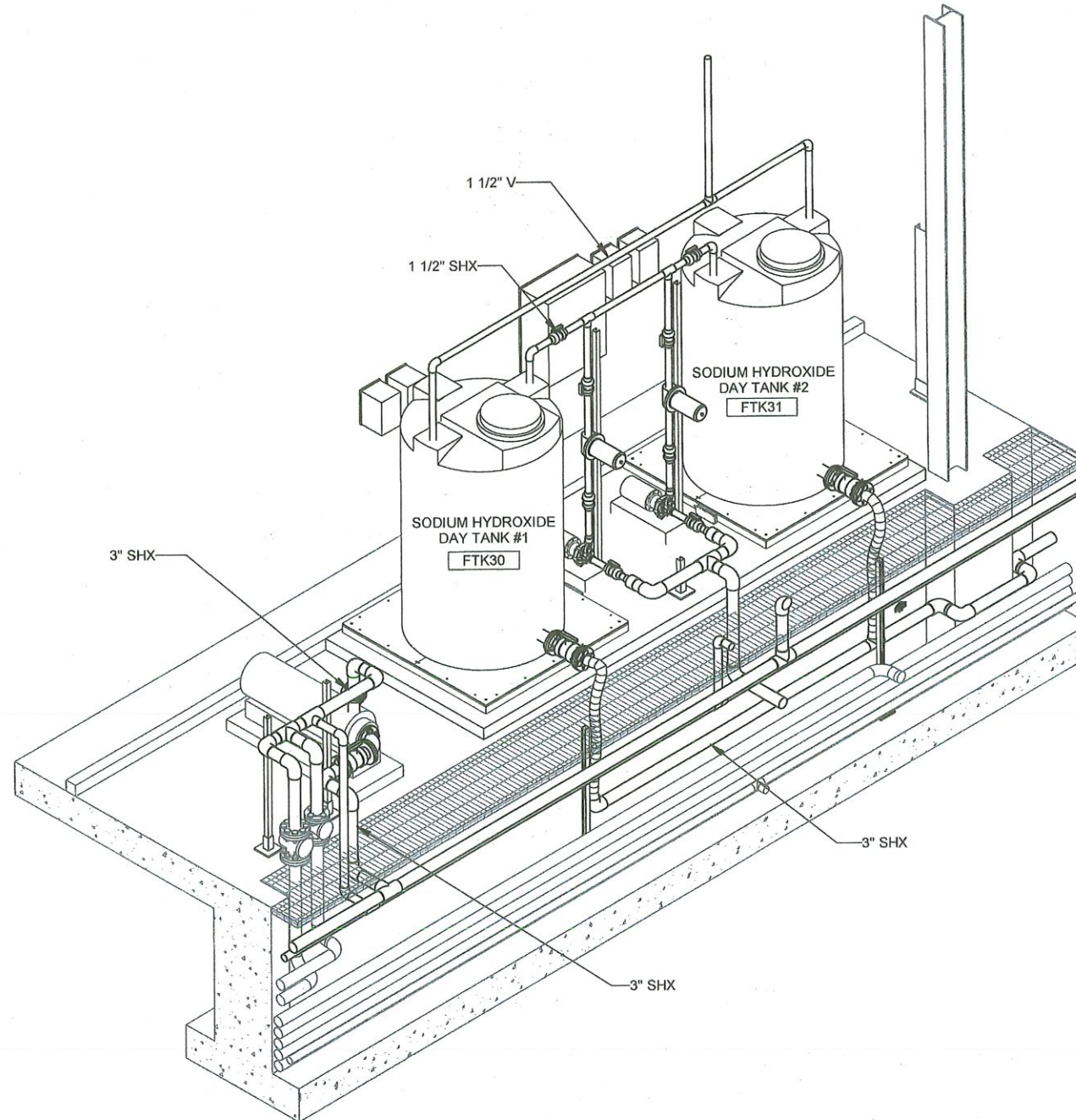


DRAWING NO. 07-P902	CHEMICAL BUILDING - ISOMETRICS 3
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	
			PROFILE SCALE	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD. ENGR.			
			FILE:	FIELD MGR.	<i>John 4/6</i>		<i>Thomas S. Py</i> DESIGN MANAGER
ATLAS PAGE NO:							DATE: FEBRUARY 2026
							SHEET 32 OF 46 SHEETS



1 SODIUM HYDROXIDE TANK - ISOMETRIC
07-P903 SCALE: NOT TO SCALE



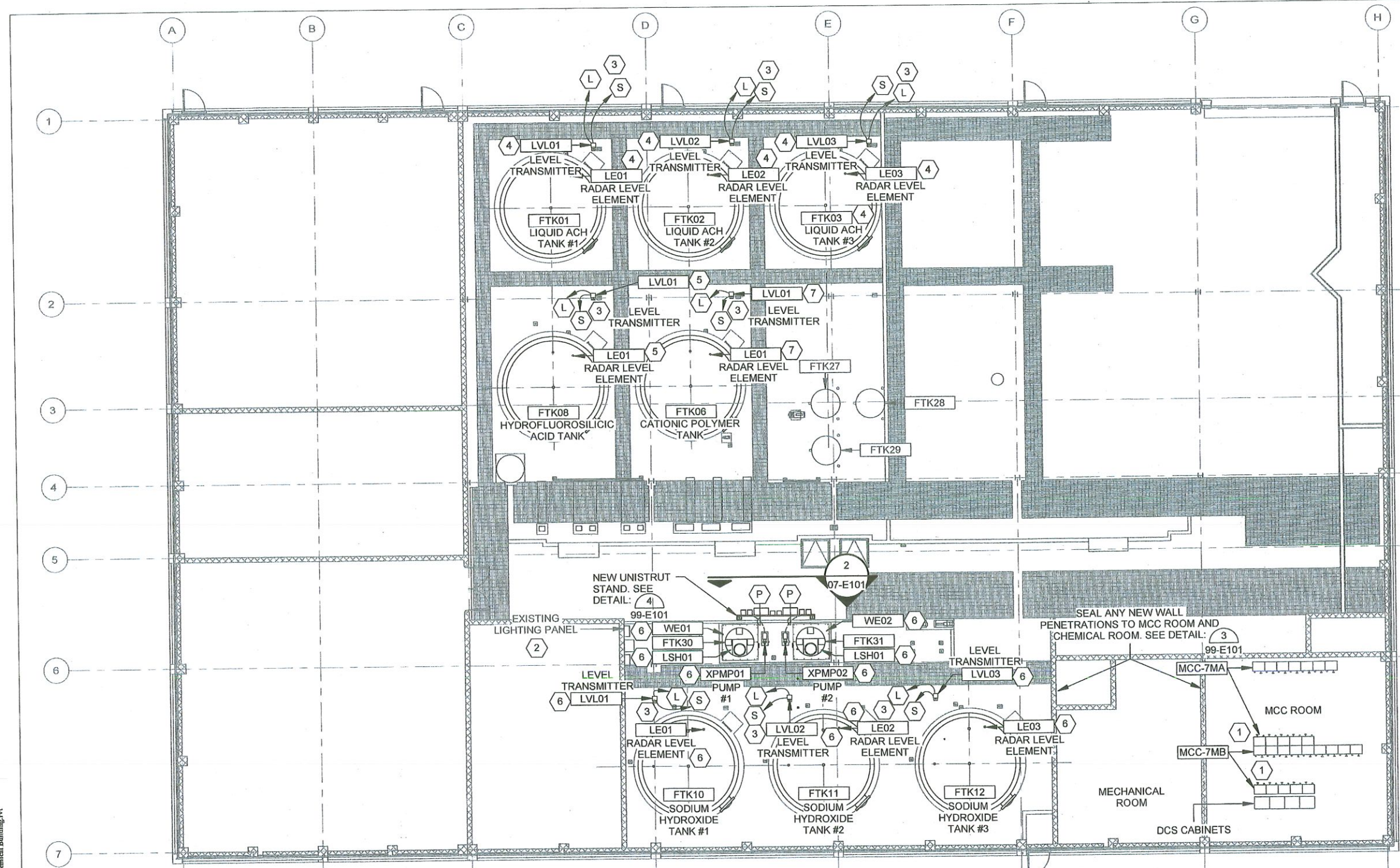
2 SODIUM HYDROXIDE DAY TANKS - ISOMETRIC
07-P903 SCALE: NOT TO SCALE



DRAWING NO. 07-P903	CHEMICAL BUILDING - ISOMETRICS 4
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 33 OF 46 SHEETS
			PROFILE SCALE	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
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ATLAS PAGE NO:			SHEET 33 OF 46 SHEETS				

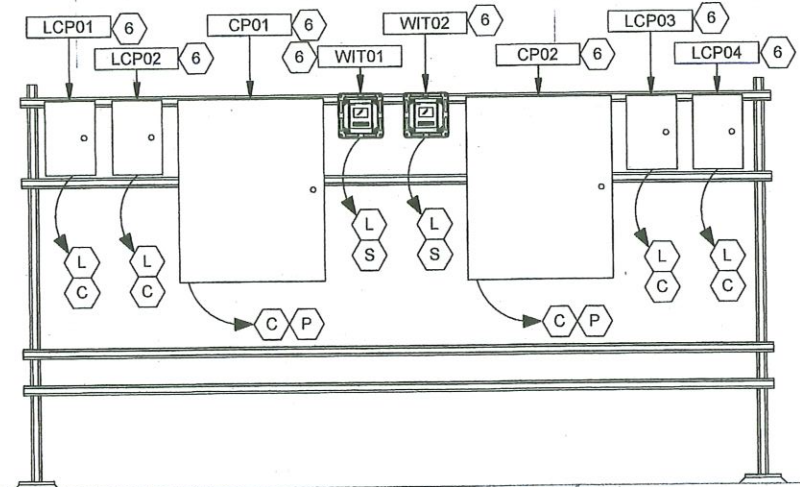
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 Plot Date: 2/13/2026 3:53:52 PM



CIRCUIT LEGEND	
C	FOR CONTROL CONDUIT AND CONDUCTORS SEE INTERCONNECT DIAGRAM ON SHEET 07-E601.
L	120VAC CONDUIT AND CONDUCTORS.
P	480VAC CONDUIT AND CONDUCTORS FROM MCC-7MA AND MCC-7MB.
S	SIGNAL CONDUIT AND CONDUCTOR. ROUTE BACK TO DCS SYSTEM WITHIN "MCC ROOM". SEE SHEET 07-E601 FOR MORE INFORMATION.

KEYNOTES	
1	EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH_"
2	SEE SHEET 90-E601 FOR PROPOSED LIGHTING PANEL MODIFICATIONS.
3	CONTRACTOR SHALL RE-USE EXISTING STANDS FOR LEVEL TRANSMITTER WHERE APPLICABLE. CONTRACTOR SHALL FURNISH AND INSTALL NEW STANDS AS NEEDED TO ACCOMMODATE TANK REMOVAL. RE-USE EXISTING CONDUIT. SEE 90-E201 FOR MORE INFORMATION.
4	EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_ACH_"
5	EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_HF_"
6	EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH_"
7	EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_POLYC_"

- NOTES:**
1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, DISCONNECTS, CONTROL RELAYS, CONTROL ENCLOSURES, AND OTHER ITEMS AS NECESSARY FOR COMPLETE HVAC AND ELECTRICAL BUILDING SYSTEMS. CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED.
 2. CONDUIT ROUTING AS SHOWN IN DIAGRAMMATIC IN NATURE AND SHOWN FOR REFERENCE ONLY. SOME CONDUIT RUNS OMITTED FOR CLARITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING NUMBER OF REQUIRED CONDUIT AND PLACEMENT OF THESE CONDUITS. THE CONTRACTOR SHALL DEVELOP AND SUBMIT A CONDUIT ROUTING PLAN FOR REVIEW PRIOR TO INSTALLATION.
 3. SIGNAL AND CONTROL CONDUCTORS OF LIKE VOLTAGES MAY BE COMBINED IN A SINGLE CONDUIT. MULTI-CONDUCTOR CONTROL AND SIGNAL CABLES MAY BE SUBSTITUTED FOR INDIVIDUAL CONDUCTORS.
 4. VERIFY LOCATIONS OF ALL EQUIPMENT PRIOR TO INSTALLATION.



2 ELECTRICAL RACK ELEVATION
07-E101 SCALE: 3/4" = 1'-0"

1 CHEMICAL BUILDING - POWER PLAN
SCALE: 1/8" = 1'-0"
PROJECT NORTH



DRAWING NO. 07-E101	CHEMICAL BUILDING - POWER PLAN
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	

PLANS AND ESTIMATES PREPARED BY: **GARVER**

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB 2026	APPROVED:	
			AS SHOWN	DESIGNED	HGW	FEB 2026		
			PROFILE SCALE:	SURVEY				
			HORIZONTAL: AS SHOWN	PROJ. MGR.				
			VERTICAL: AS SHOWN	LEAD ENGR. <i>Tom Wick</i>				<i>Thomas D. Pugh</i>
				FIELD MGR. <i>Tom Wick</i>				
			FILE:					DATE: FEBRUARY 2026
			ATLAS PAGE NO:					SHEET 34 OF 46 SHEETS

ELECTRICAL EQUIPMENT

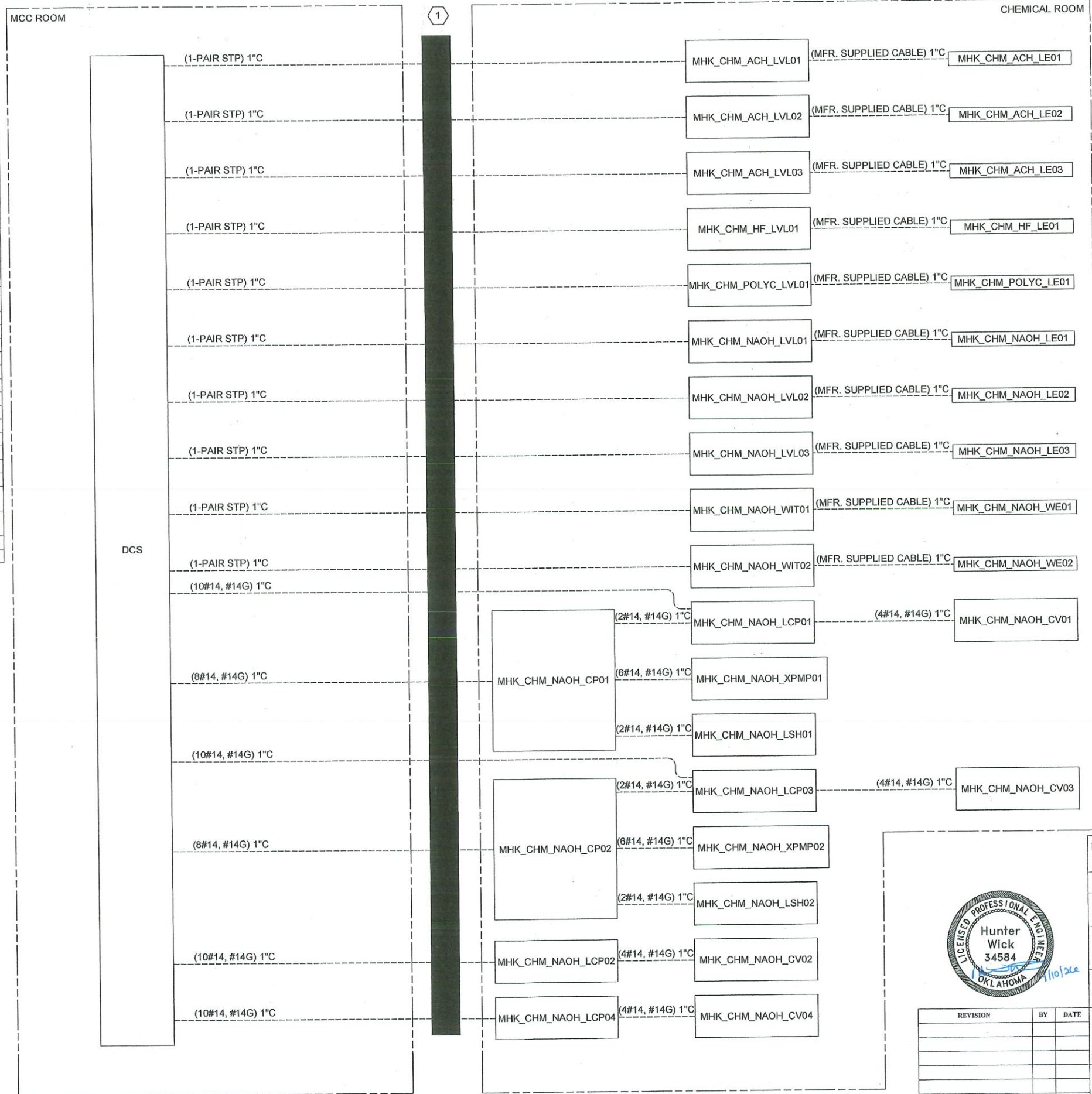
TAG	DESCRIPTION
DCS	DISTRIBUTED CONTROL SYSTEM
MHK_CHM_ACH_LE01	LIQUID ACH TANK #1 RADAR LEVEL TRANSDUCER
MHK_CHM_ACH_LE02	LIQUID ACH TANK #2 RADAR LEVEL TRANSDUCER
MHK_CHM_ACH_LE03	LIQUID ACH TANK #3 RADAR LEVEL TRANSDUCER
MHK_CHM_ACH_LVL01	LIQUID ACH TANK #1 LEVEL TRANSMITTER
MHK_CHM_ACH_LVL02	LIQUID ACH TANK #2 LEVEL TRANSMITTER
MHK_CHM_ACH_LVL03	LIQUID ACH TANK #3 LEVEL TRANSMITTER
MHK_CHM_HF_LE01	HYDROFLUOROSILICIC ACID TANK RADAR LEVEL TRANSDUCER
MHK_CHM_HF_LVL01	HYDROFLUOROSILICIC ACID TANK LEVEL TRANSMITTER
MHK_CHM_NAOH_CP01	SODIUM HYDROXIDE TRANSFER PUMP #1 STARTER PANEL
MHK_CHM_NAOH_CP02	SODIUM HYDROXIDE TRANSFER PUMP #2 STARTER PANEL
MHK_CHM_NAOH_CV01	SODIUM HYDROXIDE DAY TANK #1 FILL VALVE
MHK_CHM_NAOH_CV02	SODIUM HYDROXIDE DAY TANK #1 EFFLUENT CONTROL VALVE
MHK_CHM_NAOH_CV03	SODIUM HYDROXIDE DAY TANK #2 FILL VALVE
MHK_CHM_NAOH_CV04	SODIUM HYDROXIDE DAY TANK #2 EFFLUENT CONTROL VALVE
MHK_CHM_NAOH_LCP01	SODIUM HYDROXIDE DAY TANK #1 FILL VALVE LOCAL CONTROL PANEL
MHK_CHM_NAOH_LCP02	SODIUM HYDROXIDE DAY TANK #2 EFFLUENT CONTROL VALVE LOCAL CONTROL PANEL
MHK_CHM_NAOH_LCP03	SODIUM HYDROXIDE DAY TANK #2 FILL VALVE LOCAL CONTROL PANEL
MHK_CHM_NAOH_LCP04	SODIUM HYDROXIDE DAY TANK #2 HIGH LEVEL SWITCH
MHK_CHM_NAOH_LE01	SODIUM HYDROXIDE TANK #1 RADAR LEVEL TRANSDUCER
MHK_CHM_NAOH_LE02	SODIUM HYDROXIDE TANK #2 RADAR LEVEL TRANSDUCER
MHK_CHM_NAOH_LE03	SODIUM HYDROXIDE TANK #3 RADAR LEVEL TRANSDUCER
MHK_CHM_NAOH_LSH01	SODIUM HYDROXIDE DAY TANK #1 HIGH LEVEL SWITCH
MHK_CHM_NAOH_LSH02	SODIUM HYDROXIDE DAY TANK #2 HIGH LEVEL SWITCH
MHK_CHM_NAOH_LVL01	SODIUM HYDROXIDE TANK #1 LEVEL TRANSMITTER
MHK_CHM_NAOH_LVL02	SODIUM HYDROXIDE TANK #2 LEVEL TRANSMITTER
MHK_CHM_NAOH_LVL03	SODIUM HYDROXIDE TANK #3 LEVEL TRANSMITTER
MHK_CHM_NAOH_WE01	SODIUM HYDROXIDE DAY TANK #1 WEIGHT SCALE
MHK_CHM_NAOH_WE02	SODIUM HYDROXIDE DAY TANK #2 WEIGHT SCALE
MHK_CHM_NAOH_WIT01	SODIUM HYDROXIDE DAY TANK #1 WEIGHT TRANSMITTER
MHK_CHM_NAOH_WIT02	SODIUM HYDROXIDE DAY TANK #2 WEIGHT TRANSMITTER
MHK_CHM_NAOH_XPMP01	SODIUM HYDROXIDE DAY TANK #1 EFFLUENT CONTROL VALVE LOCAL CONTROL PANEL
MHK_CHM_NAOH_XPMP02	SODIUM HYDROXIDE DAY TANK #2 EFFLUENT CONTROL VALVE LOCAL CONTROL PANEL
MHK_CHM_POLYC_LE01	CATIONIC POLYMER TANK RADAR LEVEL TRANSDUCER
MHK_CHM_POLYC_LVL01	CATIONIC POLYMER TANK LEVEL TRANSMITTER

KEYNOTES

1	CONTRACTOR MAY COMBINE CONTROL AND SIGNAL CONDUCTORS OF LIKE VOLTAGES INTO A SINGLE CONDUIT. CONDUITS SHALL BE SIZED TO MEET NEC CONDUCTOR FILL REQUIREMENTS PLUS AN ADDITIONAL 25% EXTRA FILL SPACE. MINIMUM CONDUIT SIZE SHALL BE 3/4" FOR EXPOSED APPLICATION
---	--

MCC ROOM

CHEMICAL ROOM



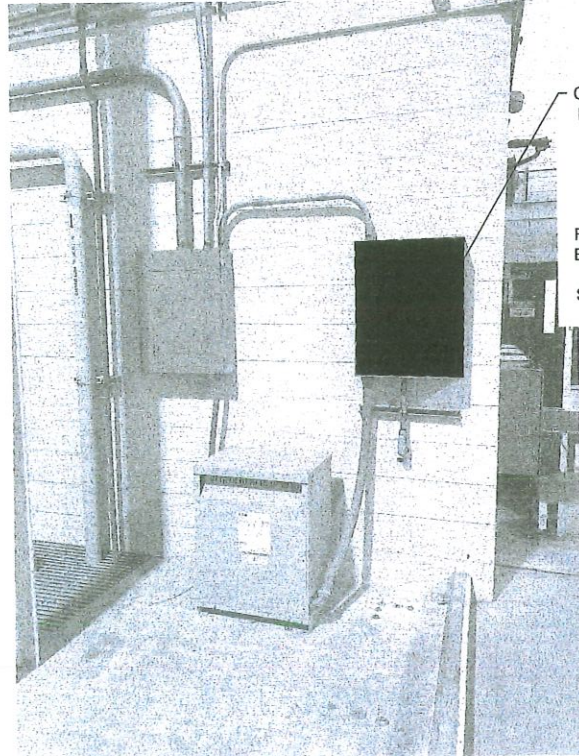
DRAWING NO. 07-E601	INTERCONNECT DIAGRAM		
PROJECT NO. TMUA-W 24-03			
MOHAWK WTP CHEMICAL TANK REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: GARVER			
REVISION	BY	DATE	APPROVED:
AS SHOWN	DESIGNED	LCB FEB. 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
PROFILE SCALE:	SURVEY	HGW FEB. 2026	
HORIZONTAL: AS SHOWN	PROJ. MGR.		
VERTICAL: AS SHOWN	LEAD. ENGR.		
FILE:	FIELD MGR.		
ATLAS PAGE NO:			SHEET 35 OF 46 SHEETS

KEYNOTES

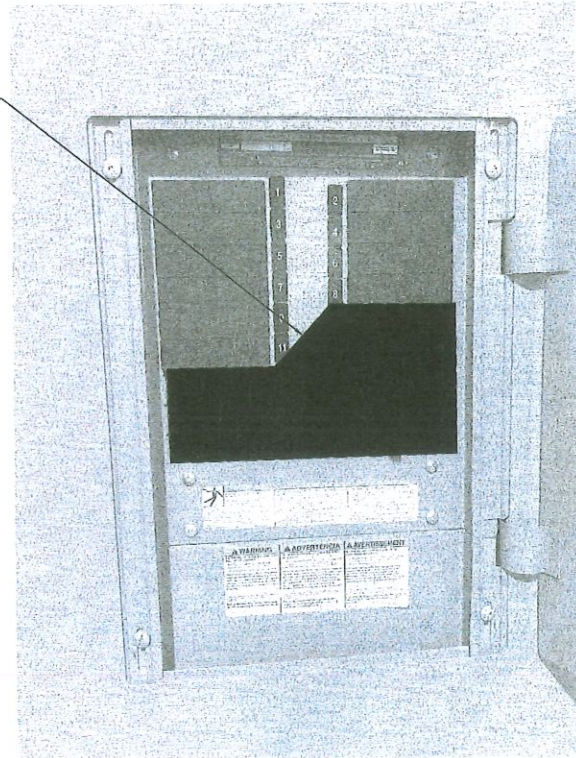
1	SEE SHEET 07-E101 FOR MORE INFORMATION
2	SEE SHEET 90-E501 FOR MORE INFORMATION.

LEGEND:

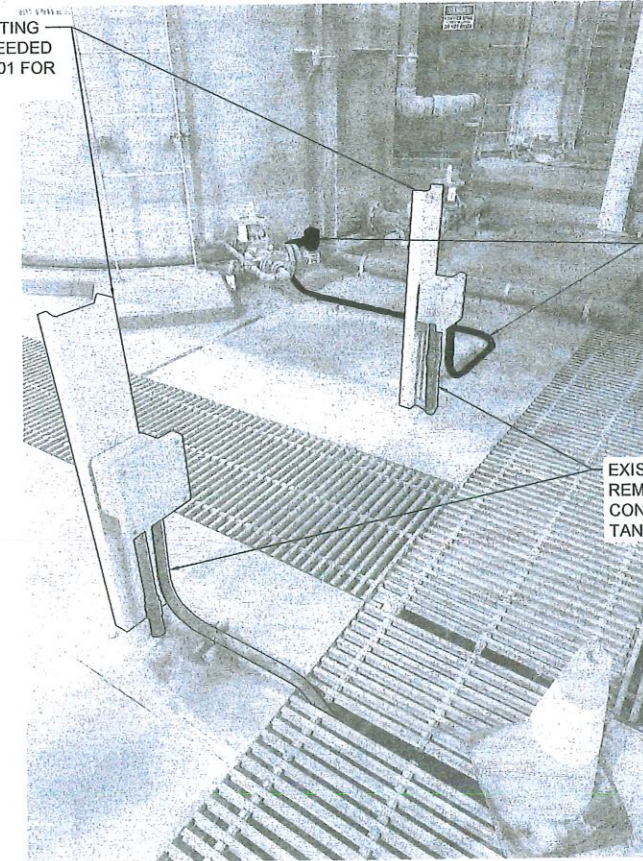
■ TO BE REMOVED



①
CONTRACTOR SHALL DEMO EXISTING LIGHTING PANEL AND REPLACE WITH 30 CIRCUIT PANEL IN SAME LOCATION. CONTRACTOR SHALL RE-FEED EXISTING LOADS FROM NEW PANEL. FURNISH AND INSTALL NEW BREAKERS TO MATCH THAT OF EXISTING. SEE PANEL SCHEDULE ON 90-E601 FOR MORE INFORMATION.



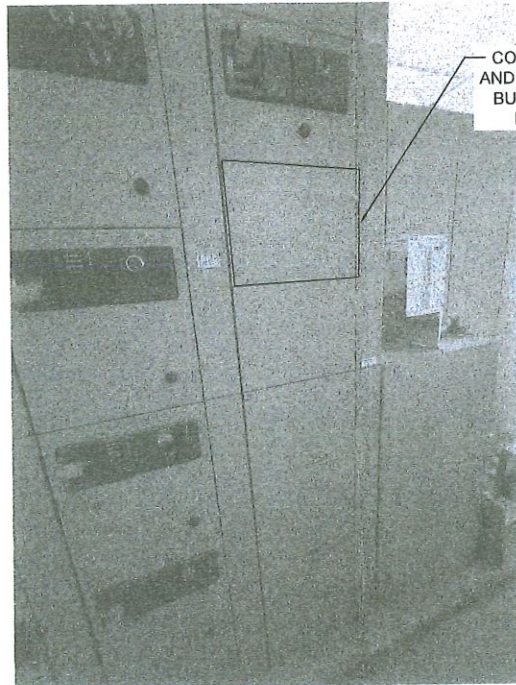
CONTRACTOR SHALL REMOVE EXISTING JUNCTION BOXES AND STANDS AS NEEDED TO REMOVE TANKS. SEE SHEET 07-E101 FOR MORE INFORMATION.



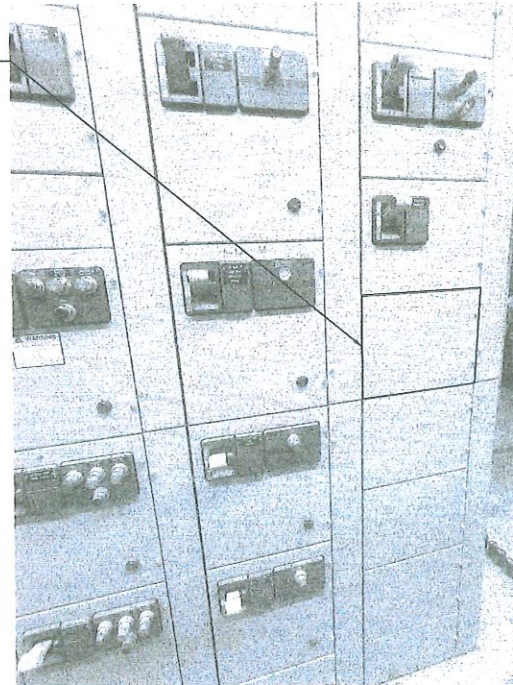
EXISTING LEVEL INSTRUMENTATION, CONDUIT AND CONDUCTORS TO BE DEMOLISHED AND REPLACED. TYP. ALL TANKS. SEE INTERCONNECT DIAGRAM ON 07-E601 FOR MORE INFORMATION.

EXISTING BELOW-GRADE CONDUITS TO REMAIN AND BE USED TO ROUTE CONDUCTORS TO DCS SYSTEM. TYP. ALL TANKS.

①
90-E201 **CHEMICAL ROOM ELEVATIONS**
SCALE: NONE



CONTRACTOR SHALL FURNISH AND INSTALL NEW MCC BREAKER BUCKETS TO FEED TRANSFER PUMP CONTROL PANELS.



②
90-E201 **CHEMICAL TANK LEVEL INSTRUMENTATION**
SCALE: NONE

③
90-E201 **MCC-7MA ELEVATIONS**
SCALE: NONE

④
90-E201 **MCC-7MB ELEVATIONS**
SCALE: NONE



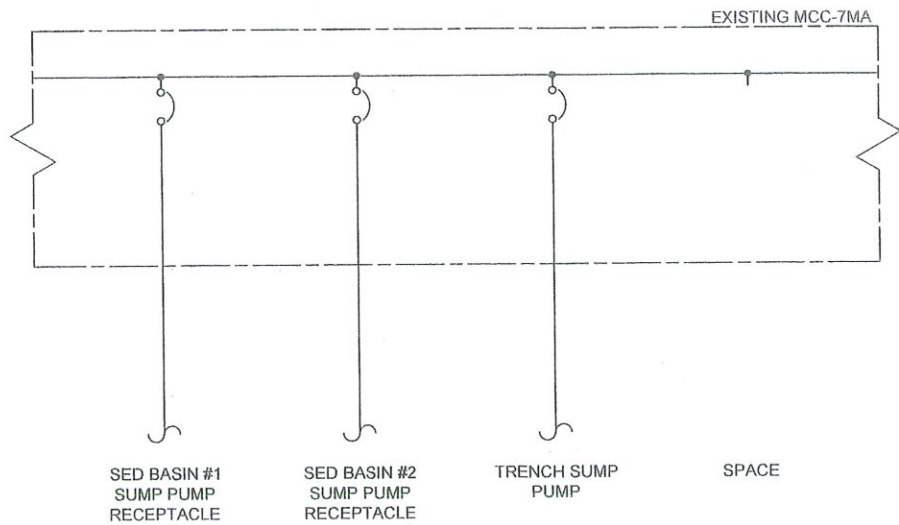
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PROJECT NO. TMUA-W 24-03							
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: GARVER							
REVISION	BY	DATE	PLAN SCALE:	DRAWN	LCB	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	HGW	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD. ENGR. <i>Ken Harte</i> FIELD MGR. <i>Tom 4/26</i>			
FILE:			ATLAS PAGE NO:			SHEET 36 OF 46 SHEETS	

NOTES:

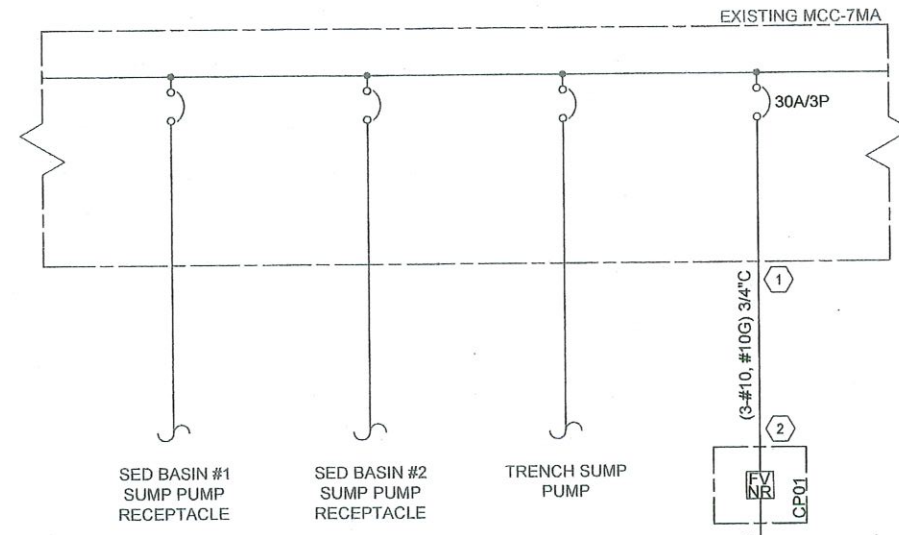
1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 NATIONAL ELECTRICAL CODE, NFPA 101 LIFE SAFETY CODE, NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE, STATE ELECTRICAL CODE, AND LOCAL ELECTRICAL CODE.
2. COORDINATE ALL ELECTRICAL WORK AND EQUIPMENT OUTAGES WITH OWNER.
3. THE CONTRACTOR SHALL MAKE ELECTRICAL CONNECTIONS TO EVERYTHING FURNISHED OR INSTALLED BY THIS CONTRACT, WHETHER INDICATED OR NOT ON THE ELECTRICAL DRAWINGS.
4. PROVIDE LUGS AS REQUIRED TO FIT WIRING.
5. * INDICATES EQUIPMENT IS SUPPLIED AS PART OF MANUFACTURER'S EQUIPMENT PACKAGE.

KEYNOTES

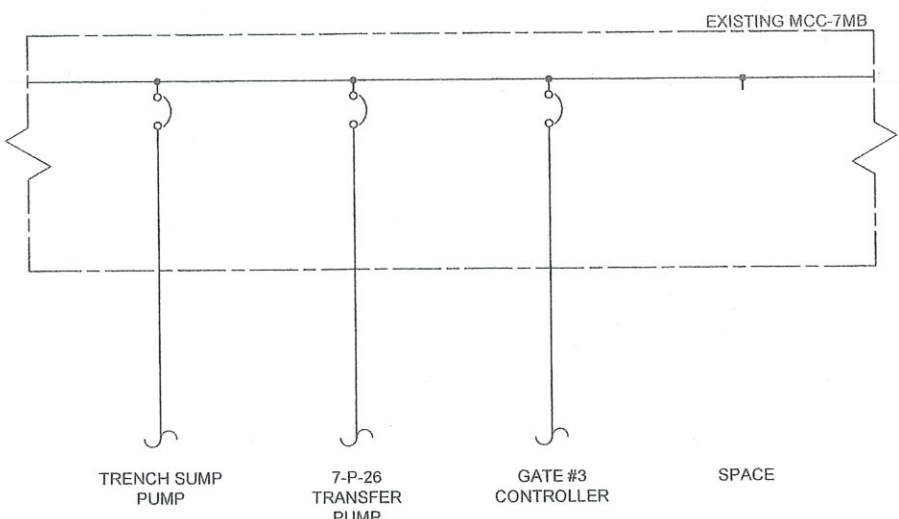
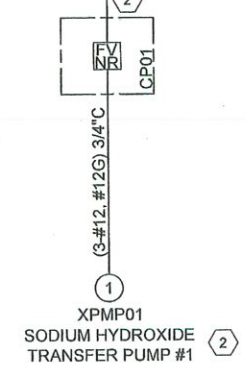
1	CONTRACTOR SHALL ROUTE CONDUITS OVERHEAD OUT OF MCC ROOM AND INTO CHEMICAL ROOM. DO NOT ROUTE CONDUITS IN ANY WALKWAY. SEE SHEET 90-E201 FOR MORE INFORMATION.
2	EQUIPMENT TAGS ARE PREFIXED WITH "MHK_CHM_NAOH_".



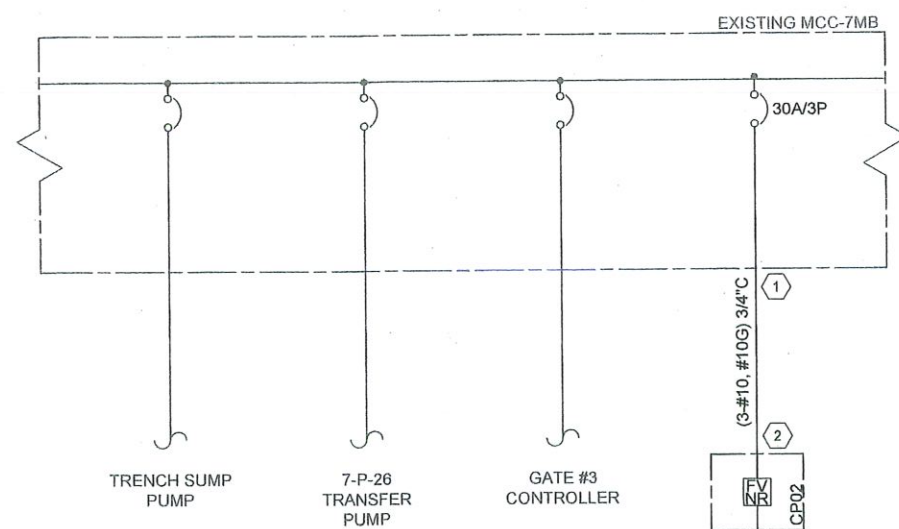
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90-E501 **EXISTING MCC-7MA**
SCALE: NONE



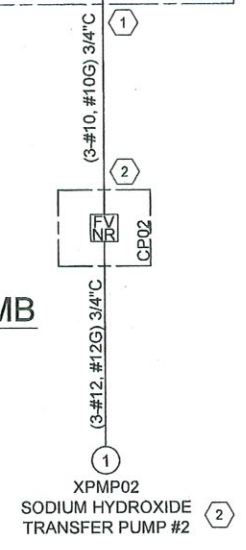
2
90-E501 **PROPOSED MCC-7MA**
SCALE: NONE



3
90-E501 **EXISTING MCC-7MB**
SCALE: NONE



4
90-E501 **PROPOSED MCC-7MB**
SCALE: NONE



DRAWING NO. 90-E501		ONE-LINE DIAGRAM	
PROJECT NO. TMUA-W 24-03			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: GARVER			
REVISION	BY	DATE	APPROVED:
AS SHOWN	DESIGNED	LCB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
PROFILE SCALE:	SURVEY	HGW 2026	
HORIZONTAL: AS SHOWN	PROJ. MGR.		
VERTICAL: AS SHOWN	LEAD. ENGR.	LCW/2026	
FILE:	FIELD MGR.	LCW/2026	
ATLAS PAGE NO:			SHEET 37 OF 46 SHEETS

KEYNOTES

1 RE-FEED EXISTING LOADS VIA NEW LIGHTING PANEL WITH NEW BREAKERS.

VOLTS <u>120/208</u> ϕ <u>3</u> W <u>4</u>		BUS AMPS <u>150A</u>		(KVA) <u>N/A</u> PH <u>A</u>		MIN AIC <u>10KAIC</u>						
SECONDARY MAIN <u>40A</u>		PANELBOARD <u>N/A</u>		LOCATION: <u>CHEMICAL BUILDING</u>								
SOURCE <u>TX</u> CIRC. SPACES <u>30</u>		FEEDER AMPS <u>20</u>		<u>N/A</u> PH <u>C</u>								
MOUNT <u>WALL-MOUNTED</u>		TOTAL AMPS <u>N/A</u>		<u>N/A</u> TOTAL		NEMA <u>1</u>						
LOAD DESCRIPTION	COND	GAUGE	CIR	BKR	A	B	C	BKR	CIR	GAUGE	COND	LOAD DESCRIPTION
LEVEL TRANSMITTER (MHK_CHM_ACH_LVL01)	3/4"	12	1	20/1P				20/1P	2	12	3/4"	LEVEL TRANSMITTER (MHK_CHM_ACH_LVL02)
LEVEL TRANSMITTER (MHK_CHM_ACH_LVL03)	3/4"	12	3	20/1P				20/1P	4	12	3/4"	LEVEL TRANSMITTER (MHK_CHM_HF_LVL01)
LEVEL TRANSMITTER (MHK_CHM_NAOH_LVL01)	3/4"	12	5	20/1P				20/1P	6	12	3/4"	LEVEL TRANSMITTER (MHK_CHM_POLYC_LVL01)
LEVEL TRANSMITTER (MHK_CHM_NAOH_LVL02)	3/4"	12	7	20/1P				20/1P	8	12	3/4"	LEVEL TRANSMITTER (MHK_CHM_NAOH_LVL03)
WEIGHT SCALE TRANSMITTER (MHK_CHM_NAOH_WIT02)	3/4"	12	9	20/1P				20/1P	10	12	3/4"	WEIGHT SCALE TRANSMITTER (MHK_CHM_NAOH_WIT01)
CONTROL VALVE LCP (MHK_CHM_NAOH_LCP01)	3/4"	12	11	20/1P				20/1P	12	12	3/4"	CONTROL VALVE LCP (MHK_CHM_NAOH_LCP02)
CONTROL VALVE LCP (MHK_CHM_NAOH_LCP03)	3/4"	12	13	20/1P				20/1P	14	12	3/4"	CONTROL VALVE LCP (MHK_CHM_NAOH_LCP04)
SPARE			15	20/1P				20/1P	16			SPARE
SPARE			17	20/1P				20/1P	18			SPARE
SPARE			19	20/1P				20/1P	20			SPARE
SPARE			21	20/1P				20/1P	22	EXISTING	EXISTING	SCRUB HEATERS THERMOSTAT
SPARE			23	20/1P				20/1P	24	EXISTING	EXISTING	EXISTING LOAD
								20/1P	26	EXISTING	EXISTING	EXISTING LOAD
MAIN	EXISTING	EXISTING	25	40/3P				20/1P	28	EXISTING	EXISTING	EXISTING LOAD
								20/1P	30	EXISTING	EXISTING	AMMONIA ALARM

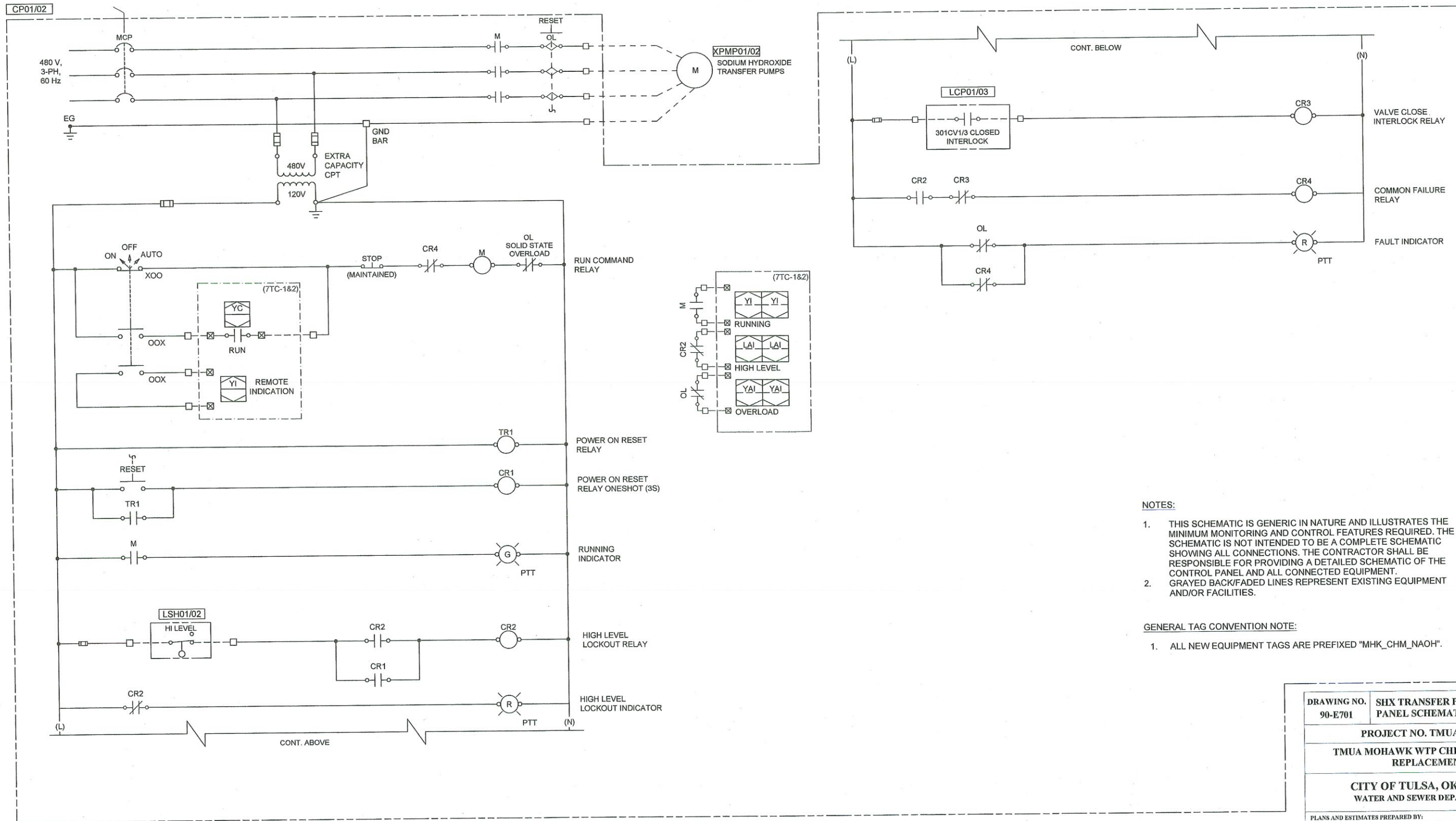
1 PANEL SCHEDULE
90-E601 SCALE: NONE



DRAWING NO. 90-E601	PROPOSED LIGHTING PANEL SCHEDULE
PROJECT NO. TMUA-W 24-03	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	LCB	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	HGW	FEB 2026	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ MGR.			
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			FILE:	FIELD MGR.	<i>Tom 4/26</i>		DESIGN MANAGER
			ATLAS PAGE NO:				DATE: FEBRUARY 2026
							SHEET 38 OF 46 SHEETS

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 Plot Style: AECmon.ctb, Plot Scale: 1:2.5949, Plot Date: 2/25/2026 10:42 AM, Plotter used: None



- NOTES:**
- THIS SCHEMATIC IS GENERIC IN NATURE AND ILLUSTRATES THE MINIMUM MONITORING AND CONTROL FEATURES REQUIRED. THE SCHEMATIC IS NOT INTENDED TO BE A COMPLETE SCHEMATIC SHOWING ALL CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A DETAILED SCHEMATIC OF THE CONTROL PANEL AND ALL CONNECTED EQUIPMENT.
 - GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

GENERAL TAG CONVENTION NOTE:

- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH".

1
SODIUM HYDROXIDE TRANSFER PUMP CONTROL PANEL SCHEMATIC (TYP. OF 2)
 SCALE: NONE



REVISION	BY	DATE	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	CTP	FEB 2026	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD. ENGR.			
			FILE:	FIELD MGR.			
			ATLAS PAGE NO:				

DRAWING NO. SHX TRANSFER PUMP CONTROL PANEL SCHEMATIC (TYP. OF 2)
 90-E701
PROJECT NO. TMUA-W 24-03
TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT
CITY OF TULSA, OKLAHOMA
 WATER AND SEWER DEPARTMENT
 PLANS AND ESTIMATES PREPARED BY:
GARVER

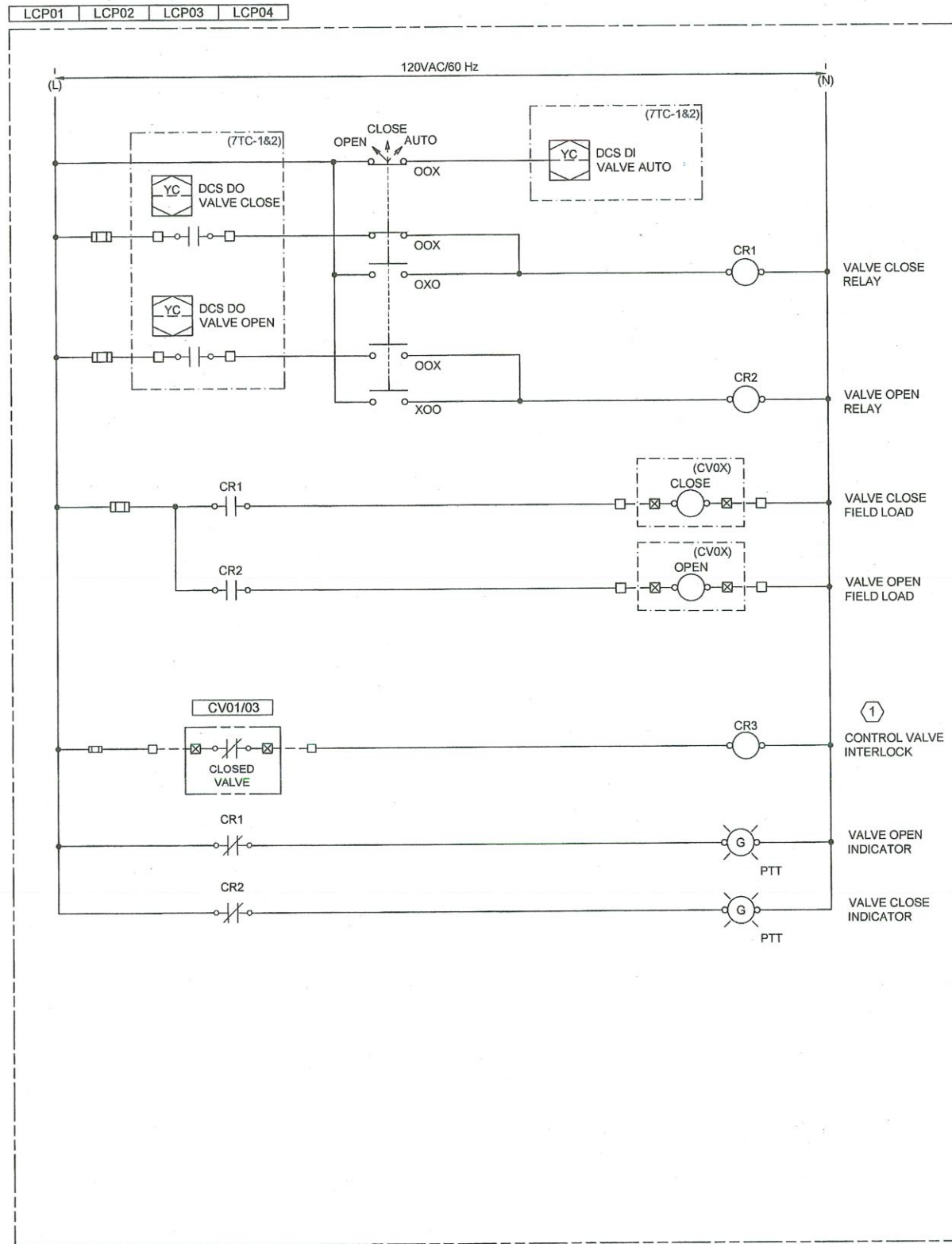
APPROVED:
 [Signature]
 DESIGN MANAGER

DATE: FEBRUARY 2026
 SHEET 39 OF 46 SHEETS

KEYNOTES

1

INTERLOCK ONLY APPLIES TO LCP01/03. LCP01 AND LCP03 WILL CORRESPOND WITH CP01 AND CP02, RESPECTIVELY

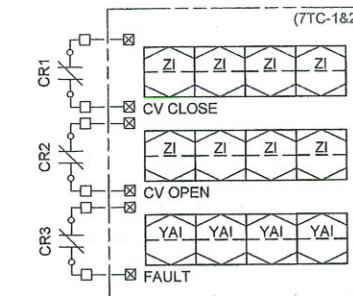
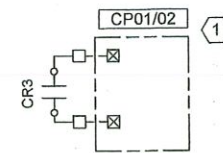


NOTES:

- THIS SCHEMATIC IS GENERIC IN NATURE AND ILLUSTRATES THE MINIMUM MONITORING AND CONTROL FEATURES REQUIRED. THE SCHEMATIC IS NOT INTENDED TO BE A COMPLETE SCHEMATIC SHOWING ALL CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A DETAILED SCHEMATIC OF THE CONTROL PANEL AND ALL CONNECTED EQUIPMENT.
- GRAYED BACK/FADED LINES REPRESENT EXISTING EQUIPMENT AND/OR FACILITIES.

GENERAL TAG CONVENTION NOTE:

- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_NAOH".



1
90-E702

CONTROL VALVE LOCAL CONTROL PANEL SCHEMATIC (TYP. OF 4).

SCALE: NONE

DRAWING NO. 90-E702 CONTROL VALVE LOCAL CONTROL PANEL SCHEMATIC (TYP. OF 4)
 PROJECT NO. TMUA-W 24-03
 TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT
 CITY OF TULSA, OKLAHOMA
 WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GARVER

REVISION	BY	DATE	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
			AS SHOWN	DESIGNED	CTP	FEB 2026	
			PROFILE SCALE:	SURVEY			
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			VERTICAL: AS SHOWN	LEAD. ENGR.	NEW 4/2/26		Jhonny D. Pm DESIGN MANAGER
				FIELD MGR.	Pm 4/2/26		
			FILE:	DATE: FEBRUARY 2026			
			ATLAS PAGE NO:	SHEET 40 OF 46 SHEETS			



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GENERAL TAG CONVENTION NOTE:

- ALL NEW EQUIPMENT TAGS ARE PREFIXED "MHK_CHM_".

Type	Units	Description	Source/Destination
AI	4-20ma	LIQUID ACH TANK #1 LEVEL	ACH_LVL01
AI	4-20ma	LIQUID ACH TANK #2 LEVEL	ACH_LVL02
AI	4-20ma	LIQUID ACH TANK #3 LEVEL	ACH_LVL03

1
90-E801

4TC-1 I/O LIST
SCALE: NONE

Type	Units	Description	Source/Destination
AI	4-20ma	HYDROFLUOROSILICIC ACID TANK LEVEL	HF_LVL01
AI	4-20ma	CATIONIC POLYMER TANK LEVEL	POLYC_LVL01
AI	4-20ma	SODIUM HYDROXIDE TANK #1 LEVEL	NAOH_LVL01
AI	4-20ma	SODIUM HYDROXIDE TANK #2 LEVEL	NAOH_LVL02
AI	4-20ma	SODIUM HYDROXIDE TANK #3 LEVEL	NAOH_LVL03
AI	4-20ma	SODIUM HYDROXIDE DAY TANK #1 WEIGHT	NAOH_WIT01
AI	4-20ma	SODIUM HYDROXIDE DAY TANK #2 WEIGHT	NAOH_WIT02
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE OPEN	NAOH_LCP01
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE CLOSE	NAOH_LCP01
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE FAULT	NAOH_LCP01
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 OUTLET CONTROL VALVE OPEN	NAOH_LCP02
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 OUTLET CONTROL VALVE CLOSE	NAOH_LCP02
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE FAULT	NAOH_LCP02
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE OPEN	NAOH_LCP03
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE CLOSE	NAOH_LCP03
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE FAULT	NAOH_LCP03
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 OUTLET CONTROL VALVE OPEN	NAOH_LCP04
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 OUTLET CONTROL VALVE CLOSE	NAOH_LCP04
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE FAULT	NAOH_LCP04
DI	120VAC	SODIUM HYDROXIDE DAY TANK #1 HIGH LEVEL SWITCH	NAOH_CP01
DI	120VAC	SODIUM HYDROXIDE DAY TANK #2 HIGH LEVEL SWITCH	NAOH_CP02
DI	120VAC	SODIUM HYDROXIDE TRANSFER PUMP #1 RUNNING	NAOH_CP01
DI	120VAC	SODIUM HYDROXIDE TRANSFER PUMP #1 OVERLOAD	NAOH_CP01
DI	120VAC	SODIUM HYDROXIDE TRANSFER PUMP #2 RUNNING	NAOH_CP02
DI	120VAC	SODIUM HYDROXIDE TRANSFER PUMP #2 OVERLOAD	NAOH_CP02
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE OPEN COMMAND	NAOH_LCP01
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #1 INLET CONTROL VALVE CLOSE COMMAND	NAOH_LCP01
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #1 OUTLET CONTROL VALVE OPEN COMMAND	NAOH_LCP02
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #1 OUTLET CONTROL VALVE CLOSE COMMAND	NAOH_LCP02
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE OPEN COMMAND	NAOH_LCP03
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #2 INLET CONTROL VALVE CLOSE COMMAND	NAOH_LCP03
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #2 OUTLET CONTROL VALVE OPEN COMMAND	NAOH_LCP04
DO	N.O. Relay	SODIUM HYDROXIDE DAY TANK #2 OUTLET CONTROL VALVE CLOSE COMMAND	NAOH_LCP04
DO	N.O. Relay	SODIUM HYDROXIDE TRANSFER PUMP #1 RUN COMMAND	NAOH_CP01
DO	N.O. Relay	SODIUM HYDROXIDE TRANSFER PUMP #2 RUN COMMAND	NAOH_CP02

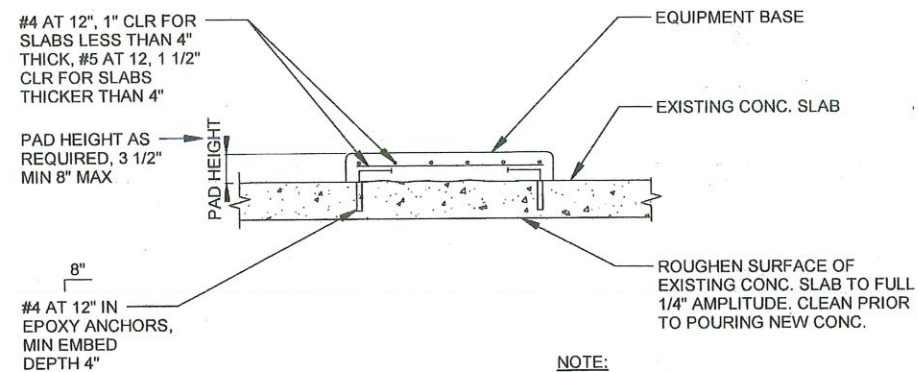
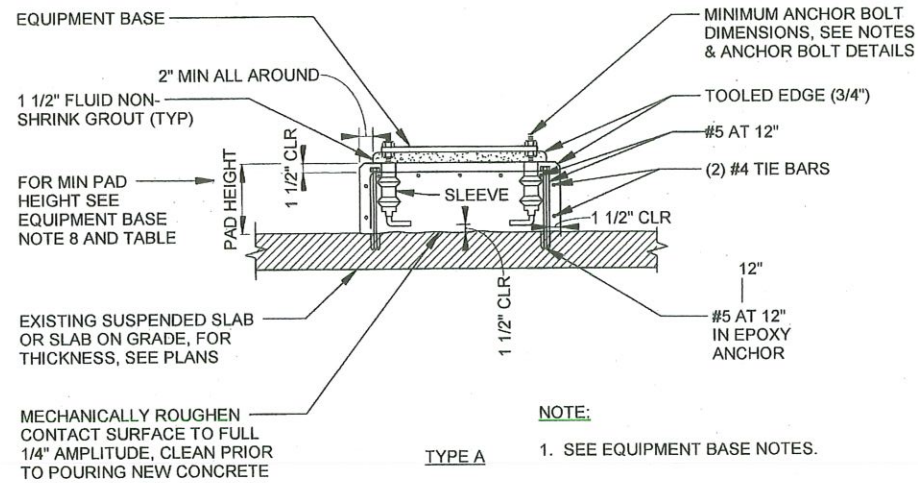
2
90-E801

7TC-1&2 I/O LIST
SCALE: NONE



DRAWING NO.	4TC-1 & 7TC-1&2 I/O LIST							
	90-E801							
	PROJECT NO. TMUA-W 24-03							
	TMUA MOHAWK WTP CHEMICAL TANK REPLACEMENT							
	CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
	PLANS AND ESTIMATES PREPARED BY: GARVER							
	REVISION	BY	DATE	PLAN SCALE:	DRAWN	CTP	FEB 2026	APPROVED:
				AS SHOWN	DESIGNED	CTP	FEB 2026	 DESIGN MANAGER DATE: FEBRUARY 2026
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				ATLAS PAGE NO:				SHEET 41 OF 46 SHEETS

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ANCHOR BOLT DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24

EQUIPMENT BASE NOTES:

- PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS. VERIFY ALL PAD SIZE REQUIREMENTS WITH SHOP DRAWINGS OF ACTUAL EQUIPMENT FURNISHED AND OBTAIN ENGINEER'S APPROVAL OF FINAL DIMENSIONS.
- THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
- ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
- ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
- EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
- WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.
- HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT OUT OF SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOW, USE TYPE B WITH BLOCKOUT.
- TYPE "D" PADS MAY BE SUBSTITUTED FOR TYPE "A" PADS FOR LOCATIONS APPROVED IN WRITING BY THE ENGINEER.
- SEE ANCHOR BOLT AND BLOCKOUT DETAILS.
- ALL HARDWARE TO BE AISI 304L STAINLESS STEEL.

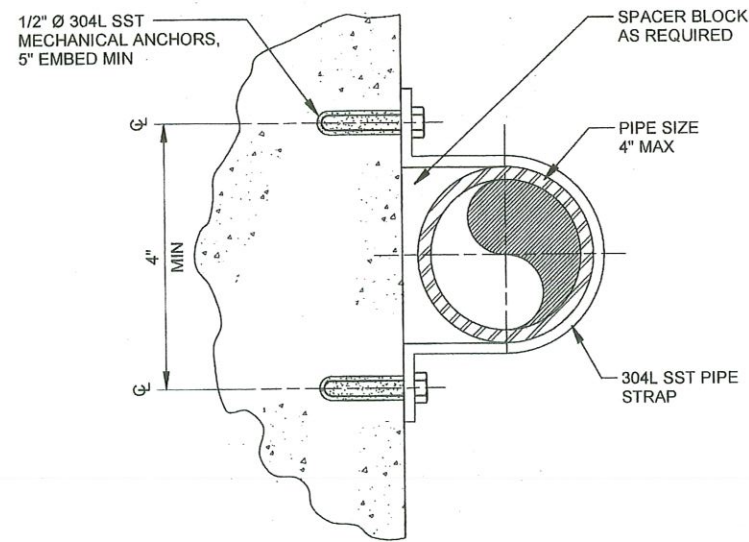
1 EQUIPMENT BASE DETAIL
SCALE: 12" = 1'-0"



DRAWING NO. 99-S502	STRUCTURAL STANDARD DETAILS 2
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	
			PROFILE SCALE:	SURVEY			
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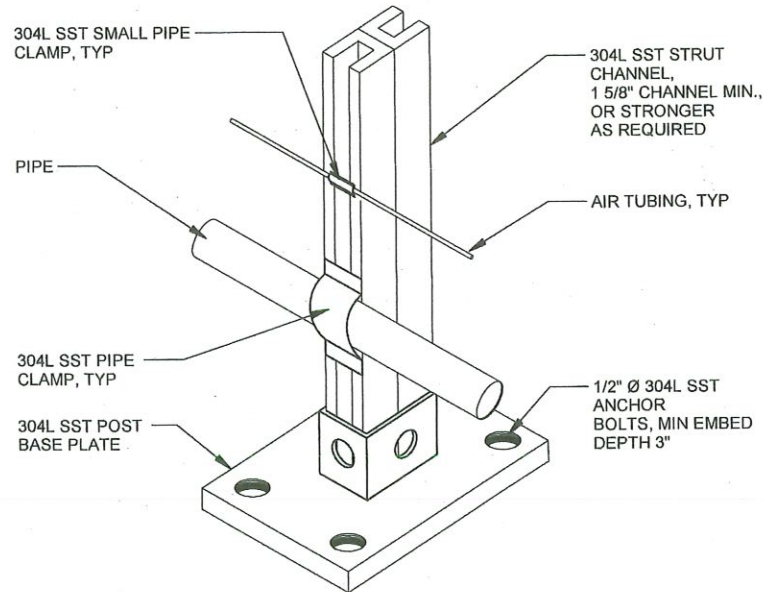
DATE: FEBRUARY 2026
SHEET 43 OF 46 SHEETS



NOTE:

1. MAX SPACING OF SUPPORTS SHALL BE 14'-0"
2. ALL HARDWARE TO BE AISI 304L STAINLESS STEEL.

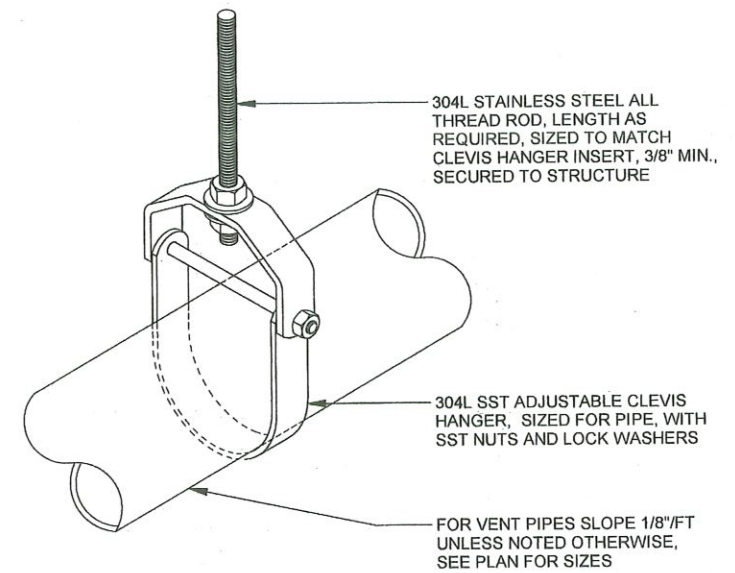
1 WALL MOUNTED PIPE SUPPORT
SCALE: NOT TO SCALE



NOTES:

1. PIPING AS REQUIRED, SEE DRAWINGS.
2. DUAL CHANNEL SHOWN FOR MAXIMUM SUPPORT AND ROUTING MULTIPLE PIPE AND AIR TUBING. SINGLE CHANNEL ACCEPTABLE FOR SINGLE PIPE AND LESS LOADING.
3. SEE **3** FOR MAX SUPPORT SPACING. SPACING BASED ON SMALLER PIPE SUPPORTED.
99-P501
4. ALL HARDWARE TO BE AISI 304L STAINLESS STEEL.

2 FABRICATED POST PIPE SUPPORT
SCALE: NOT TO SCALE



ALL THREAD MINIMUM SUPPORT ROD SIZE							
PIPE SIZE	≤ 6"	8"	10"-12"	14"	16"-18"	20"	24"
ALL-THREAD SIZE	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"

STEEL AND DUCTILE IRON SUPPORT SPACING (MAXIMUM)							
PIPE SIZE	≤ 1"	1 1/2" - 2 1/2"	3" - 4"	6" - 8"	10" - 12"	14" - 18"	20" - 24"
SPACING (FEET)	6	8	10	12	14	16	18

STAINLESS STEEL SUPPORT SPACING				
PIPE SIZE	1"-6"	8"-12"	14"-16"	18"-24"
SPACING (FEET)	8	10	12	14

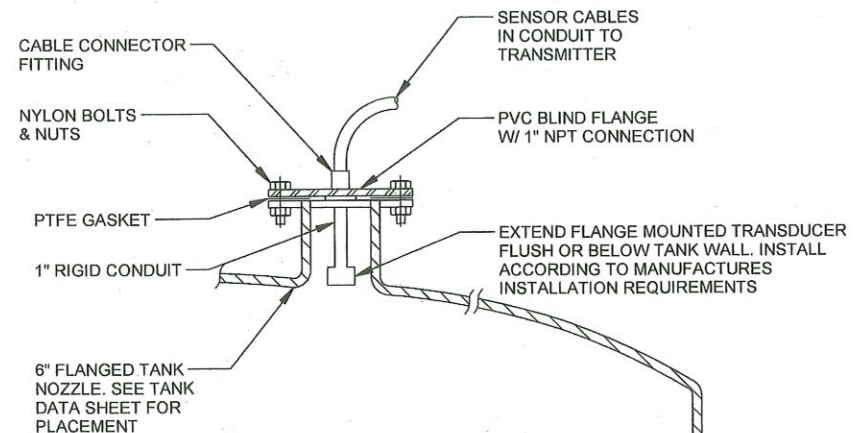
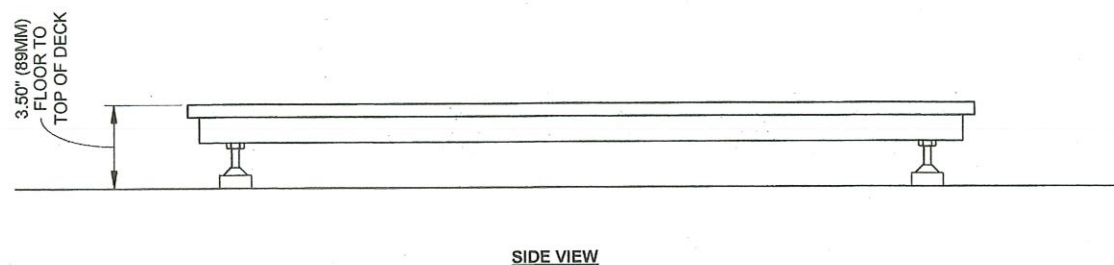
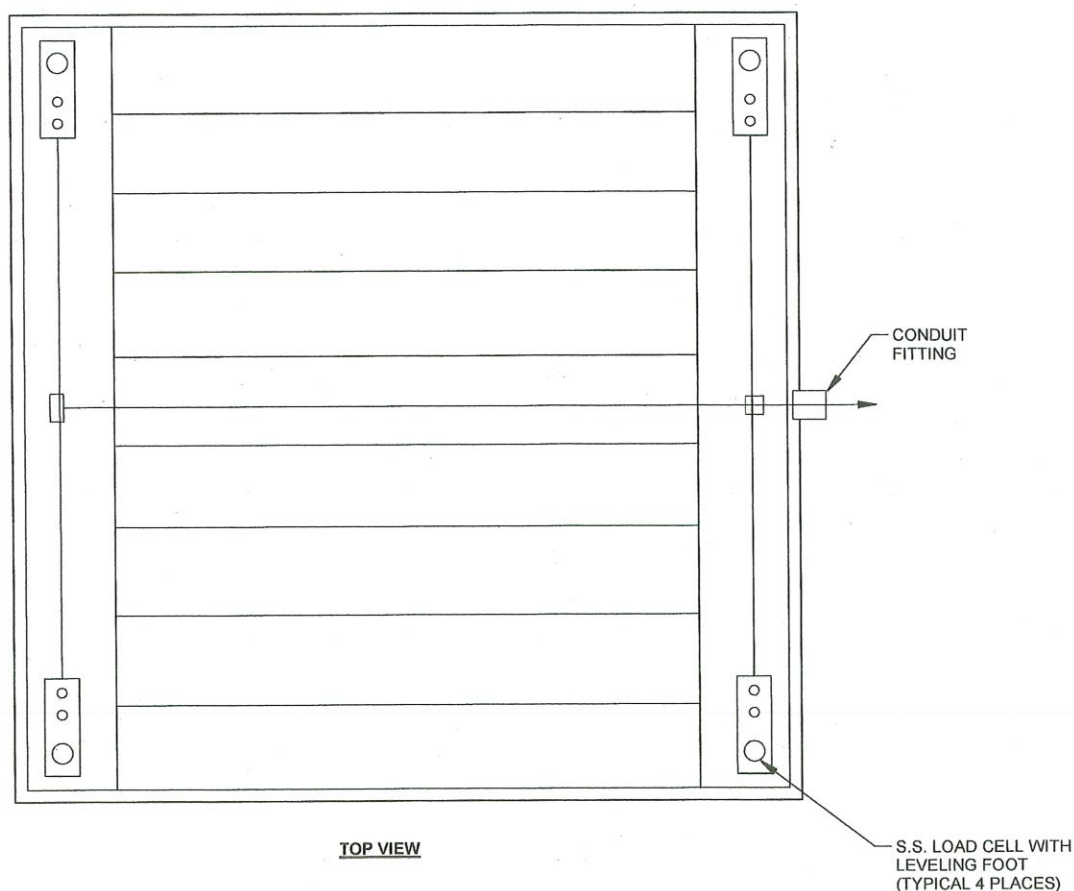
NOTES:

1. FOR COPPER PIPING, MAXIMUM SUPPORT SPACING 2 FEET LESS PER SIZE. SIZE SHOWN IN ABOVE TABLE, WITH 1" AND SMALLER PIPE SUPPORTED EVERY 5'-0".
2. FOR PVC PIPE, REDUCED SUPPORT SPACING PER MANUFACTURER RECOMMENDATION FOR FLOW TEMPERATURE IN PIPE.
3. FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.
4. UTILIZE PURLIN BEAM CLAMPS FOR ATTACHMENT TO STRUCTURE.
5. ALL HARDWARE TO BE AISI 304L STAINLESS STEEL.

3 PIPE HANGER
SCALE: NOT TO SCALE



DRAWING NO. 99-P501	PROCESS STANDARD DETAILS 1						
PROJECT NO. TMUA-W 24-03							
MOHAWK WTP CHEMICAL TANK REPLACEMENT							
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: GARVER							
REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	 DESIGN MANAGER
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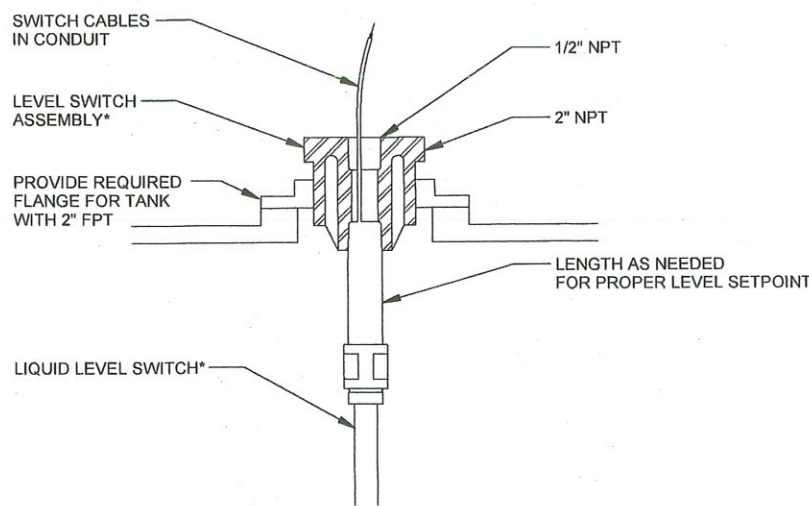


NOTES:

1. COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

ULTRASONIC AND RADAR LEVEL ELEMENT TANK INSTALLATION

SCALE: NOT TO SCALE



NOTES:

1. THE MALE 2" NPT THREAD OF THE SWITCH IS TO BE TEFLON TAPED. INSPECT TAPED THREADS FOR UNIFORM TAPE COVERING.
2. INSERT LEVER SWITCH THROUGH OPENING IN TOP OF TANK. BOLT FLANGE TO TANK CONNECTION. PROVIDE SEAL BETWEEN TANK AND FLANGE.
3. COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

LEVEL SWITCH INSTALLATION - TANK

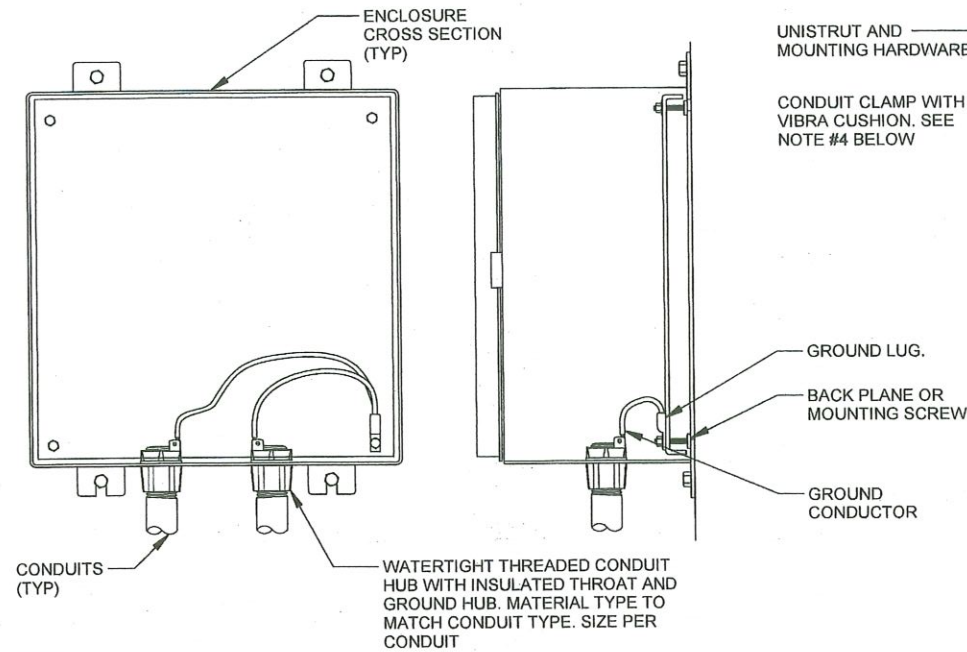
SCALE: NOT TO SCALE



DRAWING NO. 99-P502	PROCESS STANDARD DETAILS 2
PROJECT NO. TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: GARVER	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	
			PROFILE SCALE:	SURVEY			
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				LEAD. ENGR.			
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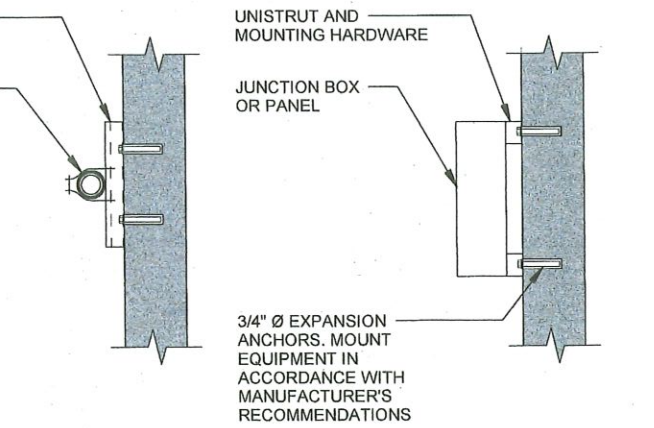
DATE: FEBRUARY 2026
SHEET 45 OF 46 SHEETS



NOTES:

1. ALL SERVICE, FEEDER AND CONTROL CONDUITS SHALL BE GROUNDED ON BOTH ENDS.

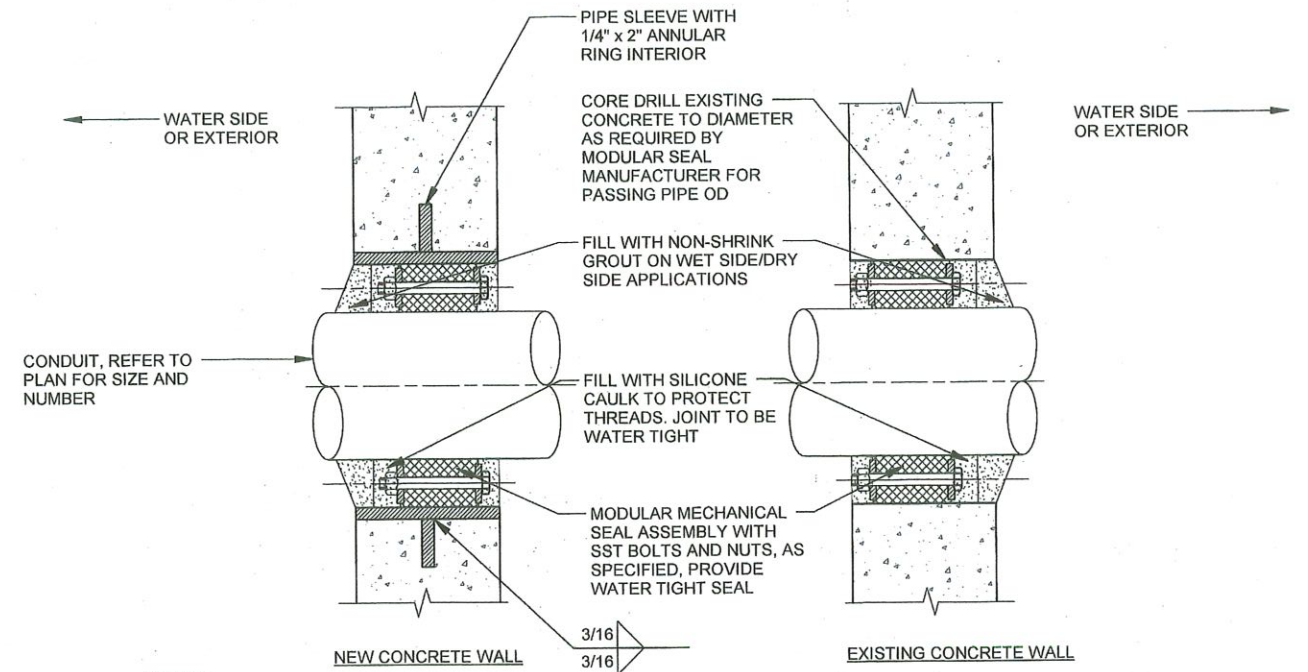
1 CONDUIT GROUNDING DETAIL
SCALE: NOT TO SCALE



NOTES:

1. UNISTRUT AND MOUNTING HARDWARE MATERIAL AS CALLED OUT IN ELECTRICAL PLAN SHEETS AND SPECIFICATIONS.
2. SINGLE CONDUIT SHOWN. SIMILAR FOR MULTIPLE CONDUITS.
3. SIMILAR FOR ALL ELECTRICAL ENCLOSURES AND PANELS.
4. VIBRA CUSHION ONLY REQUIRED WHERE NEEDED TO PREVENT METAL TO METAL CONTACT OF DISSIMILAR METAL TYPES OR WHERE EXCESSIVE VIBRATION MAY OCCUR.
5. ALL HARDWARE TO BE AISI 304L STAINLESS STEEL.

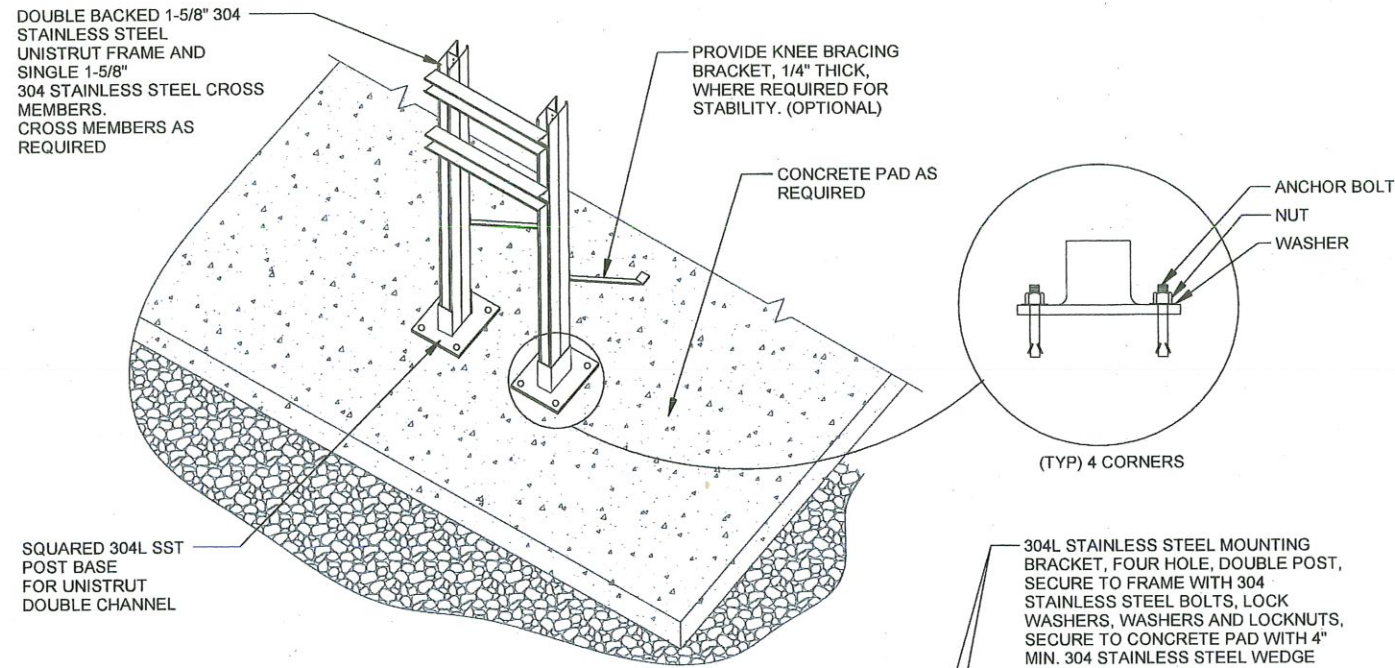
2 CONDUIT AND JUNCTION BOX SUPPORT DETAIL
SCALE: NOT TO SCALE



NOTES:

1. WHERE EXISTING CONCRETE STRUCTURE IS TO BE CORE DRILLED, THE CONTRACTOR SHALL ULTRASONIC TEST OR X-RAY THE AREA FOR EMBEDDED ITEMS BEFORE CORE DRILLING CAN PROCEED. IF EMBEDDED ITEMS ARE FOUND, NOTIFY THE ENGINEER IMMEDIATELY.
2. FOR NEW CONSTRUCTION, SLEEVES SHALL BE CAST INTO WALL. BLOCKOUTS AND SUBSEQUENT GROUTED IN SLEEVES WILL NOT BE PERMITTED UNLESS A KEYED WATERSTOP JOINT IS PROVIDED.
3. 6" DIAMETER SLEEVES AND SMALLER SHALL BE SCHEDULE 40 STEEL PIPE.
4. SLEEVES LARGER THAN 6" DIAMETER SHALL BE 1/4" THICK STEEL PIPE.
5. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF THE WALL SLEEVE.
6. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

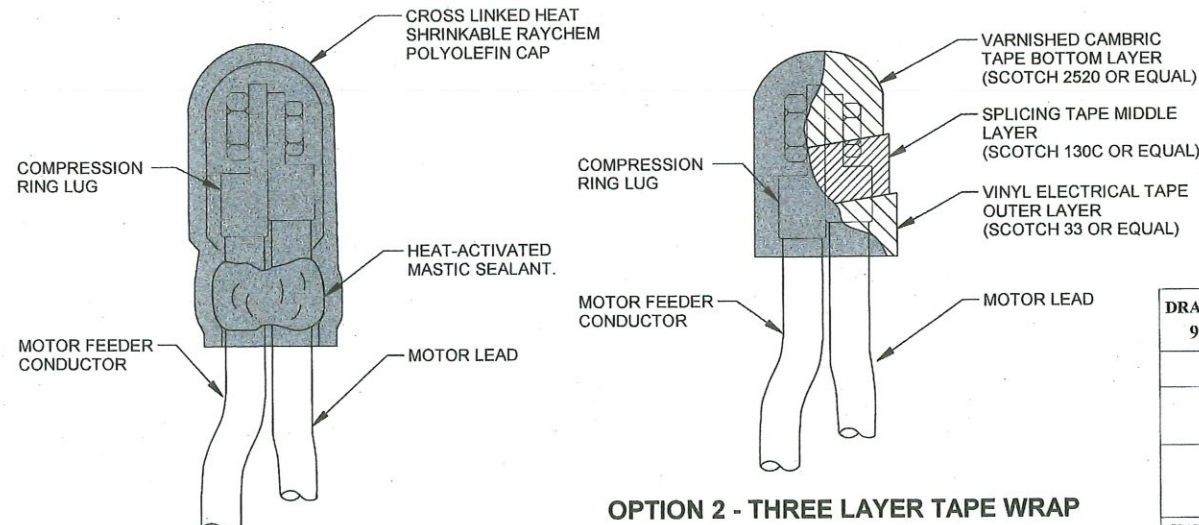
3 CONDUIT WALL PENETRATION SEAL DETAIL
SCALE: NOT TO SCALE



NOTES:

1. ALL BOLTS, NUTS, WASHERS, ANCHORS, PLATES, AND OTHER MOUNTING STEMS SHALL BE CORROSION RESISTANT, 304L STAINLESS STEEL. CUT OFF EXCESS BOLT LENGTH.
2. UTILIZE 5/16" 304L STAINLESS STEEL WEDGE ANCHORS AS REQUIRED. GROUT UNDERNEATH POST BASES TO FILL GAPS AS REQUIRED.
3. OMIT PAD WHERE NOT SHOWN.
4. UNISTRUT STAND DETAIL INTENDED FOR SMALL AND LIGHTWEIGHT EQUIPMENT MOUNTING APPLICATIONS. SUBMIT LOAD ANALYSIS CALCULATIONS FOR ENGINEERING APPROVAL IF UTILIZED FOR LOAD APPLICATIONS GREATER THAN 200 LBS.

4 TYPICAL UNISTRUT STAND DETAIL
SCALE: NOT TO SCALE



OPTION 1 - HEAT SHRINK RUBBER CAP

OPTION 2 - THREE LAYER TAPE WRAP

5 TYPICAL MOTOR LEAD DETAIL
SCALE: NOT TO SCALE



DRAWING NO.	99-E501	ELECTRICAL STANDARD DETAILS 1
PROJECT NO.	TMUA-W 24-03	
MOHAWK WTP CHEMICAL TANK REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY:		
GARVER		

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JAS	FEB. 2026	APPROVED:
			AS SHOWN	DESIGNED	SJS	FEB. 2026	 DESIGN MANAGER DATE: FEBRUARY 2026 SHEET 46 OF 46 SHEETS
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			HORIZONTAL: AS SHOWN	PROJ. MGR.			
			VERTICAL: AS SHOWN	LEAD ENGR.			
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			ATLAS PAGE NO:				

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