

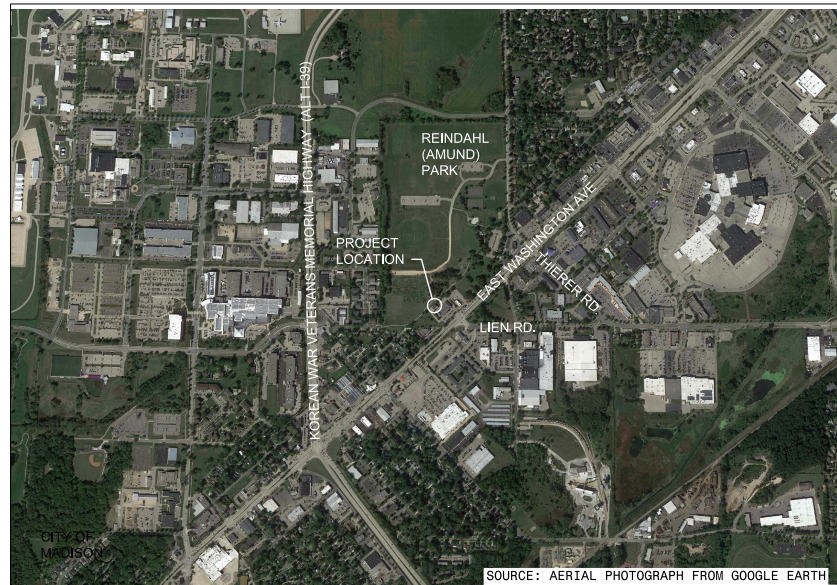
UNIT WELL 15 PFAS TREATMENT FACILITY MADISON WATER UTILITY CITY OF MADISON

CONTRACT NO. 9342 MUNIS NO. 14092-86-140

MADISON, WISCONSIN 53713
DECEMBER 2023

AECOM

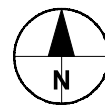
Project No.: 60686092



SOURCE: AERIAL PHOTOGRAPH FROM GOOGLE EARTH



PROJECT LOCATION

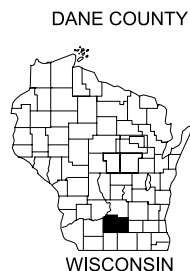


LOCATION MAP

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PROJECT LOCATION
UW 15 PFAS TREATMENT
3900 E. WASHINGTON AVE.
MADISON, WISCONSIN 53704

MADISON WATER UTILITY
119 E. OLIN AVENUE
MADISON, WISCONSIN 53713






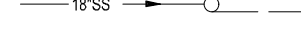
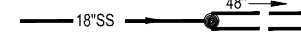









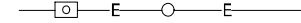














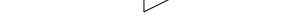





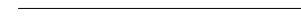







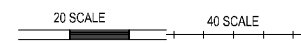
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200 INDIANA AVENUE
STEVENS POINT, WI 54481
WWW.AECOM.COM

**UNIT WELL 15
PFAS TREATMENT FACILITY
BID SET**

STANDARD LEGEND

 2"FM  2"FM  30"SAN  30"SAN  18"SS  18"SS  8"WM  8"WM  FO  G  T  E  ..   ---  ---  ---  ---  ---  ---  ---  ---  ---   ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  --- 	<p>EXISTING FORCE MAIN</p> <p>NEW FORCE MAIN</p> <p>EXISTING SANITARY SEWER AND MANHOLE 48" & LARGER DOUBLE LINE</p> <p>NEW SANITARY SEWER & MANHOLE 48" & LARGER DOUBLE LINE</p> <p>EXISTING STORM SEWER AND MANHOLE 48" & LARGER DOUBLE LINE</p> <p>NEW STORM SEWER AND MANHOLE 48" & LARGER DOUBLE LINE</p> <p>EXISTING WATER MAIN, HYDRANT, VALVE AND HYDRANT WITH VALVE</p> <p>NEW WATER MAIN, HYDRANT, VALVE AND HYDRANT WITH VALVE</p> <p>NEW FIBER OPTIC CABLE</p> <p>EXISTING GAS MAIN AND VALVE</p> <p>EXISTING UNDERGROUND TELEPHONE CABLE, DUCT AND VAULT</p> <p>EXISTING UNDERGROUND ELECTRIC CABLE, DUCT, MANHOLE AND VAULT</p> <p>UTILITIES TO BE ABANDONED</p> <p>ABANDONED UTILITIES</p> <p>STREET CENTERLINE</p> <p>STREET CENTERLINE & SURVEY CENTERLINE COMBINED</p> <p>FUTURE STREET OR RIGHT-OF-WAY LINE</p> <p>STREET OR RIGHT-OF-WAY LINE</p> <p>PROPERTY LINE</p> <p>SECTION LINE</p> <p>QUARTER SECTION LINE</p> <p>CONSTRUCTION LICENSE LIMITS</p> <p>EASEMENT</p> <p>CITY OR VILLAGE LIMITS</p> <p>MATCH LINE & BREAK LINE</p> <p>DITCH OR SWALE</p> <p>EDGE OF WATER</p> <p>EDGE OF DIRT</p> <p>EDGE OF EXISTING GRAVEL</p> <p>EDGE OF EXISTING CONCRETE</p> <p>EDGE OF EXISTING BITUMINOUS CONCRETE PAVEMENT</p> <p>EDGE OF NEW GRAVEL</p> <p>EDGE OF NEW CONCRETE</p> <p>EDGE OF NEW BITUMINOUS CONCRETE PAVEMENT</p> <p>EXISTING CURB</p> <p>NEW STANDARD CURB AND GUTTER</p> <p>NEW INTEGRAL CURB</p> <p>FUTURE CURB</p> <p>FENCE</p> <p>RAILROAD TRACKS</p> <p>CULVERTS WITH APRON ENDWALLS</p> <p>EXISTING ϕ GRADE IN PROFILE</p> <p>ESTABLISHED ϕ GRADE IN PROFILE</p>	<ul style="list-style-type: none"> • 1" IRON STAKE ⊙ 2" IRON STAKE ▲ RIGHT-OF-WAY POST ⊠ CONCRETE MONUMENT ■ POWER POLE ● HIGH VOLTAGE POWER POLE ⚡ POWER & TELEPHONE POLE ☎ TELEPHONE POLE ⚡ LAMP POLE — → GUY WIRE & GUY POLE □ MAIL BOX ☎ TELEPHONE BOOTH ⊠ ROAD SIGN ⊠ TELEPHONE PEDESTAL ✕ R/R CROSSING SIGNAL ⚡ TRAFFIC SIGNAL • SEPTIC TANK VENT △ SURVEY TRAVERSE POINT ⊗ VALVE IN VALVE BOX ⊗ VALVE IN VALVE MANHOLE) APRON ENDWALL ☁ BUSH ☁ TREE (DECIDUOUS) ☁ TREE (CONIFEROUS) • TREE STUMP ☁ WOODED AREA ☁ HEDGE ✕ TREE REMOVAL ☁ WOODED AREA REMOVAL ☁ MARSH ▤ BLOCK WALL ▤ STONE WALL ⊠ TELEPHONE CABLE MARKER ⊠ GAS LINE MARKER □ EXISTING INLET BASIN □ NEW INLET BASIN ○ WELL CASING CAP ▤ DEMOLISHED OR TO BE REMOVED ▤ EXISTING STRUCTURES ▤ ABANDONED STRUCTURES 600 EXISTING GROUND CONTOUR — 600 — NEW GROUND CONTOUR --- GRADING & SEEDING LIMITS —X—X—X— NEW FENCE ---DRT--- DRAIN TILE —X—X—X—X— EXISTING UTILITIES TO BE REMOVED ⊙ P.K. NAIL 10000.00 E 8000.00 N COORDINATES
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BENCHMARKS

NUMBER	DESCRIPTION	ELEVATION
1	TOP NUT OF HYDRANT SE	880.10

NOTE:
 1. THIS IS A STANDARD LEGEND. NOT ALL
 THE INFORMATION SHOWN ON THIS
 LEGEND IS USED ON THIS PROJECT.

ISSUE/REVISION		
1	12/22/23	ISSUE FOR BID
I/R	DATE	DESCRIPTION

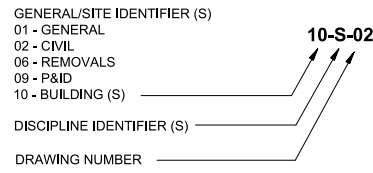
KEY PLAN

GENERAL LEGEND

DISCIPLINE IDENTIFIER

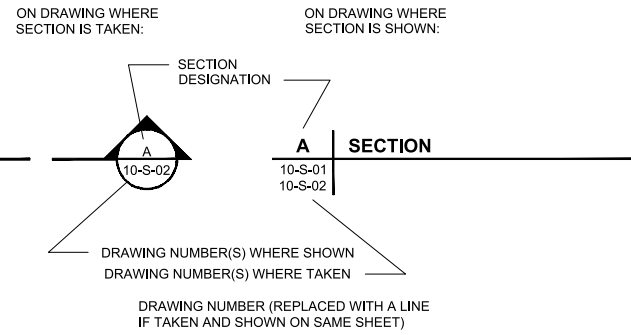
DISCIPLINE	DISCIPLINE IDENTIFIER	DISCIPLINE STANDARD DETAIL NUMBERS
GENERAL	G	NONE
CIVIL	C	02-000 TO 02-999
ARCHITECTURAL	A	07-000 TO 07-999
STRUCTURAL	S	08-000 TO 08-999
PROCESS-MECHANICAL	D	06-000 TO 06-499
INSTRUMENTATION & CONTROL	N	06-500 TO 06-999
PLUMBING	P	09-400 TO 09-499
HVAC	H	09-000 TO 09-399 & 09-500 TO 09-999
ELECTRICAL	E	10-000 TO 10-999
REMOVALS	R	NONE

DRAWING NUMBER DESIGNATION

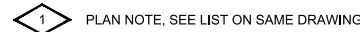


SECTION DESIGNATION

SECTION DESIGNATIONS USE LETTERS

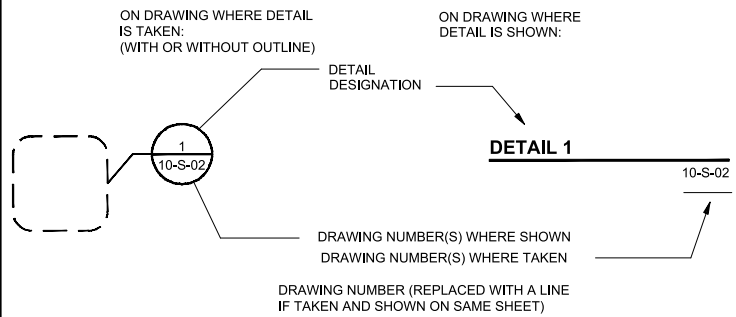


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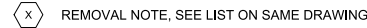


DETAIL DESIGNATION

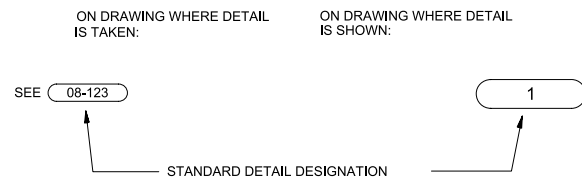
DETAIL DESIGNATIONS USE NUMBERS



REMOVAL NOTE DESIGNATION



STANDARD DETAIL DESIGNATION



NOTE:
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ARCHITECTURAL AND STRUCTURAL LEGEND

ABBREVIATIONS

ADDL	ADDITIONAL
AL	ALUMINUM
ALT	ALTERNATE
B/	BOTTOM OF
BLDG	BUILDING
BLK	BLOCK
BOT	BOTTOM
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONTR JT	CONTRACTION JOINT
CJT	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
CONC	CONCRETE
DBL	DOUBLE
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
EXT	EXTERIOR
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION
EL	ELEVATION
EXP JT	EXPANSION JOINT
EW	EACH WAY
EF	EACH FACE
FE	FIRE EXTINGUISHER
FTG	FOOTING
FD	FLOOR DRAIN
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
HORZ	HORIZONTAL
HP	HIGH POINT
HVAC	HEATING VENTILATING AND AIR CONDITIONING
INSUL	INSULATION
INT	INTERIOR
LP	LOW POINT
LLV	LONG LEG VERTICAL
LLH	LONG LEG HORIZONTAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MO	MASONRY OPENING
NO. OR #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
P	PLATE
PJF	PREFORMED JOINT FILLER
REINF	REINFORCING
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQD	REQUIRED
R	RISER
RD	ROOF DRAIN
SIM	SIMILAR
SPA	SPACE OR SPACING
SS	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STL	STEEL
SQ	SQUARE TREAD
T	TREAD
T/	TOP OF
T/S	TOP OF STEEL
T&B	TOP AND BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WD	WOOD
WS	WATERSTOP
W/	WITH W/
WWF	WELDED WIRE FABRIC

SYMBOLS

	FIBERGLASS INSULATION
	INSULATION NON-RIGID
	INSULATION RIGID
	INSULATING LIGHTWEIGHT CONCRETE
	SAND OR FILL
	FREE DRAINING FILL
	ROUGH CARPENTRY (NOMINAL SIZE INDICATED)
	FINISHED WOOD
	ACOUSTICAL CONCRETE BLOCK
	CONCRETE BLOCK
	FACE BRICK
	PRECAST CONCRETE PLANK
	CAST-IN-PLACE CONCRETE
	EARTH OR BACKFILL
	CUT STONE (LARGE SCALE DETAILS)
	ROCK
	DENOTES CONCRETE BEAM NUMBER
	DENOTES CONCRETE BEAM, SEE BEAM SCHEDULE
	DENOTES COLUMN NUMBER
	DENOTES CONCRETE COLUMN, SEE COLUMN SCHEDULE
	DENOTES LINTEL OVER DOOR, WINDOW, LOUVER OR MISC. OPENING
	DENOTES LINTEL NUMBER, SEE LINTEL SCHEDULE
	CONSTRUCTION CASTING
	NUMBER, SEE CONSTRUCTION CASTING SCHEDULE
	DOOR NUMBER, SEE DOOR SCHEDULE
	FIRE EXTINGUISHER
	RAILING
	STEEL OR AL SECTION
	BAR GRATING
	PLANK GRATING

NOTE:
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ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

GENERAL PIPING SYMBOLS	HEATING & VENTILATING SYMBOLS	VALVE SYMBOLS	PIPE SYMBOLS	PIPE SPECIALTIES	
PIPE CAP STRAIGHT CROSS 90° ELBOW 90° ELBOW TURNED DOWN 90° ELBOW TURNED UP SIDE OUTLET ELBOW TURNED DOWN SIDE OUTLET ELBOW TURNED UP LATERAL TEE TEE OUTLET UP TEE OUTLET DOWN UNION STRAINER THERMOMETER PRESSURE, VACUUM OR COMPOUND GAUGE AIR ELIMINATOR (AIR VENT) SHOCK ABSORBER FLOW INDICATOR REDUCER	10-UH-1 HORIZONTAL UNIT HEATER 10-CH-1 CABINET TYPE UNIT HEATER EMERGENCY STOP HUMIDISTAT THERMOSTAT GAS DETECTOR SENSOR CARBON MONOXIDE (CO) & NITROGEN DIOXIDE (NO ₂) WIRED WALL CONTROLLER FOR CEILING FAN 12x16 DUCT SIZE (INCHES), FIRST FIGURE SIZE OF SIDE SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN. POSITIVE PRESSURE AIR DUCT RISE POSITIVE PRESSURE AIR DUCT DROP NEGATIVE PRESSURE AIR DUCT RISE NEGATIVE PRESSURE AIR DUCT DROP DUCTWORK FLEXIBLE CONNECTION TURNING VANES VD OR VOLUME CONTROL DAMPER C OR MOTOR CONTROLLED OPERATED DAMPER F1 FIRE DAMPER (HORIZONTAL POSITION) 1 1/2 HOUR (F1), 3 HOUR (F3) F1 FIRE DAMPER (VERTICAL POSITION) 1 1/2 HOUR (F1), 3 HOUR (F3) SUPPLY REGISTER OR GRILLE DUCT MOUNTED SUPPLY REGISTER OR GRILLE IN WALL AIR FLOW	10-XX-X EQUIPMENT DESIGNATOR FLEXIBLE CONNECTION FAN OR EQUIPMENT DUCT DROPS IN THE DIRECTION OF AIR FLOW DUCT RISES IN THE DIRECTION OF AIR FLOW DUCT DROPS IN THE DIRECTION OF AIR FLOW DUCT RISES IN THE DIRECTION OF AIR FLOW <p style="text-align: center;">ABBREVIATIONS</p> <p>AFF = ABOVE FINISH FLOOR BOD = BOTTOM OF DUCT BOF = BOTTOM OF FAN BOL = BOTTOM OF LOUVER CFM = CUBIC FEET PER MINUTE D = DAMPER, CONTROL DAMPER EA = EXHAUST AIR ECM = ELECTRONICALLY COMMUTATED MOTOR EF = EXHAUST FAN EL = ELEVATION EUH = ELECTRIC UNIT HEATER L = LOUVER M = MOTORIZED DAMPER ACTUATOR OA = OUTSIDE AIR RA = RETURN AIR RG = RETURN GRILLE RTU = ROOF TOP UNIT SA = SUPPLY AIR SG = SUPPLY GRILLE TYP = TYPICAL VFD = VARIABLE FREQUENCY DRIVE</p> <p>NOTES:</p> <p>1. THIS LIST OF ABBREVIATIONS SHOWN IS A STANDARD LIST. NOT ALL ABBREVIATIONS AND SYMBOLS ARE USED IN THESE CONTRACT DRAWINGS. 2. ALL PLUMBING VENTS THROUGH ROOF SHALL HAVE STANDARD FLASHING.</p>	WATER MAIN VALVE WALL HYDRANT (NON-FREEZE) HOSE BIBB GAS COCK GAUGE COCK PRESSURE REGULATING VALVE BALL VALVE GATE VALVE CHECK VALVE BUTTERFLY VALVE PLUG VALVE CALIBRATED BALANCE VALVE MODULATING 3-WAY VALVE SOLENOID VALVE MODULATING 2-WAY VALVE GLOBE VALVE STRAINER PRESSURE REDUCING STATION (ASSEMBLY) RELIEF VALVE (PRESSURE OR VACUUM) THERMAL SHUTOFF 3 WAY MIXING VALVE	ABOVE GRADE COLD WATER ABOVE GRADE HOT WATER ABOVE GRADE HOT WATER RETURN WE EFFLUENT WATER W WATER POTABLE WNP WATER NON-POTABLE ST ABOVE GRADE STORM WATER ST BELOW GRADE STORM WATER S ABOVE GRADE DRAIN PIPE S BELOW GRADE SANITARY SEWER ABOVE GRADE VENT BELOW GRADE VENT SPD SUMP PUMP DISCHARGE VAC VACUUM NG NATURAL GAS A COMPRESSED AIR CD CONDENSATE DRAIN E EXPANSION TANK LINE	ELBOW TEE ELBOW UP ELBOW DOWN CONNECTION TOP CONNECTION BOTTOM UNION PITCH ARROW-DOWN FLOW DIRECTION ECCENTRIC REDUCER CONCENTRIC REDUCER PIPE CAP BLIND FLANGE PLUG GUIDE ANCHOR FLOW MEASURING DEVICE AUTOMATIC DRIP TRAP EXPANSION COMPENSATOR FLEXIBLE CONNECTOR HOT WATER CIRCULATION PUMP FLOW SWITCH PRESSURE SWITCH AIR VENT THERMOMETER PRESSURE GAUGE FD FLOOR DRAIN RD ROOF DRAIN CO FLOOR CLEANOUT SANITARY VENT
<p style="text-align: center;">VALVE SYMBOLS</p> GATE VALVE GLOBE VALVE BUTTERFLY VALVE CHECK VALVE PLUG VALVE BALL VALVE CALIBRATED BALANCE VALVE PRESSURE REDUCING OR REGULATING VALVE (NUMBERS = INITIAL AND FINAL PRESSURE IN PSIG) HOSE BIBB (HB) OR WALL HYDRANT (WH) REDUCER					

ISSUE/REVISION		
1	12/22/23	ISSUE FOR BID
I/R	DATE	DESCRIPTION

KEY PLAN

ABBREVIATIONS

AVE	AVERAGE
B/	BOTTOM OF
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BW	BACKWASH WASTE
Ⓢ	CENTERLINE
CO	CLEAN OUT
CONT	CONTINUATION
CPVC	CHLORINATED POLYVINYL CHLORIDE
DEG or °	DEGREE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
ECC	ECCENTRIC
ELEV	ELEVATION
ELL	ELBOW
EST	ESTIMATE
EXIST	EXISTING
EXP	EXPANSION
FCA	FLANGED COUPLING ADAPTER
FLG	FLANGE
FL	FLOOR
FTW	FILTER TO WASTE
GAL	GALLON
GALV	GALVANIZED
HB	HOSE BIBB
HP	HIGH POINT
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
INV	INVERT
LP	LOW POINT
LR	LONG RADIUS
LWL	LOW WATER LEVEL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MJ	MECHANICAL JOINT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PCP	PRESTRESSED CONCRETE PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
SR	SHORT RADIUS
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
T/	TOP OF
TYP	TYPICAL
W/	WITH
W/O	WITHOUT
WL	WATER LEVEL
YR	YEAR

**FLOW STREAM IDENTIFIERS
WATER PROJECTS**

THE FOLLOWING IS A STANDARD LISTING OF FLOW STREAM IDENTIFIERS. NOT ALL FLOW STREAM IDENTIFIERS ARE USED ON THIS PROJECT:

BYP	BYPASS
CL	LIQUID CHLORINE
D	DRAIN
FL	FLUORIDE
PD	PROCESS DRAIN
PW	PLANT WATER
RW	RAW WATER
S	SAMPLE
SAN	SANITARY
TW	TREATED WATER
V	VENT
VAC	VACUUM
W1	WATER, POTABLE
W2	WATER, POTABLE AFTER BACKFLOW PREVENTOR
W3	WATER, NON POTABLE SERVICE WATER

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	TYPE
		GATE
		KNIFE GATE
		ECCENTRIC PLUG
		LUBRICATED PLUG
		BUTTERFLY
	(NONE)	3-DIMENSIONAL BUTTERFLY
		BALL
		VEE-BALL
	(NONE)	GLOBE
		DIAPHRAGM
		PINCH
		NEEDLE
		SOLENOID
		SWING CHECK
		BALL CHECK
		SPLIT DISC CHECK
		PRESSURE CONTROL
		AIR RELEASE AND VACUUM RELIEF
		MUD (SHOWN IN TANKS & OPEN CHANNELS)

PIPE SYMBOLS

DOUBLE LINE	SINGLE LINE	ITEM
	(NONE)	CONCRETE PIPE
		PUSH ON JOINT
		MECHANICAL JOINT
		WELDED JOINT
		FLANGED JOINT
		GROOVED JOINT
		GROOVED JOINT W/ADAPTER FLANGE
		SOCKET WELD JOINT
		SCREWED JOINT
		UNION
		COUPLING W/THRUST RESTRAINT
		FLANGED COUPLING ADAPTER W/THRUST RESTRAINT
		RUBBER EXPANSION JOINT, ELASTOMERIC TYPE W/THRUST RESTRAINT
		FLEXIBLE HOSE - METAL BRAIDED
		FLEXIBLE HOSE - RUBBER

INSTRUMENT IDENTIFICATION

SAME AS SHOWN ON P & ID LEGEND. EXCEPTION: COMPONENT DESIGNATORS NOT USED ON PROCESS DRAWINGS.

EQUIPMENT AND SELF ACTUATED VALVE IDENTIFICATION

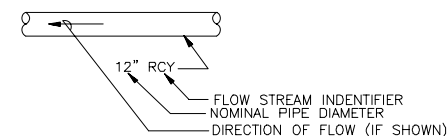
SAME AS SHOWN ON P & ID LEGEND. EXCEPTION: COMPONENT DESIGNATORS NOT USED ON PROCESS DRAWINGS.

POWER OPERATED VALVE IDENTIFICATION

SAME AS SHOWN ON P & ID LEGEND. EXCEPTION: COMPONENT DESIGNATORS NOT USED ON PROCESS DRAWINGS.

PIPE IDENTIFICATION

EXAMPLE:



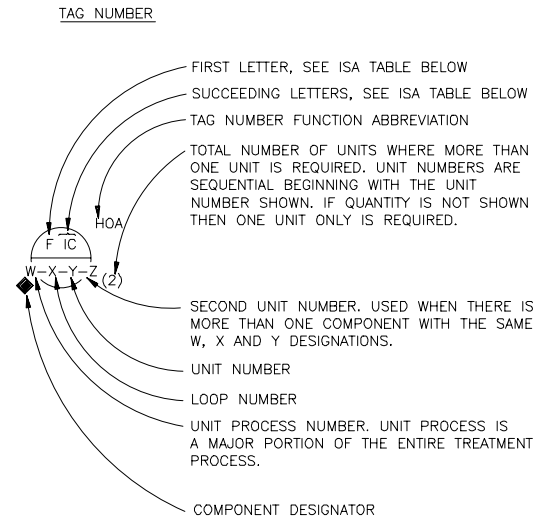
NOTES

- ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR FITTINGS. FITTINGS WITH OTHER END CONNECTIONS ARE SHOWN SIMILARLY ON THE PROCESS DRAWINGS.
- SINGLE LINE PIPING MAY NOT SHOW JOINT TYPE ON THE PROCESS DRAWINGS. IN SUCH CASES, JOINT TYPE SHALL BE AS SPECIFIED FOR THE PIPING MATERIAL.
- THIS IS A STANDARD LEGEND. NOT ALL THE INFORMATION SHOWN ON THIS LEGEND IS USED ON THIS PROJECT.

ISSUE/REVISION		
1	12/22/23	ISSUE FOR BID
I/R	DATE	DESCRIPTION

KEY PLAN

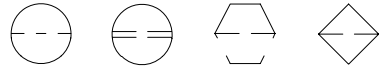
INSTRUMENT IDENTIFICATION



EXAMPLE SYMBOLS

	CONTROL PANEL MOUNTED ACCESSIBLE TO OPERATOR	FIELD MOUNTED	MCC/MOTOR STARTER MOUNTED NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS			
MICROPROCESSOR BASED SHARED INSTRUMENT			
COMPUTER FUNCTION		NONE	NONE

INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, I.E.



INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER (S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (t)		ALARM		
B	BURNER COMBUSTION		USERS CHOICE (t)	USERS CHOICE (t)	USERS CHOICE (t)
C	USERS CHOICE (t)			CONTROL	
D	USERS CHOICE (t)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE				
G	USERS CHOICE (t)		GLASS		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	USERS CHOICE (t)	MOMENTARY			MIDDLE
N	USERS CHOICE (t)		USERS CHOICE (t)	USERS CHOICE (t)	USERS CHOICE (t)
O	USERS CHOICE (t)		ORIFICE		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (t)		MULTIFUNCTION (t)	MULTIFUNCTION (t)	MULTIFUNCTION (t)
V	VIBRATION			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (t)	X AXIS	UNCLASSIFIED (t)	UNCLASSIFIED (t)	UNCLASSIFIED (t)
Y	EVENT, STATE, OR PRESSURE	Y AXIS	RELAY OR COMPUTE (t)		
Z	POSITION, DIMENSION	Z AXIS	DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT		

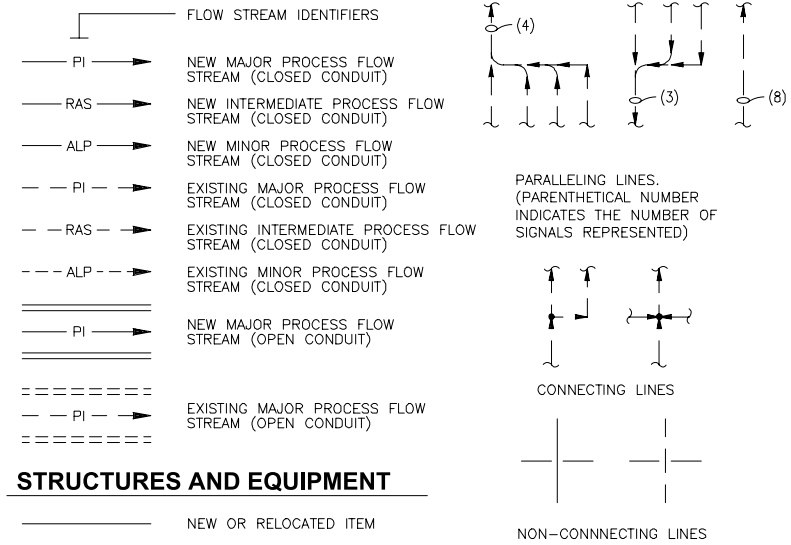
(t) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.

SPECIAL CASES:
 ETM - ELAPSED TIME METER
 FFHK - FLOW FLOW RATE HAND CONTROL

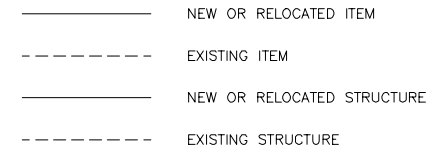
TAG NUMBER FUNCTION ABBREVIATIONS

ALT	ALTERNATE
C	CLOSE(D)
CM	COMPUTER-MANUAL
DIFF	DIFFERENCE OR DIFFERENTIAL
DO	DISSOLVED OXYGEN
F	FAIL
F(X)	CHARACTERIZED
FOR	FORWARD-STOP-REVERSE (MAINTAINED CONTACT)
FSR	FORWARD-STOP-REVERSE (MOMENTARY CONTACT)
HOA	HAND-OFF-AUTOMATIC (MAINTAINED CONTACT)
II	CURRENT-TO-CURRENT
IP	CURRENT-TO-PNEUMATIC
LL	LEAD-LAG (MAINTAINED CONTACT)
LOR	LOCAL-OFF-REMOTE (MAINTAINED CONTACT)
LOS	LOCKOUT STOP (LOCKABLE IN "STOP" POSITION. MOMENTARY CONTACT)
LR	LOCAL-REMOTE (MAINTAINED CONTACT)
MA	MANUAL-AUTOMATIC (MAINTAINED CONTACT)
MOA	MANUAL-OFF-AUTOMATIC (MAINTAINED CONTACT)
O	OPEN
OA	OFF-AUTOMATIC
OAC	OPEN-AUTOMATIC-CLOSE (MAINTAINED CONTACT)
OC	OPEN-CLOSE(D) (MAINTAINED CONTACT)
OSC	OPEN-STOP-CLOSE (MOMENTARY CONTACT SPRING RETURN TO CENTER POSITION)
OO	ON-OFF (MAINTAINED CONTACT)
OOA	ON-OFF-AUTOMATIC (MAINTAINED CONTACT)
OOR	ON-OFF-REMOTE (MAINTAINED CONTACT)
R	RUN
SP	SPEED POT
SQRT	SQUARE ROOT
SS	START-STOP (MOMENTARY CONTACT)
SSA	START-STOP-AUTOMATIC (MOMENTARY CONTACT)
SSL	START-STOP-LOCK (LOCKABLE IN "STOP" POSITION. MOMENTARY CONTACT)
SUM	SUMMATION
VIB	VIBRATION
X	MULTIPLY
Σ	SUMMATION

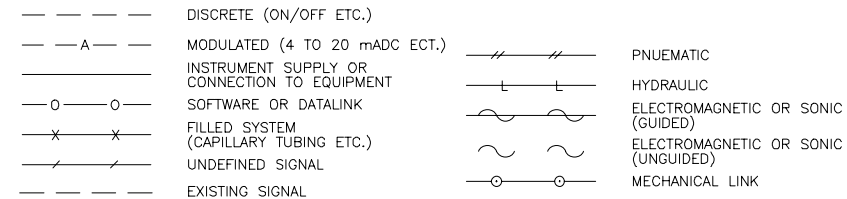
PROCESS FLOW



STRUCTURES AND EQUIPMENT



SIGNALS



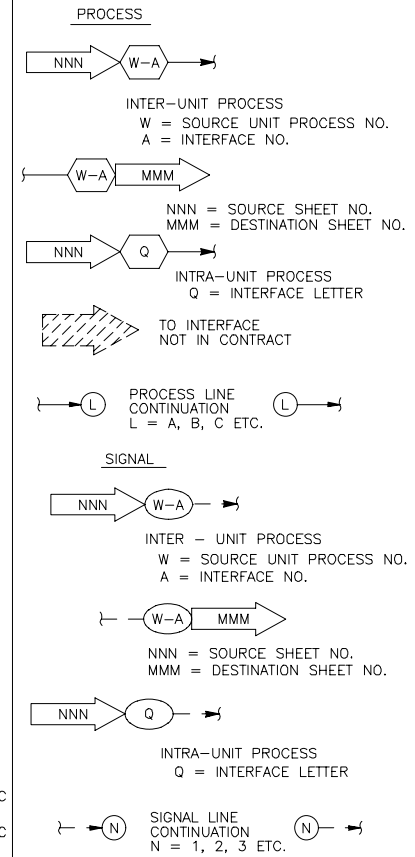
EQUIPMENT AND SELF ACTUATED VALVE IDENTIFICATION

TAG NUMBER	EQUIPMENT ABBREVIATIONS
D-W-X-Y	E EJECTOR
**	G GATE
D:	M MECHANICAL EQUIPMENT
W:	P PUMP
X:	T TANK
Y:	
**	
	SELF CONTAINED VALVE ABBREVIATIONS
	ARV AIR RELEASE VALVE
	AVRV AIR AND VACUUM RELIEF VALVE
	LCV LEVEL CONTROL VALVE
	PCV PRESSURE CONTROL VALVE
	TCV TEMPERATURE CONTROL VALVE
	PSV PRESSURE SAFETY (RELIEF) VALVE

COMPONENT DESIGNATORS

- CRITICAL ALARM
 - ◆ PROVIDE IN ACCORDANCE WITH SECTION 16900
 - ◆◆ EXISTING COMPONENT TO BE RELOCATED IN ACCORDANCE WITH SECTION 16900
 - ◆◆◆ OWNER FURNISHED COMPONENT TO BE INSTALLED IN ACCORDANCE WITH SECTION 16900
 - * OWNER FURNISHED COMPONENT TO BE INSTALLED IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15
 - ** PROVIDE AS PART OF A MANUFACTURER'S OR VENDOR'S PACKAGED SYSTEM IN ACCORDANCE WITH DIVISION 11, DIVISION 13 AND DIVISION 15
 - *** EXISTING COMPONENT TO BE RELOCATED
- PROVIDE COMPONENT WITHOUT A DESIGNATOR IN ACCORDANCE WITH DIVISION 11, DIVISION 13 AND DIVISION 15

INTERFACE SYMBOLS



POWER OPERATED VALVE IDENTIFICATION

SAME AS INSTRUMENT IDENTIFICATION.

LOCAL CONTROL PANEL IDENTIFICATION

TAG NUMBER
B-LCP-W-P ◆
B SITE IDENTIFIER (BUILDING NUMBER)
LCP LOCAL CONTROL PANEL
W UNIT PROCESS NUMBER
P PANEL NUMBER
◆ COMPONENT DESIGNATOR

GENERAL NOTES

- THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.
- CROSS-HATCHED PORTIONS OF P&ID'S

 INDICATE FUTURE OR CONCURRENT WORK WHICH IS NOT A PART OF THIS CONTRACT.
- THERE IS NO INTENT TO SHOW ALL EXISTING FACILITIES ON THE P&ID'S.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

PROCESS AND INSTRUMENTATION
 DIAGRAM LEGEND

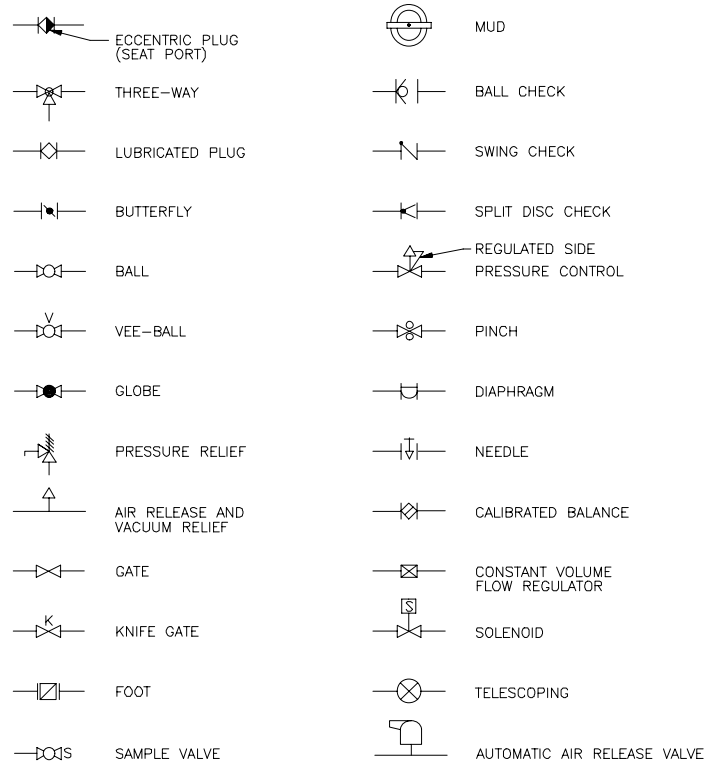
DWG NUMBER

01-G-06

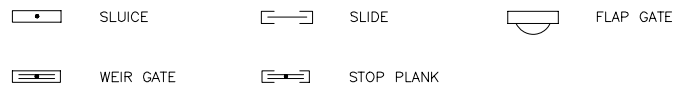
SHT NUMBER

06 OF 55

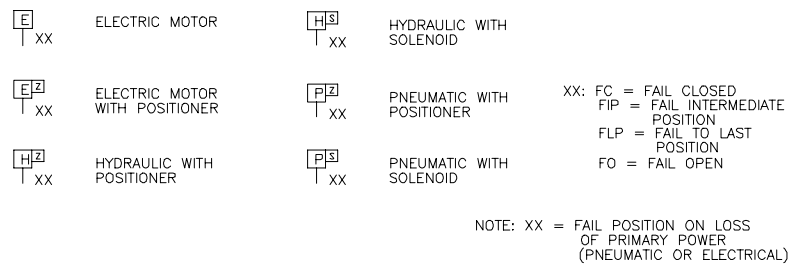
VALVE SYMBOLS



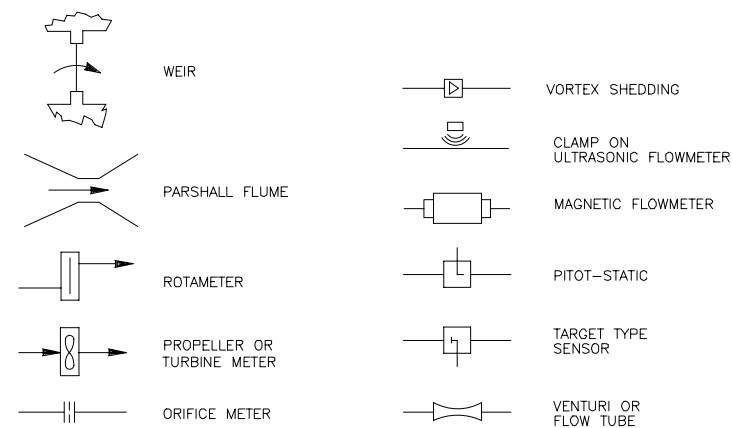
GATE SYMBOLS



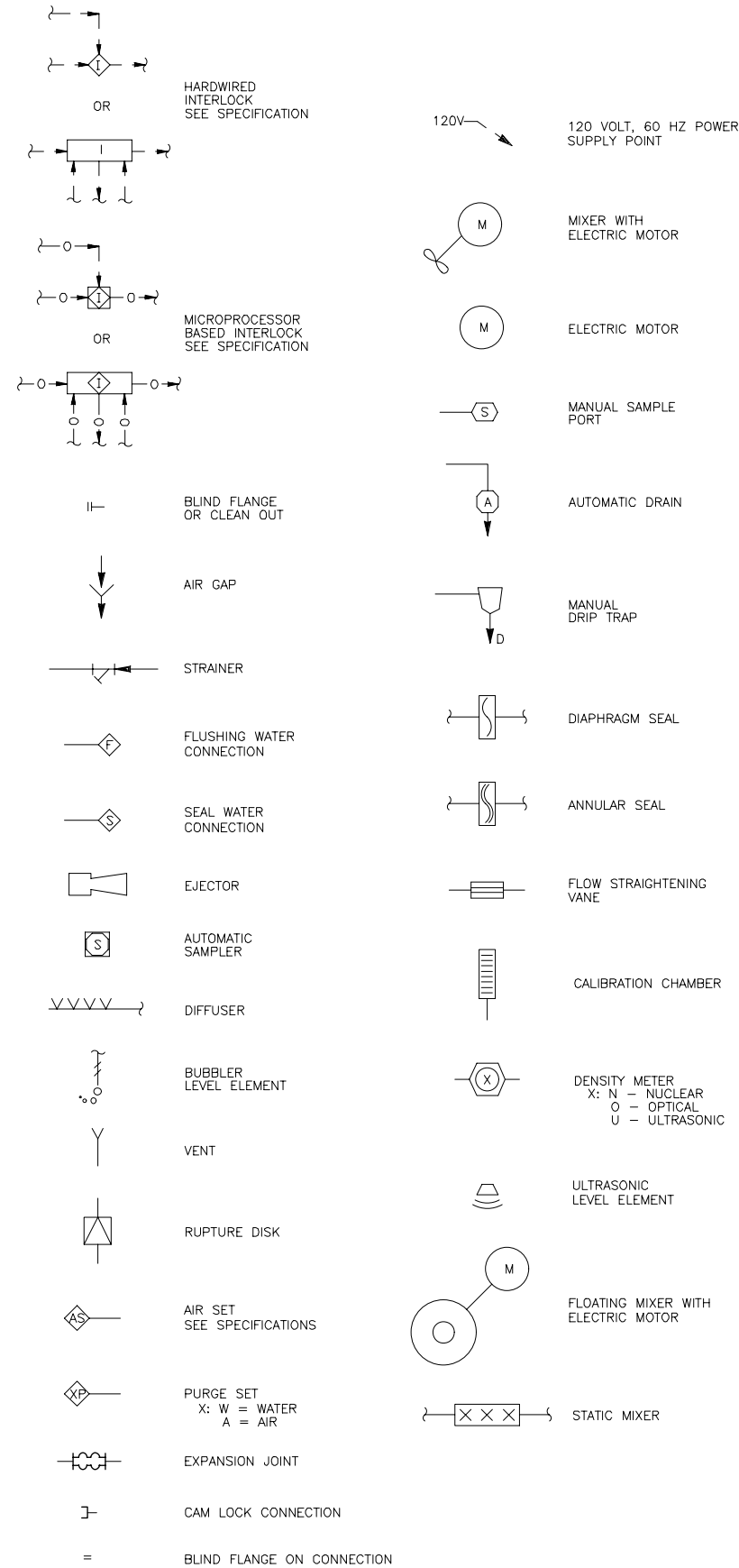
VALVE AND GATE POWER ACTUATOR SYMBOLS



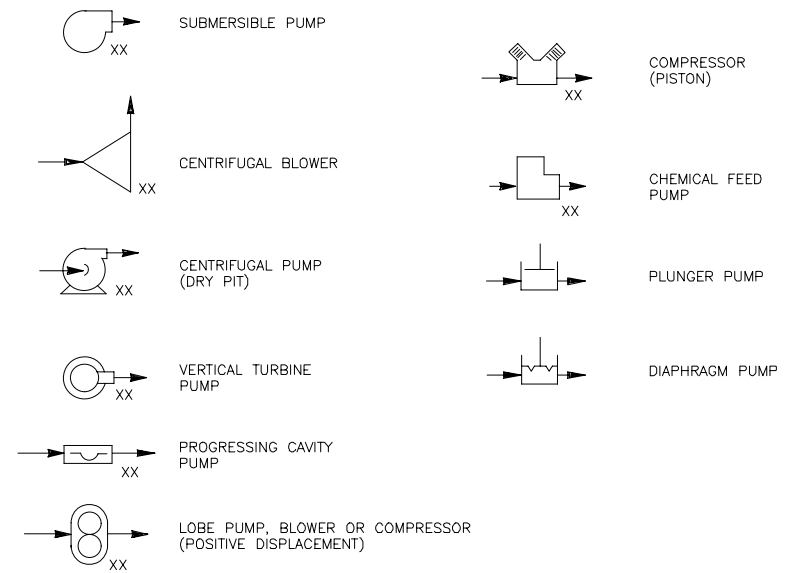
FLOW ELEMENT SYMBOLS



MISCELLANEOUS SYMBOLS



PUMP & COMPRESSOR SYMBOLS

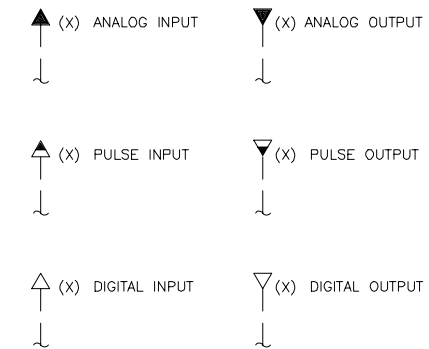


NOTE: XX: AS = ADJUSTABLE SPEED
CS-1 = CONSTANT SPEED (SINGLE SPEED)
CS-2 = CONSTANT SPEED (TWO SPEED)
CS-R = CONSTANT SPEED (REVERSIBLE)

FLOW STREAM IDENTIFIERS

SEE PROCESS - MECHANICAL LEGEND

INPUTS & OUTPUTS TO PLC OR DISTRIBUTED CONTROL



NOTE:
X = TOTAL NUMBER OF SIGNALS WHERE MORE THAN ONE SIGNAL IS REQUIRED. IF QUANTITY IS NOT SHOWN THEN ONE SIGNAL IS REQUIRED.

GENERAL NOTES:

1. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

PROCESS AND INSTRUMENTATION
DIAGRAM SYMBOLS

DWG NUMBER

01-G-07

SHT NUMBER

07 OF 55

PROJECT

UNIT WELL 15 PFAS
TREATMENT FACILITY

CLIENT

MADISON WATER UTILITY

119 E. OLIN AVENUE
MADISON, WISCONSIN 53713
Tel 608.266.4651 www.cityofmadison.com

LIGHTING SYMBOL LEGEND			FIRE ALARM SYMBOL LEGEND			POWER SYMBOL LEGEND		
SYMBOL	DESCRIPTION	MOUNTING HEIGHT/NOTE	SYMBOL	DESCRIPTION	MOUNTING HEIGHT/NOTE	SYMBOL	DESCRIPTION	MOUNTING HEIGHT/NOTE
	SURFACE MOUNTED OR CHAIN HUNG LUMINAIRE	--		FIRE ALARM PULL STATION	44"		JUNCTION BOX (SQUARE)	--
	EMERGENCY BATTERY UNIT - WALL MOUNTED	NOTE 2		FIRE ALARM BELL	80"		MANUAL MOTOR STARTER SWITCH	44"
	WALL MOUNTED LUMINAIRE	MOUNTING HEIGHT AS NOTED ON PLAN		FIRE ALARM VISUAL SIGNAL, HORN STROBE	80"		METER AND METER SOCKET	44"
	WALL MOUNTED EXIT SIGN - ARROWS AS INDICATED ON PLAN	NOTE 2		FIRE ALARM HORN	80"		MOTOR, PHASE AS INDICATED ON SCHEDULE/PLAN	--
	EMERGENCY LIGHTING UPS- SURFACE MOUNTED ON THE WALL	--		FIRE ALARM SPEAKER STROBE	--		CONTROL PANEL	--
	SINGLE POLE WALL SWITCH (LOWER CASE LETTER INDICATES CONTROL)	44"		FIRE ALARM PANEL	--		FUSED DISCONNECT SWITCH	--
	THREE-WAY WALL SWITCH	44"		AREA SMOKE DETECTOR	--		DISCONNECT SWITCH	--
	FOUR-WAY WALL SWITCH	44"					DUPLEX RECEPTACLE	18" UNO
	WALL DIMMER SWITCH	44"					DUPLEX RECEPTACLE W/GROUND FAULT INTERRUPTER	18" UNO
	WALL SWITCH WITH OCCUPANCY SENSOR	44"					QUADRUPLEX RECEPTACLE	18" UNO
	CEILING MOUNTED OCCUPANCY SENSOR	--					QUADRUPLEX RECEPTACLE/GROUND FAULT INTERRUPTER	18" UNO
	PHOTOCELL (MOUNTED ON ROOF FACING NORTH - RATED FOR OUTDOOR/WEATHERPROOF USE)	--					VARIABLE FREQUENCY DRIVE	--
LIGHTING LEGEND NOTES							BUCK BOOST TRANSFORMER	AS INDICATED
1.	ALL SYMBOLS INDICATED MAY NOT BE USED ON THIS PROJECT.						LINE VOLTAGE THERMOSTATE	--
2.	EXIT AND EMERGENCY BATTERY FIXTURES SHALL BE WIRED "AHEAD" OF LOCAL SWITCH CONTROL AND UPON LOSS OF UTILITY POWER PROVIDE 90 MINUTES OF EMERGENCY EGRESS ILLUMINATION PER NFPA 101.						DISTRIBUTION LIGHTING PANEL	--

PROJECT NOTES:

- THE ELECTRICAL CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, PERMITS, TESTS, CERTIFICATIONS AND ALL OTHER APPLICABLE FEES.
- ELECTRICAL CONTRACTOR SHALL COORDINATE EXISTING ELECTRICAL WORK FOR POSSIBLE INTERFERENCE WITH NEW WORK. EXISTING ELECTRICAL WORK INTERFERING WITH OR REQUIRING MODIFICATION FOR NEW REQUIREMENTS SHALL BE DISCONNECTED, REMOVED OR REROUTED TO SUIT FINAL INSTALLATION.
- ADJACENT AREAS OF THE SITE ARE TO REMAIN FULLY OPERATIONAL. COORDINATE ALL REQUIRED POWER AND/OR SYSTEMS SHUTDOWNS WITH THE OWNER.
- CONDUIT ROUTING IS DIAGRAMMATIC. FIELD VERIFY EXACT ROUTING. PROVIDE PULL BOXES EVERY 270'.
- UNLESS NOTED OTHERWISE, ALL SINGLE PHASE BRANCH CIRCUITS FOR LIGHTING AND POWER RECEPTACLES SHALL BE (2) #12 AND (1) #12 GROUND IN 3/4" CONDUIT. CONDUCTORS SHALL BE 600 VOLT 90°C RATING AND TYPE THHN OR XHHW INSULATION.
- CONDUIT IN FINISHED AREAS SHALL BE CONCEALED IN CEILING SPACES OR IN WALLS UNLESS NOTED OTHERWISE.
- PROVIDE UPDATED TYPED WRITTEN PANEL DIRECTORIES FOR EXISTING PANEL BOARDS WHERE LOADS HAVE BEEN REMOVED OR ADDED. PROVIDE UPDATED NAMEPLATES PER MARATHON PETROLEUM CORPORATION STANDARDS WHERE LOADS HAVE BEEN REMOVED OR ADDED TO SWITCHBOARDS, MCC'S, ETC.
- PROVIDE HILTI FIRE STOPPING MATERIAL AT ALL NEW AND EXISTING PENETRATIONS THROUGH ALL FIRE-RATED WALLS AND FLOORS.
- FIELD VERIFY EXISTING CONDITIONS, ELECTRICAL INSTALLATIONS AND EQUIPMENT ON SITE PRIOR TO BIDDING. IDENTIFY EXISTING CIRCUITS AND POWER DISTRIBUTION REQUIREMENTS PRIOR TO STARTING WORK.
- INSPECT ALL EXISTING POWER DISTRIBUTION EQUIPMENT FOR DAMAGE, MALFUNCTION AND UNSAFE ELECTRICAL CONDITIONS. REPORT ANY PROBLEMS TO THE OWNERS REPRESENTATIVE.
- ALL DISTRIBUTION PANELS, POWER PANELS, LIGHTING AND RECEPTACLE PANELS, MOTOR STARTERS AND DISCONNECT SWITCHES SHALL BE PROVIDED WITH A NAMEPLATE THAT IDENTIFIES THE NAME OF THE PANEL, WHAT LOAD THEY FEED AND THE NAME OF THE DISTRIBUTION EQUIPMENT THEY ARE FED FROM INCLUDING THE CIRCUIT NUMBER USING THE BRADY LABELING SYSTEM OR APPROVED EQUAL. NORMAL POWER BLACK WITH WHITE LETTERS, EMERGENCY POWER RED WITH WHITE LETTERS. LABEL PART #THT-107-423 OR BRADY #Y80964 ITEM #010 W/R6007 RIBBON. UPS POWER ORANGE WITH BLACK LETTERS LABEL PART #THT-107-4390R OR BRADY #Y80964 ITEM #120 W/R6007 RIBBON.
- CONDUCTORS SHALL BE IDENTIFIED WITH THE BRADY HANDHELD LABELING SYSTEM OR APPROVED EQUAL #TSL2200 WITH LABEL PART #PTL-19-489 AND R4310 RIBBON, INDICATING THE CIRCUIT NUMBER OR PHASE LETTER AT EVERY TERMINAL POINT OR SPLICE. PROVIDE CIRCUIT IDENTIFICATION OF EVERY UNSPLICED CONDUCTOR WITHIN EACH JUNCTION OR PULL BOX. FOR MULTIPLE CONDUCTOR 6-PAIR CABLE, CABLE SHALL BE IDENTIFIED WITH THE BRADY HANDHELD LABELING SYSTEM #TSL2200 WITH LABEL PART #PTL-31-427 AND R4310 RIBBON.
- LABEL ALL RECEPTACLES AND LIGHT SWITCHES WITH THE PANEL ID AND CIRCUIT NUMBER FROM WHICH THEY ARE FED FROM. RECEPTACLES AND LIGHT SWITCH LABELS SHALL BE MADE USING A BRADY HANDHELD LABELING SYSTEM OR APPROVED EQUAL IDENTIFYING THE PANEL AND CIRCUIT NUMBER. NORMAL POWER BLACK WITH WHITE LETTER #TSL2200 WITH LABEL PART #PTL-45-430, FONT SIZE 7 AND BRADY #LAM-3-103 CLEAR POLYESTER APPLIED OVER THE TOP OF THE LABEL.
- WHEN RELOCATING OR REMOVING A LIGHTING FIXTURE, RECEPTACLE, OR OTHER ELECTRICAL DEVICE, BUT NOT OTHERS ON THE SAME CIRCUIT, THE CIRCUIT SHALL BE EXTENDED FOR CONTINUED SERVICE TO REMAINING ITEMS. PROVIDE CONDUIT AND WIRING AS REQUIRED.
- BALANCE ALL SINGLE PHASE LOADS ACROSS THE THREE PHASES OF THE PANEL BOARD.
- ALL NEW CIRCUIT BREAKERS INSTALLED IN EXISTING POWER PANELS SHALL MATCH THE EXISTING TYPE FOR THAT PANEL. NEW LOADS SHALL BE LISTED ON THE PANEL DIRECTORIES.
- DO NOT LOAD ANY CIRCUIT BREAKER BEYOND 80% OF ITS MAXIMUM AMPACITY RATING.
- GENERAL INTERIOR USE RECEPTACLES SHALL BE HEAVY DUTY SPECIFICATION GRADE, WHITE FOR NORMAL POWER, DUPLEX TYPE, 2 POLE, 3 WIRE SELF-GROUNDING TYPE. RECEPTACLE SHALL BE 20 AMP AND BEAR THE UL LABELS FOR RATINGS AT 125 AND 250 VOLTS AC. RECEPTACLES SHALL BE PASS AND SEYMOUR, HUBBELL, BRYANT, OR LEVITON. RECEPTACLES SHALL BE PROVIDED WITH PLASTIC MATCHING COVER-PLATE.
- GENERAL INTERIOR OR EXTERIOR USE GFCI RECEPTACLES SHALL BE HEAVY DUTY SPECIFICATION GRADE, WHITE FOR NORMAL POWER, DUPLEX TYPE, 2 POLE, 3 WIRE SELF-GROUNDING TYPE. RECEPTACLE SHALL BE 20 AMP AND BEAR THE UL LABELS FOR RATINGS AT 125 AND 250 VOLTS AC. RECEPTACLES SHALL BE PASS AND SEYMOUR, HUBBELL, BRYANT, OR LEVITON. RECEPTACLES SHALL BE PROVIDED WITH PLASTIC MATCHING COVER-PLATE. FOR EXTERIOR USE, PROVIDE A WEATHER PROOF IN-USE BOX.
- TOGGLE SWITCHES SHALL BE SPECIFICATION GRADE, WHITE, 1 POLE, HEAVY DUTY, SELF-GROUNDING, QUITE TYPE. TOGGLE SWITCHES SHALL BE 20 AMP AND BEAR THE UL LABELS FOR RATINGS AT 120 AND 277 VOLTS AC. TOGGLE SWITCHES SHALL BE PASS AND SEYMOUR, HUBBELL, BRYANT, OR LEVITON. RECEPTACLES SHALL BE PROVIDED WITH PLASTIC MATCHING COVER-PLATE.
- PROVIDE THE FOLLOWING CONDUCTOR COLOR CODING FOR ALL FEEDERS AND BRANCH CIRCUITS:
480/277V
PHASE A BROWN
PHASE B ORANGE
PHASE C YELLOW
NEUTRAL GRAY
GROUND GREEN
- PROVIDE THE FOLLOWING CONDUCTOR COLOR CODING FOR ALL FEEDERS AND BRANCH CIRCUITS:
208/120V
PHASE A BLACK
PHASE B RED
PHASE C BLUE
NEUTRAL WHITE
GROUND GREEN

SECURITY SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING HEIGHT/NOTE
	SECURITY SYSTEM CARD READER	44"
	CCTV CAMERA	--
	SECURITY SYSTEM ELECTRIC DOOR STRIKE	--
	SECURITY CABINET	--

COMMUNICATIONS SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING HEIGHT/NOTE
	W = WALL HEIGHT PHONE OUTLET	44"
	COMMUNICATION CABINET	--

ELECTRICAL ABBREVIATIONS

move	DESCRIPTION
B.O.M	BASIS OF DESIGN
FDS	FUSIBLE DISCONNECT SWITCH
NFSD	NON-FUSIBLE DISCONNECT SWITCH
GFI	GROUND FAULT INTERRUPTER
WP	WEATHERPROOF
MMS	MANUAL MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE
AF	AMP FUSE SIZE
ETR	EXISTING TO REMAIN
UNO	UNLESS OTHERWISE NOTED
MCB	MAIN CIRCUIT BREAKER
CB	CIRCUIT BREAKER
SCC	SCREEN CONTROL CENTER
MS	MOTION SENSOR
PS	PRESSURE SWITCH
PDIT	DIFFERENTIAL PRESSURE INDICATING TRANSMITTER
FIT	FLOW INDICATING TRANSMITTER. *: M= MAGNETIC, TM: THERMAL MASS, DP= DIFFERENTIAL PRESSURE, U= ULTRASONIC.
LS	LEVEL SWITCH. *: X= CONDUCTANCE, F= BALL FLOAT, V= VIBRATING FORK, B= BUILDING FLOODING
LIT	LEVEL INDICATING TRANSMITTER. *: S= SUBMERSIBLE, U= ULTRASONIC, R= RING TYPE.
LE	LEVEL ELEMENT
CS	CONTROL SWITCH
TS	TEMPERATURE SWITCH
FS	FLOW SWITCH. *: P= PADDLE, T= THERMAL, C= CAPACITANCE, A= AIR FLOW.
PIT	PRESSURE INDICATION TRANSMITTER
ZS	POSITION SWITCH. *: D= DOOR, L= LIMIT, P= PROXIMITY
EWB	ELECTRIC HEATER

NOTE:
NOT ALL SYMBOLS ARE USED.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

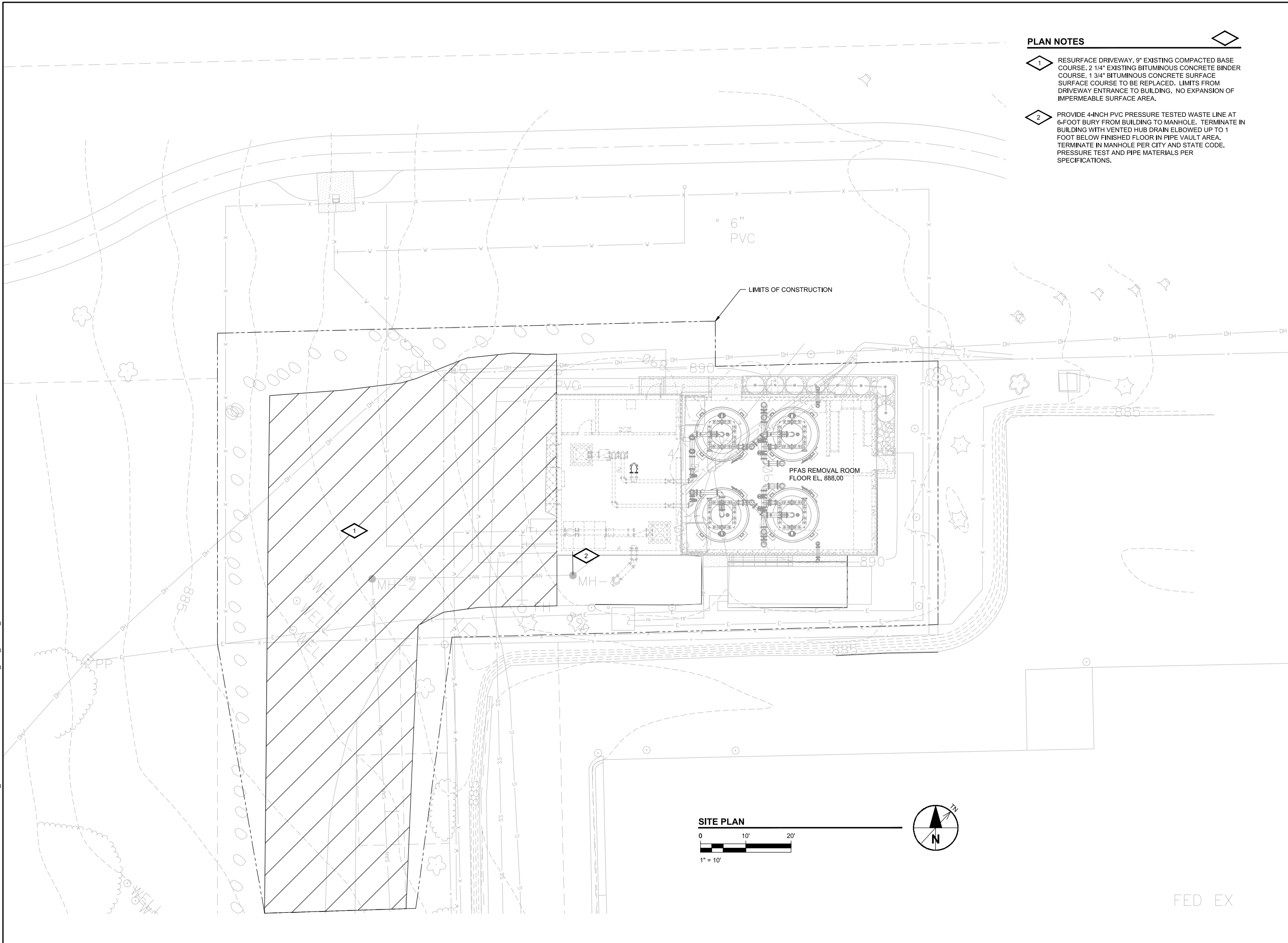
ELECTRICAL
LEGEND & SYMBOL LIST

DWG NUMBER

01-G-08

SHT NUMBER

08 OF 55



PLAN NOTES

- 1 RESURFACE DRIVEWAY, 9" EXISTING COMPACTED BASE COURSE, 2 1/4" EXISTING BITUMINOUS CONCRETE BINDER COURSE, 1 3/4" BITUMINOUS CONCRETE SURFACE COURSE TO BE REPLACED. LIMITS FROM DRIVEWAY ENTRANCE TO BUILDING. NO EXPANSION OF IMPERMEABLE SURFACE AREA.
- 2 PROVIDE 4-INCH PVC PRESSURE TESTED WASTE LINE AT 6-FOOT BURY FROM BUILDING TO MANHOLE. TERMINATE IN BUILDING WITH VENTED HUB DRAIN ELBOWED UP TO 1 FOOT BELOW FINISHED FLOOR IN PIPE VAULT AREA. TERMINATE IN MANHOLE PER CITY AND STATE CODE. PRESSURE TEST AND PIPE MATERIALS PER SPECIFICATIONS.



PROJECT
UNIT WELL 15 PFAS
TREATMENT FACILITY

CLIENT
MADISON WATER UTILITY
119 E. OLIN AVENUE
MADISON, WISCONSIN 53713
Tel 608.266.4651 www.cityofmadison.com

ISSUE/REVISION

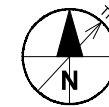
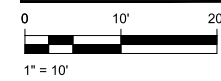
I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
60686092
SHEET TITLE
CIVIL SITE PLAN

DWG NUMBER
02-C-01
SHT NUMBER
09 OF 55

SITE PLAN



FED EX

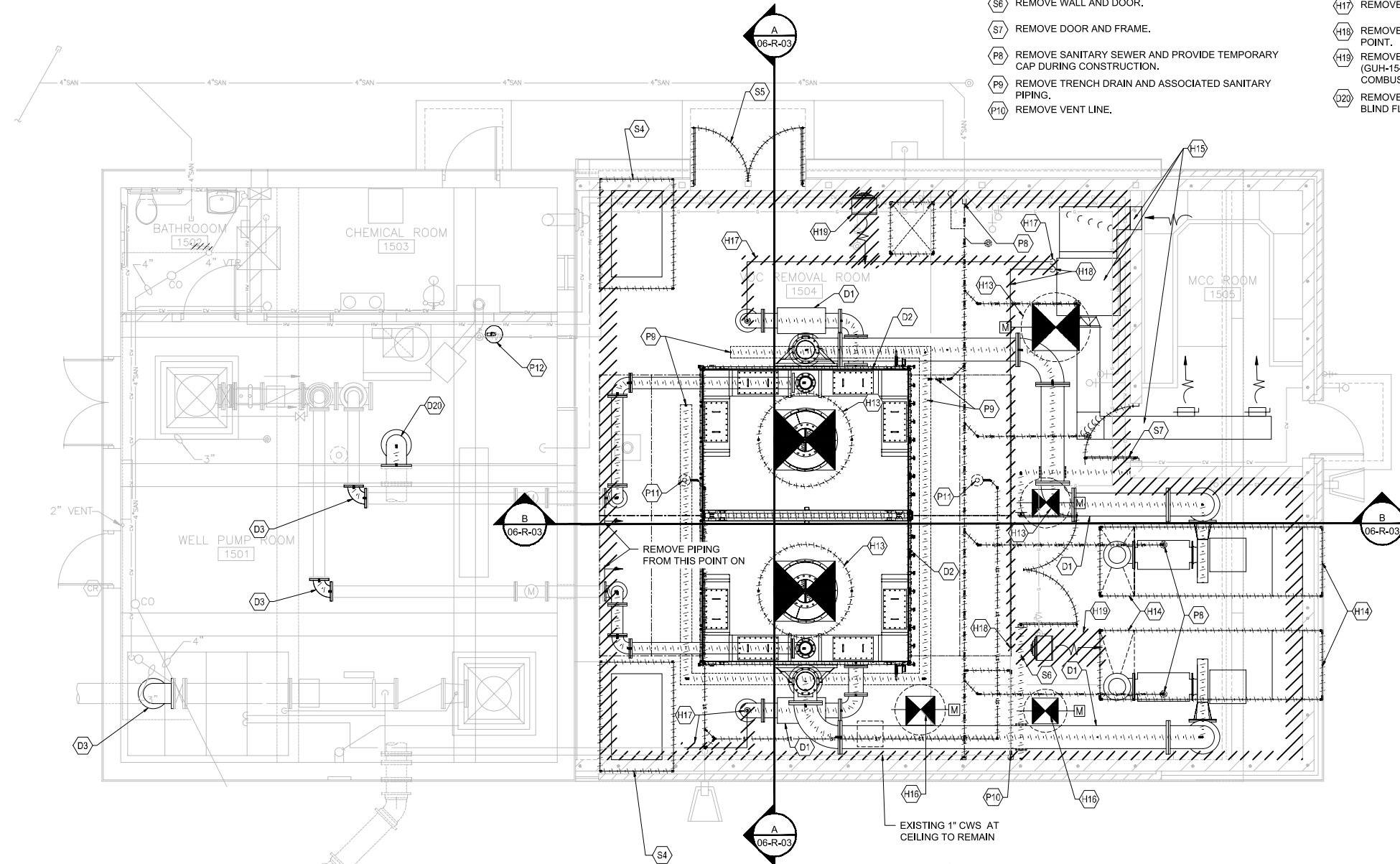
GENERAL NOTES

- SEE SPECIFICATIONS FOR FINAL DELIVERY LOCATION OF EQUIPMENT
- EXISTING PARAPETS TO REMAIN

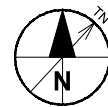
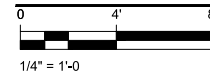
DISCIPLINE
 A - ARCHITECTURAL
 D - PROCESS
 E - ELECTRICAL
 H - HVAC
 P - PLUMBING
 S - STRUCTURAL

REMOVAL NOTES

- (D1) REMOVE PIPING.
- (D2) REMOVE EQUIPMENT.
- (D3) REMOVE ELBOW AND REPLACE WITH A TEE, BUTTERFLY VALVE, AND BLIND FLANGE FOR FUTURE CONNECTION POINT FOR MEDIA REPLACEMENT.
- (S4) REMOVE TANK ACCESS HATCHES.
- (S5) REMOVE DOUBLE DOORS AND FRAME.
- (S6) REMOVE WALL AND DOOR.
- (S7) REMOVE DOOR AND FRAME.
- (P8) REMOVE SANITARY SEWER AND PROVIDE TEMPORARY CAP DURING CONSTRUCTION.
- (P9) REMOVE TRENCH DRAIN AND ASSOCIATED SANITARY PIPING.
- (P10) REMOVE VENT LINE.
- (P11) REMOVE ROOF DRAINS AND PIPING.
- (P12) REMOVE AND RELOCATE EMERGENCY EYEWASH.
- (H13) REMOVE GRAVITY RELIEF VENTILATOR/HOOD, CONTROL DAMPER, AND DUCTING.
- (H14) REMOVE EXISTING DUCTING.
- (H15) REMOVE FAN COIL UNIT (FCU-15-02) AND DUCTING AND RELOCATE.
- (H16) REMOVE EXHAUST FAN, CONTROL DAMPER, AND DUCTING.
- (H17) REMOVE 1" CWR PIPE AND DROPS.
- (H18) REMOVE 1" CWS PIPE AND DROPS TO NEW CONNECTION POINT.
- (H19) REMOVE AND RELOCATE GAS FIRED UNIT HEATERS (GUH-15-02 & GUH-15-03) WITH EXHAUST FLUE AND COMBUSTION AIR VENT PIPING.
- (D20) REMOVE 14" OVERFLOW ELBOW AND REPLACE WITH BLIND FLANGE.



FIRST FLOOR REMOVAL PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

OVERALL FIRST FLOOR PLAN

DWG NUMBER

06-R-01

SHT NUMBER

10 OF 55

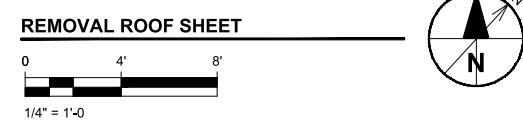
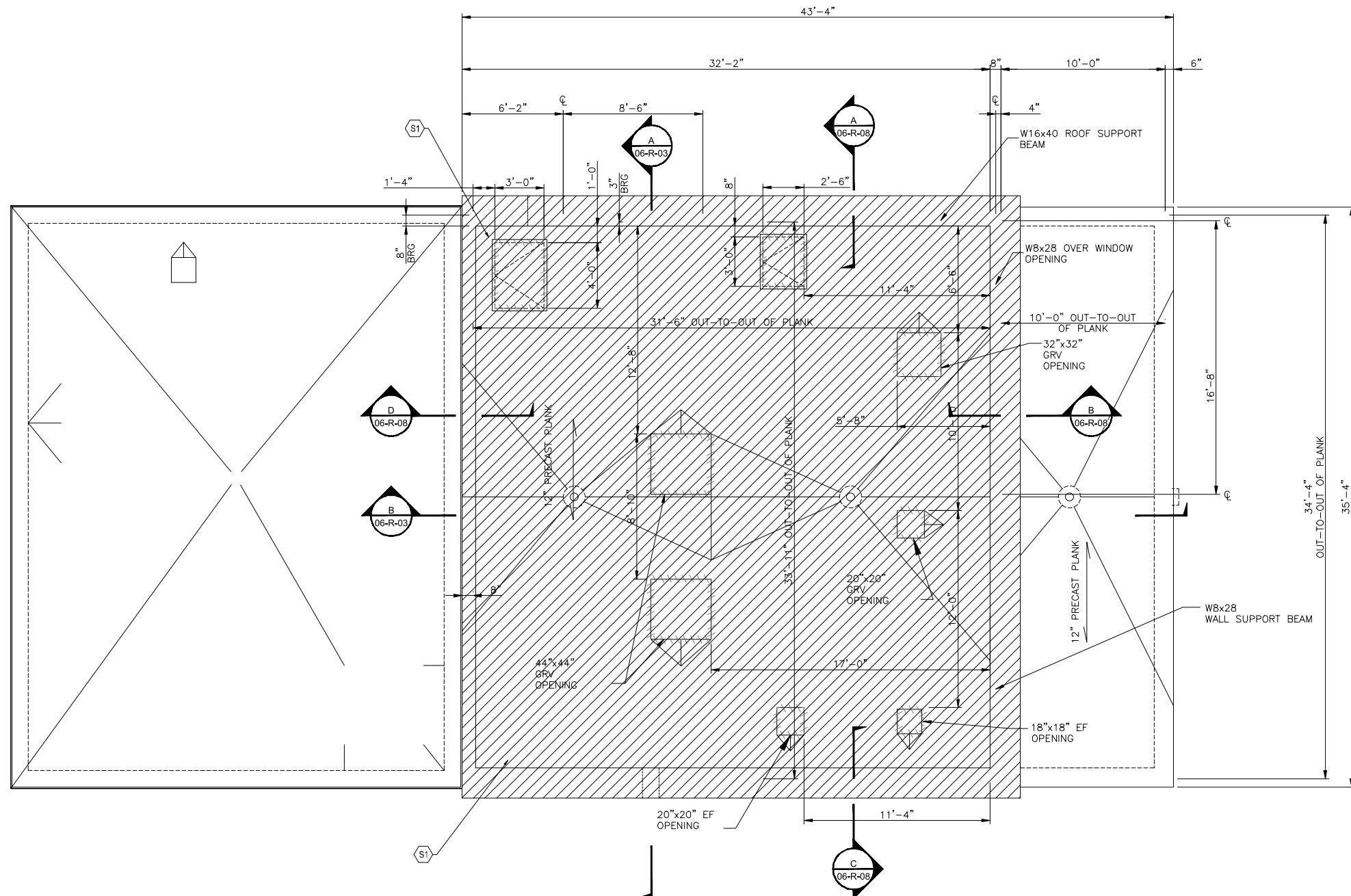
GENERAL NOTES

- SEE SPECIFICATIONS FOR FINAL DELIVERY LOCATION OF EQUIPMENT
- SEE AS BUILT FLOOR PLAN, SECTIONS, AND FRAMING ELEVATIONS

DISCIPLINE
 A - ARCHITECTURAL
 D - PROCESS
 E - ELECTRICAL
 H - HVAC
 P - PLUMBING
 S - STRUCTURAL

REMOVAL NOTES

(S1) ROOF AND PARAPET REMOVAL AREA



REMOVAL SYMBOL LEGEND

- ITEM/S TO BE REMOVED.
- KEYNOTE SYMBOL.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
60686092

SHEET TITLE
ROOF SHEET

DWG NUMBER **SHT NUMBER**
06-R-02 11 OF 55

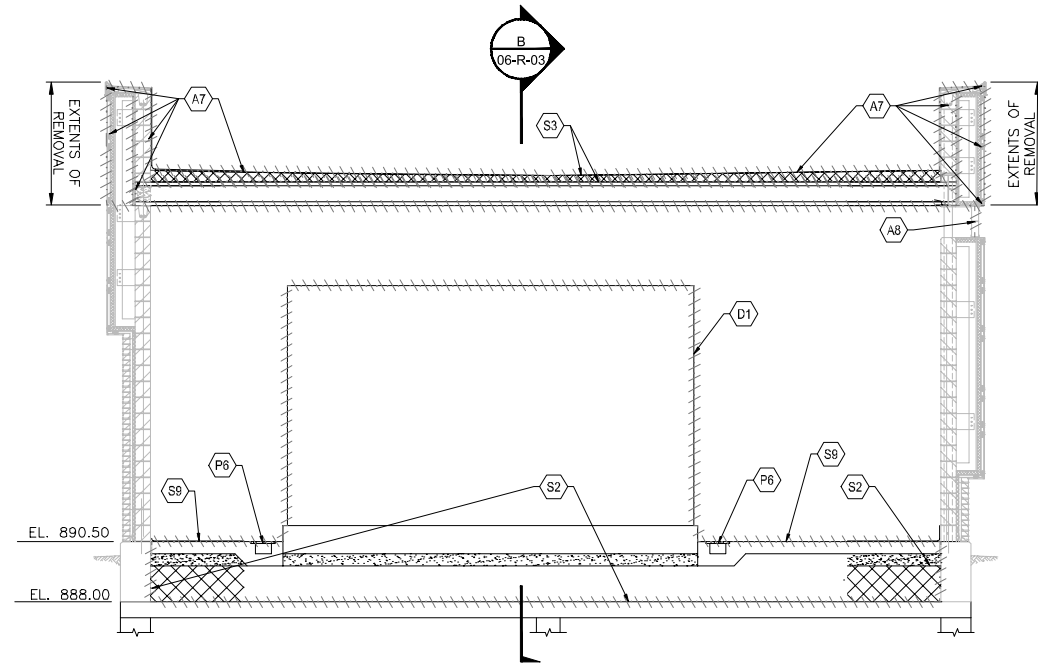
GENERAL NOTES

- SEE SPECIFICATIONS FOR FINAL DELIVERY LOCATION OF EQUIPMENT
- PROVIDE ALL SHORING AND BRACING FOR PORTIONS OF THE EXTERIOR WALL (CMU AND INSULATED METAL WALL PANELS) THAT REMAIN DURING AND AFTER DEMOLITION.

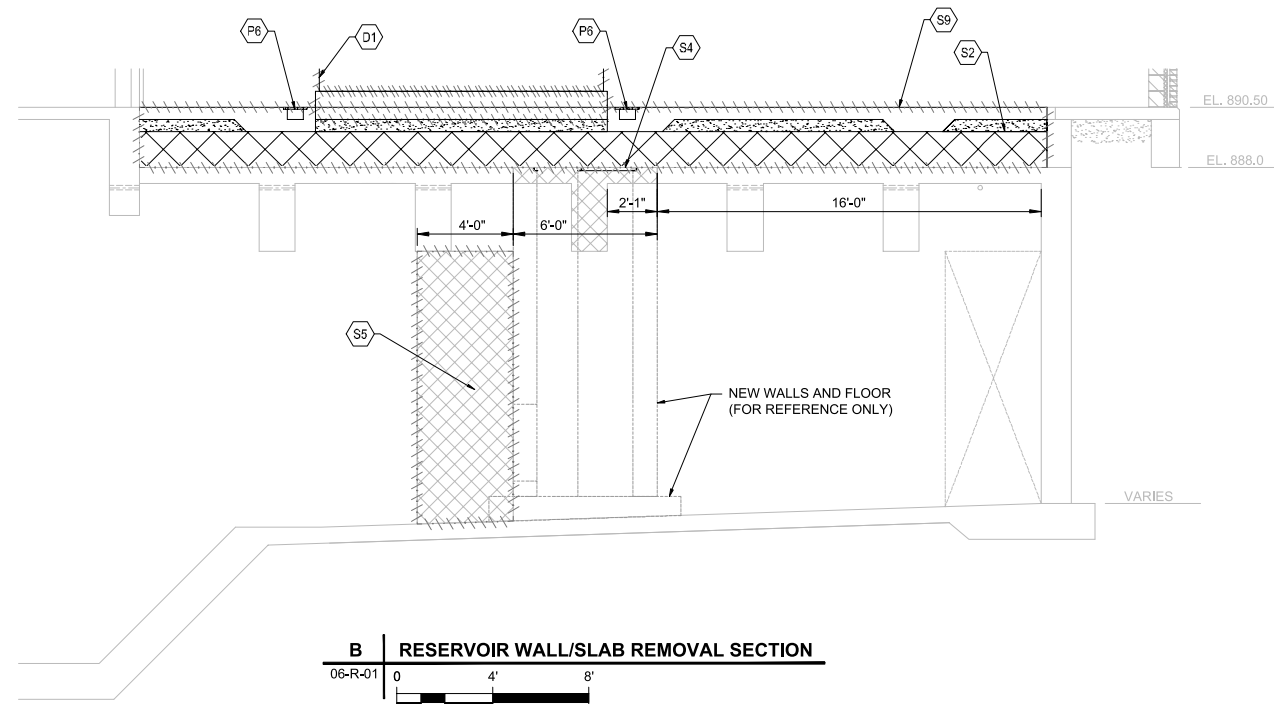
DISCIPLINE
 A - ARCHITECTURAL
 D - PROCESS
 E - ELECTRICAL
 H - HVAC
 P - PLUMBING
 S - STRUCTURAL

REMOVAL NOTES

- (D1) REMOVE EQUIPMENT
- (S2) REMOVE RUBBERIZED ASPHALT MEMBRANE AND MASTIC DOWN TO EXISTING CONCRETE SURFACE.
- (S3) REMOVE 12" PRECAST
- (S4) REMOVE 12" RESERVOIR TOP FLOOR AND JOIST, ONCE NEW WALLS ARE IN PLACE. SEE SHEET 10-R-07.
- (S5) REMOVE 4'-0" SECTION FROM CENTER WALL OF RESERVOIR, ONCE NEW WALLS ARE IN PLACE. SEE SHEET 10-R-07.
- (P6) REMOVE TRENCH DRAIN
- (A7) REMOVE SINGLE PLY MEMBRANE ROOFING SYSTEM MATERIAL INCLUDING ALL INSULATION, METAL FLASHINGS, COPINGS AND PORTION OF GLASS-FIBER REINFORCED WALL PANEL SYSTEM TO LIMITS AS INDICATED.
- (A8) REMOVE GLASS BLOCK AND SALVAGE FOR REINSTALLATION.
- (S8) REMOVE EXISTING UPPER CONCRETE FLOOR. EXISTING LOWER TANK COVER TOP TO REMAIN.



A | REMOVAL SECTION
 06-R-01 0 4' 8'
 06-R-02



B | RESERVOIR WALL/SLAB REMOVAL SECTION
 06-R-01 0 4' 8'

DEMOLITION SYMBOL LEGEND

- ITEM/S TO BE REMOVED.
- KEYNOTE SYMBOL.
- SHADED ITEM/S TO BE REMOVED.

ISSUE/REVISION		
I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

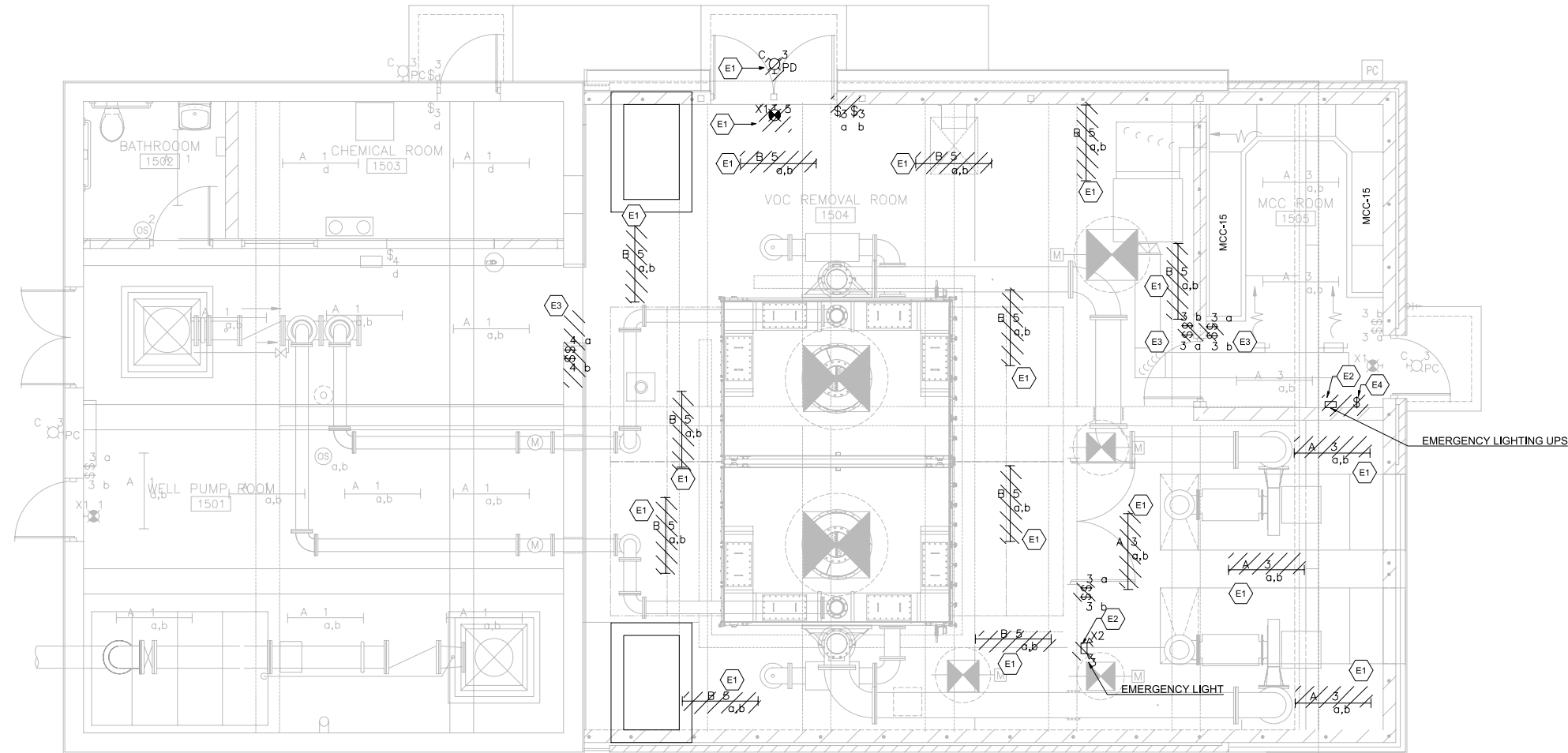
KEY PLAN

GENERAL NOTES

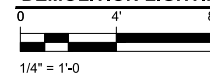
1. ALL EXTERIOR MOUNTED DEVICES SHALL BE INSTALLED IN RECESSED BOXES.
2. ALL CONDUIT PENETRATIONS BETWEEN INTERIOR SPACES SHALL BE CONSIDERED FIRE RATED PENETRATIONS AND SHALL BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.
3. EXISTING LIGHTING TO REMAIN IN WELL PUMP ROOM, CHEMICAL ROOM, MCC ROOM, AND BATHROOM.
4. ALL SHADED DEVICES ARE TO BE REMOVED.

REMOVAL NOTES

- E1 DISCONNECT AND REMOVE ALL LIGHT FIXTURES AND ASSOCIATED CONDUIT AND WIRING BACK TO NEAREST JUNCTION BOX. IF ALL DEVICES ON THE ASSOCIATED CIRCUIT ARE REMOVED, MARK CIRCUIT SPARE IN PANEL BOARD DIRECTORY. ANY REMAINING DEVICES ON THE CIRCUIT ARE TO REMAIN OPERATIONAL AFTER DEMOLITION.
- E2 DISCONNECT AND REMOVE LIGHT FIXTURE. LIGHT FIXTURE TO BE RELOCATED. SEE DRAWING 10-E-01 FOR NEW LOCATION. REUSE EXISTING CONDUIT AND WIRING AS MUCH AS IS FEASIBLE.
- E3 DISCONNECT AND REMOVE LIGHT SWITCH(S).
- E4 DISCONNECT AND REMOVE LIGHT SWITCH(S). LIGHT SWITCH(S) TO BE RELOCATED. SEE DRAWING 10-E-01 FOR NEW LOCATION. REUSE EXISTING CONDUIT AND WIRING AS MUCH AS IS FEASIBLE.



DEMOLITION LIGHTING PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

ELECTRICAL AND LIGHTING

DWG NUMBER

06-R-04

SHT NUMBER

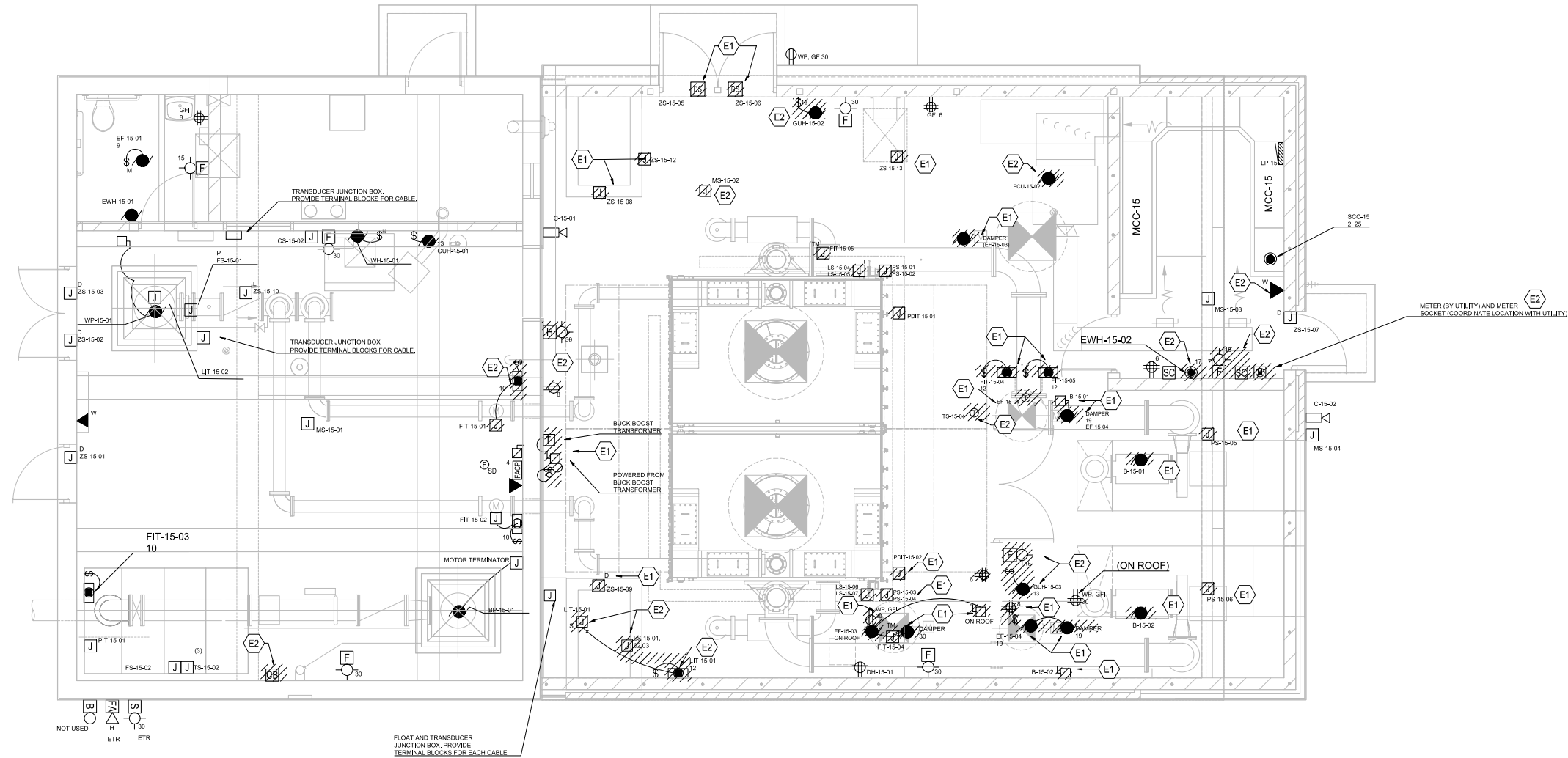
13 OF 55

GENERAL NOTES

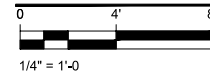
1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.
2. ALL EXTERIOR MOUNTED DEVICES SHALL BE INSTALLED IN RECESSED BOXES.
3. REFER TO SHEET 10-A-01 FOR THE FIRE RATED WALLS.
4. ALL CONDUIT PENETRATIONS BETWEEN INTERIOR SPACES SHALL BE CONSIDERED FIRE RATED PENETRATIONS AND SHALL BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.
5. ALL SHADED DEVICES ARE TO BE REMOVED.

REMOVAL NOTES

- E1 DISCONNECT AND REMOVE ALL POWER RECEPTACLE AND EQUIPMENT AND ASSOCIATED CONDUIT AND WIRING BACK TO NEAREST JUNCTION BOX. IF ALL DEVICES ON THE ASSOCIATED CIRCUIT ARE REMOVED, MARK CIRCUIT SPARE IN PANEL BOARD DIRECTORY. ANY REMAINING DEVICES ON THE CIRCUIT ARE TO REMAIN OPERATIONAL AFTER DEMOLITION.
- E2 DISCONNECT AND REMOVE POWER RECEPTACLE AND EQUIPMENT. POWER RECEPTACLE AND EQUIPMENT TO BE RELOCATED, SEE DRAWING 26-E-03 FOR NEW LOCATION, REUSE EXISTING CONDUIT AND WIRING AS MUCH AS IS FEASIBLE.



DEMOLITION POWER PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

ELECTRICAL AND POWER

DWG NUMBER

06-R-05

SHT NUMBER

14 OF 55

EXISTING MOTOR AND MOTOR CONTROL CENTER SCHEDULE MCC-15

Table with columns: EQUIPMENT AND NAMEPLATE TITLES, EQUIPMENT INFORMATION, MOTOR INFORMATION, MOTOR STARTER INFORMATION, CONTROL & INTERLOCKS, CONDUIT AND WIRE, REMARKS. Rows include pumps, blowers, fans, heaters, and transformers.

EXISTING LIGHTING PANEL LP-15

Table with columns: Room Number/Description, Amps, Poles, Cct. #, Phase A, Phase B, Phase C, Cct. #, Poles, Amps, Room Number/Description. Includes summary rows for total load and connected load.

NAME SOME DEVICES ARE BEING DEMOLISHED
DEVICES BEING REMOVED

ISSUE/REVISION table with columns: I/R, DATE, DESCRIPTION. Includes entry 1 dated 12/22/23.

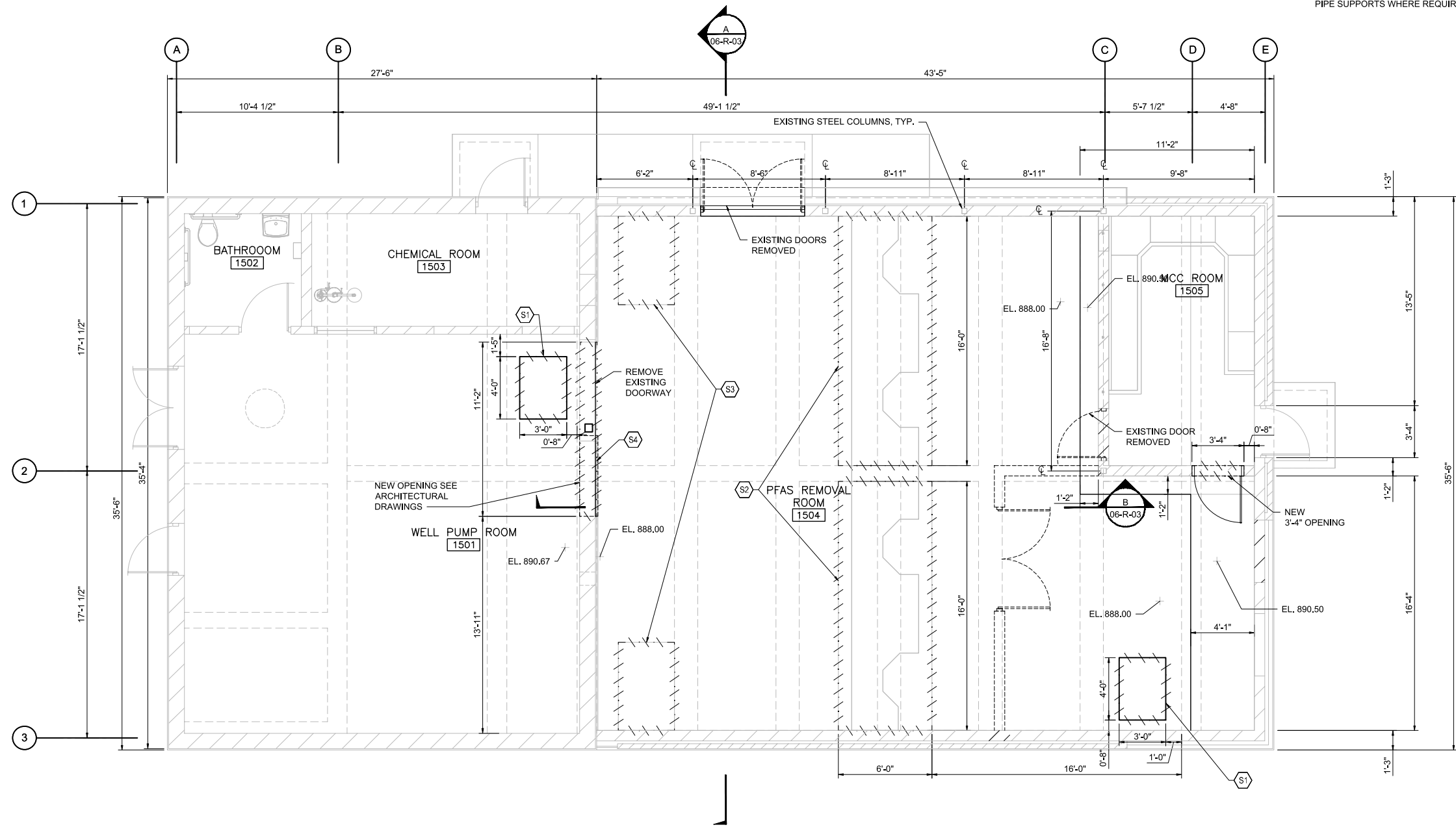
KEY PLAN

PROJECT NUMBER
60686092
SHEET TITLE
ELECTRICAL SCHEDULES

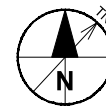
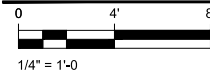
DWG NUMBER SHT NUMBER
06-R-06 15 OF 55

REMOVAL NOTES

- S1 REMOVE CONCRETE SLAB FOR OPENINGS FOR PROPOSED HATCHWAY
- S2 REMOVE CONCRETE BEAM AND SLAB SECTIONS TO CREATE OPENING THROUGH EXISTING FLOOR SLAB SEE SECTION B 10-R-02.
- S3 REMOVE CONCRETE WALLS OF EXISTING HATCHWAY FLUSH WITH EXISTING TOP OF FLOOR SLAB
- S4 PARTIAL REMOVAL OF EXISTING WALL FOR DOOR OPENING. COORDINATE WITH ARCHITECTURAL DRAWINGS. (INSTALL NEW HSS COLUMN PRIOR TO REMOVAL OF EXISTING WALL SHOWN ON 10-S-02, ADD PIPE SUPPORTS WHERE REQUIRED)



FIRST FLOOR STRUCTURAL REMOVAL PLAN



DEMOLITION SYMBOL LEGEND

- ITEMS TO BE REMOVED.
- KEYNOTE SYMBOL.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

STRUCTURAL FIRST FLOOR PLAN

DWG NUMBER

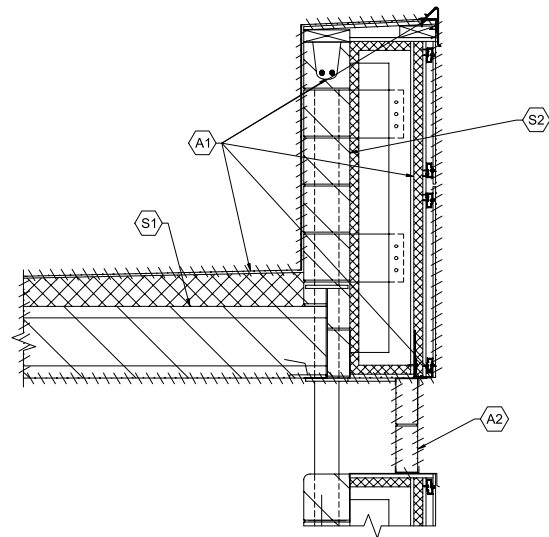
06-R-07

SHT NUMBER

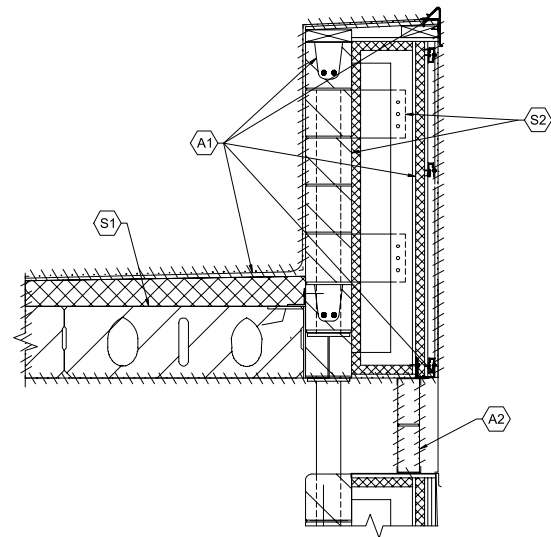
16 OF 55

REMOVAL NOTES

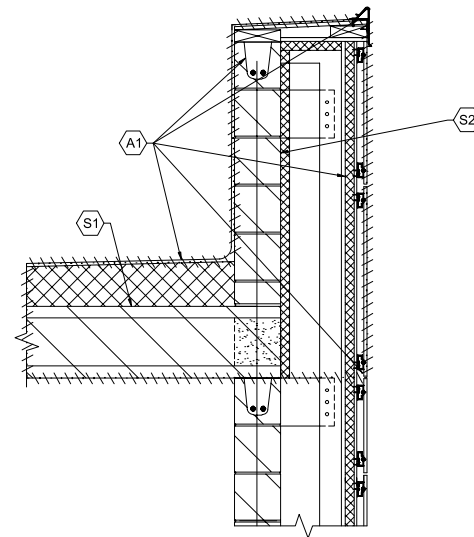
- S1 REMOVE 12" PRECAST ROOF SLAB AND CUT WELDS BETWEEN EMBED PLATE AND STRUCTURAL STEEL IS TO REMAIN
- S2 REMOVE CMU WALL SECTION ABOVE AND AROUND STEEL BEAM
- S3 REMOVE EXISTING STEEL FRAMING AND SALVAGE FOR REINSTALLATION
- A1 REMOVE SINGLE PLY MEMBRANE ROOFING SYSTEM MATERIAL INCLUDING ALL INSULATION, METAL FLASHINGS, COPINGS AND PORTION OF INSULATED METAL PANEL SYSTEM TO LIMITS AS INDICATED.
- A2 REMOVE GLASS BLOCK AND SALVAGE FOR REINSTALLATION.



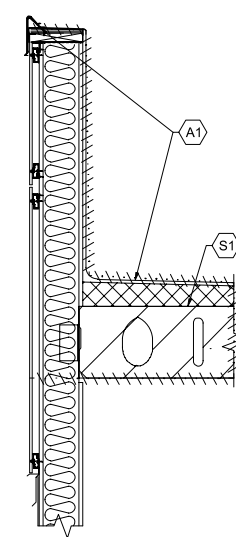
A NORTH ELEVATION
06-R-02
0 1' 2'
3/4" = 1'-0"



B EAST ELEVATION
06-R-02
0 1' 2'
3/4" = 1'-0"



C SOUTH ELEVATION
06-R-02
0 1' 2'
3/4" = 1'-0"



D WEST ELEVATION
06-R-02
0 1' 2'
3/4" = 1'-0"

DEMOLITION SYMBOL LEGEND

--- ITEM/S TO BE REMOVED.

⬡ KEYNOTE SYMBOL.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

ROOF LEVEL DETAILS

DWG NUMBER

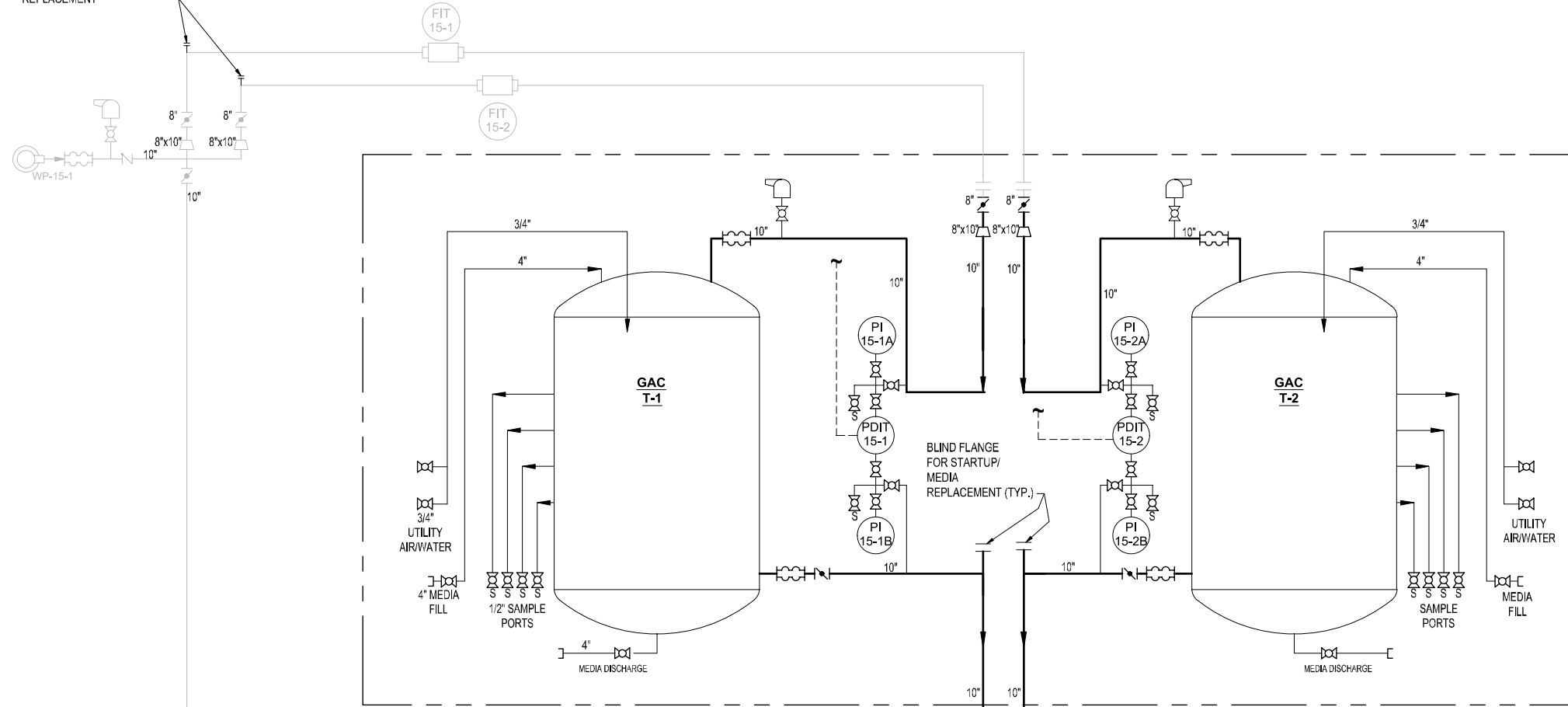
06-R-08

SHT NUMBER

17 OF 55

SEE LEGEND ON PROCESS AND INSTRUMENTATION DIAGRAM SYMBOLS DRAWING 01-G-07

REPLACE 8" ELBOW WITH TEE 8x6x8 AND 6" BLIND FLANGE FOR FUTURE MEDIA REPLACEMENT



BLIND FLANGE FOR STARTUP/MEDIA REPLACEMENT (TYP.)

REPLACE 14" ELBOW WITH TEE 14x6x14 AND 6" BLIND FLANGE FOR FUTURE MEDIA REPLACEMENT

TO DISTRIBUTION SYSTEM

ION EXCHANGE TANK T-3

ION EXCHANGE TANK T-4

TANK RESERVOIR

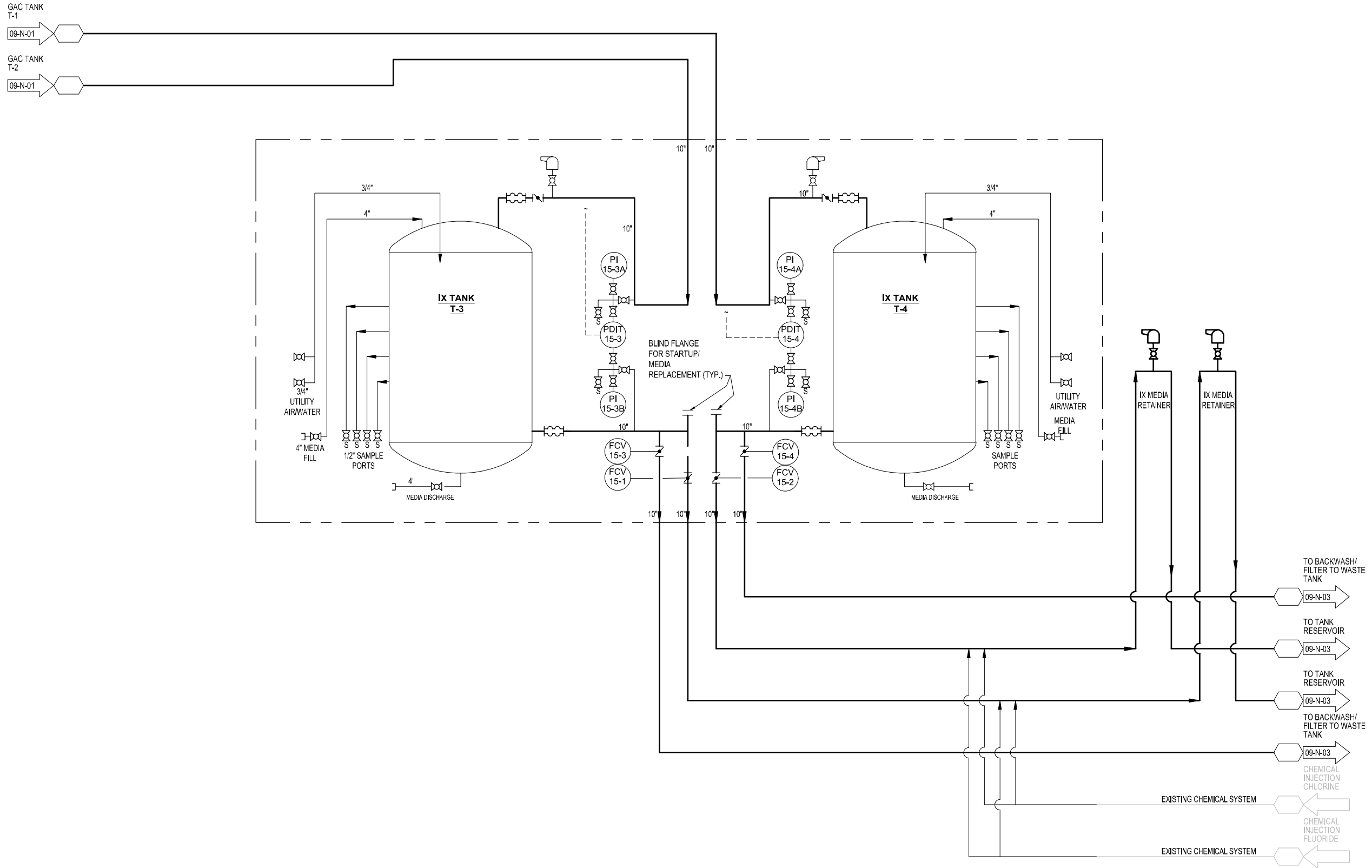
TREATED WATER FROM PUMP 2 TO SYSTEM

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

SEE LEGEND ON PROCESS AND INSTRUMENTATION DIAGRAM SYMBOLS DRAWING 01-G-07



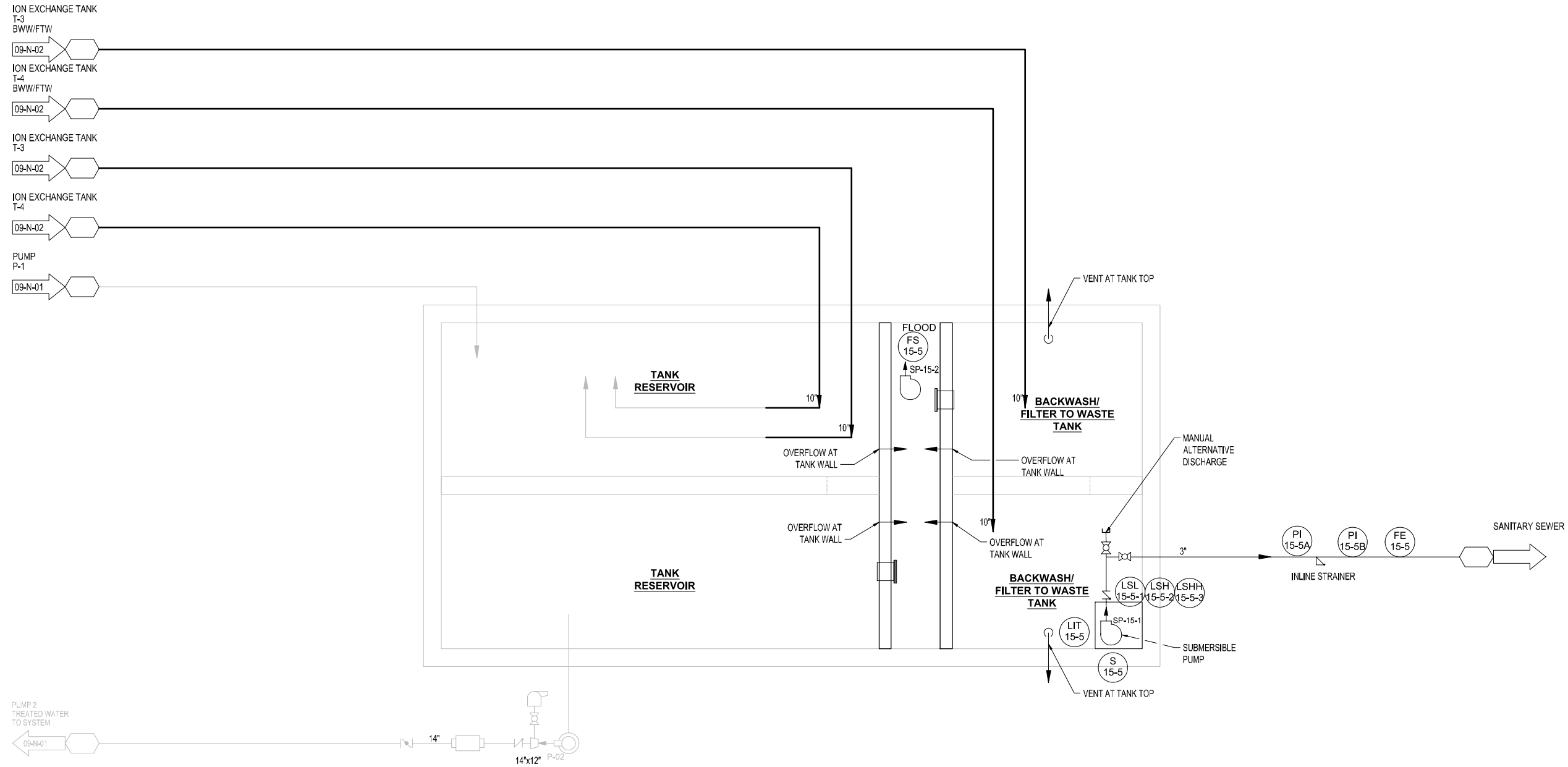
ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
 60686092

SHEET TITLE
 P&ID DIAGRAM - ION EXCHANGE
 TANKS



ISSUE/REVISION		
1	12/22/23	ISSUE FOR BID
I/R	DATE	DESCRIPTION

KEY PLAN

CODE

2015 INTERNATIONAL BUILDING CODE (IBC)
 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
 2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
 2015 INTERNATIONAL MECHANICAL CODE (IMC)
 2015 INTERNATIONAL FIRE CODE (IFC)
 WISCONSIN PLUMBING CODE (SPS 382)

EXISTING BUILDING

MASONRY BUILDING CONSTRUCTED IN 1965 WITH MOST RECENT MASONRY/GFRG WALL PANEL ADDITION IN 2012.

CONSTRUCTION TYPE: 5B
 OCCUPANCY: F-1/H-3 SEPARATED USE
 FIRE SUPPRESSION SYSTEM: ORDINARY HAZARD

ALTERATION LEVEL 3

THE WORK AREA EXCEEDS 50 PERCENT OF THE BUILDING AREA, THEREFORE ALTERATION LEVEL 3 WILL BE FOLLOWED:

- THE BUILDING WILL NOT BE ALTERED SUCH THAT THE BUILDING BECOMES LESS SAFE THAN ITS EXISTING CONDITION.
- ALL NEWLY INSTALLED MATERIALS, BUILDING ELEMENTS AND MECHANICAL ELEMENTS WILL COMPLY WITH CURRENT CODE REGULATIONS.
- FIRE PROTECTION WILL MAINTAIN THE LEVEL OF FIRE PROTECTION ORIGINALLY PROVIDED.
 - SPRINKLER LINES AFFECTED BY RENOVATION WILL BE REINSTALLED TO MAINTAIN PROTECTION LEVEL.
- THE ALTERATIONS WILL CONFORM TO THE ENERGY CONSERVATION CODE, BUT THE ENTIRE BUILDING IS NOT REQUIRED TO MEET THE ENERGY REQUIREMENTS.
- ALL FLOOR AREAS THAT ARE MORE THAN 30 INCHES ABOVE THE FLOOR BELOW WILL BE PROVIDED WITH GUARDRAILS DESIGNED AND INSTALLED ACCORDING TO IBC.

USE/HEIGHT/AREA

USE	(EXISTING - NO CHANGE)	MODERATE-HAZARD	FACTORY INDUSTRIAL	HIGH HAZARD GROUP
• USE	F-1			
	H-3			
• SEPARATION	F-1/H-3 = 1 HR	COMPLIES		
• HEIGHT	ALLOWABLE:	1 STORY/40'-0"		
	EXISTING:	1 STORY/19'-2"	COMPLIES	
• AREA	ALLOWABLE:	F-1 34,000 SF		
		H-3 5,000 SF		
	EXISTING:	F-1 2,140 SF		
		H-3 135 SF		
		TOTAL: 2,275 SF	COMPLIES	

OCCUPANCY/EGRESS REQUIREMENTS

OCCUPANCY	ROOM	AREA	FACTOR	OCCUPANTS
• OCCUPANCY	WELL PUMP	664 SF	300	3
	BATHROOM	58 SF	100	1
	CHEMICAL	135 SF	100	2
	PFAS REMOVAL	1260 SF	300	5
	MCC	158 SF	300	2
				TOTAL: 13
• TRAVEL DISTANCE	ALLOWABLE:	F-1 250'		
		H-3 150'		
	ACTUAL:	F-1 83'	COMPLIES	
		H-3 18'	COMPLIES	
• COMMON PATH OF TRAVEL	ALLOWABLE:	F-1 100'		
		H-3 25'		
	ACTUAL:	F-1 83'	COMPLIES	
		H-3 18'	COMPLIES	

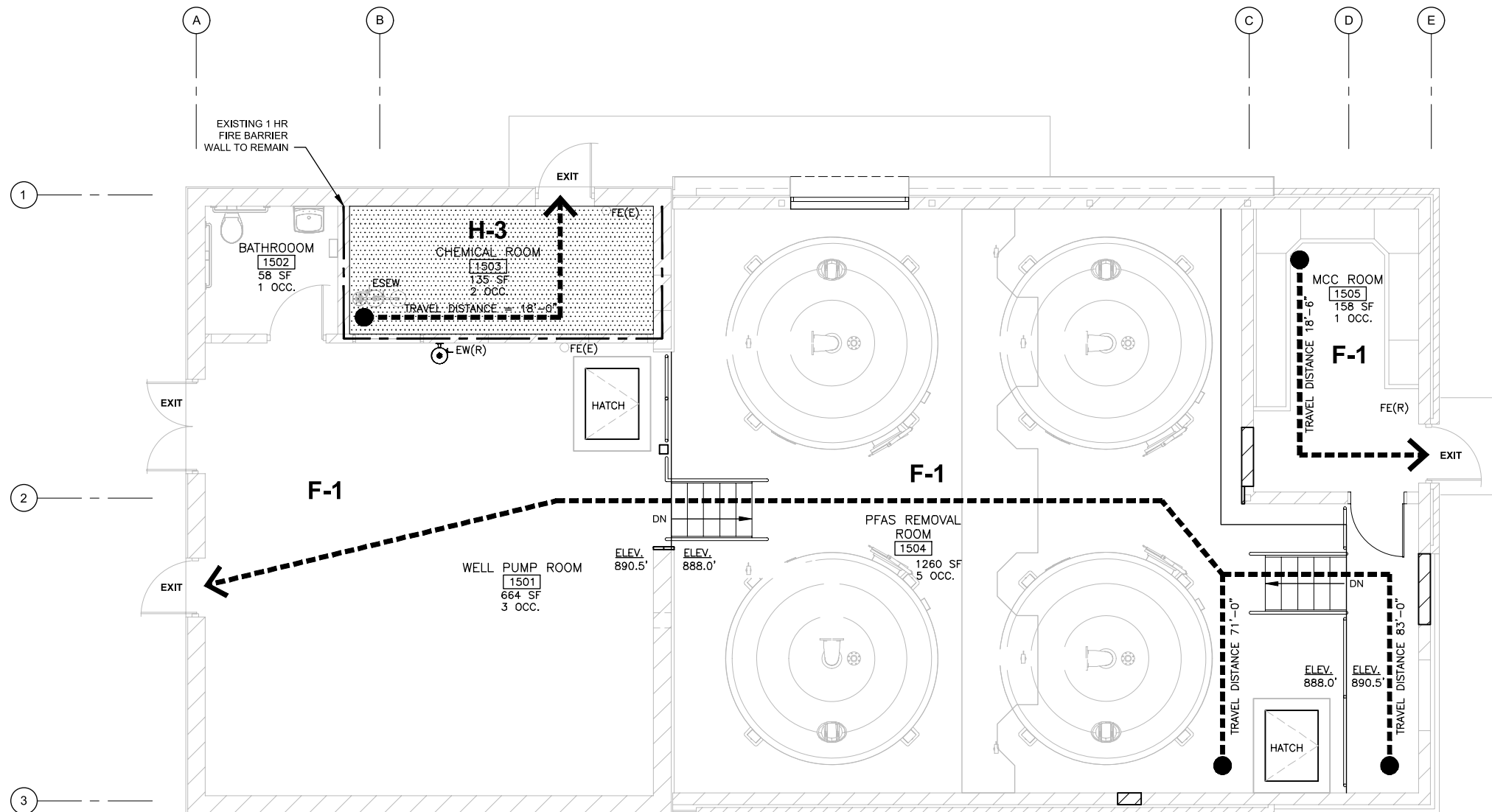
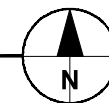
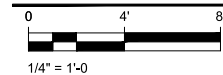
ENERGY CODE REQUIREMENTS

- DANE COUNTY - CLIMATE ZONE 6A
- ROOF R-30CI
- WALLS R-13.3CI
- ALL NEW WORK WILL MEET THE ENERGY CODE. EXISTING PARAPET REWORK WILL BE REINSTALLED TO MATCH EXISTING CONSTRUCTION.

HAZARDOUS MATERIAL

• CHEMICAL	CLASSIFICATION	MAQ	ACTUAL QTY
CHLORINE GAS	OXIDIZING GAS/ TOXIC	150 LBS	600 LBS
HYDROFLUOROSILICIC ACID	CORROSIVE/ TOXIC	500 GAL	1,000 GAL
SULFURIC ACID	CORROSIVE	500 GAL	500 GAL

- THE QUANTITY OF CHEMICALS HAS NOT CHANGED AS A RESULT OF THIS ALTERATION.
- THE EXISTING ACTUAL QUANTITY EXCEEDS THE MAXIMUM ALLOWABLE QUANTITY (MAQ) ALLOWED IN A CONTROL AREA. THEREFORE, THE CHEMICAL ROOM IS RATED H-3 AND WILL BE MAINTAINED.
- EXISTING EMERGENCY SHOWER (ESEW) TO REMAIN.

**LIFE SAFETY PLAN****SYMBOL LEGEND**

	H-3 HIGH HAZARD GROUP
	F-1 MODERATE HAZARD FACTORY INDUSTRIAL
	TRAVEL DISTANCE
	1 HR RATED FIRE BARRIER
	FIRE EXTINGUISHER (EXISTING)
	FIRE EXTINGUISHER (RELOCATED)
	SAFETY EYE WASH (RELOCATED)
	EMERGENCY SHOWER/EYE WASH (EXISTING)

PROJECT**UNIT WELL 15 PFAS TREATMENT FACILITY****CLIENT****MADISON WATER UTILITY**

119 E. OLIN AVENUE
 MADISON, WISCONSIN 53713
 Tel 608.266.4651 www.cityofmadison.com

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN**PROJECT NUMBER**

60686092

SHEET TITLE

ARCHITECTURAL
 BUILDING CODE MATRIX

DWG NUMBER

10-A-01

SHT NUMBER

21 OF 55

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES, STANDARDS AND GOVERNING AUTHORITIES.
2. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, PROCESS AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
3. DETAILS SHOWN ARE TYPICAL IN NATURE AND ARE INDICATIVE OF PROFILES AND TYPES REQUIRED FOR THE WORK. REMAINDER OF THE WORK IS SIMILAR IN CHARACTER TO THESE DETAILS.
4. MATERIALS AND SYSTEMS NOTES ARE TYPICAL IN NATURE AND APPLY TO MULTIPLE DRAWINGS. NOTES ON ANY ONE DRAWING ARE TO APPLY TO ALL OTHER SIMILAR MATERIALS AND SYSTEMS UNLESS NOTED OTHERWISE.
5. ELEVATIONS NOTES ON ARCHITECTURAL DRAWINGS ARE FOR ELEVATIONS AT TOP OF FLOOR SLAB UNLESS NOTED OTHERWISE.
6. COORDINATE FLOOR AND WALL PENETRATIONS WITH TRADE CONTRACTORS, INCLUDING BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION CONTRACTORS.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC ACTION.
8. PROVIDE 6'-8" MINIMUM HEADROOM HEIGHT IN ALL EGRESS PATHS. (BENEATH SPRINKLERS, PIPING, LIGHTING, ETC.)

DIMENSIONING AND PARTITION NOTES

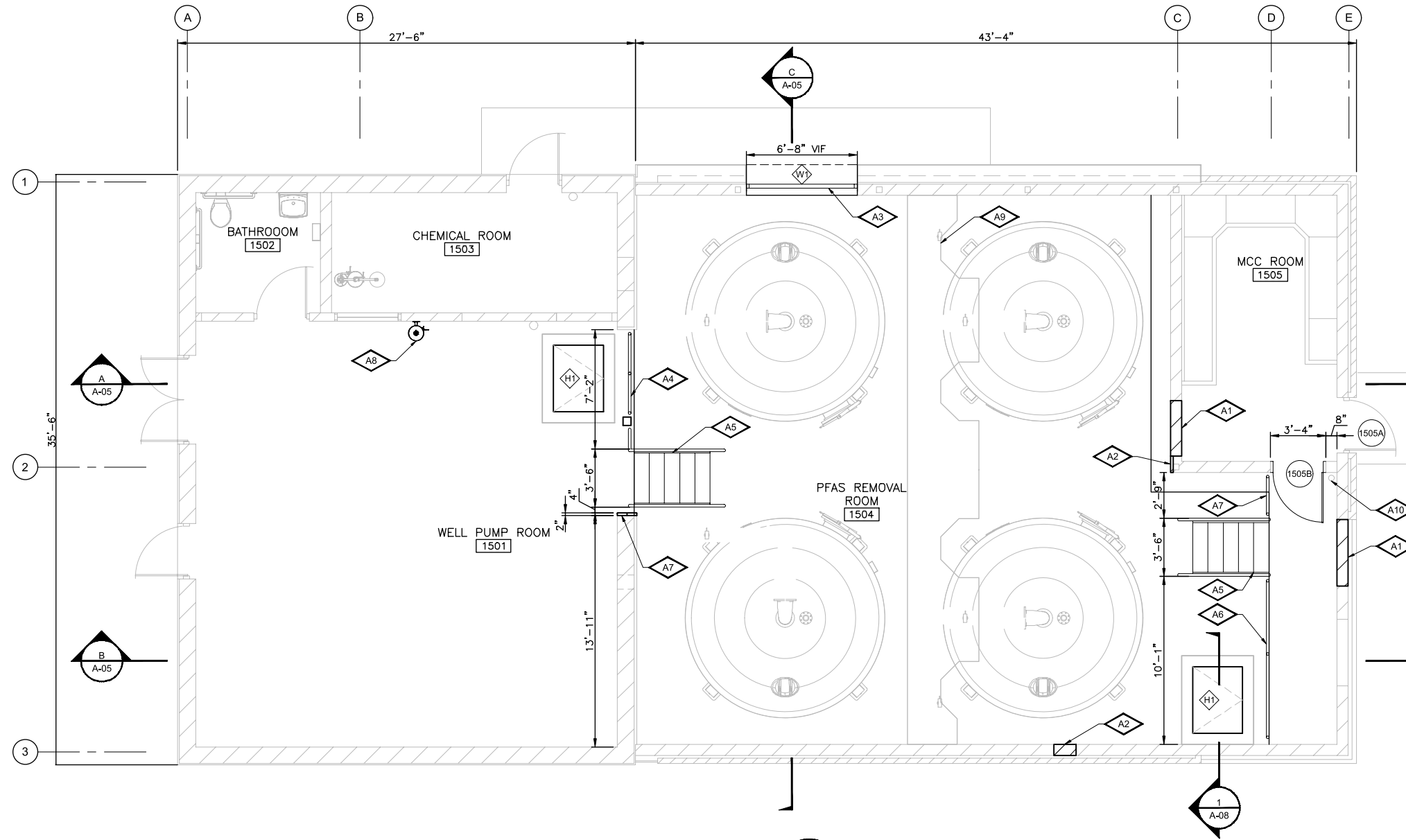
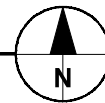
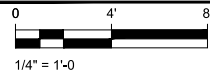
1. ALL DIMENSIONS ARE IN FEET-INCHES.
2. EXTERIOR WALLS ARE DIMENSIONED TO THE EXTERIOR FINISHED FACE OF WALL.
3. INTERIOR WALLS ARE DIMENSIONED TO FACE OF WALL.
4. DOOR ARE LOCATED BY THEIR JAMB DETAIL RELATIVE TO ADJACENT WALLS AND PARTITIONS.
5. DOOR OPENINGS ARE DIMENSIONED TO OUTSIDE FACE OF THE DOOR FRAME.
6. ANCHOR AND REINFORCE CONCRETE CURBS AS SHOWN ON STRUCTURAL DRAWINGS.

JOINT AND SEALANT NOTES

1. SEAL EXTERIOR JOINTS AROUND DOORS, WINDOWS AND FRAMES AND AT PENETRATIONS OF MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS TO PREVENT AIR AND WATER LEAKAGE.
2. ALL SEALANT JOINTS SHALL BE SIZED SUCH THAT THEY WILL BE WITHIN THE MINIMUM/MAXIMUM SIZE AS RECOMMENDED BY THE MANUFACTURER IN THEIR INSTALLED POSITION.
3. ALL SEALANTS SHALL BE INSTALLED WITH APPROPRIATE JOINT FILLER.
4. ALL JOINTS THAT ARE EXPOSED TO VIEW TO BE COLOR MATCHED TO ADJACENT SURFACES UNLESS NOTED OTHERWISE.

PLAN NOTES

- A1 INFILL MASONRY TO MATCH EXISTING (GLAZED CMU STACK BOND)
- A2 REPLACE GLAZED CMU AS REQUIRED WHERE WALL HAS BEEN REMOVED
- A3 TRANSLUCENT SANDWICH PANEL ON MASONRY SILL WALL
- A4 TOP MOUNTED ALUMINUM RAILING SEE DETAILS ON 10-A-07
- A5 ALUMINUM STAIR WITH ALUMINUM HANDRAIL SEE DETAIL ON 10-A-07
- A6 SIDE MOUNTED REMOVABLE ALUMINUM RAILING SEE DETAIL ON 10-A-07
- A7 SIDE MOUNTED ALUMINUM RAILING SEE DETAIL ON 10-A-07
- A8 RELOCATED EYEWASH STATION - SEE PLUMBING
- A9 ALUMINUM GRATING OUTLINE SEE STRUCTURAL FOR LAYOUT
- A10 EXISTING ROOF DRAIN LINE TO REMAIN

**FIRST FLOOR PLAN****PROJECT**

UNIT WELL 15 PFAS
TREATMENT FACILITY

CLIENT

MADISON WATER UTILITY

119 E. OLIN AVENUE
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KEY PLAN**PROJECT NUMBER**

60686092

SHEET TITLE

ARCHITECTURAL
FIRST FLOOR PLAN

DWG NUMBER

10-A-02







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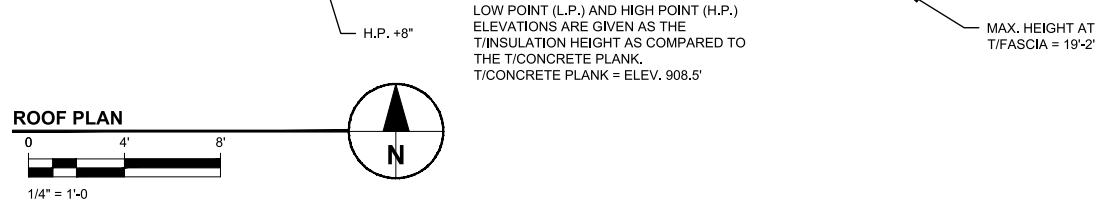
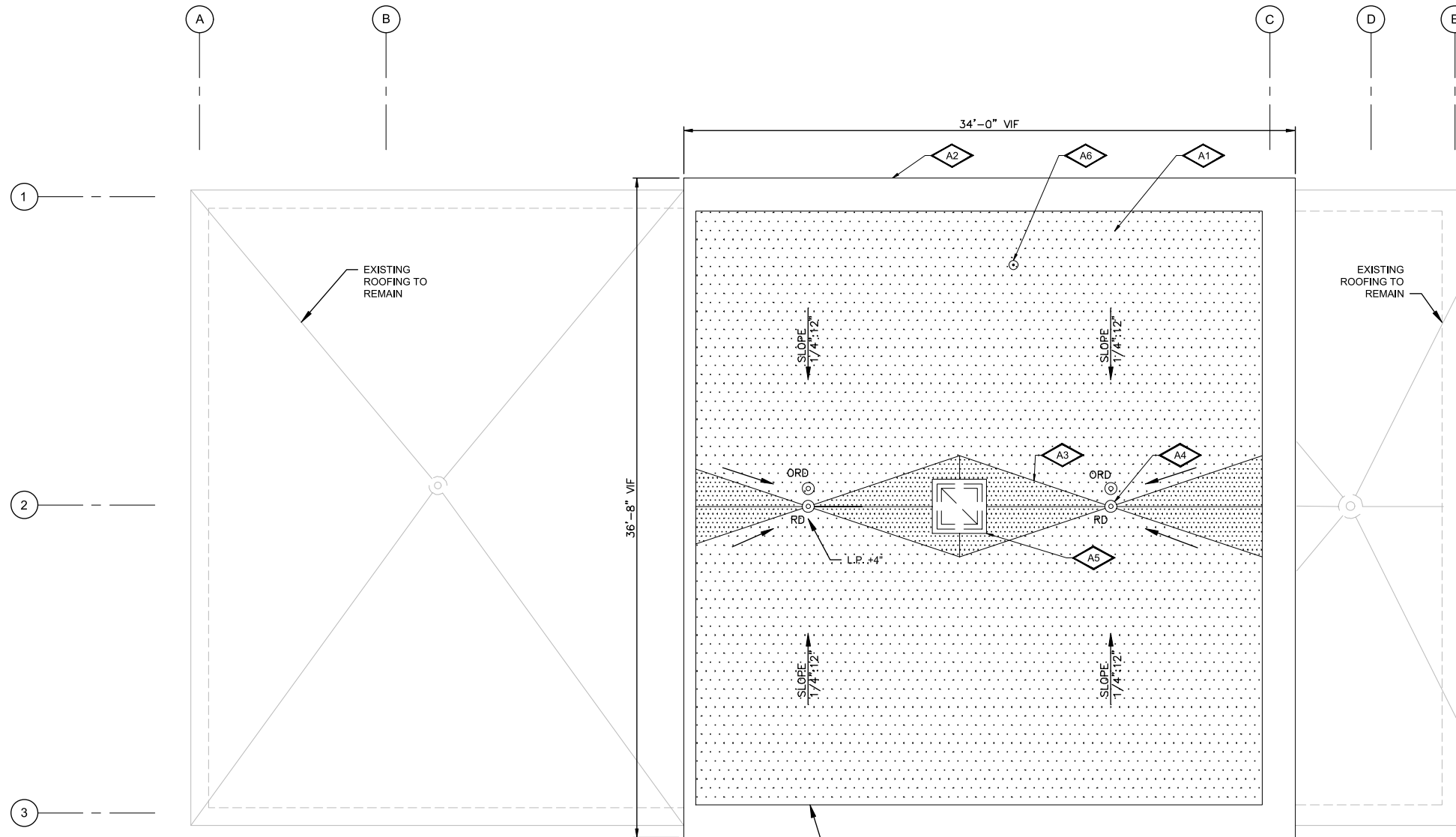
22 OF 55

GENERAL ROOF NOTES

1. ALL TOP OF CONCRETE ELEVATIONS SHALL BE VERIFIED WITH TOP OF CONCRETE ELEVATIONS INDICATED IN THE STRUCTURAL DRAWINGS.
2. VERIFY ALL OPENINGS WITH STRUCTURAL PLANS.
3. OVERFLOW DRAINS TO BE A MINIMUM OF 2" HIGHER THAN THE PRIMARY ROOF DRAIN.
4. OVERFLOW AND PRIMARY ROOF DRAINS TO BE A MINIMUM OF 2'-0" APART.
5. ROOF DETAILS AND CONDITIONS SHALL BE IN THE STRICT COMPLIANCE WITH ROOFING MANUFACTURER'S REQUIREMENTS.
6. PROVIDE CRICKETS AS REQUIRED AT ALL ROOF PENETRATIONS AND EQUIPMENT CURBS.
7. COORDINATE ROOF TOP MECHANICAL EQUIPMENT AND PIPING WITH MECHANICAL AND STRUCTURAL DRAWINGS.
8. COORDINATE ROOF PIPING PENETRATIONS WITH PLUMBING DRAWINGS.
9. ALL WORK AFFECTING ROOF WARRANTY SHALL BE PERFORMED BY A CONTRACTOR THAT IS CERTIFIED WITH THE ROOFING MANUFACTURER SO AS NOT TO NEGATE THE WARRANTY.

ROOF PLAN NOTES

-  A1 SINGLE PLY MEMBRANE ON TAPERED INSULATION SEE DETAIL 1/10-A-07
-  A2 PREFINISHED METAL FASCIA
-  A3 CRICKET - WITH 1/2" PER FOOT SLOPE TO DRAIN
-  A4 ROOF DRAIN - SEE PLUMBING DRAWINGS AND DETAIL 2/10-A-07
-  A5 EXHAUST FAN - SEE MECHANICAL DRAWINGS AND DETAIL 3/10-A-07
-  A6 PLUMBING VENT - SEE PLUMBING DRAWINGS AND DETAIL 4/10-A-07



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ARCHITECTURAL
ROOF PLAN

DWG NUMBER **SHT NUMBER**
10-A-03 23 OF 55



GENERAL ELEVATION NOTES

- EXISTING MAX. ELEVATION HEIGHT OF 19'-2" (VERIFY PRIOR TO DEMOLITION) TO BE MAINTAINED AFTER PARAPET RECONSTRUCTION.










ELEVATION LEGEND

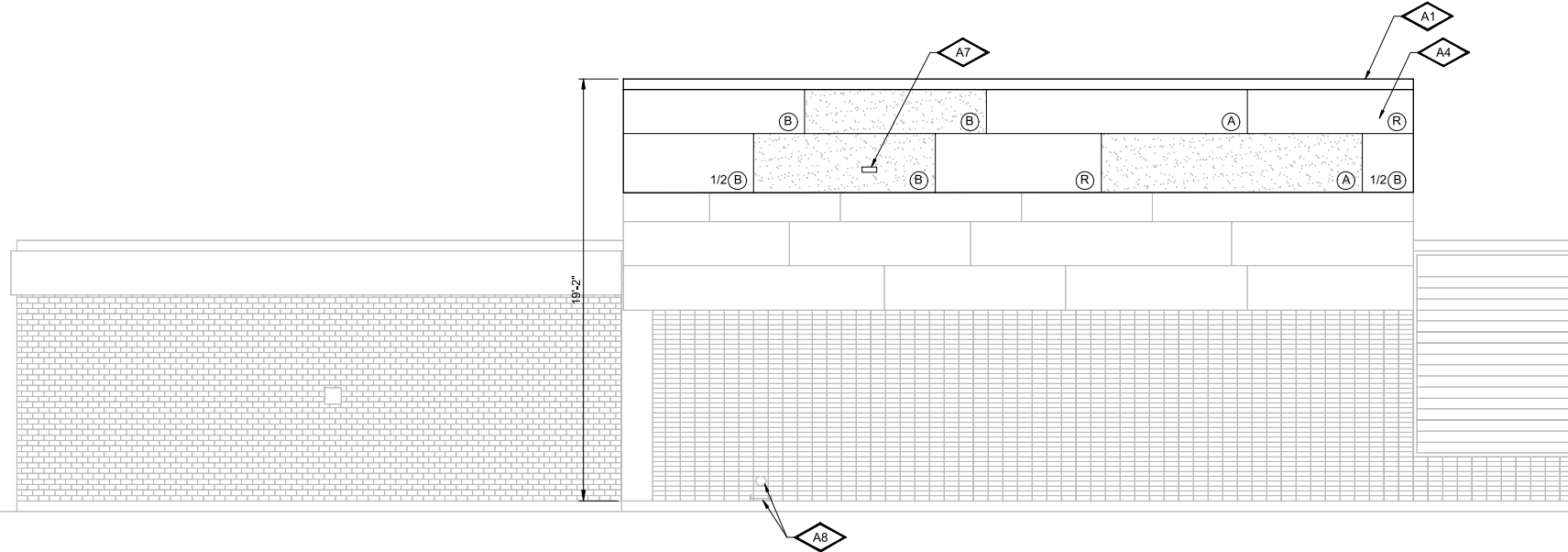
ALL GLASS FIBER REINFORCED WALL PANELS ARE TO BE STORED DURING THE PARAPET RECONSTRUCTION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS. COLORS AND SIZES ARE GIVEN FOR ASSISTANCE IN THIS PROCESS. PANELS LOCATED AT CORNERS HAVE MITERED EDGES.

GLASS FIBER REINFORCED WALL PANELS= 'CONCRETE SKIN' AS MANUFACTURED BY RIEDER GROUP

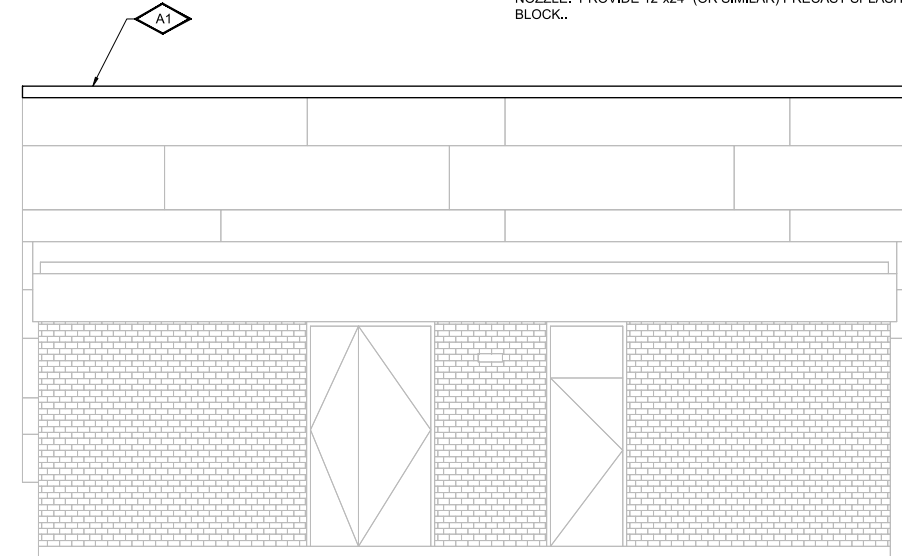
-  COLOR: ANTHRACITE
FINISH: FERRO LIGHT
-  COLOR: ANTHRACITE
FINISH: MATT
- (A) SIZE: 11'-10 3/8" TO JOINT CENTERLINE
- (B) SIZE: 8'-3 1/16" TO JOINT CENTERLINE
- (R) SIZE: REMAINDER OF LENGTH

ELEVATION NOTES

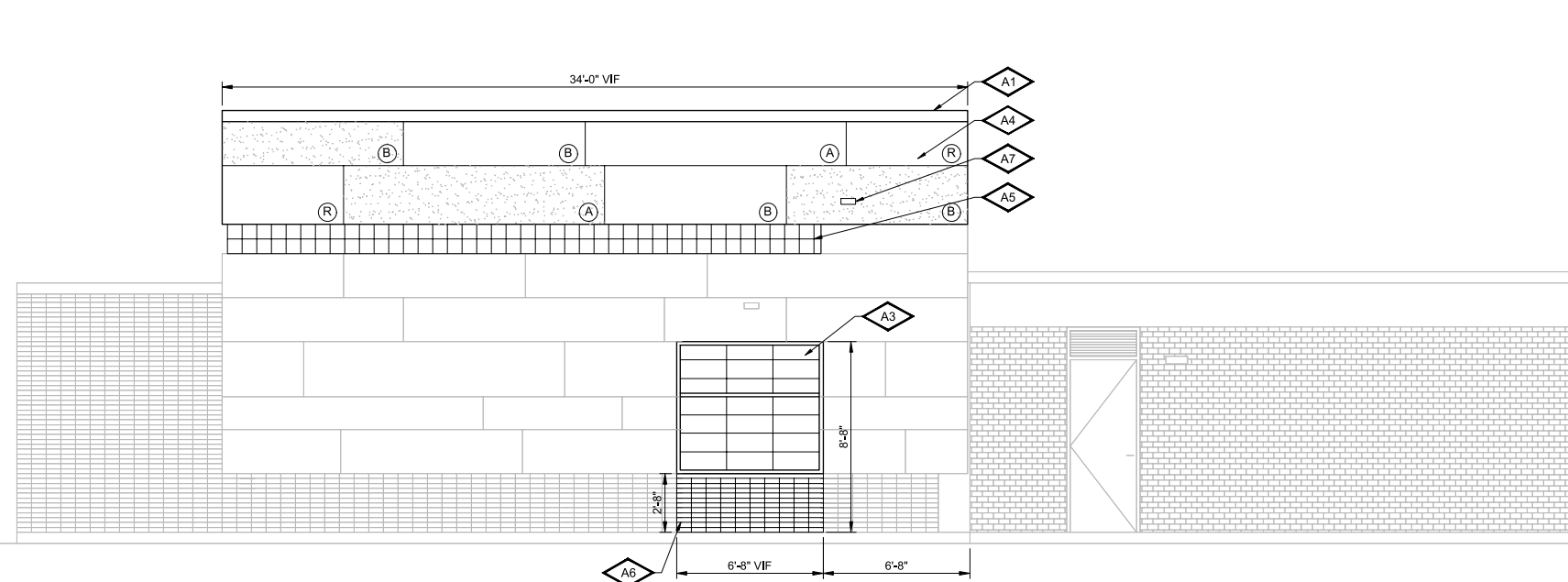
-  PREFINISHED METAL FASCIA
-  CARD READER WITH WEATHERSHIELD
-  TRANSLUCENT SANDWICH PANEL
-  GLASS-FIBER REINFORCED WALL PANEL TO BE REINSTALLED AFTER PARAPET STRUCTURE REBUILD
-  GLASS BLOCK TO BE REINSTALLED AFTER PARAPET STRUCTURE REBUILD
-  STACK BOND BRICK VENEER TO MATCH EXISTING
-  EXISTING SCUPPER LOCATIONS ARE NO LONGER IN USE - PROVIDE DARK BRONZE ANODIZED ALUM. COVERPLATE OR REPLACE INDIVIDUAL GLASS-FIBER REINFORCED WALL PANEL TO MATCH EXISTING.
-  EXISTING OVERFLOW ROOF DRAIN DOWNSPOUT NOZZLE. PROVIDE 12"x24" (OR SIMILAR) PRECAST SPLASH BLOCK..
-  SEE PLUMBING FOR NEW ROOF DRAIN DOWNSPOUT NOZZLE. PROVIDE 12"x24" (OR SIMILAR) PRECAST SPLASH BLOCK..



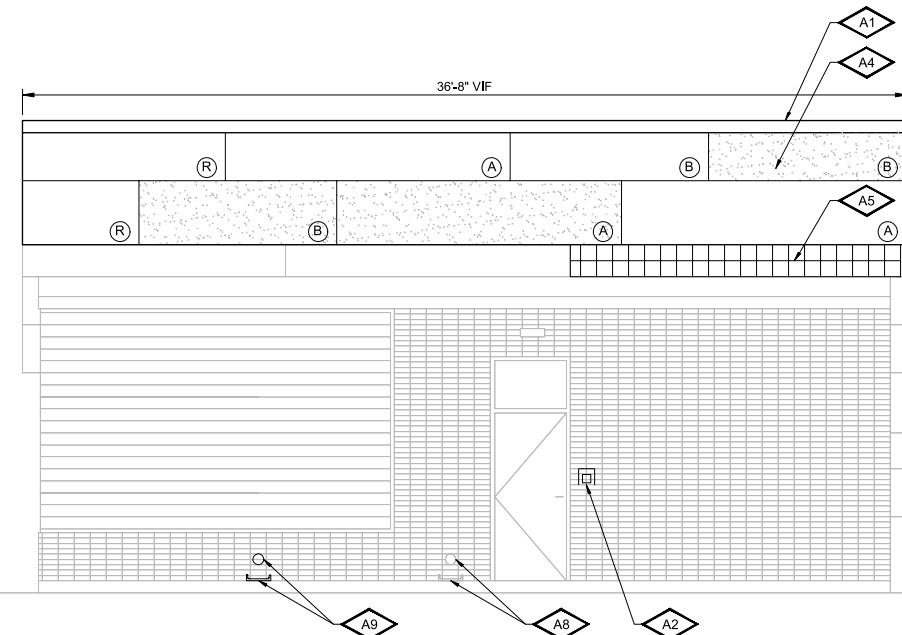
4 | SOUTH ELEVATION
0 4' 8'
1/4" = 1'-0"



2 | WEST ELEVATION
0 4' 8'
1/4" = 1'-0"



3 | NORTH ELEVATION
0 4' 8'
1/4" = 1'-0"

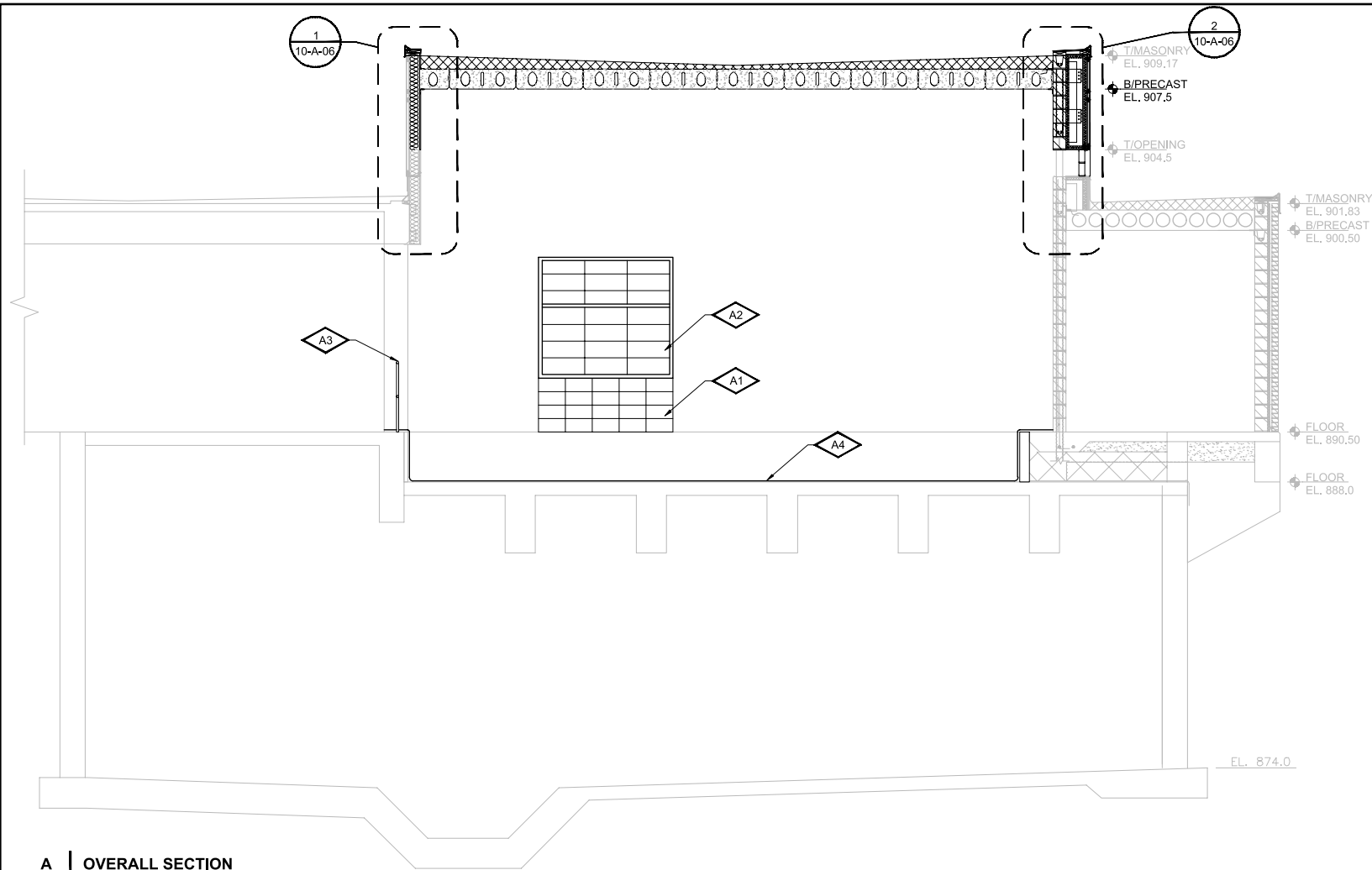


1 | EAST ELEVATION
0 4' 8'
1/4" = 1'-0"

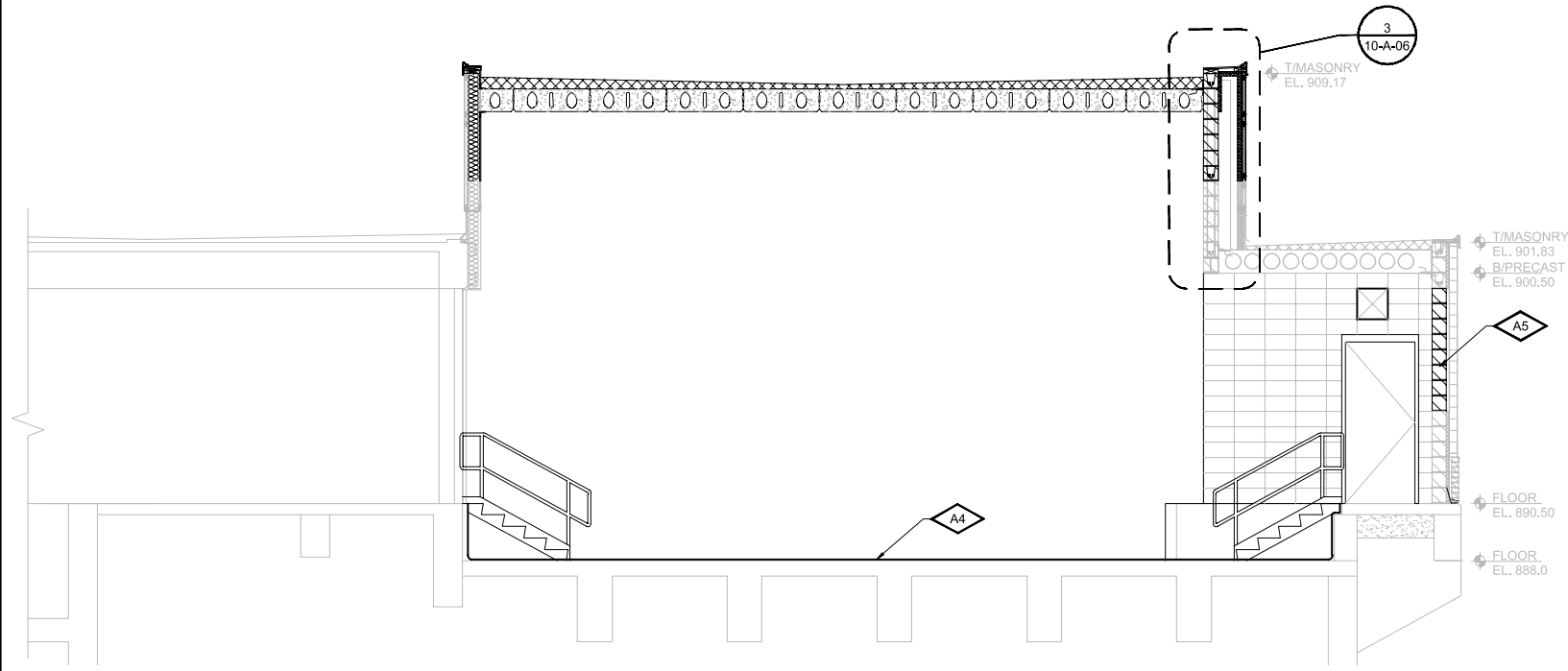
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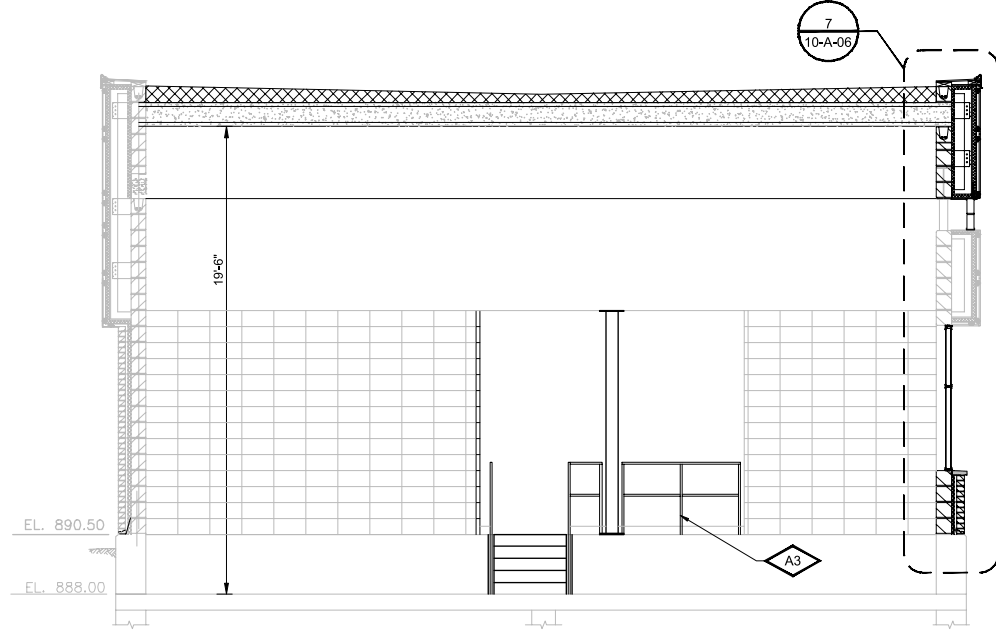
KEY PLAN



A | OVERALL SECTION
 0 4' 8'
 1/4" = 1'-0"



B | OVERALL SECTION
 0 4' 8'
 1/4" = 1'-0"



C | CROSS SECTION
 0 4' 8'
 1/4" = 1'-0"

- SECTION NOTES**
- A1 GLAZED CONCRETE MASONRY UNIT SILL
 - A2 TRANSLUCENT SANDWICH PANEL
 - A3 ALUMINUM RAILING - EXTEND KICKPLATE ACROSS ENTIRE OPENING
 - A4 SEE SCHEDULE FOR FLOOR FINISH
 - A5 MASONRY INFILL (STACK BOND)



PROJECT
 UNIT WELL 15 PFAS
 TREATMENT FACILITY

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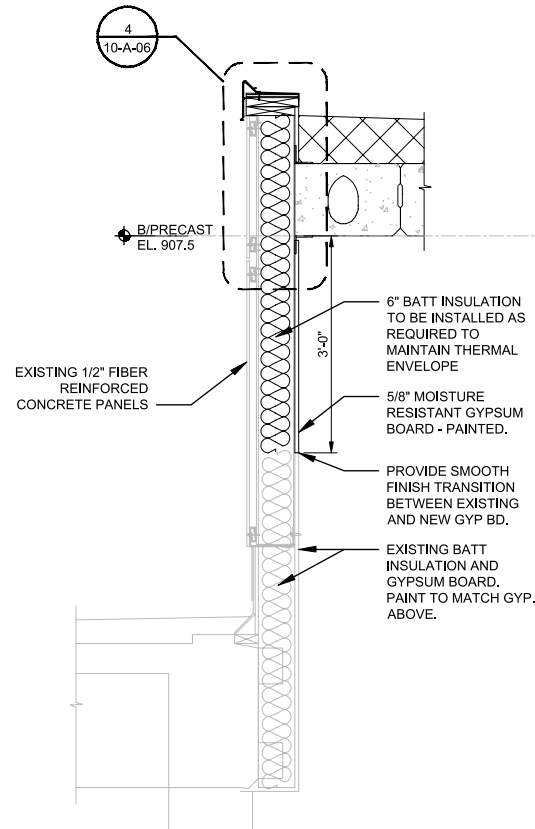
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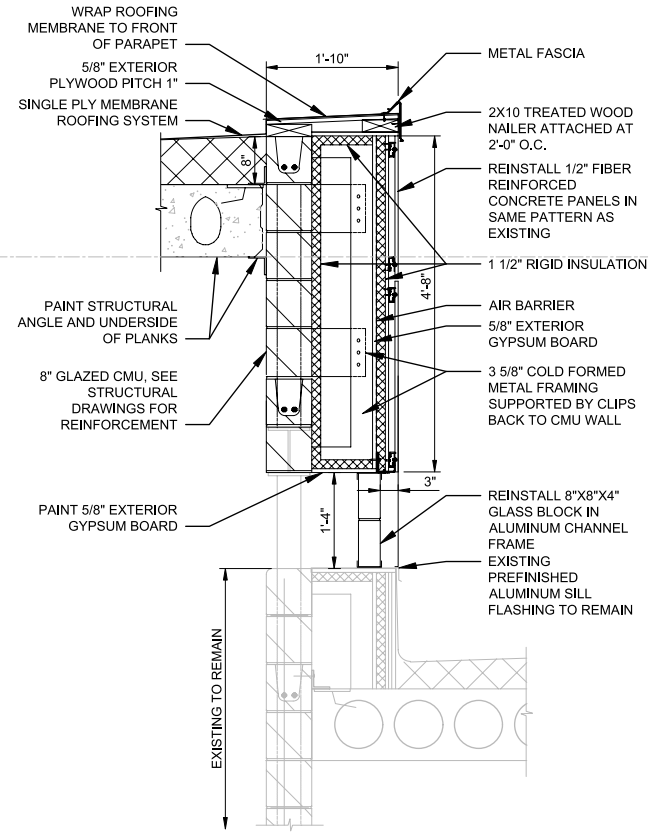
PROJECT NUMBER
 60686092

SHEET TITLE
 ARCHITECTURAL SECTIONS

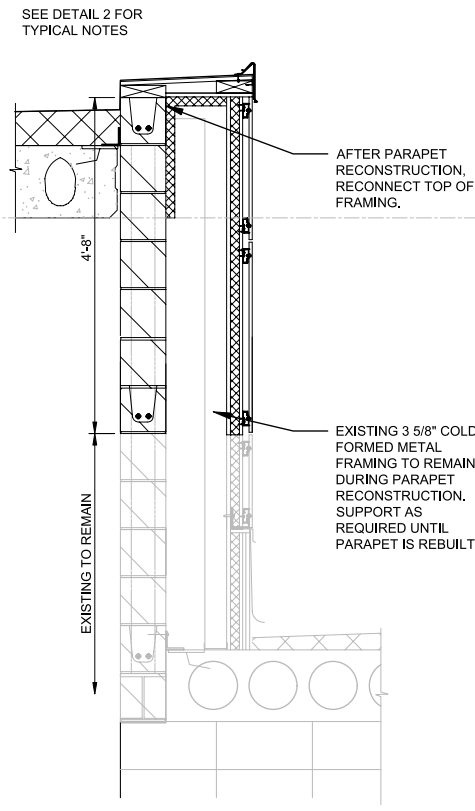
DWG NUMBER **SHT NUMBER**
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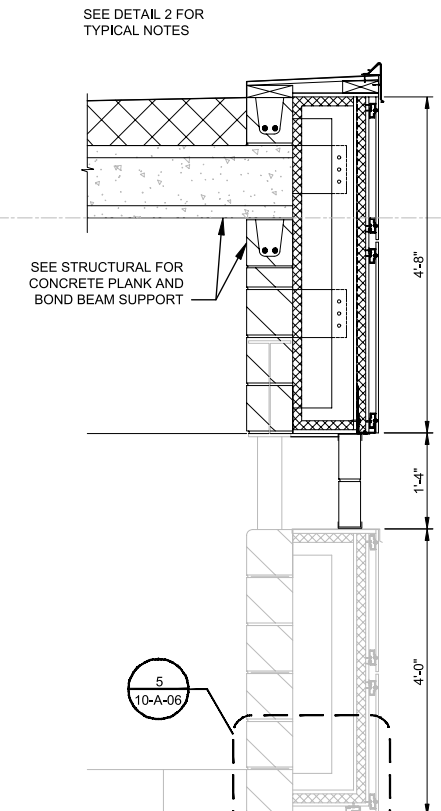
1 ENLARGED SECTION
 0 1 2
 3/4" = 1'-0"



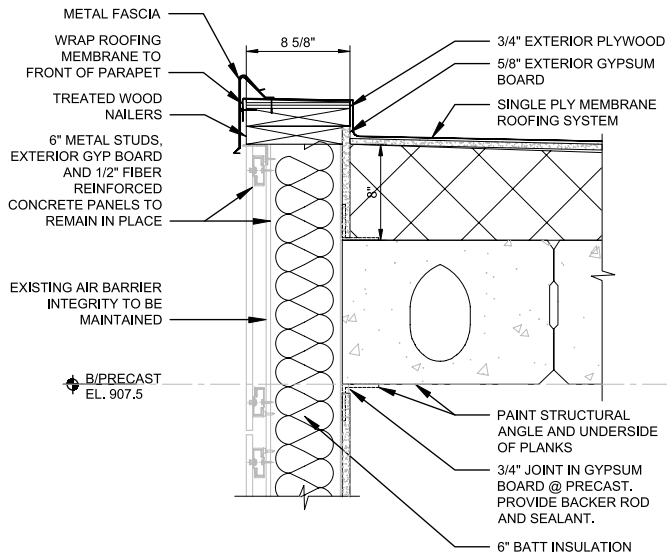
2 ENLARGED SECTION
 0 1 2
 3/4" = 1'-0"



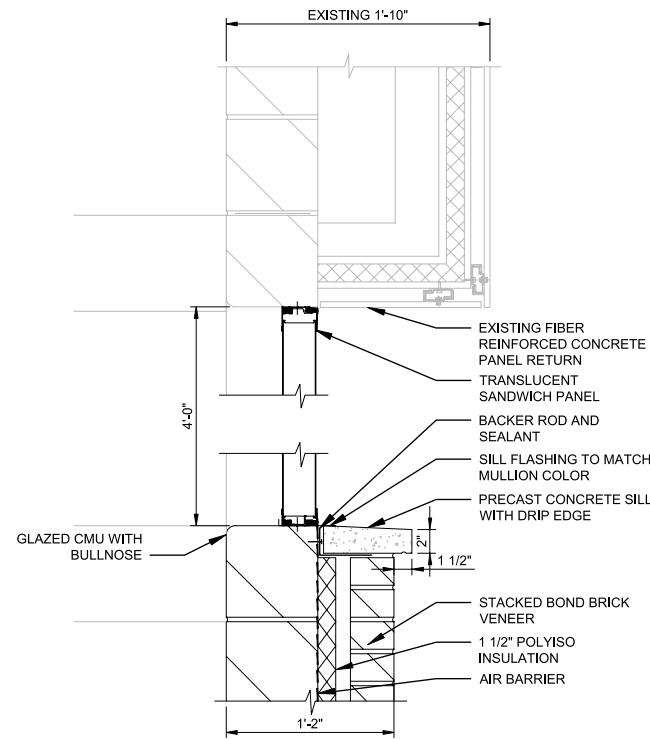
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 3/4" = 1'-0"



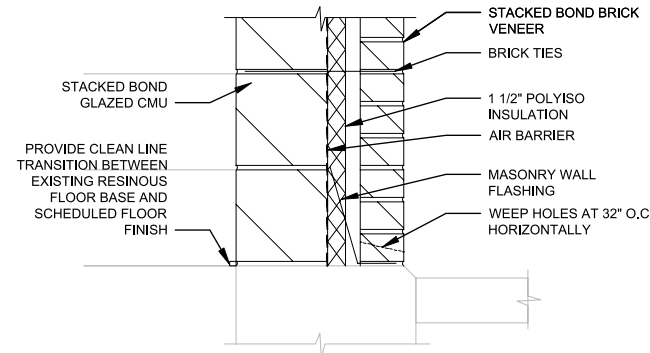
4 ENLARGED SECTION
 0 1 2
 3/4" = 1'-0"



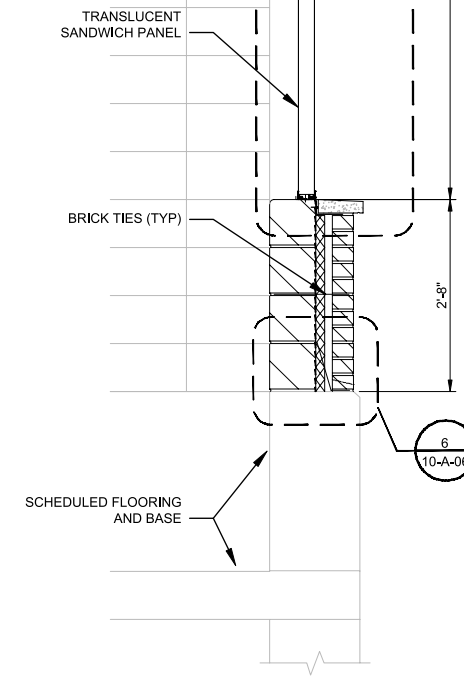
4 ENLARGED DETAIL
 0 1 2
 3/4" = 1'-0"



5 ENLARGED DETAIL
 0 1 2
 3/4" = 1'-0"



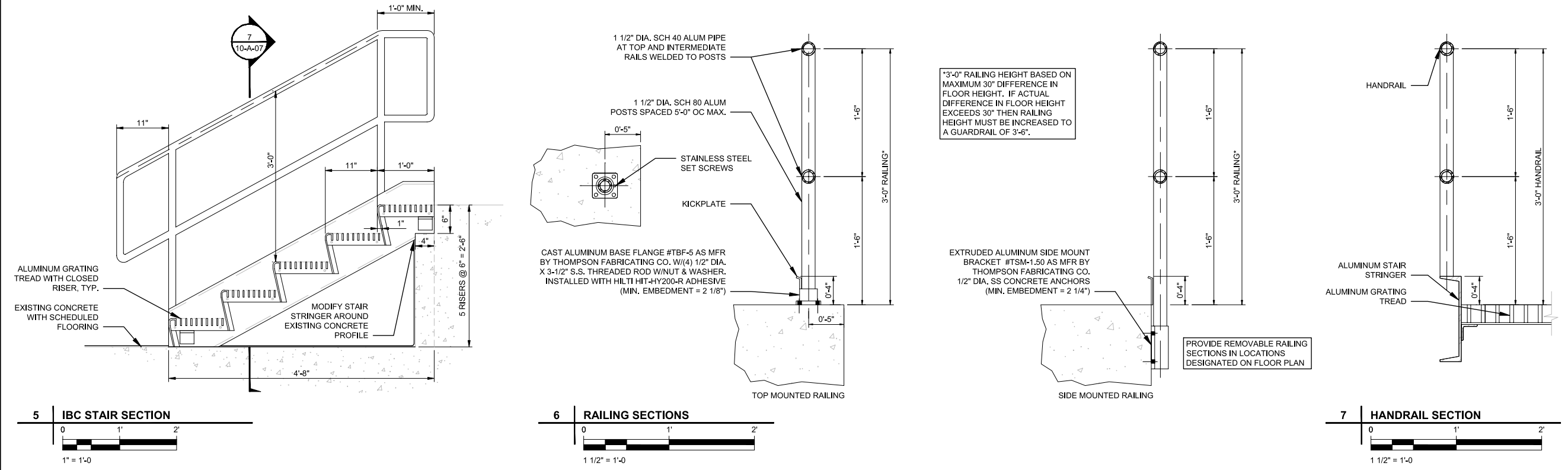
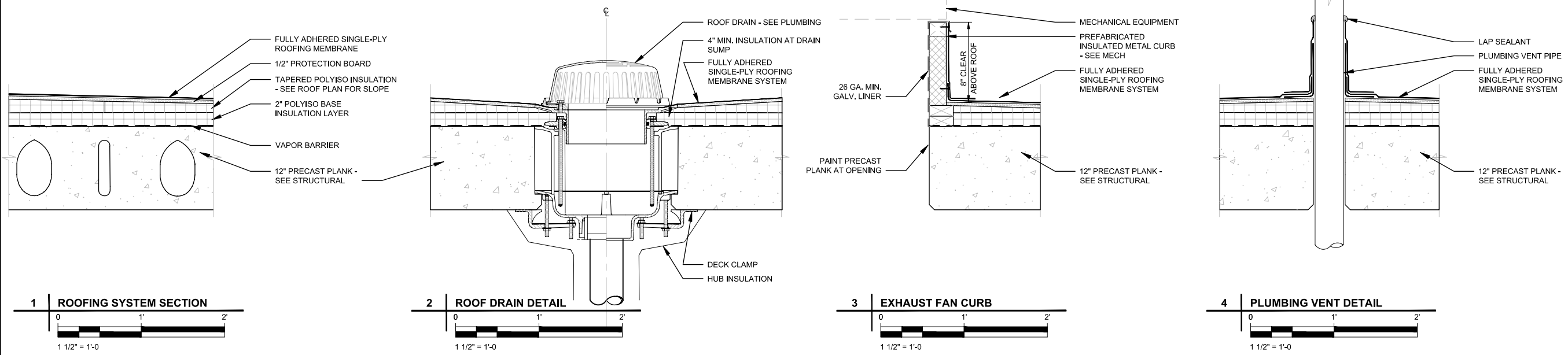
6 ENLARGED DETAIL
 0 1 2
 3/4" = 1'-0"



7 ENLARGED SECTION
 0 1 2
 3/4" = 1'-0"

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KEY PLAN



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DOOR SCHEDULE

DOOR NUMBER	DOOR			FRAME		LABEL	HARDWARE GROUP	ACCESS CONTROL	DETAIL		NOTES
	SIZE	MATERIAL	TYPE	MATERIAL	TYPE				HEAD	JAMB	
1505A	3'-0" X 7'-0"	EXIST. FRP	F	EXIST. ALUM	F2	-	1	CR	-	-	EXISTING - ADD CR AND WEATHERSHIELD
1505B	3'-0" X 7'-0"	FRP	F	ALUM	F1	-	2	-	-	J2	SEE STRUCTURAL FOR LINTEL SCHEDULE

GENERAL NOTES:
SEE SPECIFICATIONS FOR HARDWARE INFORMATION.

ACCESS HATCH SCHEDULE

HATCH NUMBER	SIZE	MATERIAL	TYPE	CURB	LABEL	DETAIL	NOTES
H1	3'-0" X 4'-0"	ALUM	ROOF	INSULATED	-	1/10-A-08	GASKETED; PROVIDE (1) S1 SIGN PER HATCH

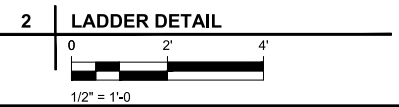
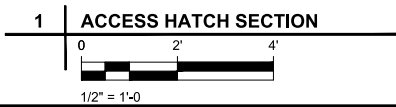
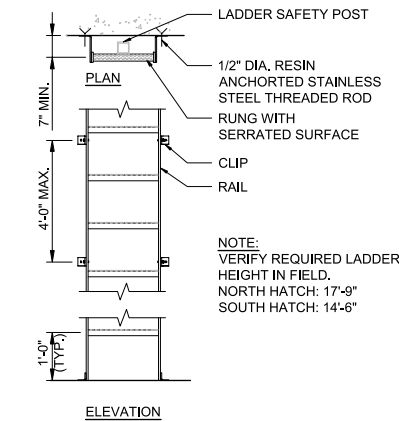
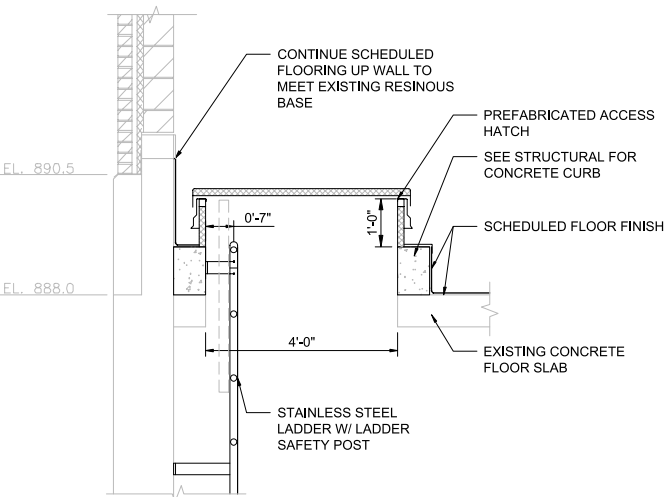
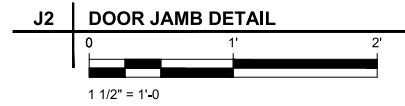
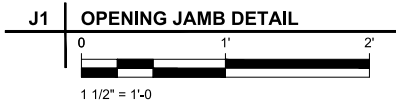
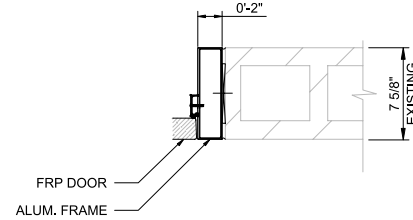
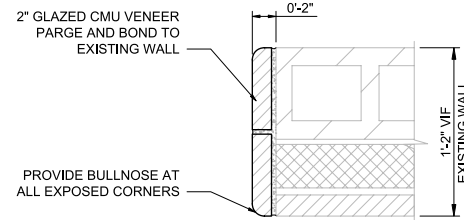
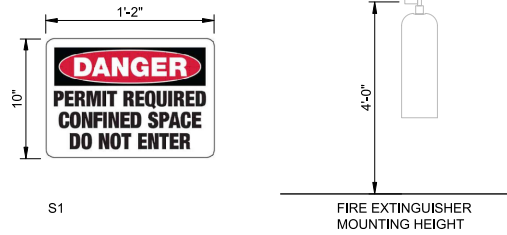
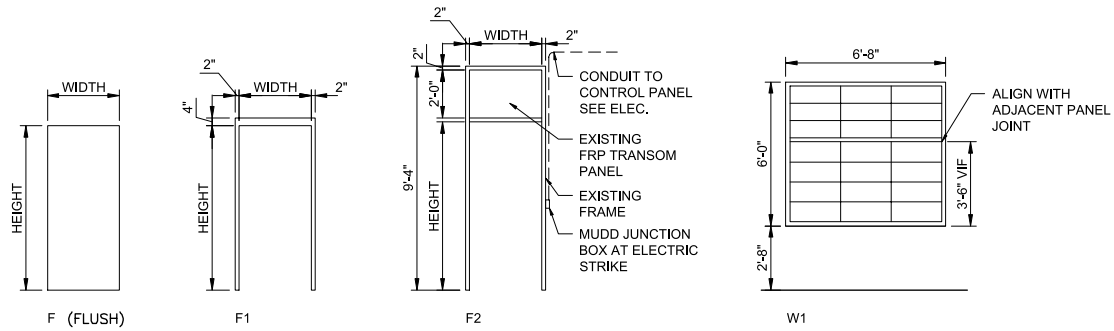
GENERAL NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL HATCH INFORMATION.

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR		WALLS			CEILING		HEIGHT	NOTES
		MATERIAL	BASE	NORTH	SOUTH	EAST	WEST	MATERIAL		
1501	WELL PUMP ROOM	-	-	-	-	-	-	-	10'-11"	2,3
1502	BATHROOM	-	-	-	-	-	-	-	10'-11"	1
1503	CHEMICAL ROOM	-	-	-	-	-	-	-	10'-11"	4
1504	PFAS REMOVAL ROOM	CONC-S	CONC-S	GCMU	-	-	PAINT	CONC PLANK	19'-6"	5
1505	MCC	-	-	-	-	-	-	-	10'-0"	2

- NOTES:
 1. EXISTING ROOM TO REMAIN - NO ADDITIONAL FINISHES
 2. PATCH RESINOUS FLOOR AT NEW MASONRY WALL OPENINGS
 3. PATCH RESINOUS FLOOR AT ALL EQUIPMENT REMOVAL LOCATIONS
 4. WALLS ARE 1 HOUR RATED FIRE BARRIERS - ALL NEW MEP PENETRATIONS TO BE FILLED WITH UL TESTED FIRESTOPPING SYSTEMS
 5. PAINT GYPSUM BOARD AT REBUILT WEST WALL PARAPET

- ABBREVIATIONS
 - NO WORK/NOT APPLICABLE
 CONC CONCRETE
 CONC-S CONCRETE SEALER
 EXIST EXISTING
 GCMU GLAZED CONCRETE MASONRY UNIT







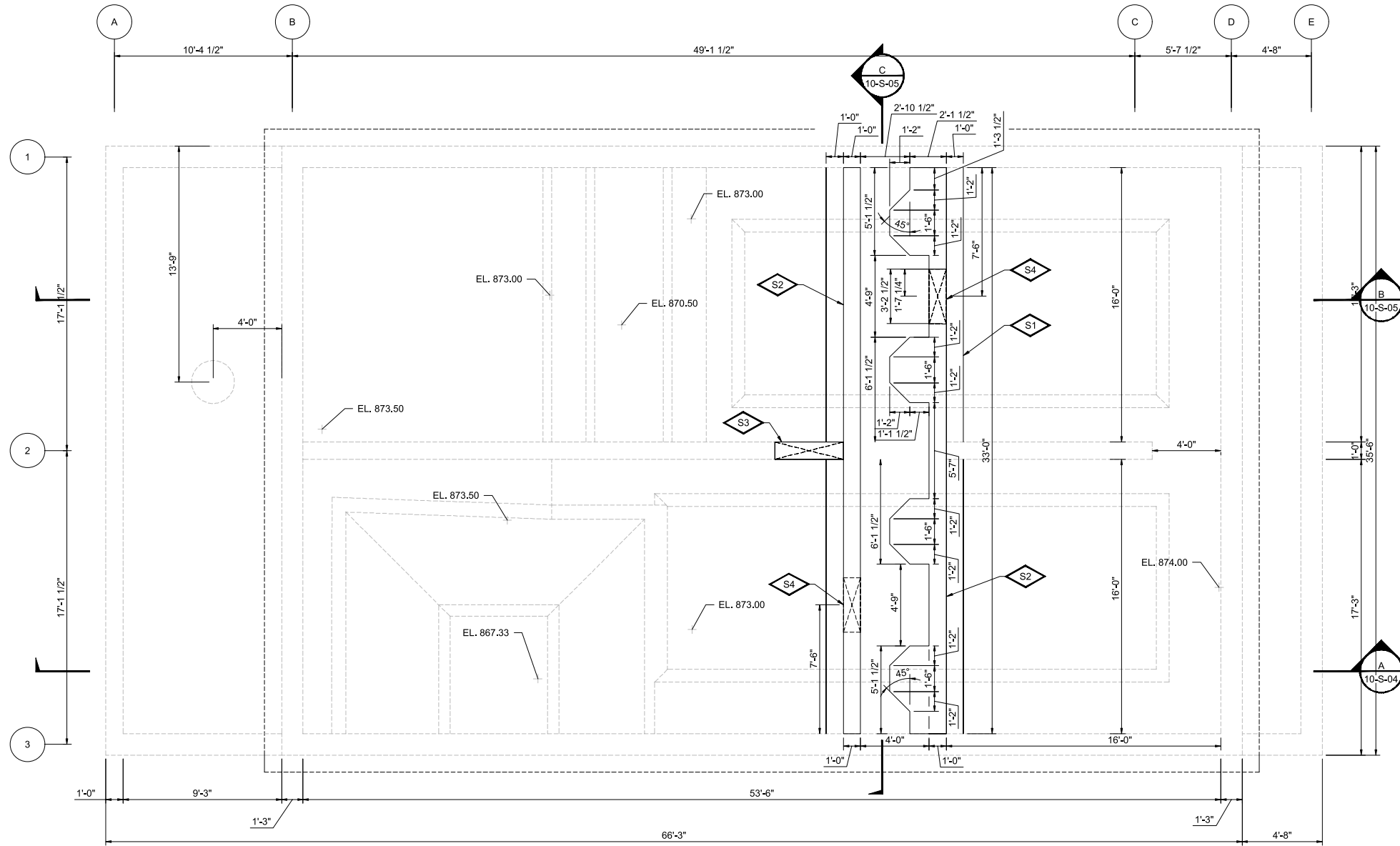
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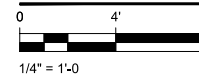
KEY PLAN

PLAN NOTES

-  S1 CONSTRUCT BASE SLAB TO BE PLACED ON TOP OF EXISTING SLAB
-  S2 CONSTRUCT 12-INCH CONCRETE WALL
-  S3 NEW OPENING IN WALL TO PROVIDE FLOW BETWEEN TANKS
-  S4 ACCESS MANWAY OPENING IN WALL. SEE DETAIL SHEET 10-S-06.



FOUNDATION PLAN



STRUCTURAL DESIGN CRITERIA		
Design Codes	BUILDING CODE (WISCONSIN COMMERCIAL BUILDING CODE)	IBC 2015
	CONCRETE DESIGN CODE	ACI 318-14
	MASONRY DESIGN CODE	ACI 530-13
ROOF LIVE LOAD	OCCUPANCY CATEGORY	IV
	MINIMUM ROOF LIVE LOAD (PSF)	20
	ROOF DRAIN OVERFLOW LOAD - 4" DEPTH	20
ROOF SNOW LOAD	GROUND SNOW LOAD (Pg) (PSF)	30
	FLAT ROOF SNOW LOAD (PF)	23
	SLOPED ROOF SNOW LOAD	23
	SNOW EXPOSURE FACTOR (Ce)	0.9
	SNOW LOAD IMPORTANCE FACTOR (Is)	1.2
WIND LOAD	THERMAL FACTOR (Ct)	1.0
	DRIFT LOADS	PER IBC CODE
	BASIC 3-SECOND GUST WIND SPEED (MPH)	120
	WIND IMPORTANCE FACTOR (Iw)	1.15
	WIND EXPOSURE	B
EARTHQUAKE DESIGN DATA	COMPONENTS AND CLADDING DESIGN WIND PRESSURE (PSF)	PER IBC CODE
	SEISMIC IMPORTANCE FACTOR (Ie)	1.5
	SITE CLASS	D
	SPECTRAL RESPONSE ACCELERATION PARAMETERS	Ss 0.084 S1 0.045
	SPECTRAL RESPONSE COEFFICIENTS	SDS 0.089 SD1 0.073
OTHER LOADS	SEISMIC DESIGN CATEGORY	B
	BASIC SEISMIC FORCE RESISTING SYSTEM (ALL CONCRETE BLOCK BUILDING)	ORDINARY REINF. MASONRY SHEAR WALLS
	RESPONSE MODIFICATION COEFFICIENT (R)	5
	DESIGN BASE SHEAR	0.026W
	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
GEOTECHNICAL	LATERAL EARTH PRESSURE (PCF EQUIV. FLUID)	DRY - UNRESTRAINED TOP 40 DRY - RESTRAINED TOP 55 BELOW WATER TABLE 95
	LATERAL FLUID PRESSURE (PCF)	62.4
	BUOYANCY (PCF X DEPTH BELOW GROUNDWATER LEVEL)	62.4
	NET ALLOWABLE SOIL BEARING PRESSURE (EXISTING FOUNDATIONS)	3000 PSF
PLANNED SUBGRADE	EXISTING	

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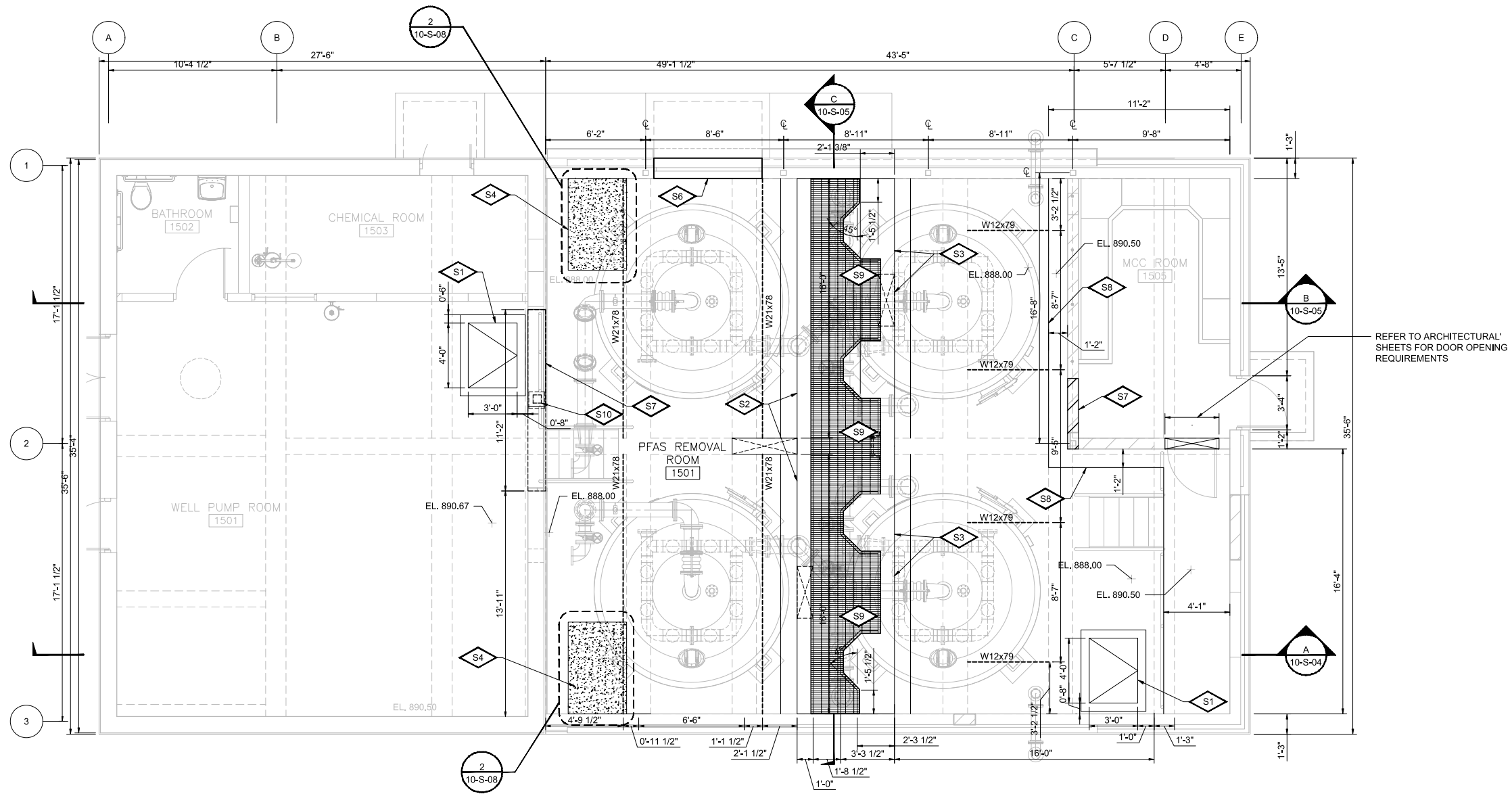
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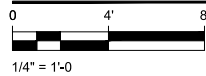
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PLAN NOTES

- S1 CONCRETE WALLS AROUND HATCH OPENING. SEE SHEET 10-S-06.
- S2 12-INCH CONCRETE WALLS. SEE SHEET 10-S-08.
- S3 CONSTRUCT COMBINED 12-INCH CONCRETE WALL AND COLUMNS. SEE SHEET 10-S-08.
- S4 INFILL OPENING WITH CONCRETE. SEE DETAILS SHEET 10-S-08.
- S5 INFILL OPENING WITH METAL PANEL.
- S6 INFILL OPENING. SEE DWG. 10-A-02 FOR DETAILS.
- S7 EXISTING OPENING PROTECTED WITH GUARDRAIL. REFER TO ARCHITECTURAL DRAWING 10-A-02.
- S8 6-INCH CONCRETE STUB WALL TIED TO EXISTING SLABS TO REMAIN. SEE DETAIL 08-325
- S9 GRATING SUPPORT. SEE DETAIL 08-540
- S10 HSS COLUMN, BASE, AND TOP PLATE. SEE DWG. 10-S-06 FOR DETAILS



FIRST FLOOR STRUCTURAL FRAMING PLAN



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SHEET TITLE

FIRST FLOOR FRAMING PLAN

DWG NUMBER

10-S-02

SHT NUMBER

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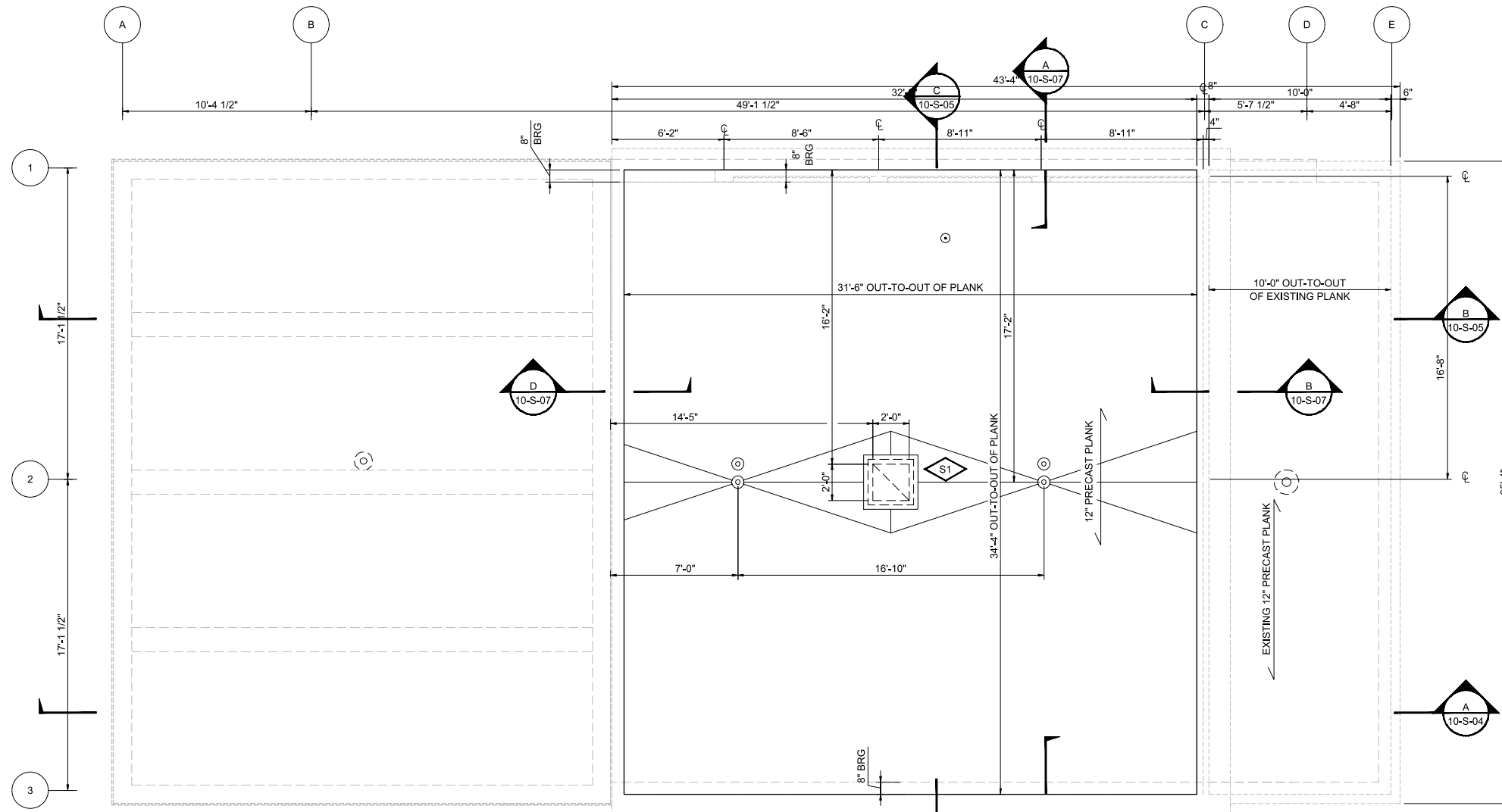
PLAN NOTES

S1 PRECAST ROOF PLANK

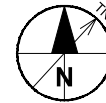
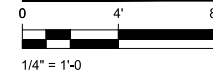


PROJECT
UNIT WELL 15 PFAS
TREATMENT FACILITY

CLIENT
MADISON WATER UTILITY
119 E. OLIN AVENUE
MADISON, WISCONSIN 53713
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ROOF FRAMING PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

ROOF FRAMING PLAN

DWG NUMBER

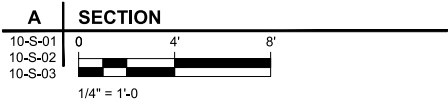
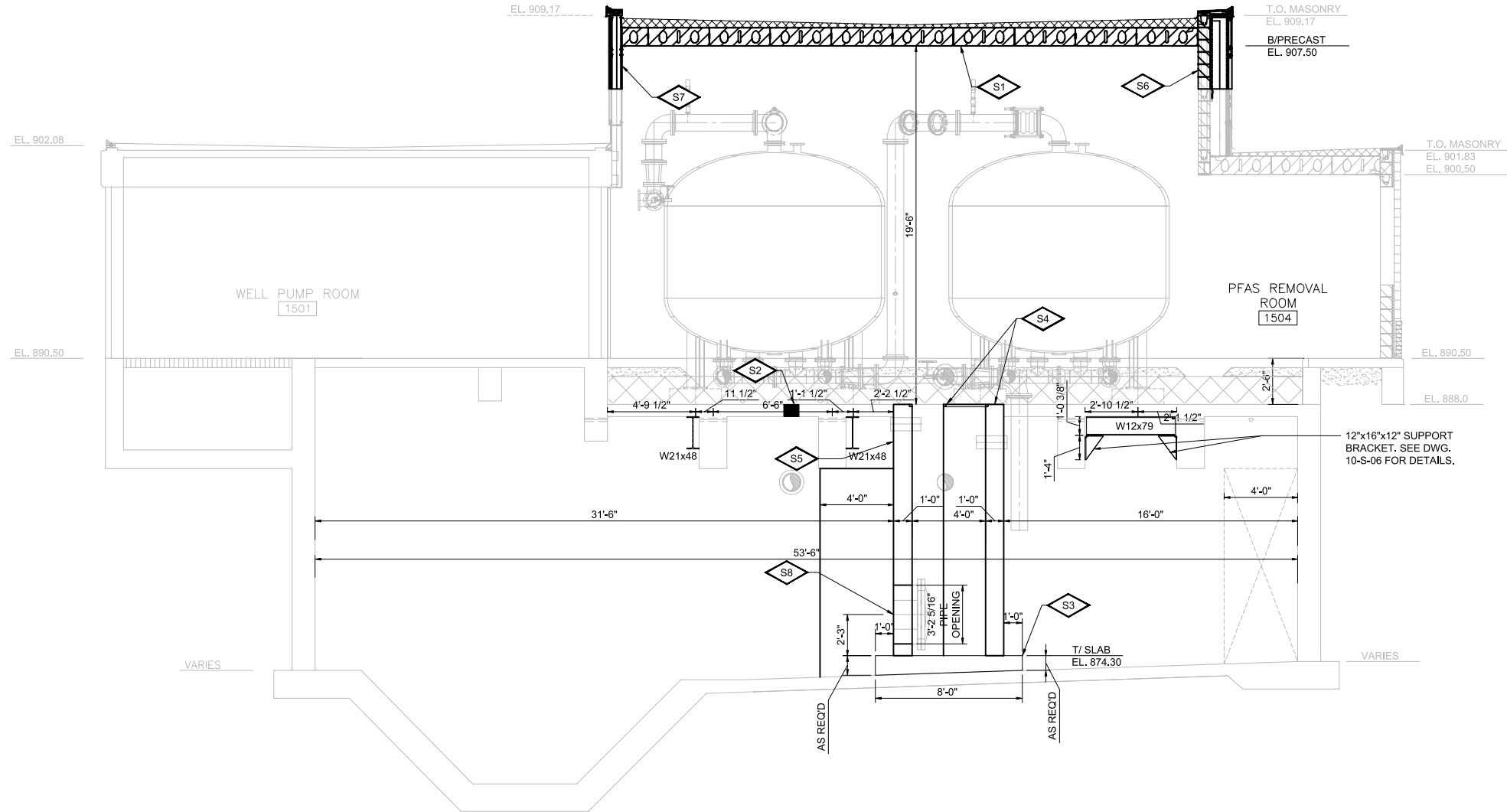
10-S-03

SHT NUMBER

31 OF 55

PLAN NOTES

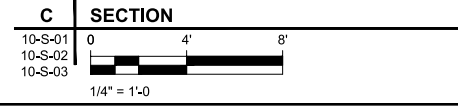
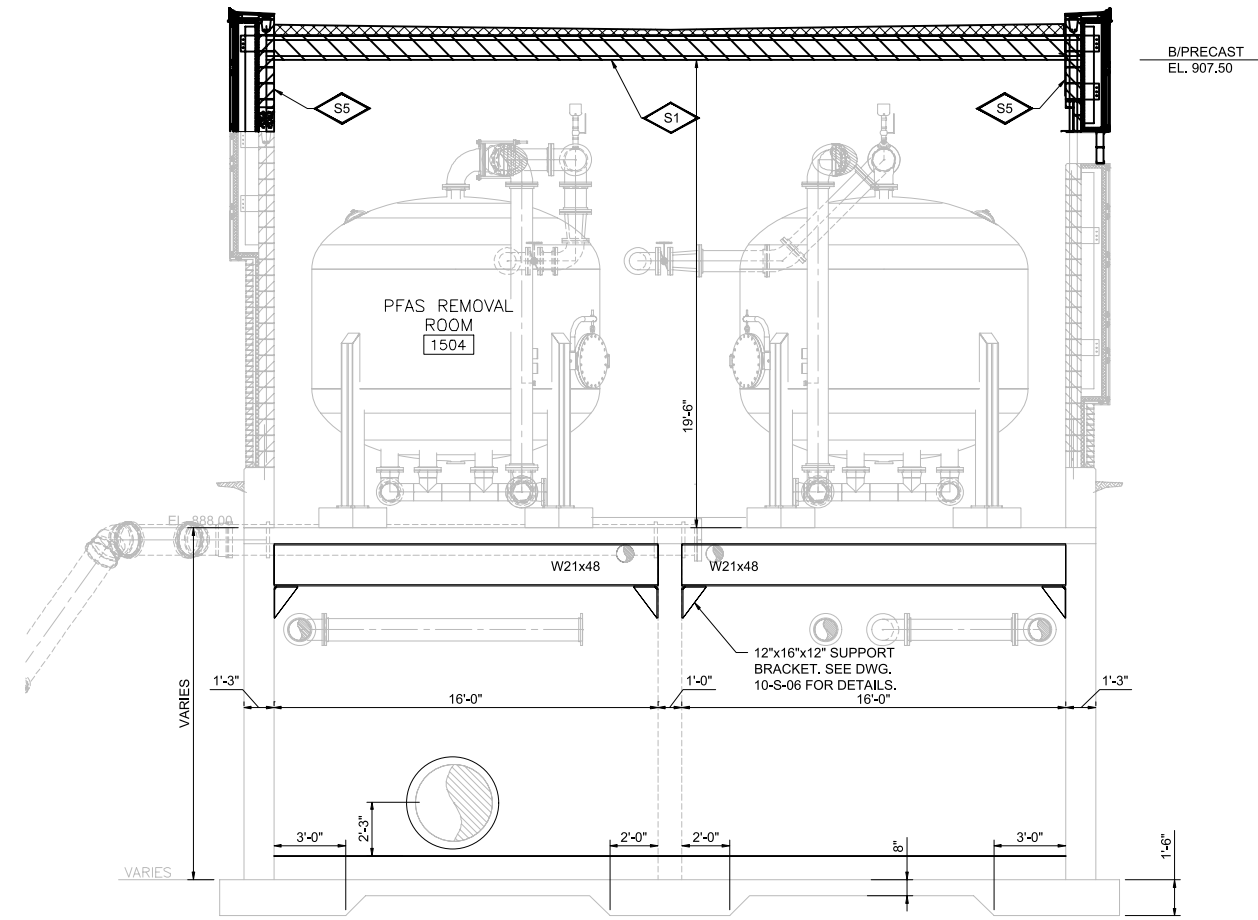
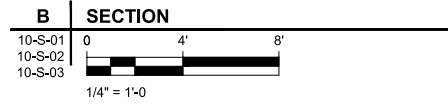
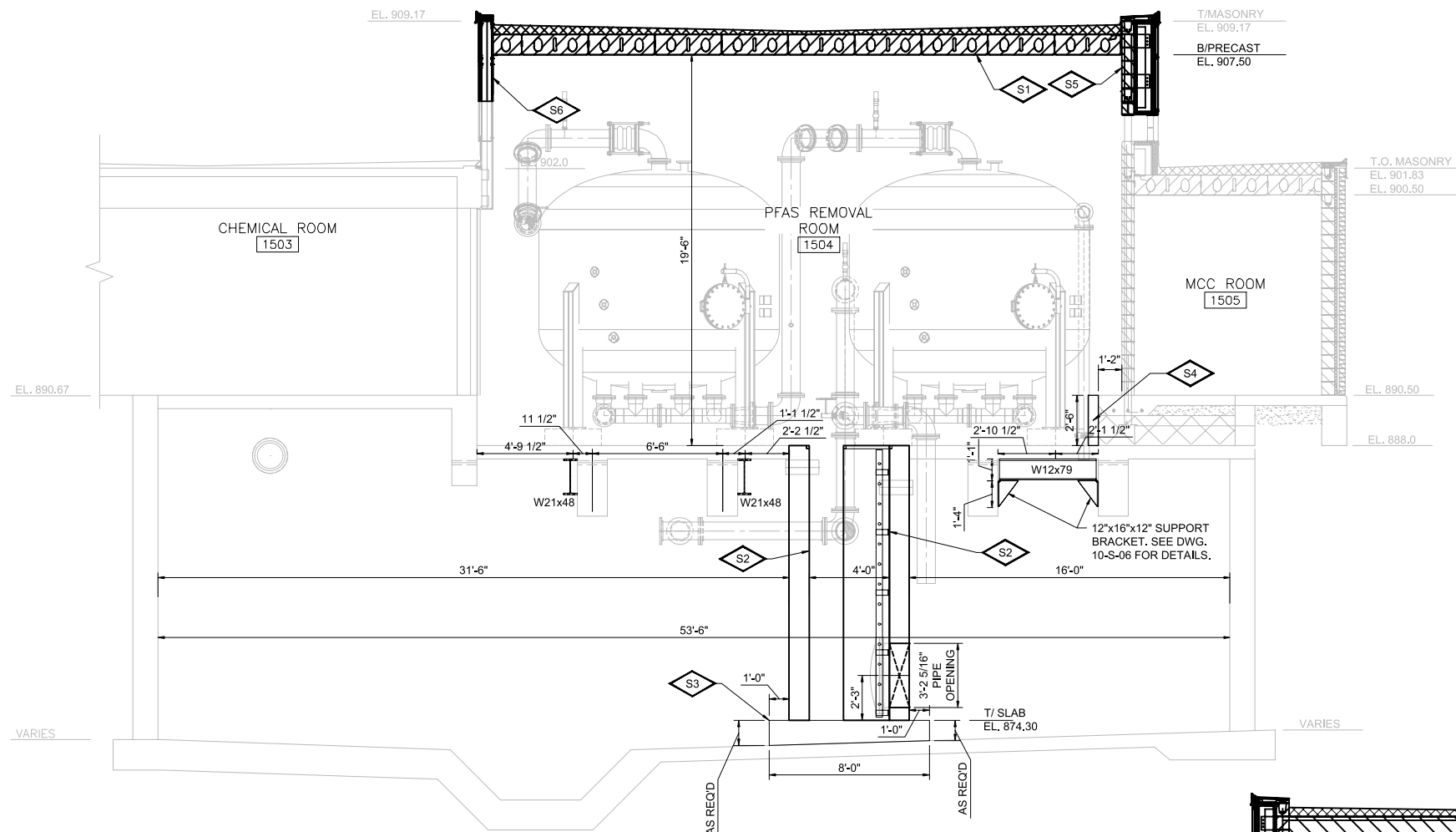
- S1 12" PRECAST PLANK
- S2 INFILL PENETRATION
- S3 BASE SLAB TO BE PLACED ON TOP OF EXISTING SLAB. SEE DETAILS ON SHEET 10-S-08.
- S4 COMBINED 12-INCH CONCRETE WALL AND COLUMNS. SEE DETAILS ON SHEET 10-S-08
- S5 12-INCH CONCRETE WALL. SEE DETAILS ON SHEET 10-S-08.
- S6 RECONSTRUCT MASONRY WALL. SEE DETAILS ON SHEET 10-S-07. REFER TO ARCHITECTURAL DRAWINGS FOR GLASS FIBER REINFORCED CONCRETE PANEL RE-INSTALLATION
- S7 REFER TO ARCHITECTURAL DRAWINGS FOR GLASS FIBER REINFORCED CONCRETE PANEL RE-INSTALLATION INCLUDING STEEL METAL STUDS. SEE DETAILS ON SHEET 10-S-07.
- S8 OPENING FOR 36" MANWAY.



ISSUE/REVISION		
I/R	DATE	DESCRIPTION
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KEY PLAN

PROJECT NUMBER	60686092
SHEET TITLE	STRUCTURAL SECTION
DWG NUMBER	10-S-04
SHT NUMBER	32 OF 55



PLAN NOTES

- S1 12" PRECAST PLANK
- S2 COMBINED 12-INCH CONCRETE WALL AND COLUMNS OR 12-INCH WALL. SEE DETAILS ON SHEET 10-S-08.
- S3 BASE SLAB TO BE PLACED ON TOP OF EXISTING SLAB. SEE DETAILS ON SHEET 10-S-08.
- S4 6-INCH WIDE STUB WALL TIED TO EXISTING SLABS TO REMAIN. SEE DETAILS ON SHEET 10-S-07.
- S5 RECONSTRUCT MASONRY WALL. SEE DETAILS ON SHEET 10-S-07. REFER TO ARCHITECTURAL DRAWINGS FOR GLASS FIBER REINFORCED CONCRETE PANEL RE-INSTALLATION.
- S6 REFER TO ARCHITECTURAL DRAWINGS FOR GLASS FIBER REINFORCED CONCRETE PANEL RE-INSTALLATION INCLUDING STEEL METAL STUDS. ALSO, SEE DETAILS ON SHEET 10-S-07.

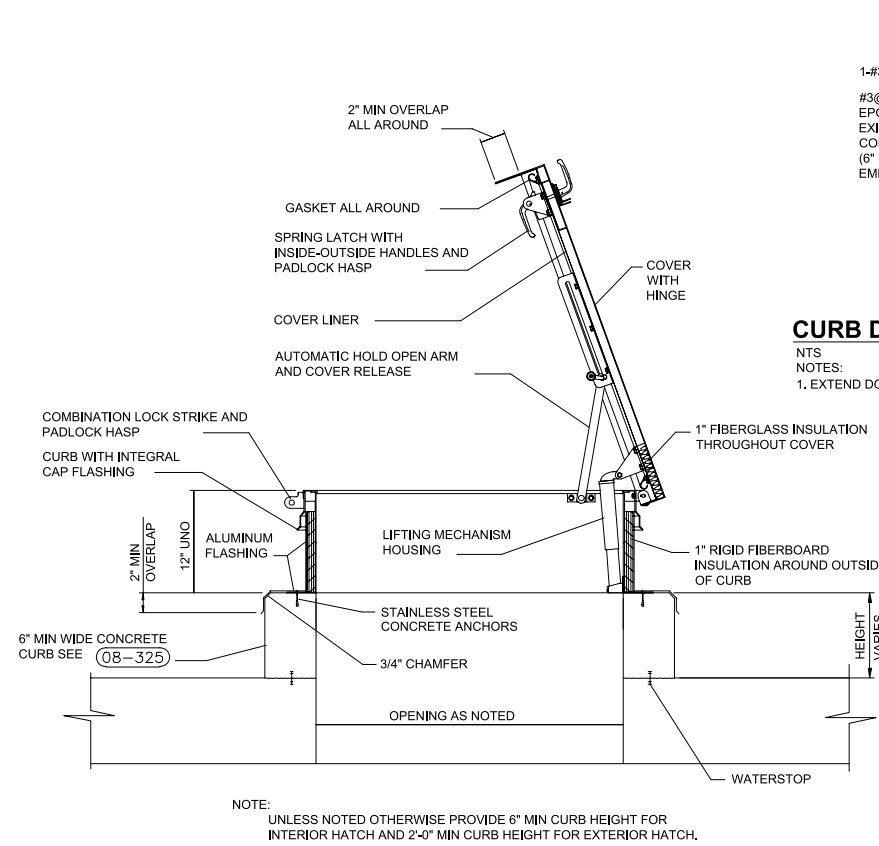
ISSUE/REVISION

NO.	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
 60686092

SHEET TITLE
 STRUCTURAL SECTIONS

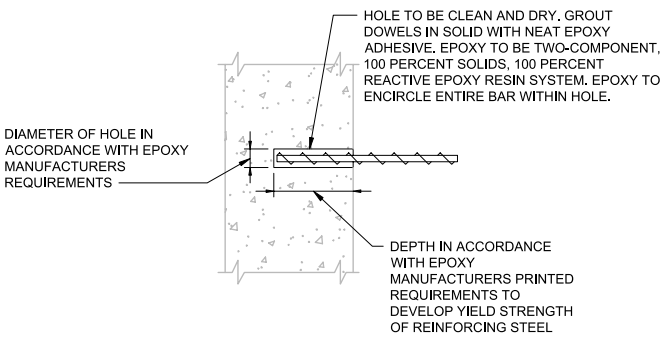


CURB DETAILS 08-325

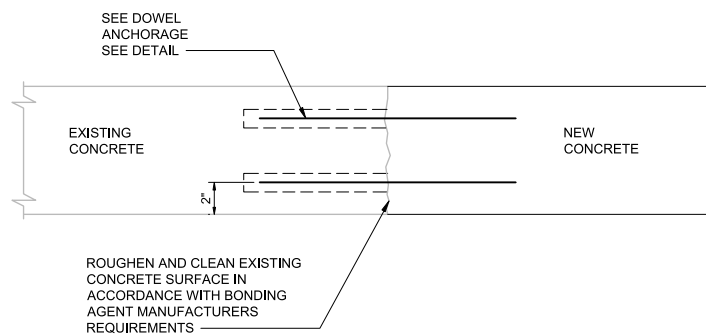
NTS
 NOTES:
 1. EXTEND DOWEL BAR A MINIMUM OF 6" INTO SLAB.

HATCH WITH CURB DETAIL 08-559

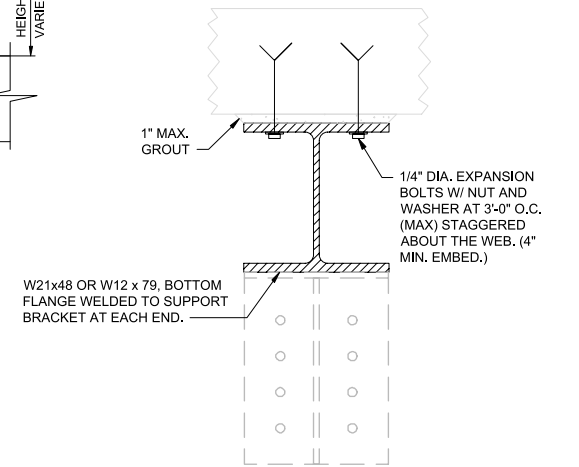
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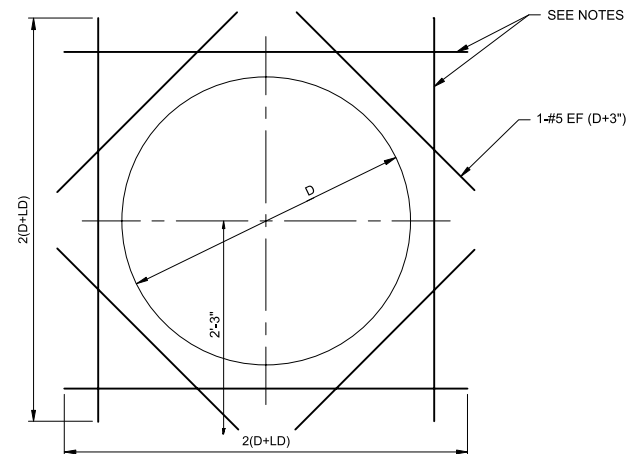
DOWEL ANCHORAGE INTO EXIST. CONCRETE NTS



BONDING NEW CONC. TO EXIST. CONC. NTS

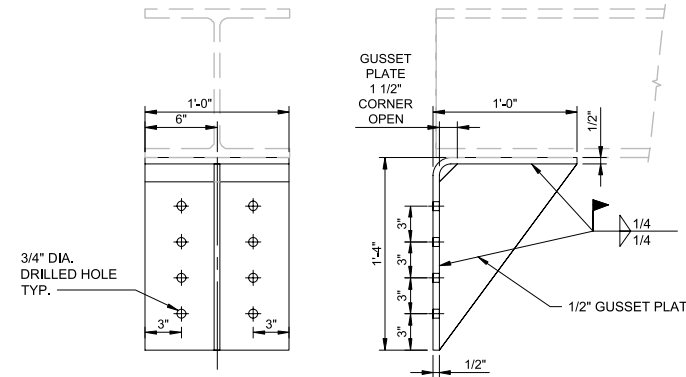


DETAIL - STEEL BEAM TO EXIST CONCRETE SLAB NTS

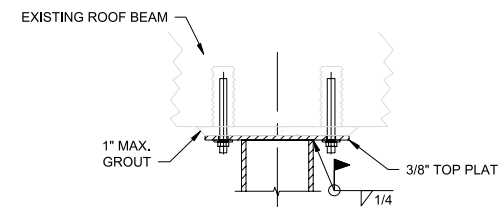


NOTES:
 1. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE-HALF OF AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF 1 - #5 BAR EACH FACE.
 2. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.
 3. LD = EMBEDMENT LENGTH, SEE DETAIL 08-010

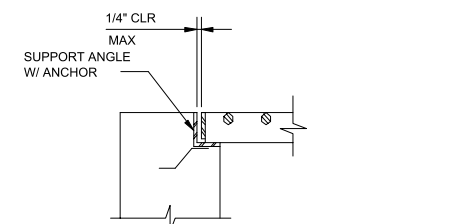
DETAIL - ADDITIONAL REINFORCING AT OPENINGS NTS



DETAIL - 12 x16 x12 BENT PLATE SUPPORT BRACKET NTS



DETAIL - HSS COLUMN, BASE, AND TOP PLATE NTS



NOTES:
 1. SUPPORT MATERIAL TO MATCH GRATING MATERIAL UNLESS OTHERWISE NOTED.
 2. PROVIDE GRATING SUPPORTS ALL AROUND OPENING UNLESS OTHERWISE NOTED.
 3. GRATING MAY BE CONTINUOUS OVER INTERIOR SUPPORT UNLESS OTHERWISE NOTED.

GRATING SUPPORT DETAIL EMBEDDED ANGLE CONNECTION 08-540 NTS

GENERAL STRUCTURAL NOTES 08-001

GENERAL

THE GENERAL STRUCTURAL NOTES AND STANDARD STRUCTURAL DETAILS APPLY TO THE ENTIRE PROJECT UNLESS SPECIFICALLY STATED OTHERWISE.

DESIGN CRITERIA

1. REFER TO SHEET 10-S-01.

CONCRETE

- REINFORCING STEEL:
 - A. DEFORMED BARS ASTM A615-GRADE 60
 - B. WELDED WIRE FABRIC (WWF) ASTM A185
- UNLESS OTHERWISE SHOWN PROVIDE COVER FOR REINFORCEMENT AS FOLLOWS:
 - A. CAST AGAINST
 - 1. EARTH 3 INCHES
 - 2. MUD SLAB 2 INCHES
 - B. EXPOSED TO EARTH, WEATHER OR WATER:
 - 1. SLABS:
 - A. #5 BARS AND SMALLER 1 1/2 INCHES
 - B. #6 THRU #11 BARS 2 INCHES
 - 2. WALLS, BEAMS AND COLUMNS 2 INCHES
 - C. NOT EXPOSED TO EARTH, WEATHER OR WATER:
 - 1. SLABS AND WALLS:
 - A. #3 THRU #7 BARS 1 INCH
 - #8 THRU #11 BARS 1 1/2 INCHES
 - B. BEAMS AND COLUMNS 1 1/2 INCHES
- PLACE DOWELS BEFORE PLACING CONCRETE.
- DO NOT WELD OR FIELD BEND REINFORCING BARS, UNLESS NOTED ON DRAWINGS.
- CONCRETE:
 - A. ALL LOCATIONS EXCEPT WHERE CLASS B IS SPECIFIED:
 - CLASS A F_c=4000 PSI
 - B. STRUCTURAL PRECAST CONCRETE F_c=5000 PSI

- PROVIDE WATERSTOP IN CONSTRUCTION JOINTS IN:
 - A. LOCATIONS SHOWN ON THE DRAWINGS.
- UNLESS OTHERWISE NOTED, CONSTRUCTION JOINTS SHOWN ARE OPTIONAL. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY ENGINEER.
- LIMIT SIZE OF CONCRETE POURS, MAXIMUM LENGTH OF WALL AND SLAB POURS SHALL NOT EXCEED 60 FT.
- BEFORE CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED AND SURFACE WETTED. STANDING WATER SHALL BE REMOVED.
- CONSTRUCTION JOINTS IN FLOORS SHALL BE LOCATED WITHIN MIDDLE THIRD OF SPAN. CONSTRUCTION JOINTS IN FLOORS SUPPORTED BY WALLS MAY BE LOCATED AT CENTER OF WALL WITH ENGINEER'S APPROVAL.
- VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED A MINIMUM OF ONE-HALF WALL HEIGHT FROM CORNERS OR OTHER INTERSECTING WALLS. HORIZONTAL JOINTS IN WALLS SHALL BE LOCATED WITHIN MIDDLE THIRD OF WALL HEIGHT.
- CONSTRUCTION JOINTS SHALL HAVE KEYS OR ROUGHENED SURFACES. WHERE ROUGHENED SURFACE IS USED, THE SURFACE SHALL HAVE AN AMPLITUDE OF 1/4" MIN.
- CHAMFER EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- DO NOT FIELD CUT PRESTRESSING STRANDS IN PRECAST PRESTRESSED CONCRETE MEMBERS WITHOUT WRITTEN APPROVAL OF FABRICATOR AND ENGINEER.
- EQUIPMENT PAD AND CURB LOCATIONS, DIMENSIONS AND HEIGHTS TO BE COORDINATED BY CONTRACTOR. VERIFY WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS.

MASONRY

- UNLESS OTHERWISE SHOWN, PROVIDE A CONTINUOUS BOND BEAM AROUND THE TOP OF BUILDINGS. REINFORCED WITH 2-#5 BARS.
- PROVIDE HORIZONTAL MASONRY REINFORCEMENT IN WALLS AT 16" O.C. MAXIMUM UNLESS OTHERWISE NOTED. PROVIDE HORIZONTAL REINFORCEMENT FOR GLASS BLOCK AT 8" O.C.
- FILL JAMB CORES OF OPENINGS OVER 3'-0" WIDE WITH MASONRY GROUT FROM BOTTOM OF LINTEL TO BOTTOM OF WALL. REINFORCE CORES WHERE NOTED.
- BRACE MASONRY WALLS UNTIL ROOF OR FLOOR SYSTEM IS IN PLACE.

METALS

- STEEL:
 - A. STRUCTURAL STEEL ASTM A36
 - B. MISCELLANEOUS STEEL ASTM A36
 - C. STEEL PIPE AND TUBE ASTM A53 OR A500
 - D. HOLLOW STRUCTURAL SHAPES ASTM A500
 - E. BOLTED CONNECTIONS ASTM A325
- ALUMINUM:
 - A. SHAPES AND PLATES ALLOY 6061-T6 OR 6063-T6
- WELD STRUCTURAL STEEL WITH E70 ELECTRODES IN ACCORDANCE WITH A.W.S. REQUIREMENTS.
- PROTECT ALUMINUM SURFACES IN CONTACT WITH OTHER MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.

MISCELLANEOUS

- FOR ADDITIONAL OPENINGS, ANCHORS AND EMBEDDED ITEMS SEE ARCHITECTURAL, PROCESS, PLUMBING, HVAC & ELECTRICAL DRAWINGS.
- VERIFY PERTINENT EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING CONSTRUCTION AND/OR FABRICATION.

PROJECT

UNIT WELL 15 PFAS TREATMENT FACILITY

CLIENT

MADISON WATER UTILITY

119 E. OLIN AVENUE
 MADISON, WISCONSIN 53713
 Tel 608.266.4651 www.cityofmadison.com

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE


STRUCTURAL NOTES AND DETAILS

DWG NUMBER

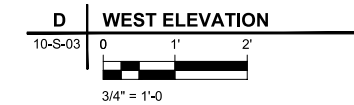
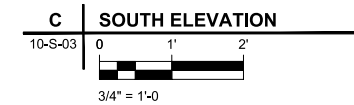
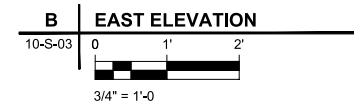
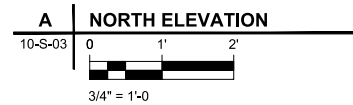
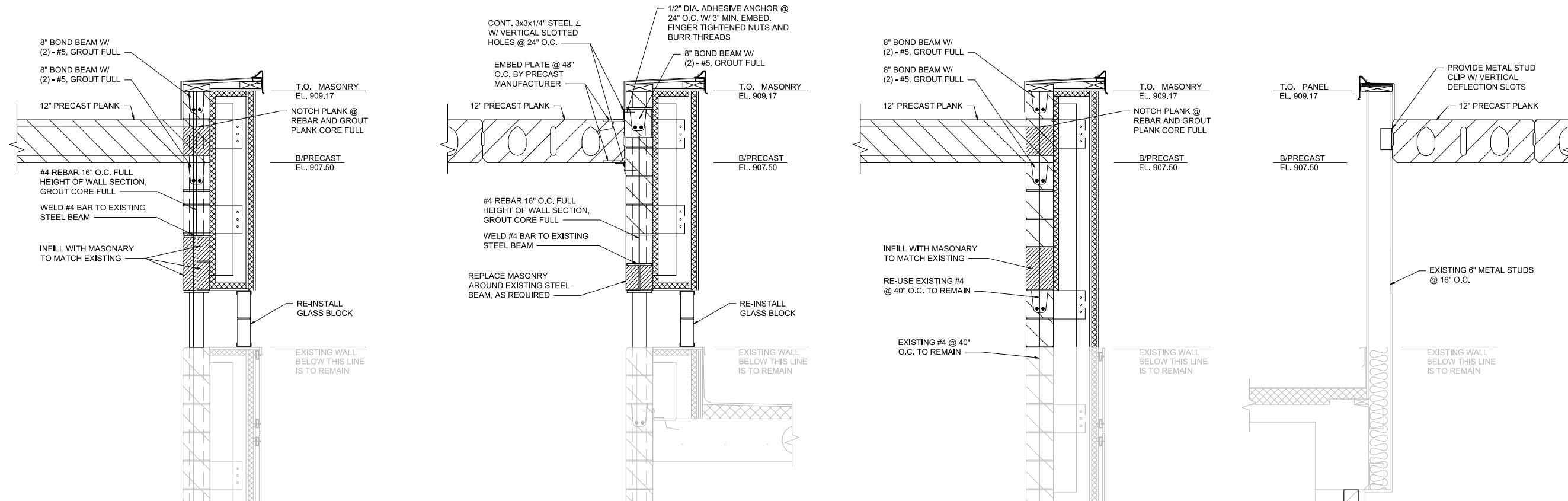
10-S-06

SHT NUMBER

34 OF 55

LINTEL SCHEDULE			
MARK	DESCRIPTION	TYPE	REMARKS
L-1	8X16 BOND BEAM W/ 2-#5		8" BEARING EACH END

- NOTES:
- MASONRY OPENINGS LESS THAN 4'-0" IN WIDTH THAT DO NOT HAVE A LINTEL SCHEDULED SHALL HAVE A BOND BEAM WITH 2-#5 BARS OR DOUBLE.
 - PROVIDE A MINIMUM OF 8" BEARING AT EACH END FOR STEEL BEAM LINTELS AND BOND BEAM LINTELS.



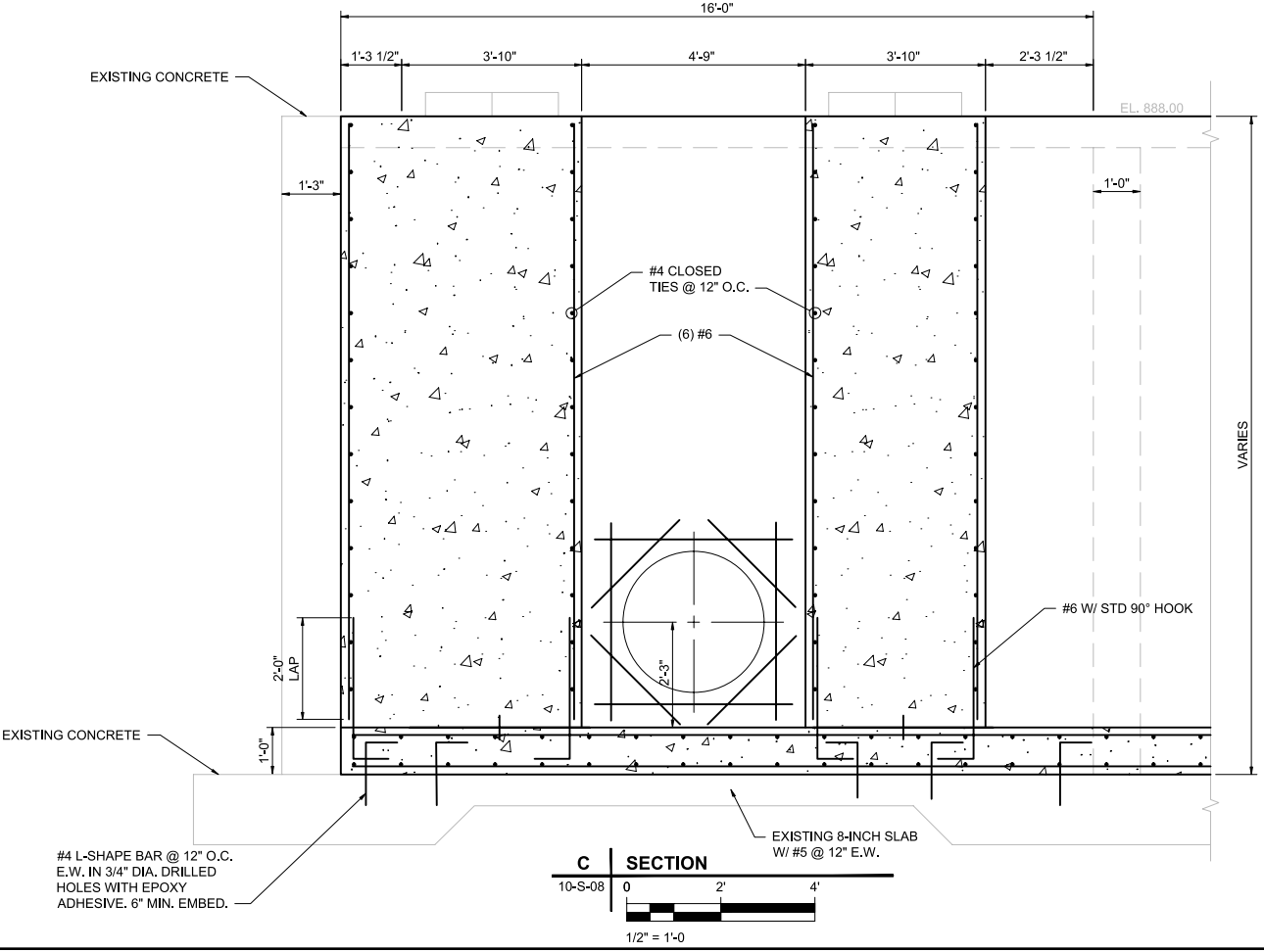
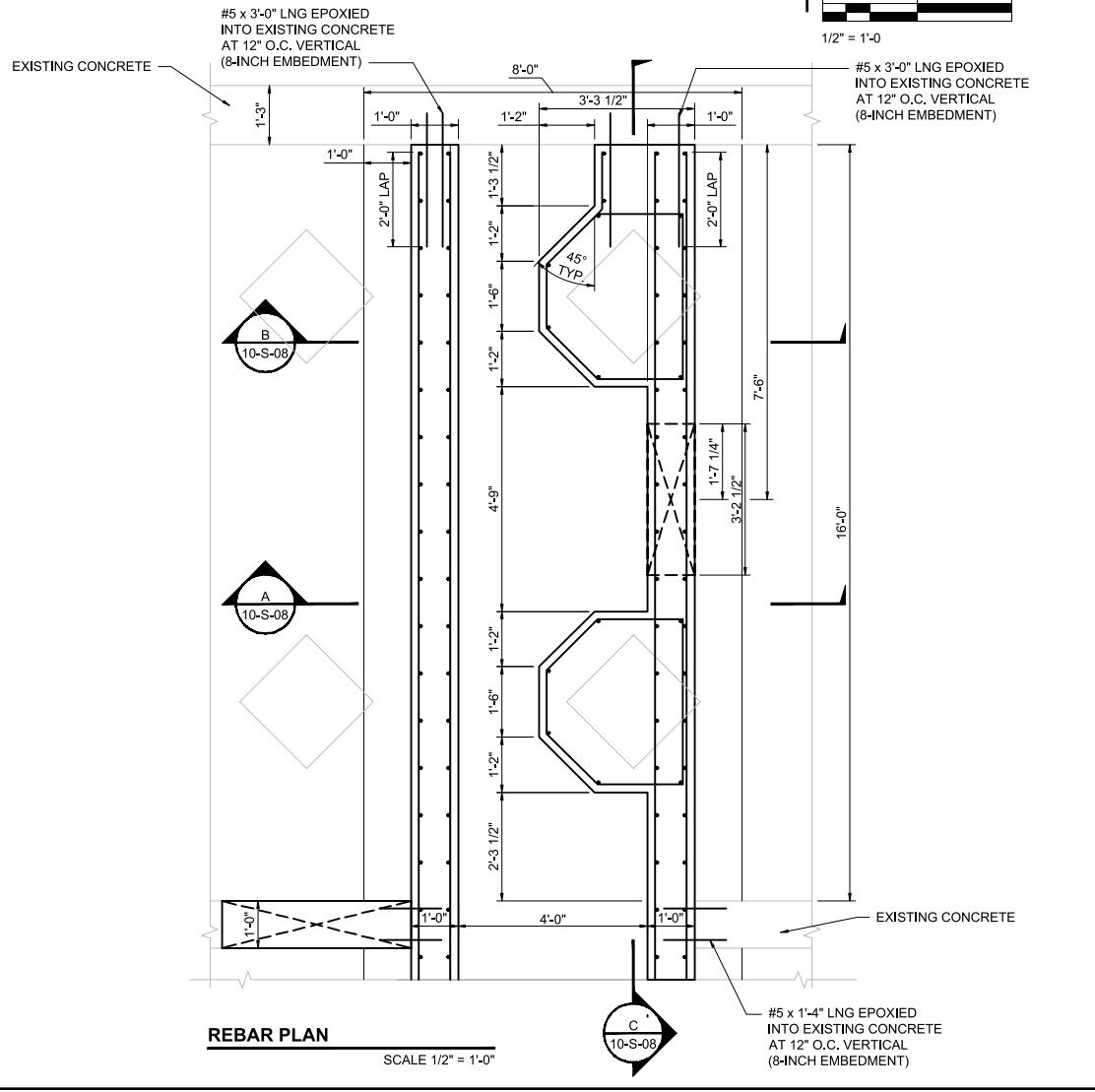
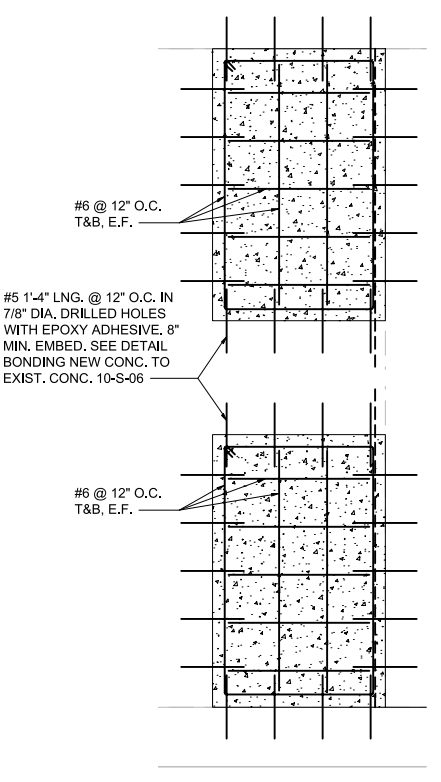
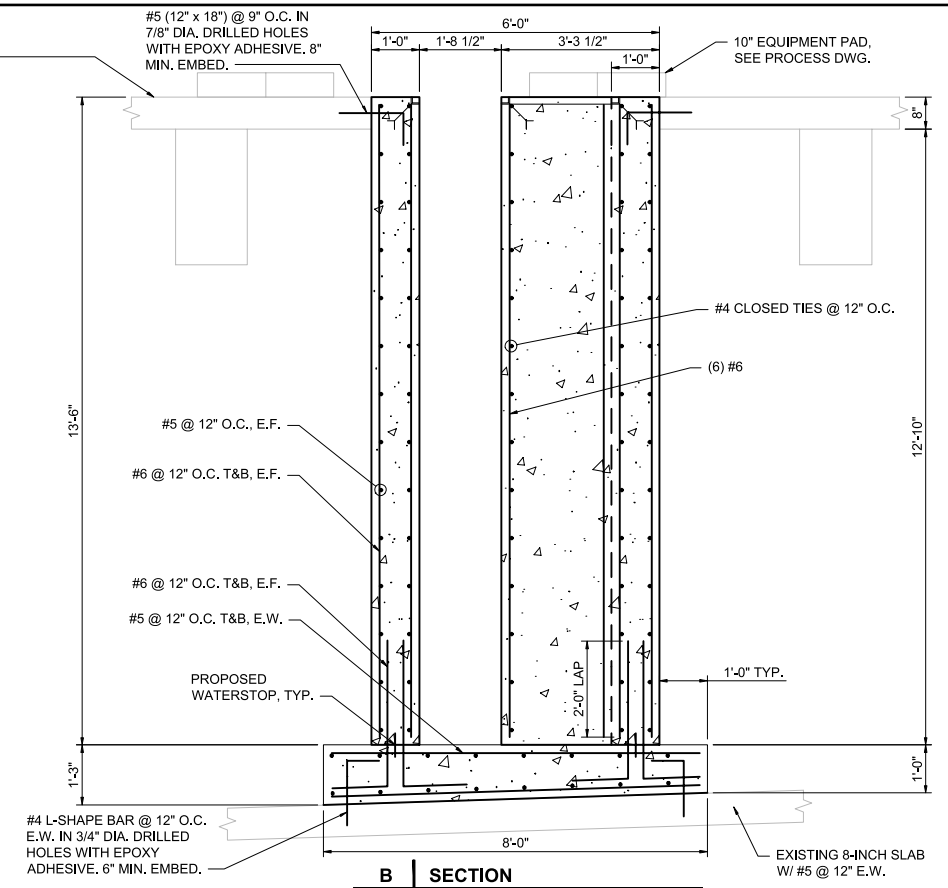
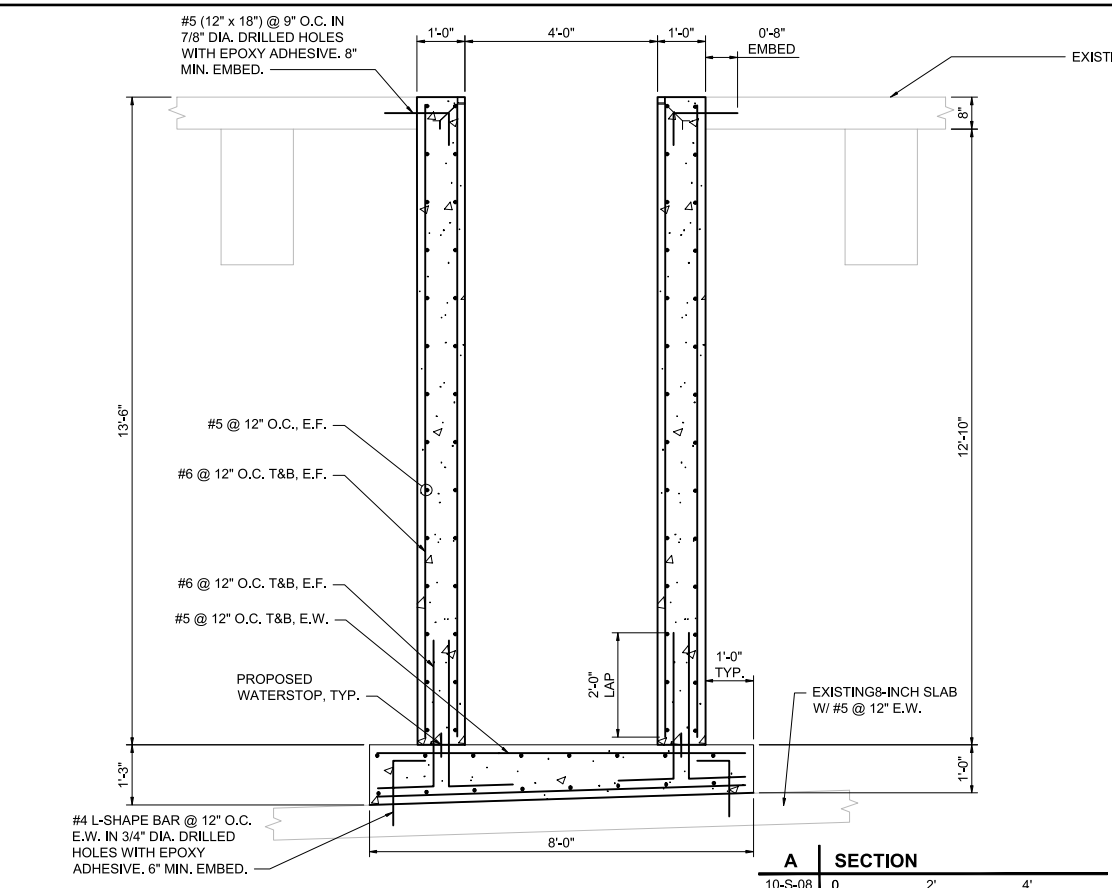
ISSUE/REVISION		
I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
 60686092

SHEET TITLE
 STRUCTURAL
 ROOF LEVEL DETAILS

DWG NUMBER **SHT NUMBER**
 10-S-07 35 OF 55



ISSUE/REVISION		
I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
60686092

SHEET TITLE
STRUCTURAL SECTIONS AND DETAILS

DWG NUMBER
10-S-08

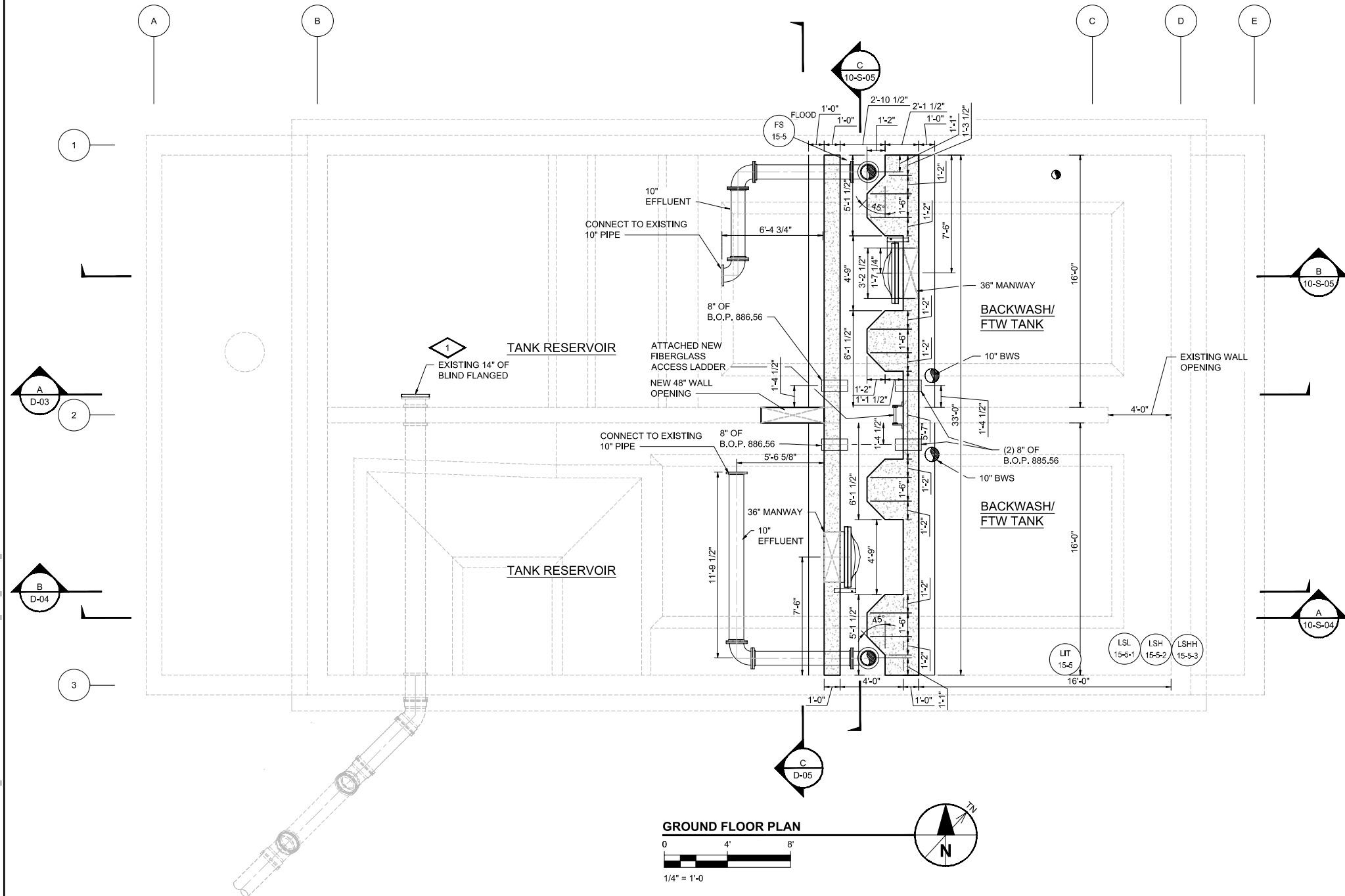
SHT NUMBER
36 OF 55

GENERAL NOTES

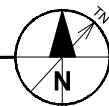
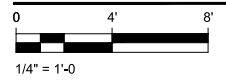
- 1. PIPE SUPPORTS NOT SHOWN. SEE SPECIFICATIONS.
- 2. PIPES INCLUDED FLANGED CONNECTIONS AND GROOVED CONNECTIONS. SEE LEGEND SHEET FOR CONNECTIONS.
- 3. SEE P&ID AND SPECIFICATIONS FOR CHEMICAL PIPE ROUTING. PROVIDE TUBE FOR CHEMICAL FEED FROM CHEMICAL ROOM TO APPLICATION POINTS IN 2-INCH SCHEDULE 80 CPVC. PROVIDE LONG RADIUS ELBOWS ON CARRIER PIPE.
- 4. FIELD VERIFY EXISTING PIPING CONNECTIONS.

PLAN NOTES

1 EXISTING 14" OF PIPE BLIND FLANGED.



GROUND FLOOR PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

6086092

SHEET TITLE

PROCESS
GROUND FLOOR PLAN

DWG NUMBER

10-D-01

SHT NUMBER

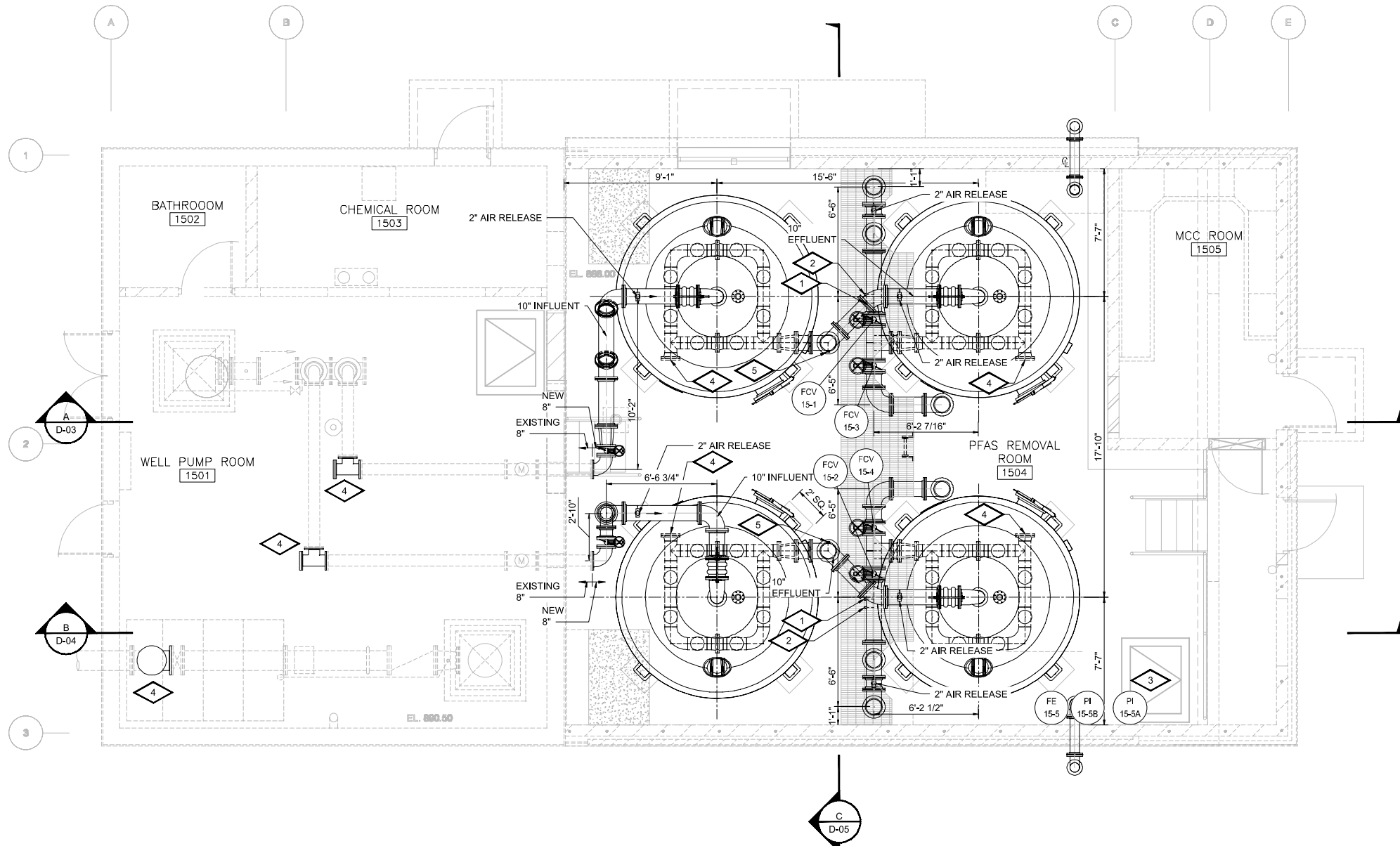
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GENERAL NOTES

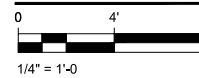
1. PIPE SUPPORTS NOT SHOWN. SEE SPECIFICATIONS.
2. PIPES INCLUDED FLANGED CONNECTIONS AND GROOVED CONNECTIONS. SEE LEGEND SHEET FOR CONNECTIONS.
3. SEE P&ID AND SPECIFICATIONS FOR CHEMICAL PIPE ROUTING. PROVIDE TUBE FOR CHEMICAL FEED FROM CHEMICAL ROOM TO APPLICATION POINTS IN 2-INCH SCHEDULE 80 CPVC. PROVIDE LONG RADIUS ELBOWS ON CARRIER PIPE.
4. FIELD VERIFY EXISTING PIPING CONNECTIONS.

PLAN NOTES

- 1 CHEMICAL INJECTION POINT
- 2 CHEMICAL INJECTION POINT
- 3 3-INCH LINE FROM SUMP PUMP CAM-LOCK CONNECTION TO HUB DRAIN IN PIPE PIT AT HIGH SERVICE PUMP DISCHARGE. WALL PENETRATION PER DETAILS.
- 4 REPLACE ELBOW WITH TEE AND ADD BLIND FLANGE FOR START UP AND MEDIA REPLACEMENT.
- 5 1" WELDED TAP AND BALL VALVE.



FIRST FLOOR PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

PROCESS
 FIRST FLOOR PLAN

DWG NUMBER

10-D-02

SHT NUMBER

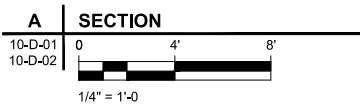
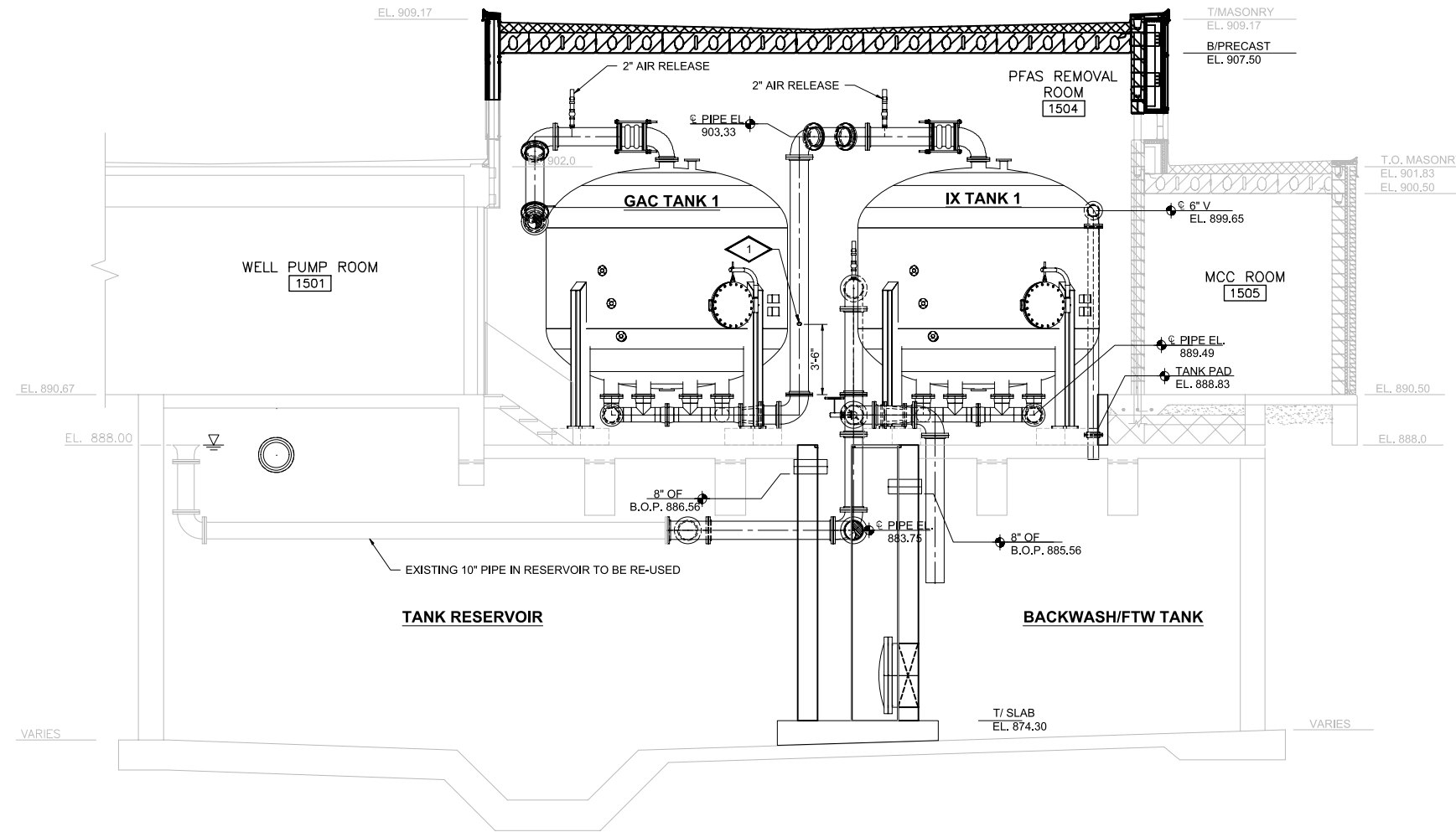
38 OF 55

GENERAL NOTES

1. PIPE SUPPORTS NOT SHOWN. SEE SPECIFICATIONS.
2. PIPES INCLUDED FLANGED CONNECTIONS AND GROOVED CONNECTIONS. SEE LEGEND SHEET FOR CONNECTIONS.
3. SEE P&ID AND SPECIFICATIONS FOR CHEMICAL PIPE ROUTING. PROVIDE TUBE FOR CHEMICAL FEED FROM CHEMICAL ROOM TO APPLICATION POINTS IN 2-INCH SCHEDULE 80 CPVC. PROVIDE LONG RADIUS ELBOWS ON CARRIER PIPE.
4. FIELD VERIFY EXISTING PIPING CONNECTIONS.

PLAN NOTES

- 1 1" WELDED TAP AND BALL VALVE.



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER
60686092



SHEET TITLE
PROCESS SECTION A

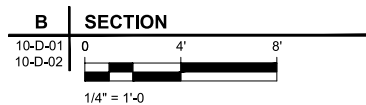
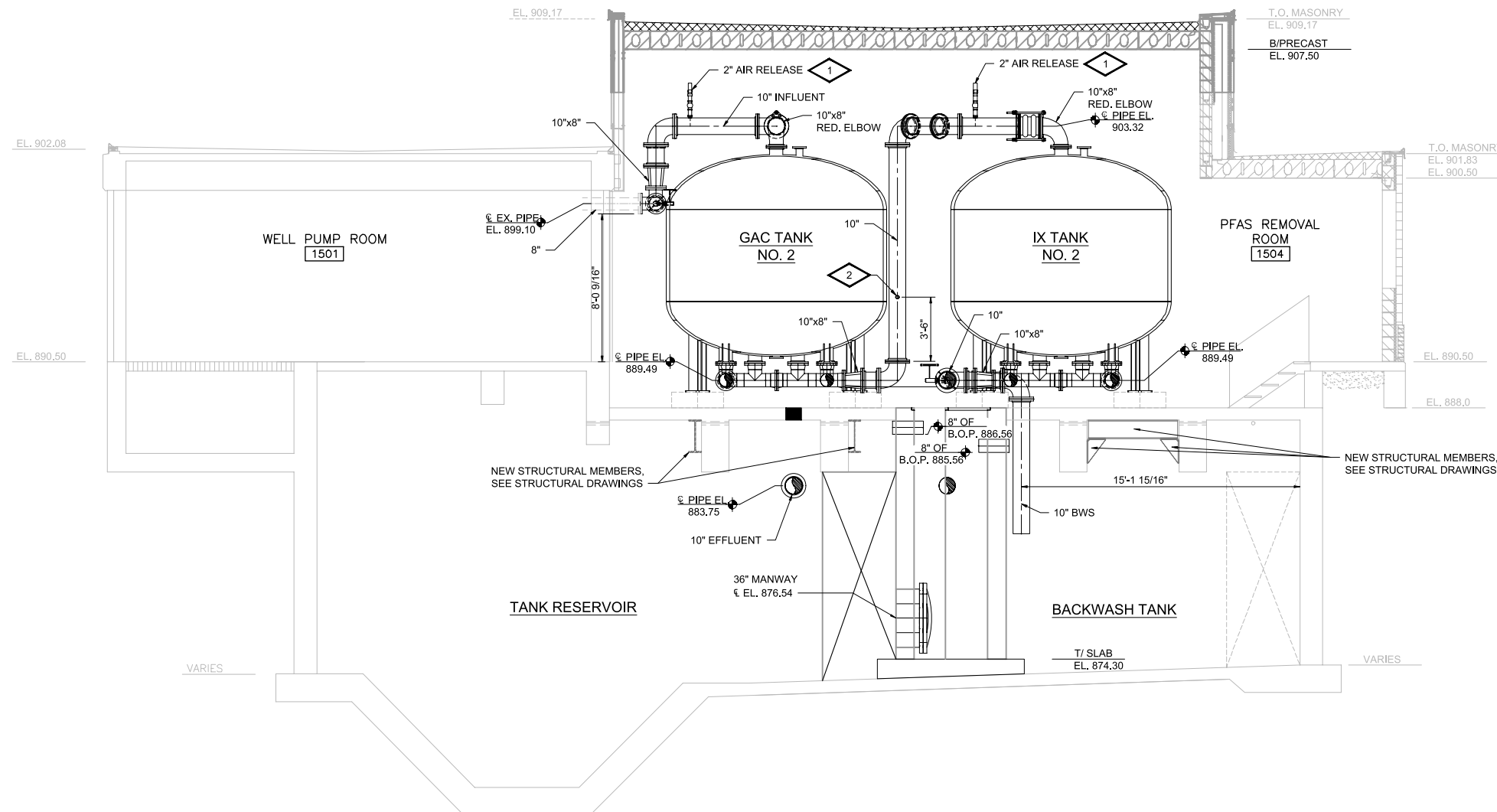
DWG NUMBER 10-D-03 **SHT NUMBER** 39 OF 55

GENERAL NOTES

1. PIPE SUPPORTS NOT SHOWN. SEE SPECIFICATIONS.
2. PIPES INCLUDED FLANGED CONNECTIONS AND GROOVED CONNECTIONS. SEE LEGEND SHEET FOR CONNECTIONS.
3. SEE P&ID AND SPECIFICATIONS FOR CHEMICAL PIPE ROUTING. PROVIDE TUBE FOR CHEMICAL FEED FROM CHEMICAL ROOM TO APPLICATION POINTS IN 2-INCH SCHEDULE 80 CPVC. PROVIDE LONG RADIUS ELBOWS ON CARRIER PIPE.
4. FIELD VERIFY EXISTING PIPING CONNECTIONS.

PLAN NOTES

- 1  ROUTE DRAIN FROM AIR RELEASE TO HUB DRAIN
- 2  1" WELDED TAP AND BALL VALVE.



ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

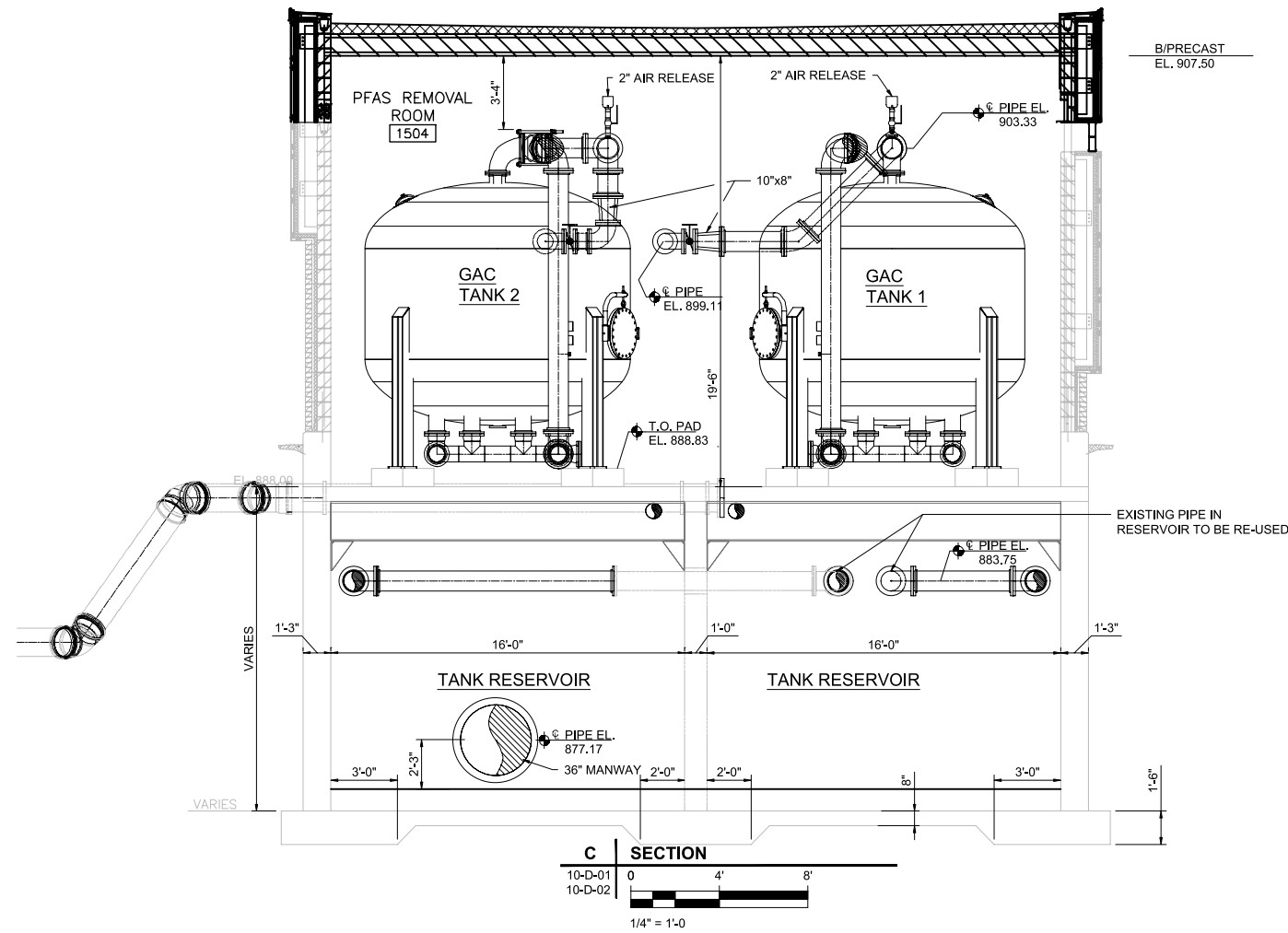
PROJECT NUMBER
60686092

SHEET TITLE
PROCESS SECTION B

DWG NUMBER 10-D-04 **SHT NUMBER** 40 OF 55

GENERAL NOTES

1. PIPE SUPPORTS NOT SHOWN. SEE SPECIFICATIONS.
2. PIPES INCLUDED FLANGED CONNECTIONS AND GROOVED CONNECTIONS. SEE LEGEND SHEET FOR CONNECTIONS.
3. SEE P&ID AND SPECIFICATIONS FOR CHEMICAL PIPE ROUTING. PROVIDE TUBE FOR CHEMICAL FEED FROM CHEMICAL ROOM TO APPLICATION POINTS IN 2-INCH SCHEDULE 80 CPVC. PROVIDE LONG RADIUS ELBOWS ON CARRIER PIPE.
4. FIELD VERIFY EXISTING PIPING CONNECTIONS.



ISSUE/REVISION

I/R	DATE	DESCRIPTION
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KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

PROCESS
SECTION C

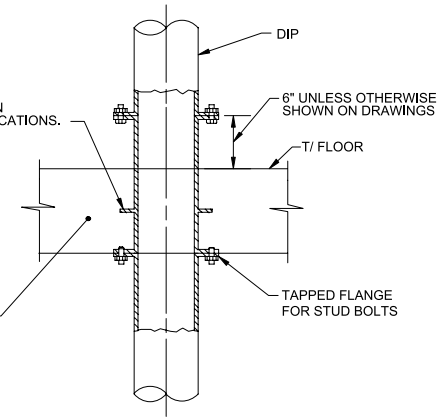
DWG NUMBER

10-D-05

SHT NUMBER

41 OF 55

INTEGRALLY CAST COLLAR LOCATED AT C OF SLAB. SEE DETAIL (06-105). WELDED ATTACHMENT OF COLLAR IS ACCEPTABLE IF IN ACCORDANCE WITH SPECIFICATIONS.



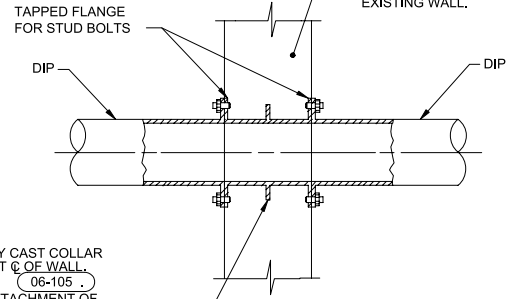
NEW OR EXISTING CONCRETE FLOOR. SEE DETAIL (08-370) FOR NEW OPENING REQUIREMENTS IN EXISTING FLOOR SLAB.

FLOOR PIPE DUCTILE IRON, FLG/FLG

06-154

NTS

NEW OR EXISTING CONCRETE WALL. SEE DETAIL (08-370) FOR NEW OPENING REQUIREMENTS IN EXISTING WALL.



INTEGRALLY CAST COLLAR LOCATED AT C OF WALL. SEE DETAIL (06-105). WELDED ATTACHMENT OF COLLAR IS ACCEPTABLE IF IN ACCORDANCE WITH SPECIFICATIONS.

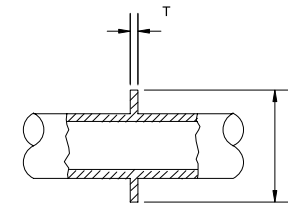
WALL PIPE DUCTILE IRON, FLG/FLG

06-103

NTS

MINIMUM DIMENSIONS

NOMINAL PIPE DIA (INCHES)	T THICKNESS (INCHES)	C DIAMETER (INCHES)
4	0.50	8.00
6	0.50	10.00
8	0.50	12.50
10	0.50	14.50
12	0.50	16.50
14	0.75	19.50
16	0.75	21.75
18	0.75	23.75
20	0.75	25.75
24	0.75	30.25
30	1.00	36.50
36	1.00	43.00
42	1.25	49.50
48	1.25	56.50
54	1.50	63.00

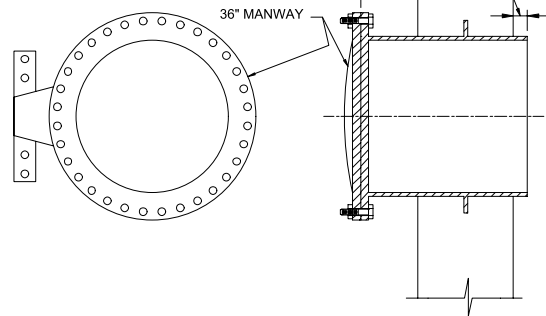


COLLAR DIMENSIONS DUCTILE IRON WALL AND FLOOR PIPE

06-105

NTS

USE MANUFACTURE SUGGESTED DIMENSIONS. NEW OR EXISTING CONCRETE WALL. SEE DETAIL (08-370) FOR NEW OPENING REQUIREMENTS IN EXISTING WALL.



MANWAY DUCTILE IRON, FLG/PLAIN END

06-126

NTS

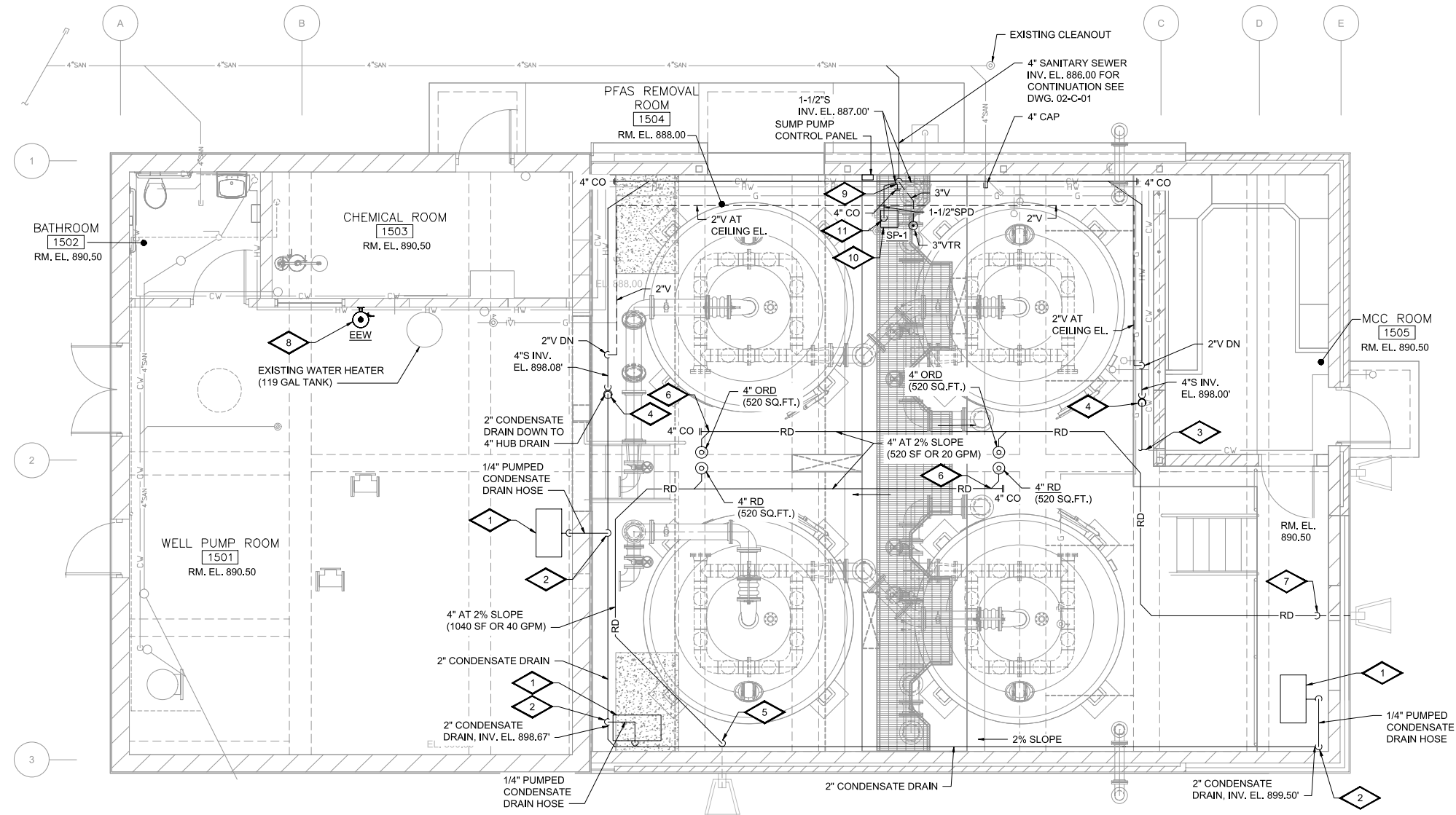
ISSUE/REVISION		
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KEY PLAN

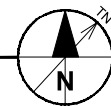
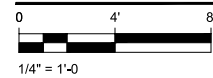
PROJECT NUMBER
60686092

SHEET TITLE
PROCESS MECHANICAL DETAILS

DWG NUMBER 10-D-06 SHT NUMBER 42 OF 55



PLUMBING FIRST FLOOR PLAN



GENERAL NOTES

- SEE STRUCTURAL SECTION SHEETS FOR BUILDING ELEVATIONS.
- CONTRACTOR TO FIELD VERIFY THAT 4" SANITARY INV. EL. AT 886.00 WORKS WITH EXISTING 4" SANITARY OUTSIDE OF BUILDING.

PLAN NOTES

- EXISTING DEHUMIDIFIER WITH CONDENSATE PUMP, EXTEND 1/4" PUMPED CONDENSATE HOSE UP TO 2" GRAVITY DRAIN ABOVE.
- 2" CONDENSATE GRAVITY DRAIN WITH 2" ELBOW AND 6" LONG TAIL PIECE, SECURE 1/4" PUMPED CONDENSATE DRAIN HOSE.
- ROUTE 1" CONDENSATE DRAIN FROM FAN COIL UNIT OVER TO 4" HUB DRAIN, FOR CONTINUATION SEE 10-H-01.
- 4" HUB DRAIN WITH 4" TRAP AND 6" INLET RECEPTOR, PROVIDE ZURN MODEL Z1870 OR EQUAL.
- CONNECT 4" STORM TO EXISTING 4" VERTICAL STORM AND REUSE EXISTING DOWNSPOUT NOZZLE.
- 4" STORM ROOF DRAIN, INV. EL. 906.50'.
- 4" STORM DOWN TO EL. 2'-0" AFF (FIELD VERIFY) AND DISCHARGE TO OUTSIDE, PROVIDE DOWNSPOUT NOZZLE AND SPLASH PAD.
- RELOCATE EXISTING EMERGENCY EYEWASH UNIT AND EXTEND TEPID WATER PIPE OVER TO EEW.
- NEW 4" SANITARY DN AND 3" V UP, CONNECT NEW 4" S TO EXISTING 4" S SANITARY OUTSIDE OF BUILDING. (FIELD VERIFY LOCATION AND ELEVATION OF EXISTING SANITARY).
- SIMPLEX SUMP PUMP, SP-1, 34 GPM AT 20' HEAD, PACKAGED PUMP CONTROL PANEL, SEE SECTION 220010.
- 1 1/2" SPD PIPE UP FROM SP-1, CONNECT 1 1/2" SPD PIPE TO 4" S VERTICAL DRAIN PIPE AT INV. EL. 886.00.

PROJECT

**UNIT WELL 15 PFAS
TREATMENT FACILITY**

CLIENT

MADISON WATER UTILITY

119 E. OLIN AVENUE
MADISON, WISCONSIN 53713
Tel 608.266.4651 www.cityofmadison.com

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KEY PLAN

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60686092

SHEET TITLE

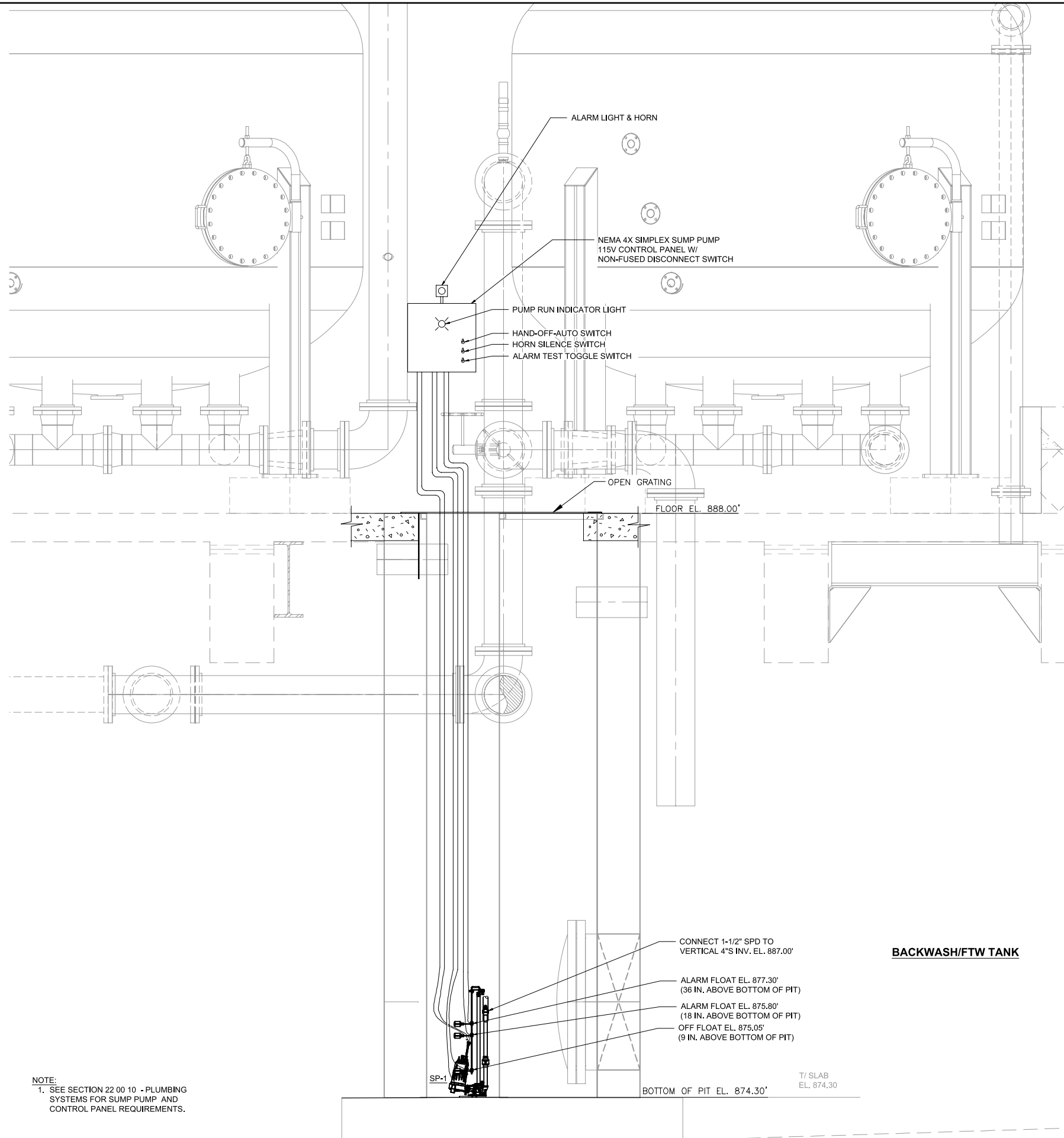
**PLUMBING
FIRST FLOOR PLAN**

DWG NUMBER

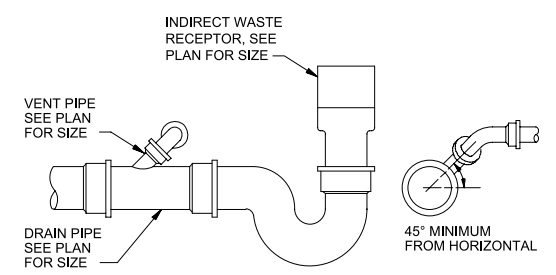
10-P-01

SHT NUMBER

43 OF 55



SIMPLEX SUMP PUMP DETAIL 1
N.T.S.



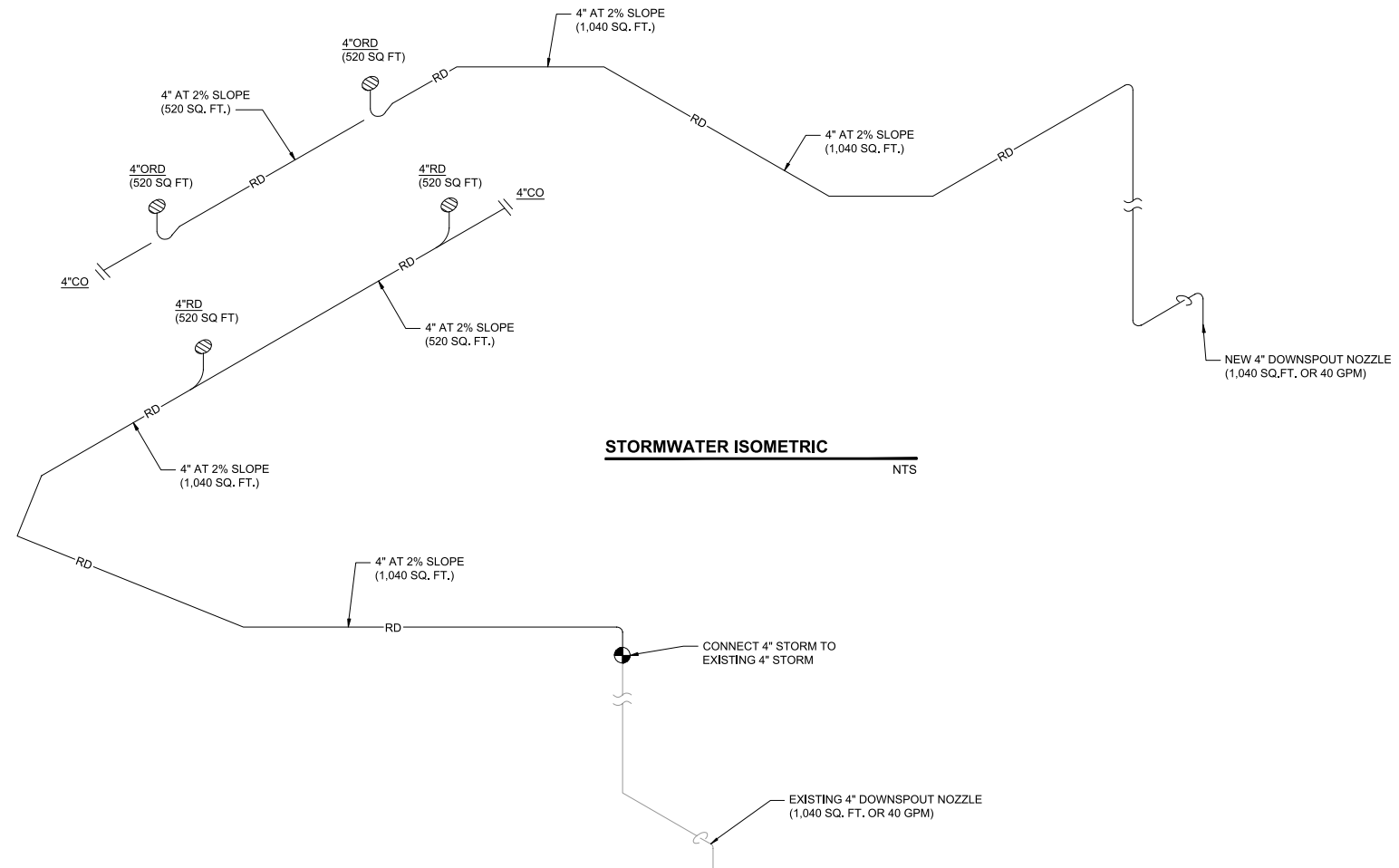
HUB DRAIN DETAIL 2
N.T.S.

NOTE:
1. SEE SECTION 22 00 10 - PLUMBING SYSTEMS FOR SUMP PUMP AND CONTROL PANEL REQUIREMENTS.

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KEY PLAN



STORMWATER ISOMETRIC
 NTS

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

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PROJECT NUMBER

60686092

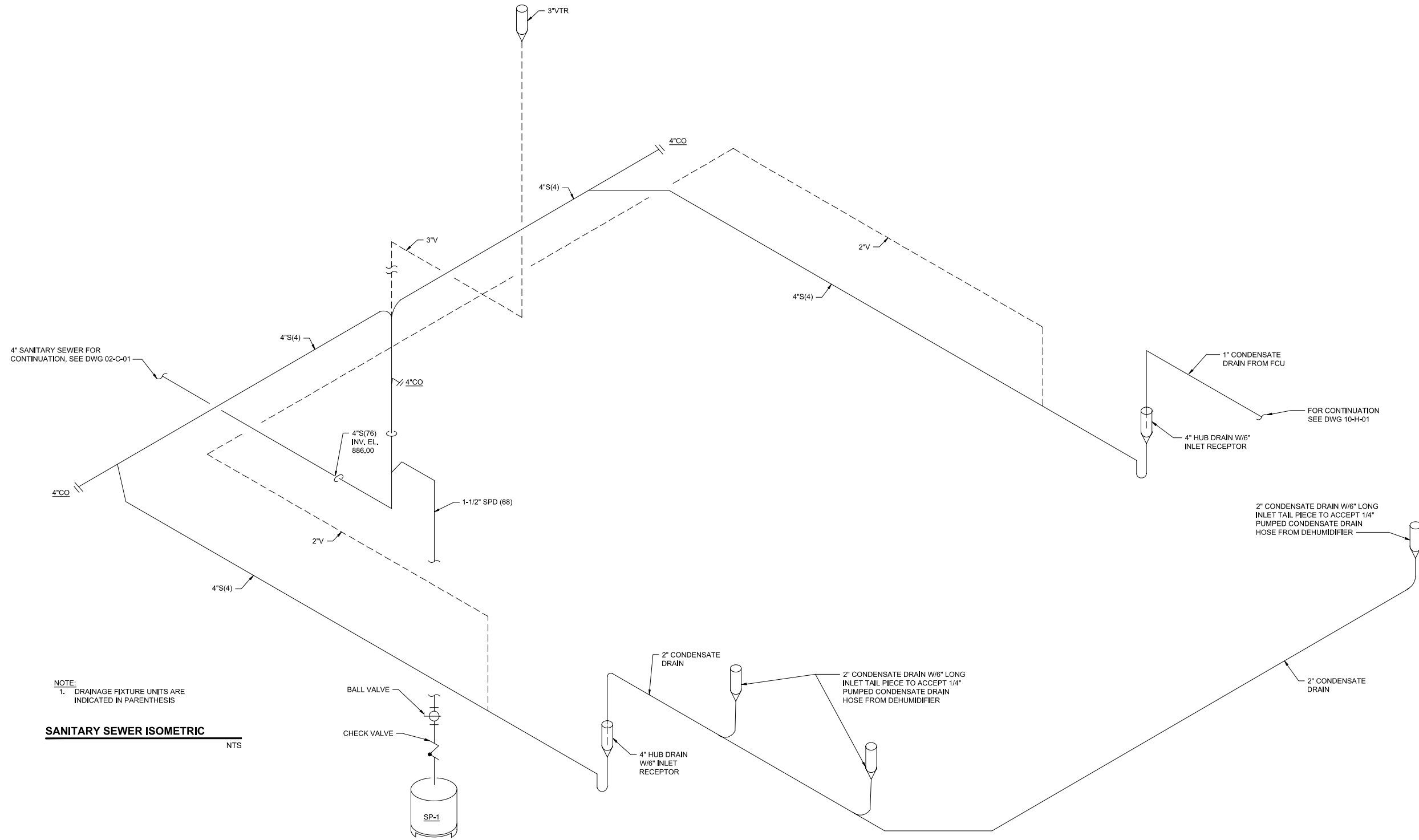
SHEET TITLE

PLUMBING
 STORMWATER ISOMETRIC

DWG NUMBER **SHT NUMBER**

10-P-03

45 OF 55



NOTE:
 1. DRAINAGE FIXTURE UNITS ARE INDICATED IN PARENTHESIS

SANITARY SEWER ISOMETRIC
 NTS

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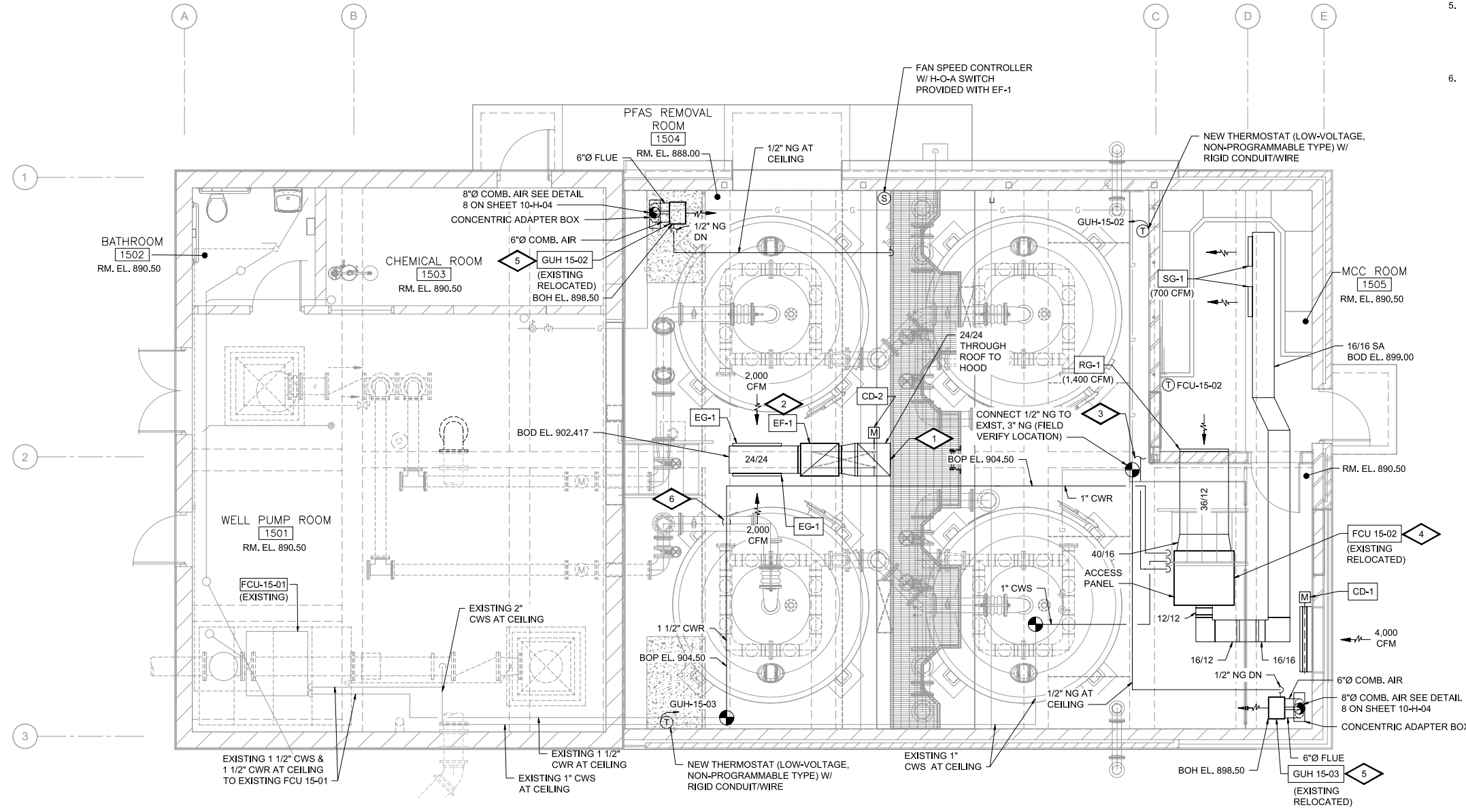
KEY PLAN

GENERAL NOTES

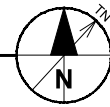
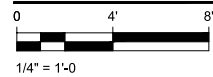
1. VENTILATION SYSTEM INSIDE PFAS REMOVAL ROOM SHALL BE OPERATED MANUALLY THROUGH MANUFACTURER FURNISHED SPEED CONTROLLER AND H-O-A SWITCH. FAN TO OPERATE DURING PROCESS BACKWASH OPERATION.
2. DEHUMIDIFIERS LOCATED INSIDE PFAS REMOVAL ROOM SHALL BE DISABLED TO OPERATE WHEN VENTILATION SYSTEM (EF-1) IS OPERATING.

PLAN NOTES

1. PROVIDE DRIP PAN ELBOW AT BOTTOM OF DUCT RISER FROM ROOF. SEE DETAIL 1 ON SHEET 10-H-04.
2. CENTRIFUGAL INLINE EXHAUST FAN. BOTTOM OF FAN INSTALLED AT EL. 898.00. FAN SHALL BE INTERLOCKED WITH OA DAMPER (CD-1) AND EA DAMPER (CD-2).
3. ROUTE 1" CONDENSATE OVER TO 4" HUB DRAIN ABOVE. SEE SHEET 10-P-01 FOR CONTINUATION.
4. RELOCATE/INSTALL EXISTING 3-TON FAN COIL UNIT/HEAT PUMP (FCU-15-02) IN LOCATION SHOWN. BOTTOM OF UNIT INSTALLED AT EL. 898.67. PROVIDE NEW CONNECTING SUPPLY AND RETURN DUCTWORK, COOLING WATER SUPPLY AND RETURN PIPING, AND CONDENSATE DRAIN PIPE.
5. RELOCATE/INSTALL EXISTING 24 MBH GAS-FIRED UNIT HEATER (GUH-15-03) INCLUDING SEPARATED COMBUSTION EXHAUST STACK THROUGH ROOF. PROVIDE NEW CONNECTING GAS PIPING AND CLASS B VENTING AS REQUIRED. EXTEND CONTROL WIRE/RIGID CONDUIT TO NEW WALL MOUNTED THERMOSTAT.
6. 2" CWR PIPE TO TIE INTO 10" INFLUENT PIPE ENTERING GAC TANK FOR WATER SOURCE HEAT PUMPS (FCU-15-01 & FCU-15-02) AS APPROVED BY THE WI DNR FOR EXISTING CONDITIONS. PROVIDE 2" CHECK VALVE.



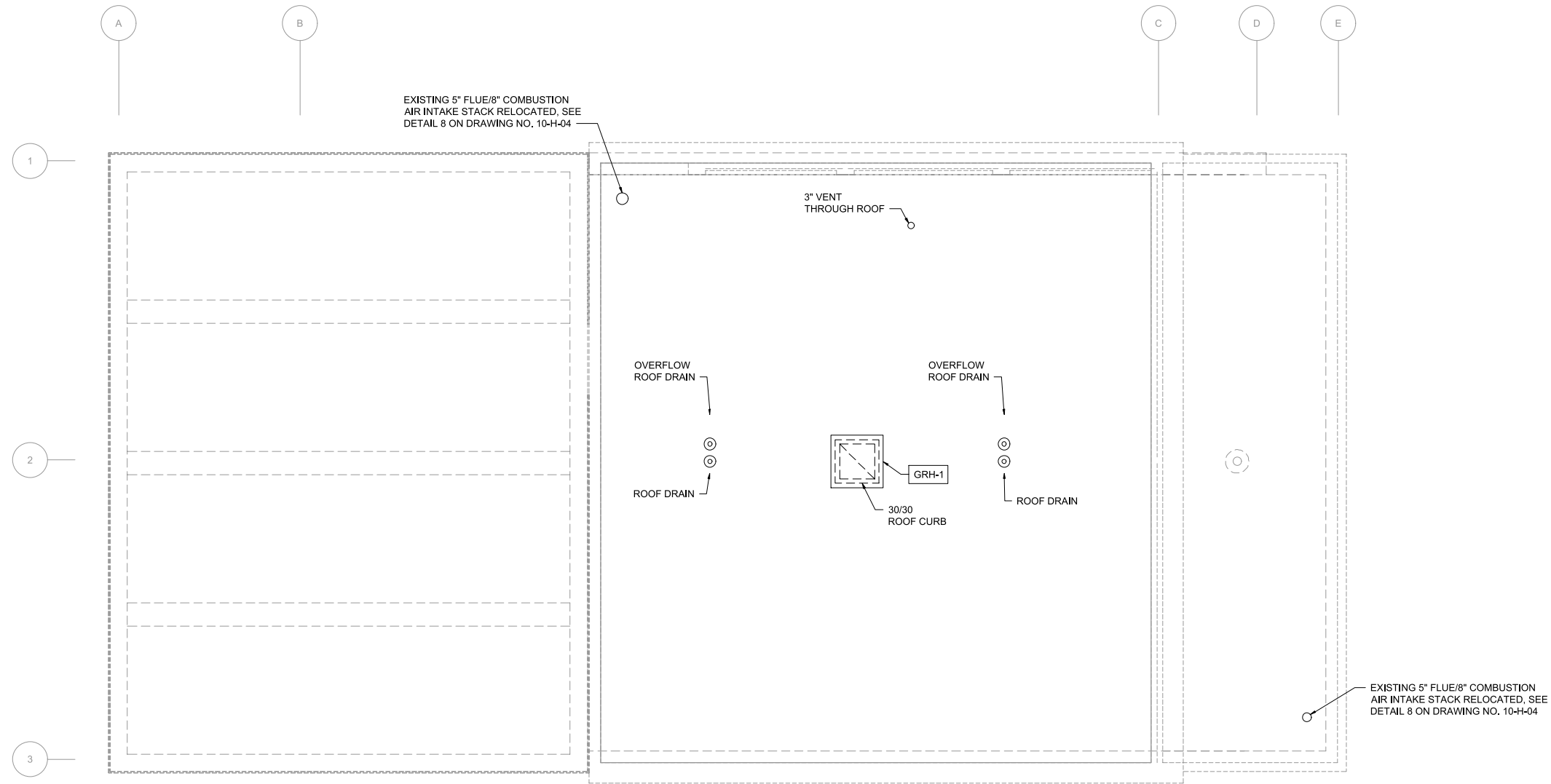
HVAC FIRST FLOOR PLAN



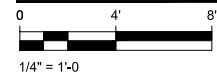
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SHEET TITLE	HVAC FIRST FLOOR PLAN
DWG NUMBER	10-H-01
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ROOF PLAN



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SHEET TITLE

HVAC ROOF PLAN

DWG NUMBER

10-H-02

SHT NUMBER

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FAN SCHEDULE															
TAG NO.	MANUFACTURER MODEL NO. OR EQUAL	TYPE	AIR DATA			FAN SPEED (RPM)	DRIVE TYPE	MOTOR DATA				SOUND (dBA)	WEIGHT (LBS)	REMARKS	
			CFM	ESP (IN. WG)	BHP			HP	VOLT	PH	HZ				RPM
EF-1	GREENHECK SQ-160-VG	INLINE CENTRIFUGAL	4,000	0.75	1.35	1,581	DIRECT	2.00	208	1	60	1,650	73	167	AH, AW, CF, C, DS, I, VGM, VGC, SSF

AH = ALUMINUM HOUSING, AW = ALUMINUM WHEEL, CF = COMPANION FLANGE (INLET/OUTLET), C = COATING (PERMATECTOR GRAY), DS = DISCONNECT SWITCH (NEMA 4, HEAVY DUTY), I = ISOLATORS (SPRING, 1" DEFLECTION), VGM = VARI-GREEN MOTOR (ELECTRONICALLY COMMUTATED), VGC = VARI-GREEN CONTROLS (WALL MOUNTED REMOTE DIAL, H-O-A SWITCH), SSF = STAINLESS STEEL FASTENERS

REGISTER AND GRILLE SCHEDULE											
TAG NO.	MANUFACTURER MODEL NO. OR EQUAL	SERVICE	CFM RANGE	NECK SIZE (IN)	FRAME SIZE (IN)	MAX APD (IN WC)	MAX NC	FINISH	MATERIAL	MOUNTING	REMARKS
RG-1	TITUS 350RL	RETURN	1,400	36/12	38/14	0.05	20	WHITE	STEEL	SURFACE	SDFB
EG-1	TITUS 350RL	EXHAUST	2,000	36/18	38/20	0.05	20	WHITE	STEEL	SURFACE	SDFB

DD = DOUBLE DEFLECTION, SDFB = SINGLE DEFLECTION FIXED BLADE

GRAVITY RELIEF HOOD SCHEDULE											
TAG NO.	MANUFACTURER MODEL NO. OR EQUAL	AIR DATA			TYPE	MATERIAL	HOOD DATA				REMARKS
		VOLUME (CFM)	SP (IN. W.C.)	MAXIMUM THROAT VELOCITY (FPM)			BASE HEIGHT (IN)	HOOD SIZE W/L (IN)	THROAT SIZE W/L (IN)	WEIGHT (LBS)	
GRH-1	GREENHECK FGR	4,000	0.24	1,000	EXHAUST	GALVANIZED STEEL	5	34/36	24/24	69	C, BS, RC

C = COATING (PERMATECTOR GRAY), BS = BIRD SCREEN (GALVANIZED STEEL), RC = ROOF CURB (CANTED, GALV. STEEL, 1" INSULATION, 12" HIGH)

CONTROL DAMPER SCHEDULE											
TAG NO.	MANUFACTURER MODEL NO. OR EQUAL	DIAMETER (IN)	AREA (SQ IN)	AIR TYPE	BLADE TYPE	CONTROL TYPE	FAIL POSITION	RELATED LOUVER	RELATED SYSTEM	REMARKS	
											CD-1
CD-2	RUSKIN CD36	-	24/24	EXHAUST	OPPOSED	2 POSITION	CLOSED	-	GRH-1	DA, GSC	

DA = DAMPER ACTUATOR (115VAC, NEMA 4), GSC = GALVANIZED STEEL CONSTRUCTION

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SHEET TITLE

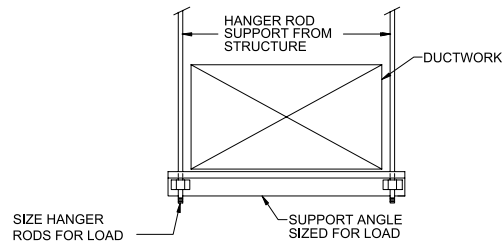
HVAC
SCHEDULES

DWG NUMBER

10-H-03

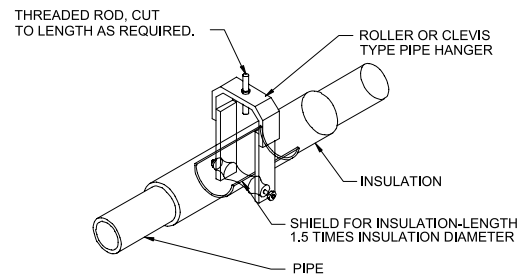
SHT NUMBER

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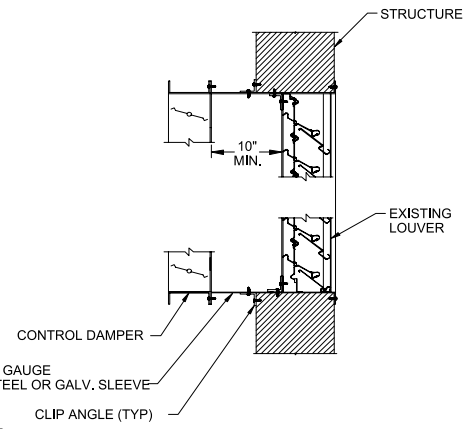
NOTE:
SUPPORT MATERIAL SHALL MATCH DUCT MATERIAL

DUCT HANGING DETAIL 1
NTS



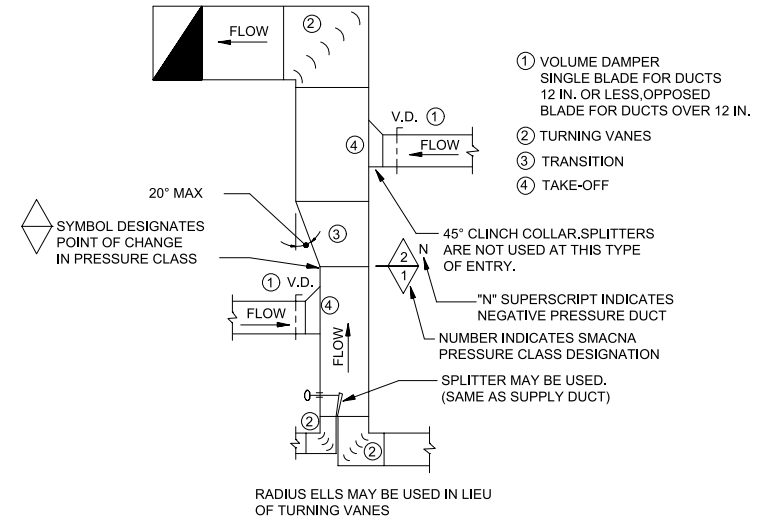
NOTE:
PROVIDE PIPE SUPPORTS AND HANGER MATERIALS AS SPECIFIED IN SECTION 22 05 29

PIPE HANGING DETAIL 2
NTS



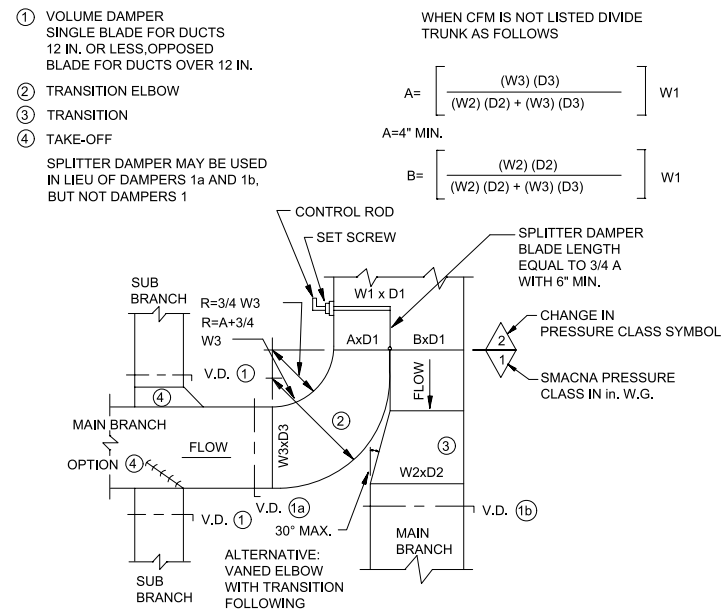
NOTES:
1. FOLLOW MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
2. PROVIDE MANUFACTURED FURNISHED OR SHOP FABRICATED GALV. STEEL WALL SLEEVE TO SUPPORT CONTROL DAMPER.
3. SUPPORTS SHALL BE WALL SUPPORTED.

LOUVER/CONTROL DAMPER DETAIL 3
NTS



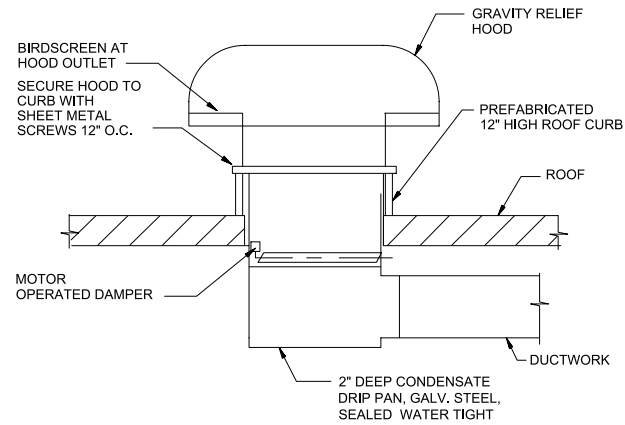
NOTE: CONFORM TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

EXHAUST OR RETURN DUCT CONNECTION 4
NTS

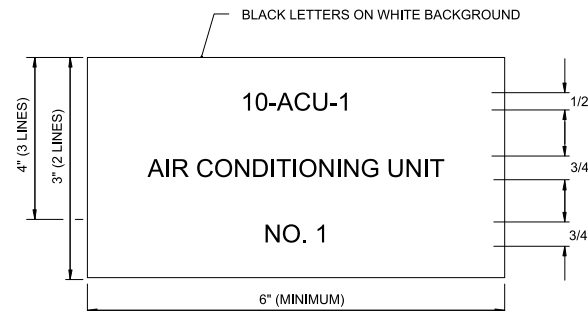


CONSTRUCT DUCTWORK TO SMACNA PRESSURE CLASS INDICATED ON DRAWINGS. IF NOT INDICATED, CONSTRUCT TO PRESSURE CLASS NOT LESS THAN DEFAULT PRESSURE SPECIFIED IN SECTION 230010 AS APPLICABLE.

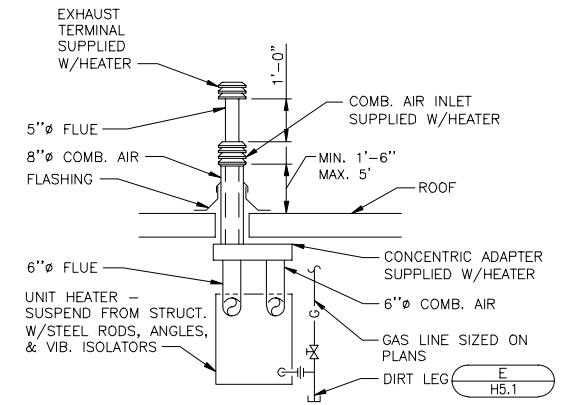
SUPPLY DUCT CONNECTION 5
NTS



GRAVITY RELIEF HOOD WITH DUCTWORK 6
NTS



EQUIPMENT MARKERS 7
NTS



GAS UNIT HEATER 8
NTS

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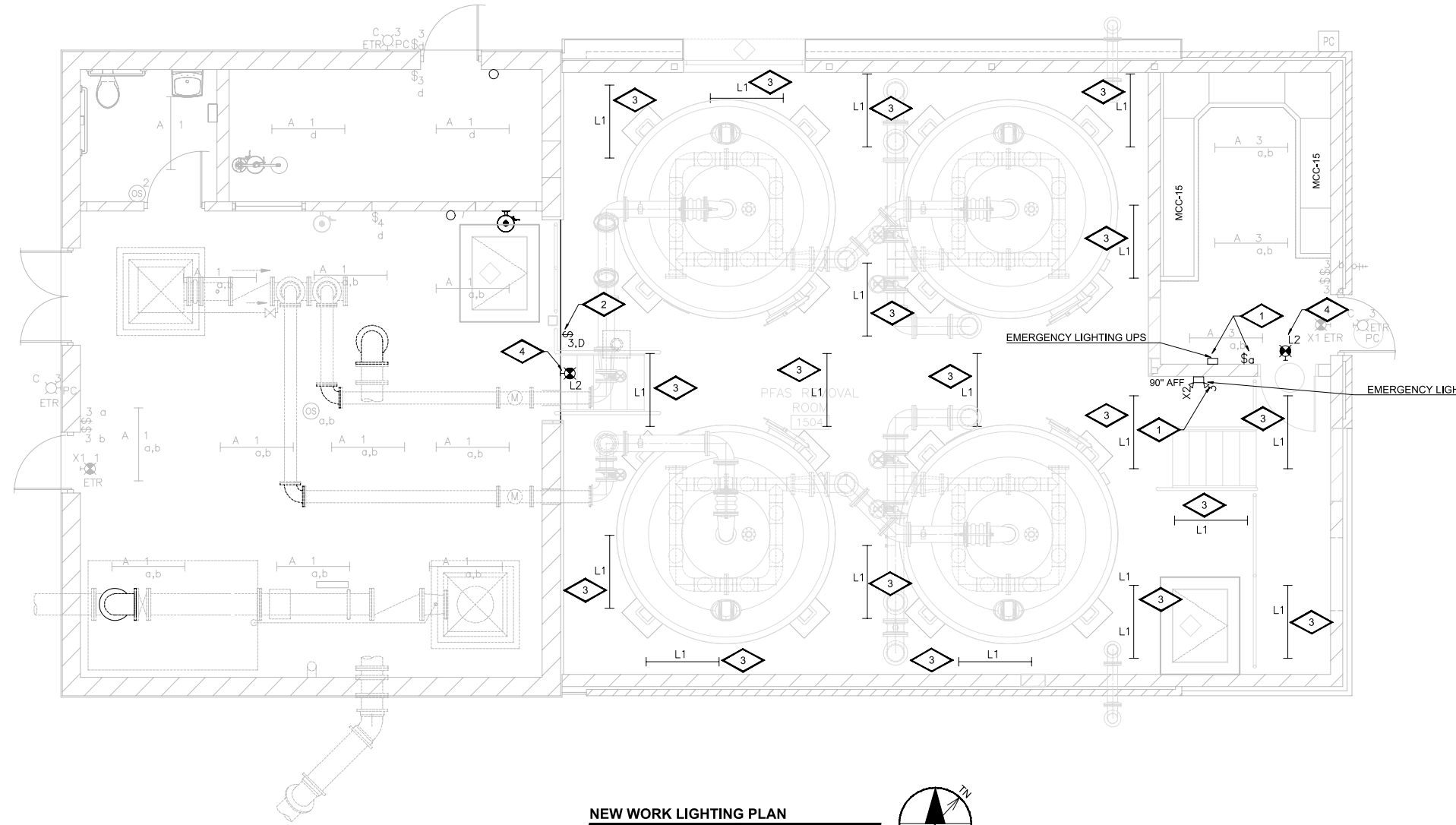
PROJECT NUMBER	60686092
SHEET TITLE	HVAC DETAILS
DWG NUMBER	10-H-04
SHT NUMBER	50 OF 55

PLAN NOTES

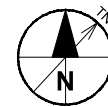
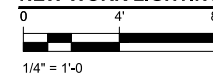
- 1 RELOCATED DEVICE PREVIOUSLY REMOVED AS PART OF DEMOLITION WORK. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
- 2 PROVIDE NEW LIGHT SWITCH SURFACE MOUNTED AS INDICATED. REVISE LIGHT FIXTURE SWITCHING AS INDICATED.
- 3 PROVIDE NEW LIGHT FIXTURE SUSPENDED FROM THE NEW CEILING TO A HEIGHT OF 15" AFF. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
- 4 PROVIDE NEW EMERGENCY LIGHT FIXTURE WALL MOUNTED TO A HEIGHT OF 90" AFF. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.

GENERAL NOTES

- 1. ALL EXTERIOR MOUNTED DEVICES SHALL BE INSTALLED IN RECESSED BOXES.
- 2. ALL CONDUIT PENETRATIONS BETWEEN INTERIOR SPACES SHALL BE CONSIDERED FIRE RATED PENETRATIONS AND SHALL BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.
- 3. EXISTING LIGHTING TO REMAIN



NEW WORK LIGHTING PLAN



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60686092

SHEET TITLE

ELECTRICAL
NEW WORK LIGHTING PLAN

DWG NUMBER

10-E-01

SHT NUMBER

51 OF 55

GENERAL NOTES

1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.
2. ALL EXTERIOR MOUNTED DEVICES SHALL BE INSTALLED IN RECESSED BOXES.
3. REFER TO SHEET G0.3 FOR THE FIRE RATED WALLS. DAMPERS NOT SHOWN WITH A CIRCUIT NUMBER SHALL BE POWERED FROM THE CONTROL PANEL AT THE UNIT OR FROM A CONTROL POWER TRANSFORMER IN THE ASSOCIATED STARTER BUCKET.
4. ALL CONDUIT PENETRATIONS BETWEEN INTERIOR SPACES SHALL BE CONSIDERED FIRE RATED PENETRATIONS AND SHALL BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.

PLAN NOTES

1. RELOCATED DEVICE PREVIOUSLY REMOVED AS PART OF DEMOLITION WORK. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
2. PROVIDE NEW RECEPTACLE, RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
3. PROVIDE NEW MOTOR TO POWER THE EXHAUSTED FAN. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
4. PROVIDE NEW MOTOR TO POWER THE FAN COIL. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
5. OWNER TO PROVIDE NEW CARD READER. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
6. PROVIDE NEW CONTROL PANEL NEXT TO THE NEW SUMP PUMP. RECONNECT TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRING AS REQUIRED.
7. MOVE COMMUNICATION BOX TO ELECTRICAL ROOM. MOUNT HIGH ABOVE EXISTING EQUIPMENT. FIELD LOCATE.
8. FAN SPEED CONTROLLER W/ H-O-A SWITCH PROVIDED WITH EF-1
9. PROVIDE NEW CONTROL DAMPER, PROVIDE 2#10, 1#10G., 3/4". FROM PANEL LP-15. SEE PANEL SCHEDULE ON 10-E-05 DRAWING.

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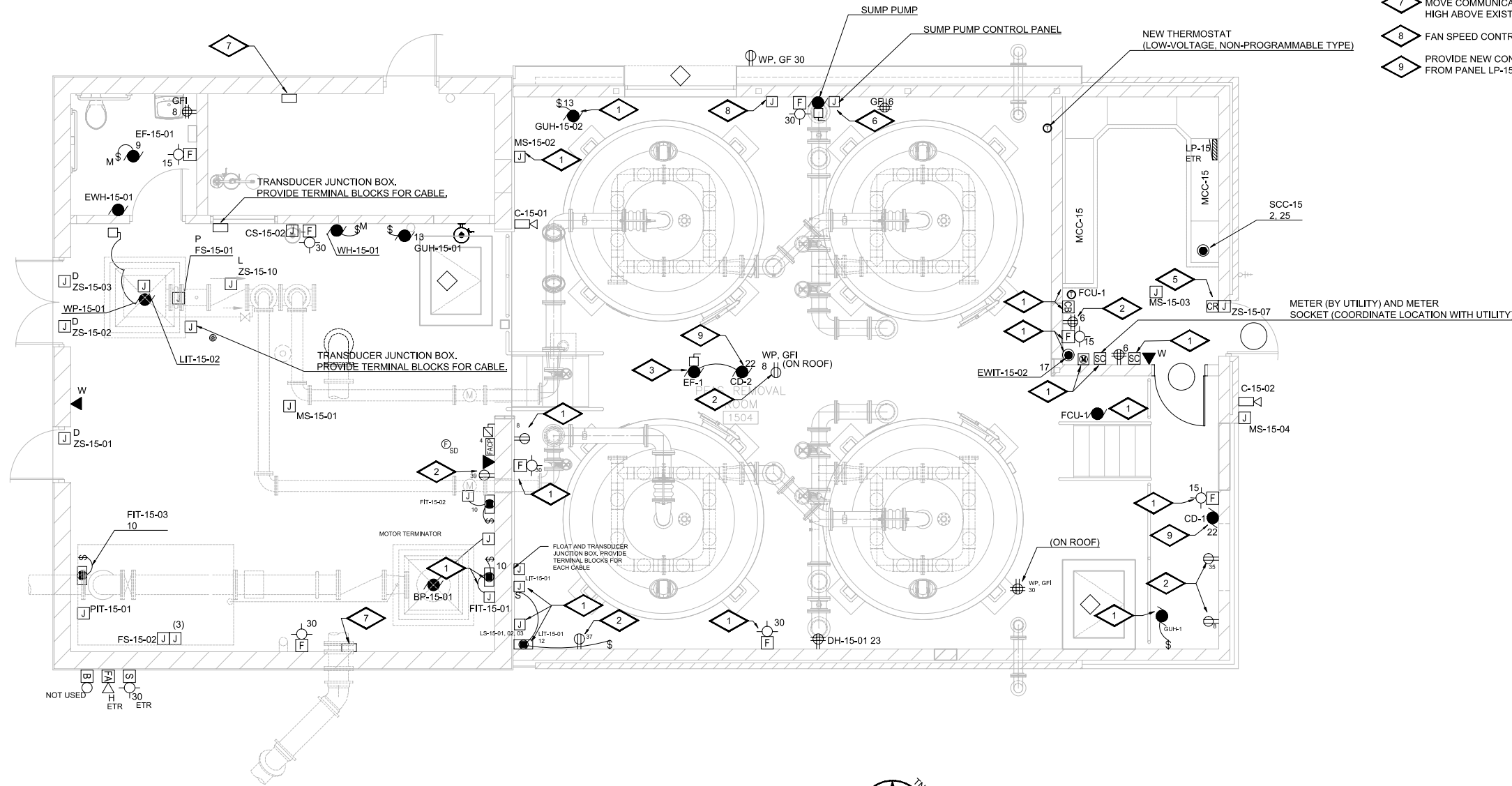
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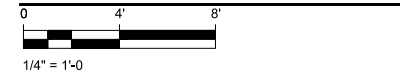
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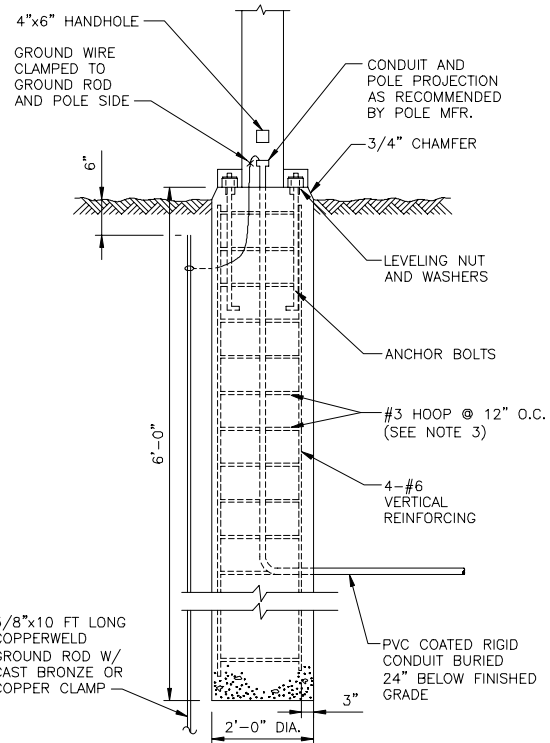
SHEET TITLE
ELECTRICAL
NEW WORK POWER PLAN

DWG NUMBER 10-E-02 **SHT NUMBER** 52 OF 55



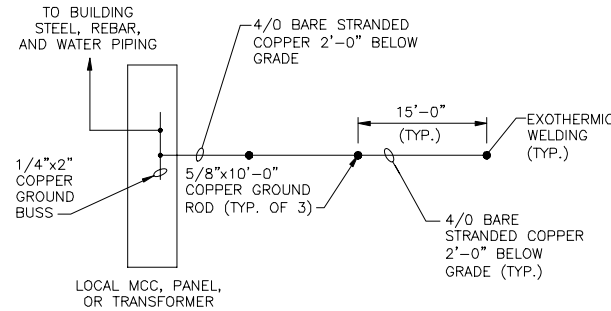
NEW WORK POWER PLAN



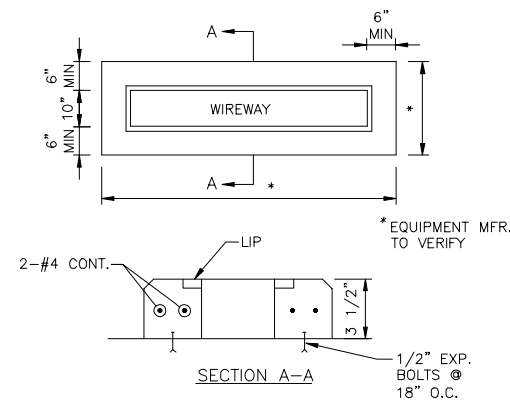


- NOTES:**
- TOP OF BASE TO BE 4" ABOVE TOP OF FUTURE CURB, TOP 12" TO BE FORMED.
 - POLE SHALL BE MOUNTED 4'-0" BACK FROM EDGE OF PAVEMENT.
 - PROVIDE 3-#3 TIES @3" O.C. AT TOP OF POLE BASE.

A
E04 LIGHT POLE BASE
NO SCALE

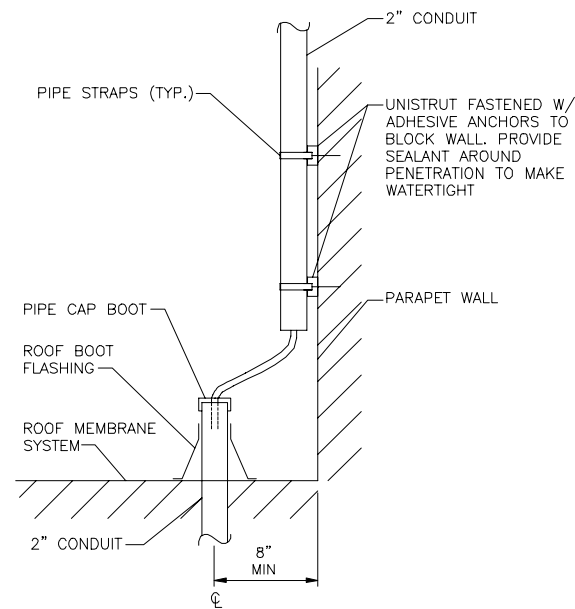


B
E04 GROUND GRID
NO SCALE

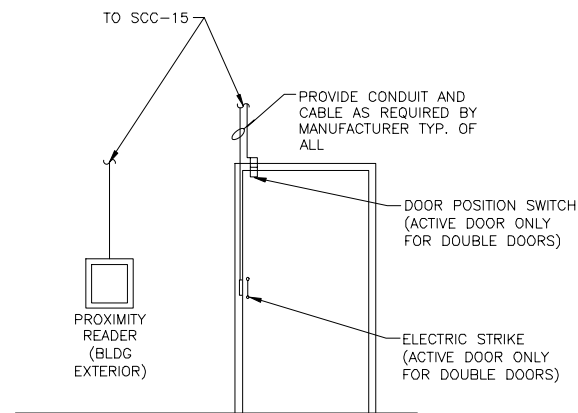


NOTE: PROVIDE FLUSH METAL COVER FOR EXPOSED WIREWAY

C
E04 SCC/MCC PAD
NO SCALE



E
E04 ANTENNAE DETAIL
0 3" 6" 1'



- NOTES:**
- CONTRACTOR SHALL USE MANUFACTURER'S RECOMMENDED CONDUCTORS AND QUANTITIES TO EACH DEVICE.

D
E04 CARD READER AND ELECTRIC STRIKE
NO SCALE

LIGHTING FIXTURE LEGEND						
TYPE	DESCRIPTION	MOUNTING	LAMPS	VOLTAGE/DRIVER	MANUFACTURER/CAT. NO	VA
L1	LINEAR LENSED INDUSTRIAL STRIP IP67 RATED	CHAIN HUNG	5000 LUMENS, 4000K, 80 CRI	120/277V 0-10V DIMMABLE TO 10% VOLTAGE/DRIVER	FAILSAFE 4VRV73-LD5-5-G-UNV-L840 CD1-WL-U OR APPROVED EQUAL	48
L2	EXTERIOR MOUNTED WALL PACK, UL LISTED FOR WET LOCATIONS PROVIDE REMOTE BATTERY PACK AND PHOTOCELL CONTROL	WALL/SURFACE MOUNT	4270 LUMENS DIMMABLE TO 10% DRIVER	120/277V DIMMABLE TO 10% DRIVER	CREE XSPW-B-WH 4ME-4L-40K-UL-BZ-P OR APPROVED BY COPPER, LITHONIA	31

EQUIPMENT NAME	B.O.D.	VOLTAGE & PHASE	AMPS	VA	PANEL	CIRCUIT BREAKER	CONDUIT & WIRE	CONTROLLER DISCONNECT				REMARKS
								TYPE	SIZE	BY	LOCATION	
EF-1	15A MOP, 208V, 1PH	208/1P	7.5	2760	LP-15	20A/2	2#10, 1#10G, 3/4"C.	NFDS,WP	15A/1P	EC	ON UNIT	PROVIDE A RELAY TO DISABLE THE (3) DEHUMIDIFIER RECEPTACLES WHEN EF-1 IS OPERATING
SUMP PUMP	120V, 20A, 1/2HP	120/1P	9.8	1130	LP-15	20A/1	2#10, 1#10G, 3/4"C.	NFDS,WP	15A/1P	EC	ON UNIT	
SUMP PUMP CONTROL PANEL	120V, 20A	120/1P	16	1920	LP-15	20A/1	2#12, 1#12G, 3/4"C.	-	-	-	-	CONTROL PANEL

EXISTING FIXTURE SCHEDULE						
Fixture Type	Manufacturer(s)	Model Number	Lamp Type	Mounting	Remarks	
A	Metalux	VT3-332DR-UNV-ER81-WL-U	3-32W T8	Ceiling		
B	Metalux	VT4-432DR-M-DR-UNV-ER82-WL-U-PC	4-32W T8	Ceiling		
C	Ligman	U31611-LED-120V-02	LED	Wall	Provide 4000K color temperature.	
D	Lumark	LDRV-SL4-CO1-E-PL-120-BZ-MA1182-XX	LED	Pole	Initial lumens shall be 1,842. Provide Hapco pole, model RAS12B4-3-01. Color to match fixture.	
E	Lumark	MPMM-K-HF-250-120V-PC-MM/V5 MH	250W	Mount on Pole	Provide chevrons and faces as required.	
X1	Pathways	N4XVLEX1R	LED	Wall	Provide self diagnostics.	
X2	Surelites	CCTNCDS	12W Inc.	Wall	Provide chevrons and faces as required.	

ISSUE/REVISION		
I/R	DATE	DESCRIPTION
1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT

UNIT WELL 15 PFAS
TREATMENT FACILITY

CLIENT

MADISON WATER UTILITY

119 E. OLIN AVENUE
MADISON, WISCONSIN 53713
Tel 608.266.4651 www.cityofmadison.com

EXISTING MOTOR AND MOTOR CONTROL CENTER SCHEDULE MCC-15

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS				REMARKS***	
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP/ KW	VOLTS	F.L.I. IN AMPS	RPM	SIZE	TYPE	BREAKER	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. BY	WIRED BY	CONDUIT AND WIRE** 1ST ROW=CONTROL* 2ND ROW=POWER		
WP-15-01	WELL PUMP		WELL PUMP ROOM 1501	MCC-15	150	460	180	1800	-	ND VFD	M	250	VFD-BYPASS H-O-A,R,R,R,R,A,G,ETM,4	FS-15-01, SV-15-01,02, LS-15-04,06 ZS-15-10, VE-15-01, PS-15-02, 04, LS-15-01, 02, 03 MOTOR T-STAT, CHEMICAL PUMP, DISC.	DIV. 11/16	DIV. 26	10~#14, 3/4". 20~#14, 1". 3~4/0, 2".	
WP-15-01	WELL PUMP	BYPASS STARTER	WELL PUMP ROOM 1501	MCC-15	150	460	180	1800	5	RVSS	M	250	H-O-A,R,G,ETM,4		DIV. 11/16	DIV. 26	3~4/0 2".	
BP-15-01	EXISTING BOOSTER PUMP		WELL PUMP ROOM 1501	MCC-15	150	460	180		-	VFD ND	M	250	VFD-AUTO-BYPASS H-O-A (KEYED), R,R,R,G,ETM,4	ZS-15-11 MOTOR T-STAT, DISCONNECT, LS-15-01, 02, 03	DIV. 11/16	DIV. 26	12~#14, 3/4". 3~3/0 2".	
BP-15-01	EXISTING BOOSTER PUMP	BYPASS STARTER	WELL PUMP ROOM 1501	MCC-15	150	460	180		5	RVSS	M	250	H-O-A (KEYED),R,G,ETM,4		DIV. 11/16	DIV. 26	3~3/0 2".	
FCU-15-01	WELL PUMP ROOM	FAN COIL UNIT	WELL PUMP ROOM 1501	MCC-15	-	480	2.5	-	-	-	A	15			DIV. 15	DIV. 26	2~#14 3~#12 3/4".	
FCU-15-02	MCC ROOM	FAN COIL UNIT	MCC ROOM 1505	MCC-15	-	480	1.6	-	-	-	A	15			DIV. 15	DIV. 26	2~#14 3~#12 3/4".	
WH-15-01	WATER HEATER		WELL PUMP ROOM 1501	MCC-15	-	480	10.3	-	-	-	A	15			DIV. 15	DIV. 26	3~#12 3/4".	
FB-15-01	240V RECEPT.	TRANSFORMER	VOC REMOVAL ROOM 1504	MCC-15	-	480	-	-	-	-	A	10			DIV. 16	DIV. 26	2~#12 3/4".	
EUH-15-03	CHEMICAL ROOM	UNIT HEATER	CHEMICAL ROOM 1503	MCC-15	7.5KW	460	9.1	-	-	-	A	20			DIV. -	DIV. 26	3~#12 3/4".	

EXISTING LIGHTING PANEL LP-15

Service:		120/208, 3Ø, 4W		Enclosure: NEMA 1				Mounting:				MCC			
Main Breaker:		225A MLO						Main Bus:				Copper			
Location:		1503						SCIC:				10 kAIC			
Room Number/Description	Amps	Poles	Oct. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Oct. #	Poles	Amps	Room Number/Description		
Lighting	20	1	1	1248			1000			2	1	20	SCC-15		
Lighting*1	20	1	3		613				1000	4	1	20	FACP		
Lighting*2	20	1	5			1587				6	1	20	Receptacles Rooms 1505 ^4		
Drinking Fountain Light	20	1	7	375			360			8	1	20	Receptacles Rooms 1502,1506 ^4		
EF-15-01 and Bathroom Light	20	1	9		500			1500		10	1	20	FIT-15-01, 15-02, 15-03 Transmitter		
EWH-15-01	20	1	11			1500				12	1	20	LIT-15-01 ^5		
GUH-15-01, GUH-15-02, GUH-15-03	20	1	13	1500			1000			14	1	20	Emergency Shutoff Panel/Relay Cabinet		
EF-15-02 and Damper	20	1	15		864			0		16	1	20	Fiber Cabinet		
EWH-15-02	20	1	17			1500			0	18	1	20	Video/Card Access		
Receptacles Room 1506*3	20	1	19	540			0			20	1	20	Pump Rm Receptacle		
Vacuum Sensor and Chlorine Scale	20	1	21		1000			920		22	1	20	CD-1&CD-2		
DH-15-01	20	1	23			1400			0	24	1	20	Chlorine Analyzer		
SCC-15	20	1	25	1000			500			26	1	20	Chem Feed Receptacle Room 1503		
SUMP PUMP CONTROL PANEL	20	1	27		1920			180		28	1	20	Receptacle Room 1503		
SUMP PUMP	20	1	29			1130			360	30	1	20	Exterior Receptacles*4		
			31	1380			180			32	1	20	Solenoid Receptacle		
EF-1	20	2	33		1380			0		34	1	20	Flow Meter		
DEHUMIDIFIER DEDICATED RCPT	20	1	35			1590			0	36	1	20	Flow Meter		
DEHUMIDIFIER DEDICATED RCPT	20	1	37	1590			0			38	1	20	Flow Meter		
DEHUMIDIFIER DEDICATED RCPT	20	1	39		1590			0		40	1	20	Flow Meter		
Spare	20	1	41			0			0	42	1	20	Flow Meter		
Total Load per Phase per Side (VA)				7633	7867	8707	3040	3600	1233						
Total Load Phase A (VA)				10673	VA	*Existing loads that will remain shall be extended from removed lighting panel.				Total Connected Load (A)				89	A
Total Load Phase B (VA)				11467	VA					Total Connected Load + 25%				111	A
Total Load Phase C (VA)				9940	VA					Spare 25%				28	A
Total Connected Load (VA)				32080	VA					Feeder Load				139	A

REMARKS

- Remove 4 lighting fixtures of type A and 1 of type C from circuit #3 with a total drop off power of 140 VA; the remaining power on P#3 is 582 VA; add 1 new lights of type L2, and the total load power P#3 is 613 VA.
- Remove 11 lighting fixtures of type B and 1 of X1 from circuit #5 with a total drop off power of 364 VA; the remaining power on P#5 is 692 VA; add 18 new lights of type L1 & 1 of L2, and the total load power P#5 is 1587VA
- Remove EF-15-03, DAMPER from circuit#19 and adding new receptacles with a total power of 540VA.
- Remove 3 receptacles each from the circuits #6,#8 and #30 respectively, with a drop off power of 180VA.
- Remove FIT-15-04, 15-05 from circuit #2, with a drop off power of 666VA, the new power P#12 is 333VA.

ISSUE/REVISION

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1	12/22/23	ISSUE FOR BID

KEY PLAN

PROJECT NUMBER

60686092

SHEET TITLE

ELECTRICAL
NEW SCHEDULES AND DETAILS

DWG NUMBER

10-E-04

SHT NUMBER

54 OF 55

