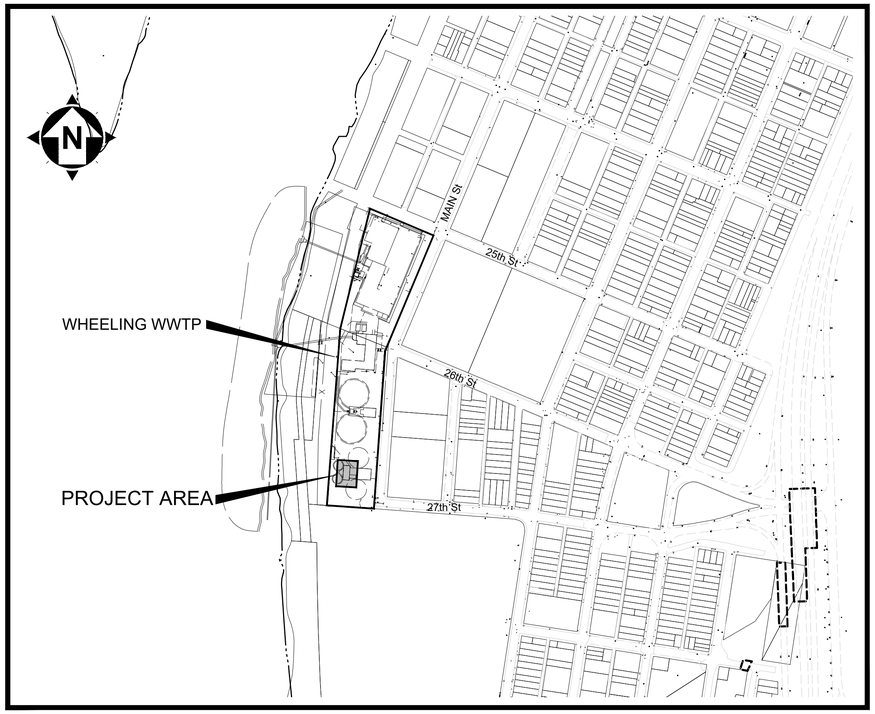
CITY OF WHEELING W. VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

WATER POLLUTION CONTROL DIVISION

AUGUST 2026



LOCATION MAP
SCALE: 1" = 300'

UTILITY COMPANIES	
NOTE: UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD MARKINGS (BY OTHERS) AND AVAILABLE RECORDS, AND AS SUCH, SHOULD BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES - CAL BEFORE YOU DIG	
CITY OF WHEELING WATER DEPARTMENT 9 ARMORY DR. WHEELING, WV 26003 MAX JACOBS (304) 234-3849	CITY OF WHEELING WATER POLLUTION CONTROL 2516 MAIN STREET WHEELING, WV 26003 ANDY HARRIS (304) 650-6905
AMERICAN ELECTRIC POWER 4201 JACOB STREET WHEELING, WV 26003 JEFF TURNER (304) 234-3102	MOUNTAINEER GAS 114 19TH STREET WHEELING, WV 26003 ALEX SCHRAMM 1-(888) 420-4427, EXT 85218
COMCAST CABLE 460 WASHINGTON ROAD WASHINGTON, PA. 15301 RICH KOPANIC (412) 327-3122	TC ENERGY 9 COMPRESSOR STATION RD. WEST ALEXANDER, PA. 15376 TYLOR SOVINSKY (412) 258-5091
FRONTIER 995 MT DECHANTAL ROAD WHEELING, WV 26003 (304)559-9020 KEITH WESTLAKE	

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CITY OF Wheeling WEST VIRGINIA

OWNER	ENGINEER
WATER POLLUTION CONTROL DIVISION 2516 MAIN STREET WHEELING, WV 26003 PHONE: (304) 234-3874	VERDANTAS 2001 MAIN STREET, SUITE 600 WHEELING, WV 26003 PHONE: (304) 232-2784

CONSTRUCTION PLAN APPROVALS:

ROBERT HERRON, CITY MANAGER — DATE

APPROVAL OF THESE PLANS DOES NOT CONSTITUTE ASSURANCE TO OPERATE AS INTENDED. THE REVIEWER DOES NOT ACCEPT RESPONSIBILITY FOR THE INTEGRITY OF THE PLANS.

DESIGN ENGINEER:

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

DAN BARR, WV P.E. NO. 254451

8/3/2026
DATE

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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NO	REVISION	DATE

BID	
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	ABC
DRAWN BY:	RLM
CHECKED BY:	ABC

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

COVER SHEET

PROJECT NO.
38009

DISCIPLINE
GENERAL

SHEET NAME
00G-01

SHEET 1 OF 44

ABBREVIATIONS

VALVE OPERATOR ID:

CH = CHAIN
EM = ELECTRIC MOTOR
ES = EXTENSION STEM
FB = FLOOR BOX
FS = FLOOR STAND
GE = GEAR
HC = HYDRAULIC CYLINDER
HW = HANDWHEEL
LE = LEVER
LW = "L" WRENCH
ON = OPERATING NUT
PC = PNEUMATIC CYLINDER
PD = PNEUMATIC DIAPHRAGM
TW = "T" WRENCH
VB = VALVE BOX

PIPE END JOINT ID:

BE = BELL
CM = COMPRESSION
FL = FLANGED
GR = GROOVED
LU = LUG
MJ = MECHANICAL JOINT
NPT = NATIONAL PIPE THREAD
RJ = RESTRAINED JOINT
PE = PLAIN END
S = SOLDERED
SJ = SLIP JOINT (PUSH ON)
SW = SOLVENT WELDED
TH = THREADED
W = WELDED

EQUIPMENT ID:

AC = AIR COMPRESSOR
AER = AERATOR
B = BLOWER
BFP = BELT FILTER PRESS
CLS = CLASSIFIER
C = COMMUNITOR
CC = CALIBRATION CYLINDER
CMP = COMPACTOR
CFD = CHEMICAL FEEDER
CNV = CONVEYOR
CNT = CENTRIFUGE
CP = CONTROL PANEL
CR = CRANE
D = DECANTER
DR = DRIVE
DFL = DISC FILTER
F = FAN
FL = FILTER
FM = FLOW METER
GBT = GRAVITY BELT THICKENER
GR = GRINDER
GEN = GENERATOR
HB = HOSE BIB
M = MOTOR
MX = MIXER
P = PUMP
PS = PUMP STATION
SMP = SAMPLER
SCR = SCREEN

PIPE MATERIAL ID:

BR = BRASS
BS = BLACK STEEL
BZ = BRONZE
CI = GRAY CAST IRON
CU = COPPER
CS = CAST IRON
CT = CARBON STEEL TUBING
DIP = DUCTILE IRON PIPE
DR = DIAMETER RATIO
FRP = FIBERGLASS REINFORCED PLASTIC
GS = GALVANIZED STEEL
HDPE = HIGH-DENSITY POLYETHYLENE PIPE
PVC = POLYVINYL CHLORIDE PIPE
SS = STAINLESS STEEL
STL = STEEL PIPE
SDR = STANDARD DIAMETER RATIO
SCH = SCHEDULE

GATE ABBREVIATIONS:

BG - BULKHEAD GATE
SG - SLIDE GATE
SP - STOP PLATE
SL - STOP LOG
ALUM - ALUMINUM
SS - STAINLESS STEEL
CI - CAST IRON
POLY - POLYMER
B/C - BOTTOM OF CHANNEL
T/C - TOP OF CHANNEL
A - HEIGHT
B - WIDTH

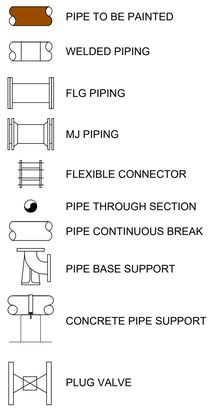
OTHER:

ADD'L	= ADDITIONAL
AGG	= AGGREGATE
ALUM.	= ALUMINUM
BTWN	= BETWEEN
C/L	= CWNTERLINE
CLR	= CLEAR
COMM	= COMMUNICATION(S)
CONC	= CONCRETE
CONT	= CONTINUOUS
DWL	= DOWEL(S)
EF	= EACH FACE
EL.	= ELEVATION
EMBED	= EMBEDMENT
EW	= EACH WAY
EX	= EXISTING
FF	= FINISH FLOOR
FG	= FINISH GRADE
FND	= FOUNDATION
GALV	= GALVANIZED
HORIZ	= HORIZONTAL
HP	= HIGH POINT
LLV	= LONG LEG VERTICAL
LP	= LOW POINT
MAX	= MAXIMUM
MFR	= MANUFACTURER
MIN	= MINIMUM
REC	= RECORD
REF	= REFERENCE
REINF	= REINFORCING
STRC	= STRUCTURE
T/	= TOP OF
TYP	= TYPICAL
UNO	= UNLESS NOTED OTHERWISE
VERT	= VERTICAL

VALVE ID:

AC = AIR CHECK VALVE
AN = ANGLE VALVE
AR = AIR RELEASE VALVE
AV = AIR & VACUUM VALVE
BA = BALL VALVE
BFLY = BUTTERFLY VALVE
BK = BACKPRESSURE VALVE
BP = BACKFLOW PREVENTER
CV = CHECK VALVE
CO = CONE VALVE
GV = GATE VALVE
GL = GLOBE VALVE
KG = KNIFE GATE VALVE
KN = KNIFE VALVE
MV = MUD VALVE
PD = PLUG DRAIN VALVE
PF = PRESSURE RELIEF
PG = PRESSURE REGULATOR
PI = PINCH VALVE
PV = PLUG VALVE
PRV = PRESSURE REDUCING VALVE
PT = PRESSURE TEMPERATURE RELIEF
RF = RATE-OF-FLOW CONTROLLER
SV = SOLENOID VALVE
SU = SURGE VALVE
TE = TELESCOPING VALVE
TM = TEMPERATURE CONTROL VALVE

MISC. PIPE SYMBOLOGY



SERIES INFORMATION:

GENERAL - 00 SERIES
SOLIDS HANDLING BUILDING - 10 SERIES
ELECTRICAL - E SERIES
MECHANICAL - M SERIES
INSTRUMENTATION - I SERIES
STANDARD DETAILS - SD SERIES

DISCIPLINE INFORMATION:

IDENTIFIER	DISCIPLINE
G	GENERAL
D	PROCESS
A	ARCHITECTURAL
S	STRUCTURAL
M	MECHANICAL
E	ELECTRICAL
I	INSTRUMENTATION

INDEX EXPLANATION:

INDEX OF SHEETS

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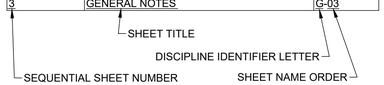
2	SHEET INDEX	G-02
3	GENERAL NOTES	G-03



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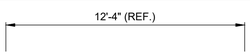
GENERAL SYMBOLOGY NOTES:

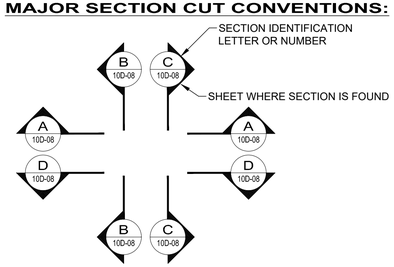
1. THIS IS A STANDARD SHEET SHOWING COMMONLY USED SYMBOLOGY.
2. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE NEW IMPROVEMENTS SO AS TO HIGHLIGHT SPECIFIC TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. SYMBOLOGY OR DIAGRAMMATICAL LEGENDS MAY BE SHOWN ON INDIVIDUAL SHEETS FOR SCHEDULES, DIAGRAMS, DETAILS, SCHEMATICS OR EQUIPMENT.
5. *SLANT LETTERING* USED TO INDICATE EXISTING FEATURE.

REFERENCE DIMENSION:

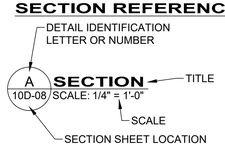


REFERENCE DIMENSIONS ARE GIVEN FOR INFORMATION ONLY. THEY ARE CALCULATED DIMENSIONS NOT INTENDED TO BE USED WITHOUT FIELD VERIFICATION AND ARE USEFUL IN SHOWING INTENDED DESIGN.

MAJOR SECTION CUT CONVENTIONS:



SECTION REFERENCES:



DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

BID	
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	N/A
DESIGNED BY:	RLM
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

INDEX AND SYMBOLS SHEET

PROJECT NO. 38009
DISCIPLINE: GENERAL
SHEET NAME: 00G-02
SHEET 2 OF 44

GENERAL

1. A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE ENGINEER AND SERVICE DIRECTOR PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.
2. THE STANDARD SPECIFICATIONS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, 2017 EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN ALL WORK NOT COVERED BY THE SPECIFICATIONS. ALL REFERENCES TO THE DIRECTOR OR ENGINEER SHALL BE CONSTRUED TO MEAN THE CITY ENGINEER AND/OR HIS REPRESENTATIVE. ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, xREGULATIONS AND SPECIFICATIONS OF THE CITY OF WHEELING.
3. ALL WORK COMPLETED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
4. ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE CITY AND TO THE FULL SATISFACTION OF THE CITY AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF.
5. BEFORE THE CITY WILL APPROVE THE WORK AND RELEASE THE RETAINER, THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTER HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, AND A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
6. MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE ENGINEER.
7. IN CASE OF DISCREPANCIES BETWEEN SPECIFICATION AND THE DRAWINGS, THE MOST STRINGENT APPLIES.

PROHIBITED CONSTRUCTION ACTIVITIES

1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN STREAMS, RIVERS, ALONG THE SHORELINE, WETLANDS OR FLOOD PLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
2. LOCATIONS STOCKPILE STORAGE AREAS IN ENVIRONMENTAL SENSITIVE AREAS.
3. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
4. DISPOSING OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.
5. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY OR STREET WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER; AND CLOSING CLEAR ACCESS BY FIRE PROTECTION AND EMERGENCY VEHICLES, BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE, OR BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

AIR/NOISE CONTROL

1. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAY DAYTIME HOURS, UNLESS APPROVED IN ADVANCE BY THE CITY.

PAVEMENT RESTORATION

1. PAVEMENTS SHALL BE RESTORED TO THEIR ORIGINAL MATERIAL, ELEVATION AND SLOPE. IN NO CASE SHALL THE REPLACEMENT PAVEMENT THICKNESS BE LESS THAN THE ORIGINAL.
2. THE CURING OF RIGID PAVEMENT SHALL BE IN ACCORDANCE WITH WVDOT SECTION 501.5.10.

STRUCTURAL CONCRETE

1. ALL STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH WVDOT SECTION 601.
2. ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDANCE WITH AASHTO M31 OR ASCE A615 AND SECTION 602 OF THE STANDARD SPECIFICATIONS. THE MINIMUM LAP FOR REINFORCING SHALL BE 1 FOOT - 6 INCHES UNLESS OTHERWISE SHOWN.

CONTRACTORS USE OF SITE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING AND STORAGE OF MATERIAL FOR THE WORK. THE OWNER WILL NOT RECEIVE ANY OF THE CONTRACTOR'S DELIVERIES.
2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONSTRUCTION EQUIPMENT, TOOLS, SUPPLIES, MATERIALS, AND CONTRACTOR'S FACILITY WITH THE OWNER. THE OWNER SHALL HAVE ACCESS TO OPERATE AND MAINTAIN TREATMENT FACILITY AT ALL TIMES.
3. GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SCHEDULES AND WORK AREA TO PREVENT DELAY AND INTERFERENCE.

DANIEL E. BARR
REGISTERED
25451
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

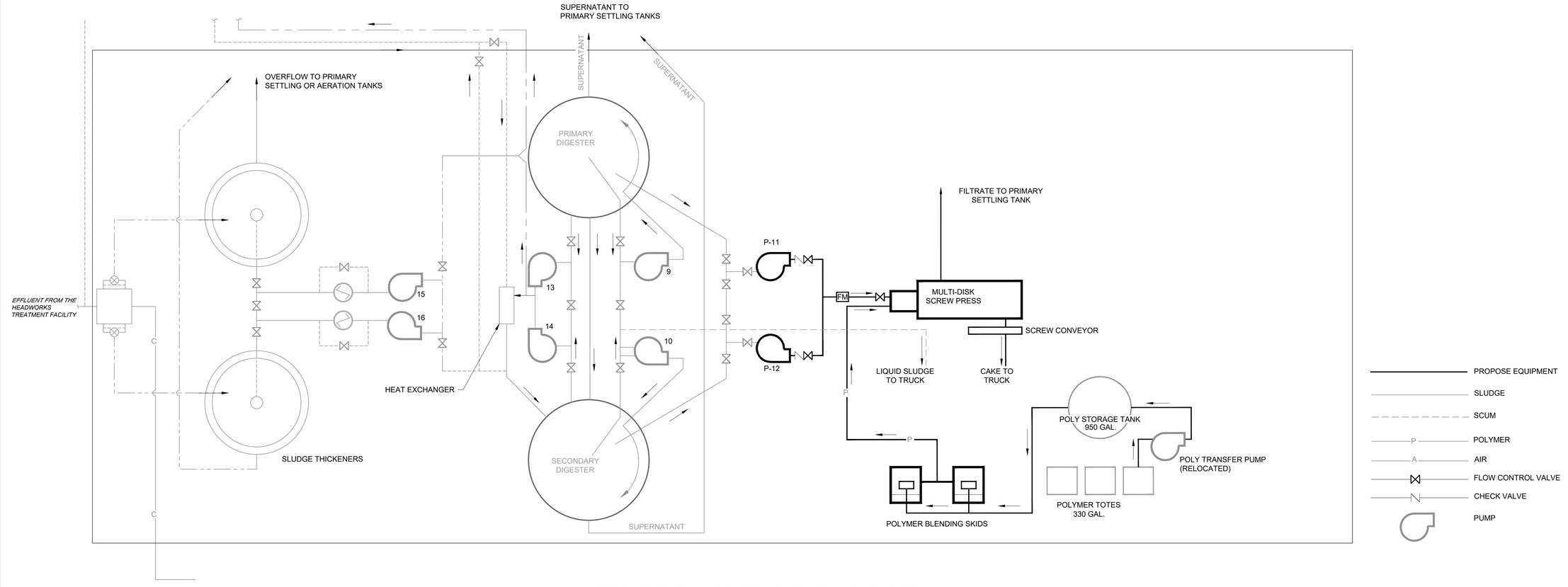
GENERAL NOTES

PROJECT NO.
38009

DISCIPLINE
GENERAL

SHEET NAME
00G-03

SHEET 3 OF 44



SLUDGE HANDLING BUILDING

DANIEL E. BARR
REGISTERED
25451
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

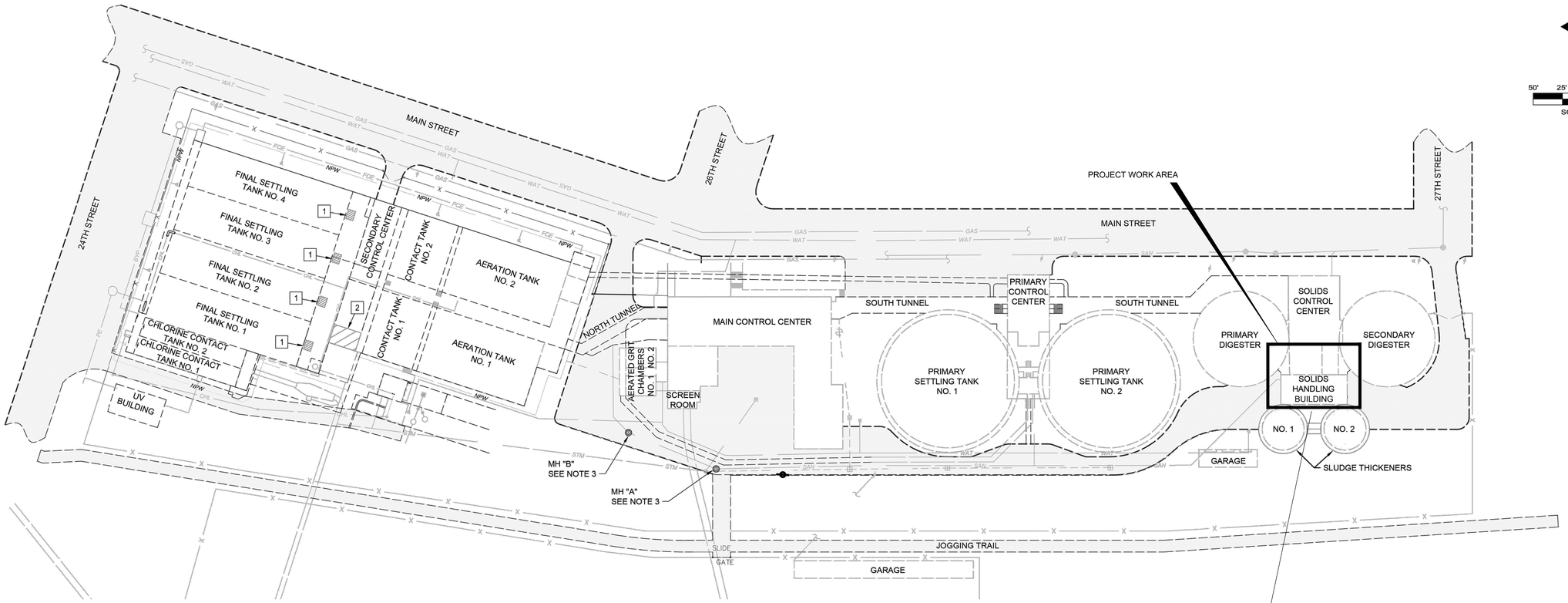
PROCESS FLOW DIAGRAM

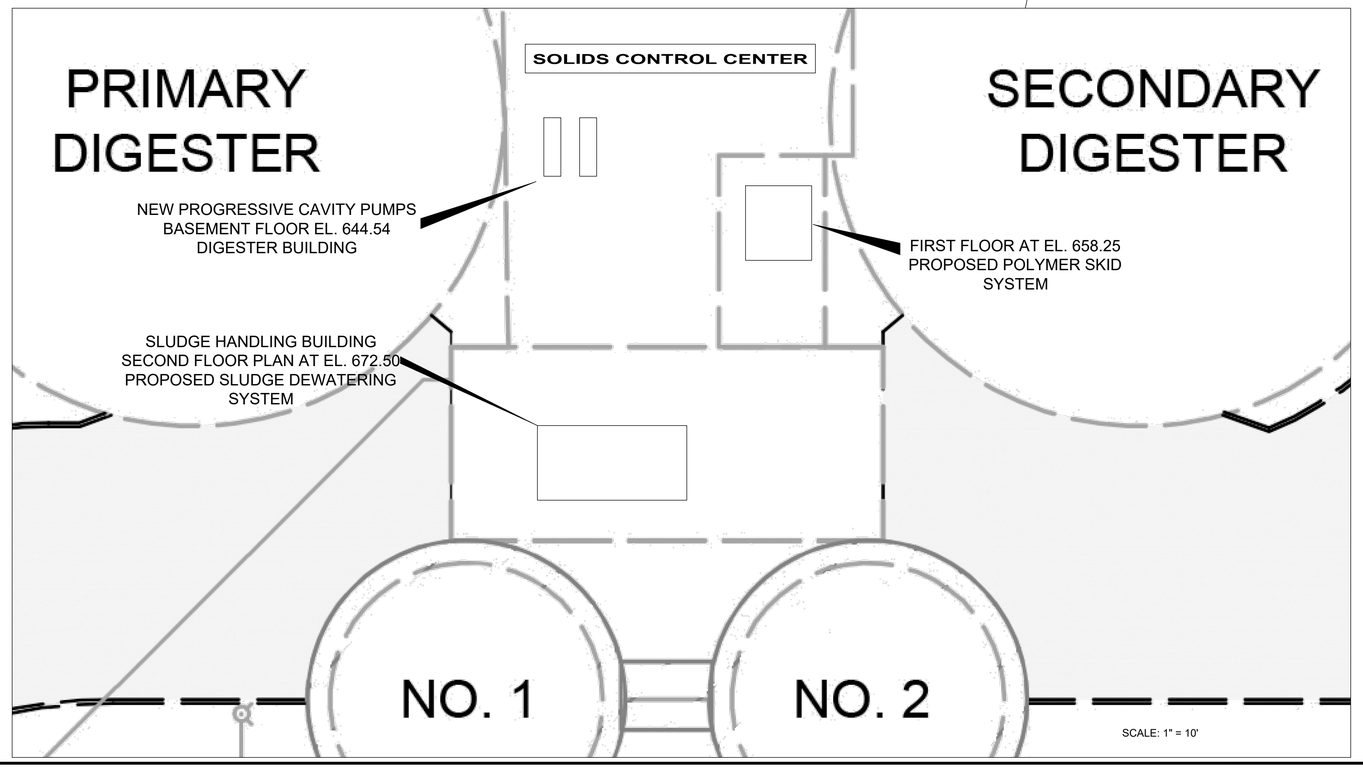
PROJECT NO.
38009

DISCIPLINE
GENERAL

SHEET NAME
00G-04

SHEET 4 OF 10





BAR SCALE
50' 25' 0' 50'
SCALE: 1"= 50'

DANIEL E. BARR
REGISTERED
25451
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

BID

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

WORK LOCATION MAP

PROJECT NO.	38009
DISCIPLINE	GENERAL
SHEET NAME	00G-05
SHEET	5
OF	44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\G_38009 - WORK LOCATION MAP.DWG - 5 WORK LOCATION MAP - 7/24/2026 4:04:03 PM - ROBERT MARANO

AREA CLASSIFICATIONS

(CLASSIFICATIONS ARE BASED ON RECOMMENDATIONS FROM NATIONAL FIRE PROTECTION AGENCY STANDARD 820, AND ENGINEERING JUDGEMENT)

CLASS 1, DIVISION 2 GROUP C & D GENERAL AREAS

PRIMARY DIGESTER

SECONDARY DIGESTER

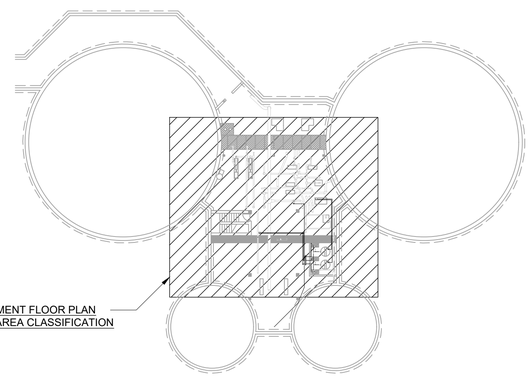
PIPE TRENCH

SOLIDS CONTROL CENTER - HAZARDOUS LOCATION PLAN

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

GENERAL CLASSIFICATION NOTES:

THIS DRAWING IS DEVELOPED TO BE USED AS AN OVERVIEW FOR THE AREA CLASSIFICATION OF THE NEW EQUIPMENT ONLY, NOT FOR EXISTING.



00G-06 BASEMENT FLOOR PLAN
HAZARDOUS AREA CLASSIFICATION

SOLIDS HANDLING BASEMENT FLOOR

SCALE: NO SCALE

TROY L DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

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DESIGNED BY: BRA
DRAWN BY: BRA
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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES
BASEMENT FLOOR PLAN
HAZARDOUS AREA CLASSIFICATION

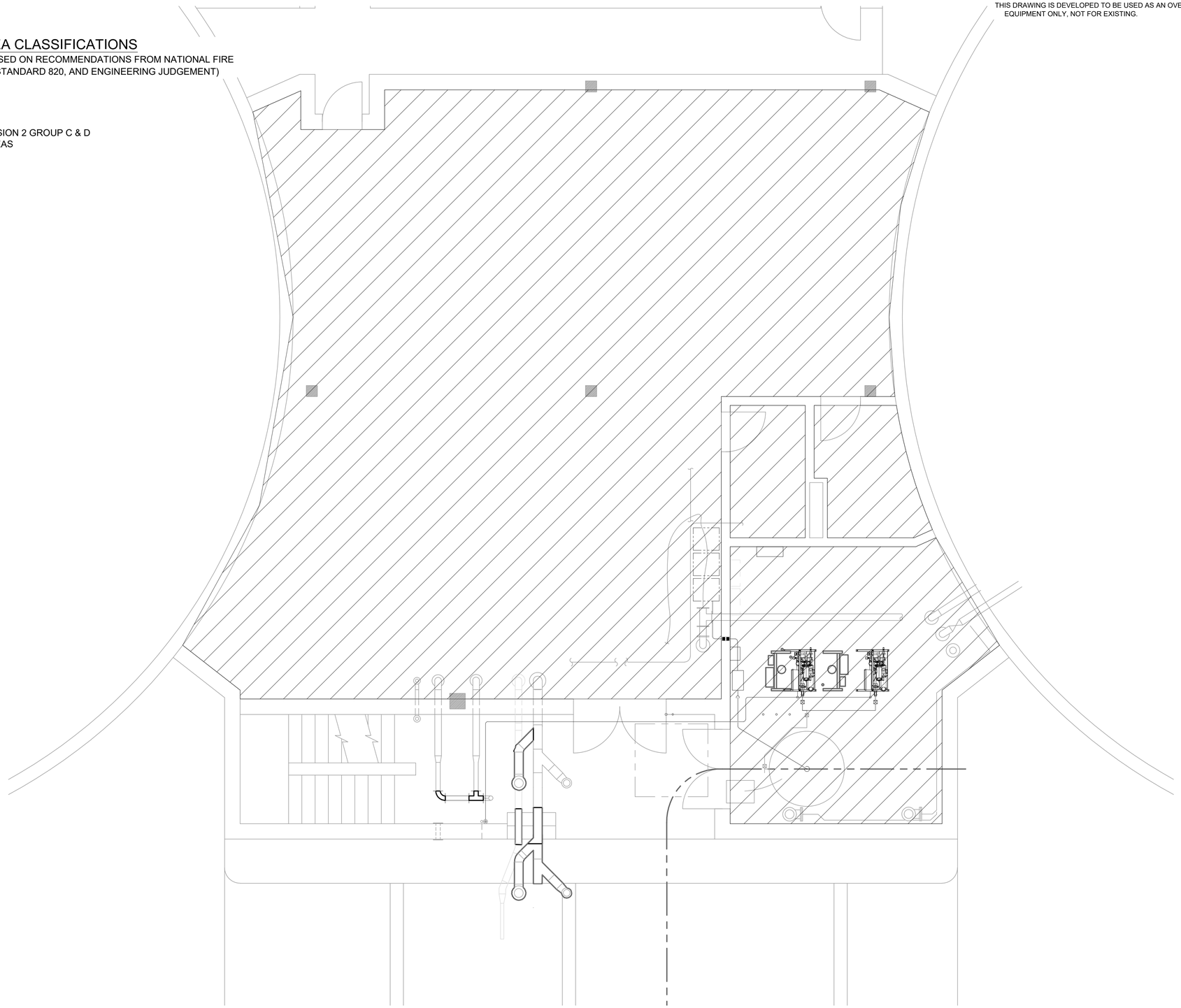
PROJECT NO. 38009
DISCIPLINE GENERAL
SHEET NAME 00G-06
SHEET 6 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\24 BASEMENT SOLIDS HANDLING BLDG. ELECTRICAL EQUIPMENT PLAN.DWG - 6 BASEMENT FLOOR PLAN HAZARDOUS AREA CLASSIFICATION - 7/27/2026 4:41:05 PM - ROBERT MARANO

AREA CLASSIFICATIONS

(CLASSIFICATIONS ARE BASED ON RECOMMENDATIONS FROM NATIONAL FIRE PROTECTION AGENCY STANDARD 820, AND ENGINEERING JUDGEMENT)

CLASS 1, DIVISION 2 GROUP C & D
GENERAL AREAS



GENERAL CLASSIFICATION NOTES:

THIS DRAWING IS DEVELOPED TO BE USED AS AN OVERVIEW FOR THE AREA CLASSIFICATION OF THE NEW EQUIPMENT ONLY, NOT FOR EXISTING.

SOLIDS CONTROL CENTER - FIRST FLOOR PLAN HAZARDOUS AREA CLASSIFICATION

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

TROY L. DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	BRA
DRAWN BY:	BRA
CHECKED BY:	BRA

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

FIRST FLOOR PLAN HAZARDOUS AREA CLASSIFICATION

PROJECT NO.
38009

DISCIPLINE
GENERAL

SHEET NAME
00G-07

SHEET 7 OF 44

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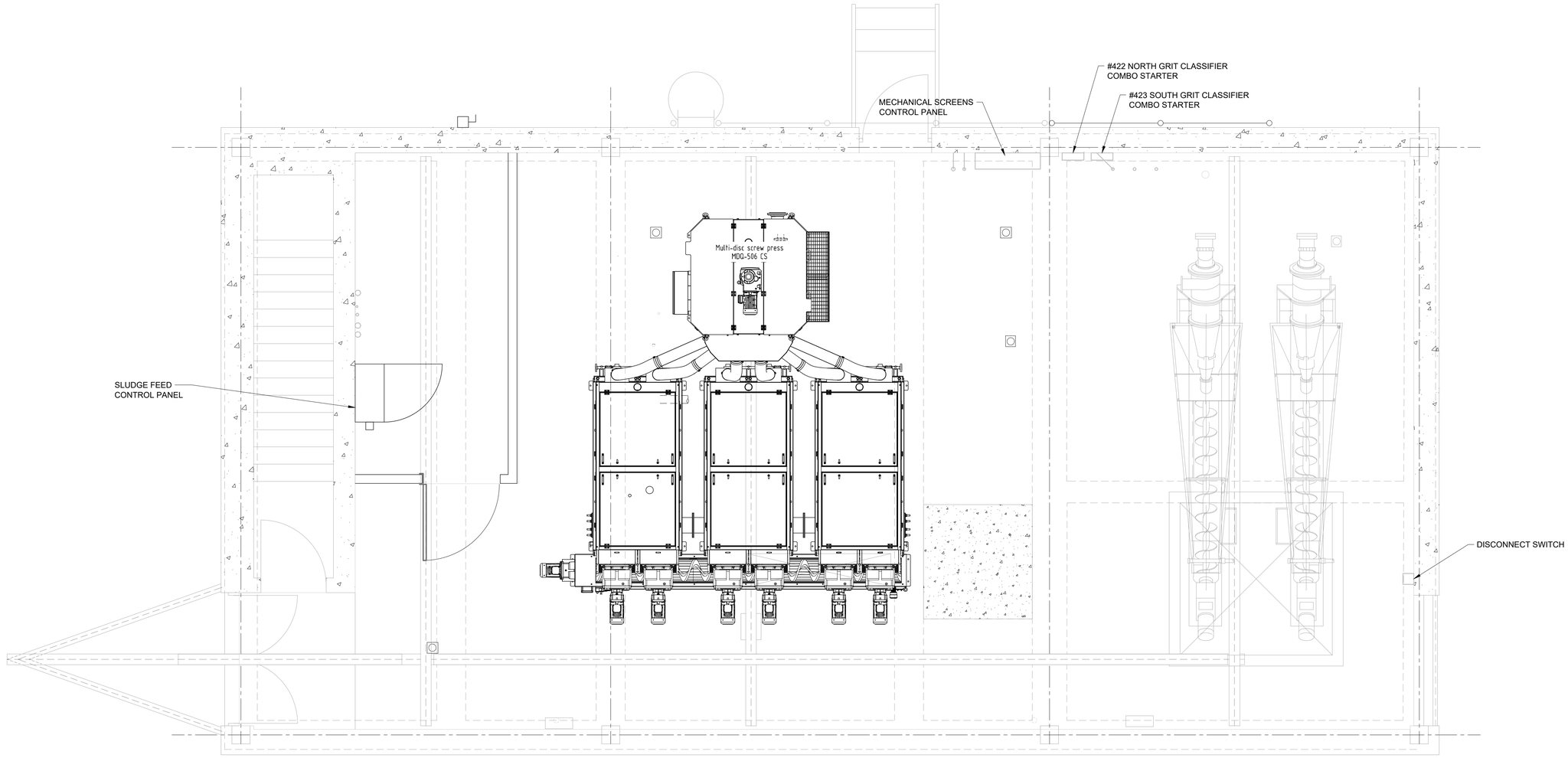
AREA CLASSIFICATIONS

(CLASSIFICATIONS ARE BASED ON RECOMMENDATIONS FROM NATIONAL FIRE PROTECTION AGENCY STANDARD 820, AND ENGINEERING JUDGEMENT)

CLASS 1, DIVISION 2 GROUP C & D
GENERAL AREAS

GENERAL CLASSIFICATION NOTES:

1. THIS DRAWING IS DEVELOPED TO BE USED AS AN OVERVIEW FOR THE AREA CLASSIFICATION OF THE NEW EQUIPMENT ONLY, NOT FOR EXISTING. BEFORE DESIGN OR CONSTRUCTION OCCURS AT THIS FACILITY, THE SITE OWNER AREA CLASSIFICATION STANDARDS SHALL BE REVIEWED FOR EACH SPECIFIC PIECE OF EQUIPMENT TO DETERMINE THE EXTENT OF THE AREA CLASSIFICATION. THE MORE STRINGENT STANDARD SHALL BE USED.
2. C1D1 5' RADIUS AROUND ALL PSV's, BLOWDOWN VALVES, RELIEF VALVES, STORAGE TANK THIEF HATCHES AND BLEEDING DEVICES.
3. C1D1 1.5' RADIUS AROUND ALL INSTRUMENT VENTS. NOTE: NOT SHOWN FOR CLARITY. FIELD VERIFY FINAL INSTRUMENT LOCATIONS.
4. C1D2 15' RADIUS AROUND ALL PSV's, BLOWDOWN VALVES, RELIEF VALVES, CHECK VALVES, WELDED/FLANGED PROCESS VALVES AND BLEEDING DEVICES.
5. C1D2 3' RADIUS AROUND ALL INSTRUMENT VENTS.
6. LOW VOLATILITY LIQUID STORAGE TANKS:
   C1D1 AREA WITHIN TANK HOUSING ANY GASEOUS LIQUID.
   C1D2 1.5' RADIUS AROUND TANK VENTS
7. HIGH VOLATILITY LIQUID STORAGE TANKS:
   C1D1 AREA WITHIN TANK HOUSING ANY GASEOUS LIQUID.
   C1D1 5' RADIUS AROUND TANK VENTS
   C1D2 15' RADIUS AROUND TANK VENTS AND 10' RADIUS AROUND TANK.



SOLIDS CONTROL CENTER - FIRST FLOOR PLAN HAZARDOUS AREA CLASSIFICATION

SCALE: 3/8" = 1'-0"'

TROY L DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: BRA
DRAWN BY: BRA
CHECKED BY: BRA

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

GENERAL - 00 SERIES

SECOND FLOOR PLAN HAZARDOUS AREA CLASSIFICATION

PROJECT NO. 38009
DISCIPLINE GENERAL
SHEET NAME 00G-08
SHEET 8 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SECOND FLOOR SOLIDS HANDLING BLDG.DWG - 8 SECOND FLOOR PLAN HAZARDOUS AREA CLASSIFICATION - 7/27/2026 4:41:13 PM - ROBERT MARANO

PROJECT DATA

GOVERNING CODES & REGULATIONS
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE (SEE PROCESS & MECHANICAL DRAWINGS)
2018 INTERNATIONAL MECHANICAL CODE (SEE PROCESS & MECHANICAL DRAWINGS)
OSHA 29 CFR 1910

EXISTING USE & OCCUPANCY
THE ROOM HOUSES THE SCREW PRESS EQUIPMENT, AND ASSOCIATED MONITORING/CONTROL EQUIPMENT, FOR A WASTEWATER TREATMENT FACILITY. (OCCUPANCY GROUP F-1, MODERATE-HAZARD INDUSTRIAL FACTORY)

NO CHANGE OF USE OR OCCUPANCY IS PROPOSED.

EXISTING CONSTRUCTION TYPE
TYPE IIB, NON-SPRINKLERED

EXISTING FLOOR AREA
TOTAL AREA: 1,375 S.F.

OCCUPANT LOAD *
SCREW PRESS EQUIPMENT AREA (INDUSTRIAL): 100 S.F./OCC.
CALCULATED OCCUPANCY: 14 PERSONS

** OCCUPANCY NOTE: THE BUILDING IS EQUIPPED WITH REMOTE MONITORING SYSTEMS. THE SPACE IS NOT REGULARLY OCCUPIED EXCEPT FOR OCCASIONAL MAINTENANCE AND INSPECTION.*

GENERAL NOTES

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL FIELD CONDITIONS AND DIMENSIONS AS THEY RELATE TO THIS PROJECT. SHOULD DISCREPANCIES EXIST BETWEEN THE WORK INDICATED AND ACTUAL FIELD CONDITIONS NOTIFY THE A/E BEFORE PROCEEDING WITH THE WORK.
2. DO NOT SCALE THE DRAWINGS. DRAWING SCALES AS INDICATED ARE FOR REFERENCE ONLY AND ARE NOT INTENDED TO ACCURATELY DEPICT ACTUAL OR DESIGNATED CONDITIONS. WRITTEN DIMENSIONS SHALL GOVERN.
3. CONTRACTOR SHALL COORDINATE WITH OWNER ALL ITEMS TO BE SALVAGED PRIOR TO SUBMISSION OF BIDS AND START OF CONSTRUCTION. OWNER SHALL HAVE SALVAGE RIGHTS TO RETAIN ALL REMOVED ITEMS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES AND THE PREVENTION OF CONFLICT AMONG ALL TRADES.
5. ALL WORK AND MATERIAL SHALL BE REGARDED AS NEW UNLESS SPECIFICALLY INDICATED AS "EXISTING", "EXIST'G", OR "(E)" ON THE DRAWINGS AND DESCRIBED WITHIN THE SPECIFICATIONS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING CONSTRUCTION INDICATED TO REMAIN AND SHALL REPAIR AND/OR REPLACE ALL AREAS AND/OR MATERIALS DAMAGED DURING CONSTRUCTION AT A MINIMUM TO THE CONDITION WHICH EXISTED PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE AS BUILT DRAWINGS, IN HARD COPY & AN ELECTRONIC FILE, TO THE OWNER AT THE CONCLUSION OF THE PROJECT.
8. VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY A/E OF ANY DISCREPANCIES.
9. COORDINATE WORK BETWEEN TRADES AND OTHER DISCIPLINES. ADDITIONAL ITEMS OF WORK MAY APPEAR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.
10. REFER TO MEP AND PROCESS DRAWINGS FOR ADDITIONAL INFORMATION ON EQUIPMENT AND FIXTURES.
11. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS IN SPACES WHERE NO CEILING IS INDICATED.

DESCRIPTION OF WORK

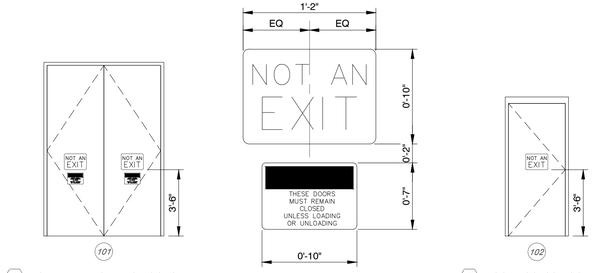
ALTERATION - LEVEL 2 (PER 2018 IEBC, CH. 6)

THE EXISTING SOLIDS HANDLING BUILDING IS AN INDUSTRIAL PROCESS FACILITY CONSTRUCTED PRIOR TO ADOPTION OF THE CURRENT BUILDING CODE. THE BUILDING INCLUDES A LOWER LEVEL HOUSING POLYMER FEED SYSTEMS AND ASSOCIATED PIPING, A DRIVE-THROUGH LOADING LANE AND DOCK, AND AN UPPER LEVEL CONTAINING SCREW PRESS/CENTRIFUGE EQUIPMENT.

LOWER LEVEL ADJACENT PROCESS AREAS ARE SERVED BY MECHANICAL EXHAUST VENTILATION INTENDED TO LIMIT ACCUMULATION OF TOXIC GASES, INCLUDING HYDROGEN SULFIDE. VENTILATION SYSTEMS ARE DEDICATED, DISCHARGE DIRECTLY OUTDOORS, AND DO NOT RECIRCULATE AIR. EXHAUST IN LOWER AREAS IS LOCATED AT ELEVATIONS CONSISTENT WITH THE PHYSICAL PROPERTIES OF HYDROGEN SULFIDE, AND THESE AREAS ARE NOT DIRECTLY CONNECTED TO THE SPACE BEING MODIFIED.

THIS PROJECT ENTAILS REMOVAL OF EXISTING CURBS, INSTALLATION OF NEW SLAB INFILL AT EXISTING FLOOR OPENING, CLOSURE OF A SECOND FLOOR OPENING, RE-USE OF REMAINING OPENINGS, AND REPLACEMENT OF EXISTING SCREW PRESS.

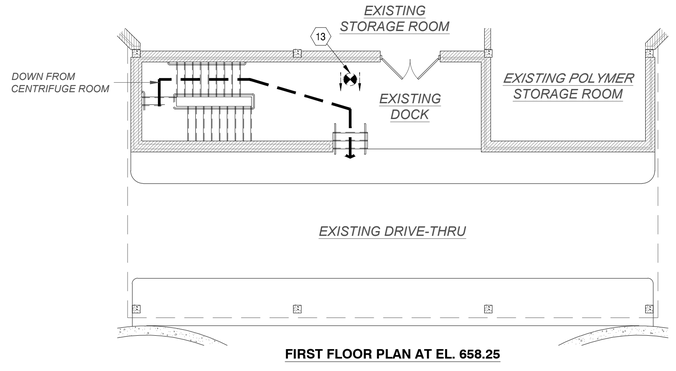
LIFE-SAFETY IS IMPROVED BY ELIMINATING FALL HAZARDS, IMPROVING WALKING SURFACES, AND ENHANCING EGRESS CONDITIONS WITHIN THE WORK AREA. NO CHANGES TO BUILDING FOOTPRINT, EGRESS ARRANGEMENT, OR EXISTING FIRE PROTECTION SYSTEMS ARE PROPOSED.



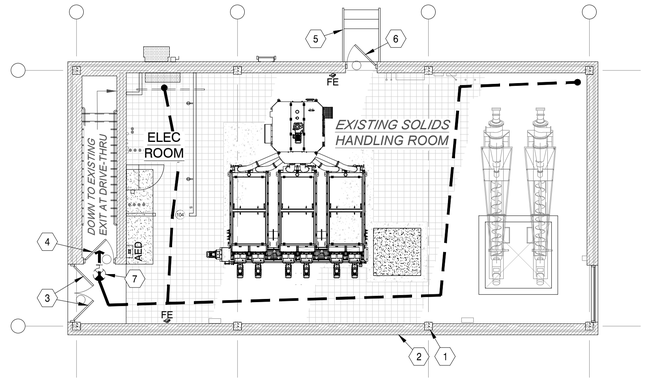
3 EQUIPMENT LOADING DOORS

6 ROOF ACCESS DOOR

DOOR SIGNAGE



FIRST FLOOR PLAN AT EL. 658.25



SECOND FLOOR PLAN AT EL. 672.50

LIFE-SAFETY PLANS

1/8" = 1'-0"

LIFE-SAFETY CODED NOTES

1. EXISTING CONCRETE COLUMN, TYP.
2. EXISTING COMPOSITE MASONRY EXTERIOR WALL, TYP.
3. EXISTING EQUIPMENT LOADING DOORS TO REMAIN. PROVIDE SIGNAGE, AS ILLUSTRATED ON THIS SHEET, ON THE INTERIOR FACE OF EACH LEAF.
4. EXISTING EXIT DOOR TO REMAIN.
5. EXISTING METAL GRATE LANDING AND STAIRS TO REMAIN.
6. EXISTING ROOF ACCESS DOOR TO REMAIN. PROVIDE "NOT AN EXIT" SIGNAGE ON THE INTERIOR FACE, AS ILLUSTRATED ON THIS SHEET.
7. INSTALL NEW CEILING-MOUNTED EXIT SIGNAGE.

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER
- LIFE SAFETY PLAN

PROJECT NO.
38009

DISCIPLINE
ARCHITECTURAL

SHEET NAME
10A-01

SHEET 9 OF 44

DOOR SCHEDULE

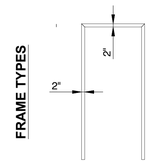
OPENING			FRAME							DOOR				HARDWARE		REMARKS
							DETAILS									
MARK	SIZE W x H x T	RATING (MINUTES)	FRAME TYPE	MATERIAL	FINISH	DEPTH (IN.)	HEAD	JAMB	SILL	TYPE	MATERIAL	GLAZING	FINISH	HARDWARE SET	KEYSIDE ROOM #	
101	*6'-0" x 7'-0" x 1 1/2"*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SEE NOTE 1
102	*3'-0" x 7'-0" x 1 1/2"*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SEE NOTE 1
103	*3'-0" x 7'-0" x 1 1/2"*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
104	3'-6" x 7'-0" x 1 1/2"	-	F1	HM	PT	4 7/8	H1	J1	-	D1	MTL	-	FP	L1	-	SEE NOTE 2

GENERAL NOTES:

1. EXISTING TO REMAIN. SEE SHEET 10A01 FOR NEW SIGNAGE TO BE INSTALLED.
2. DEPTH INDICATED EQUALS HM FRAME THROAT FOR OVER-DRYWALL INSTALLATION.

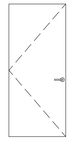
ABBREVIATIONS:	GLASS TYPES:	LOCKSET:
FP FACTORY PRIMED/ FIELD PAINTED HM HOLLOW METAL - PAINT MTL METAL N/A NOT APPLICABLE	(N/A)	L1 ENTRY / EGRESS HARDWARE

FRAME TYPES



F1

DOOR TYPES



D1

ROOM FINISH SCHEDULE

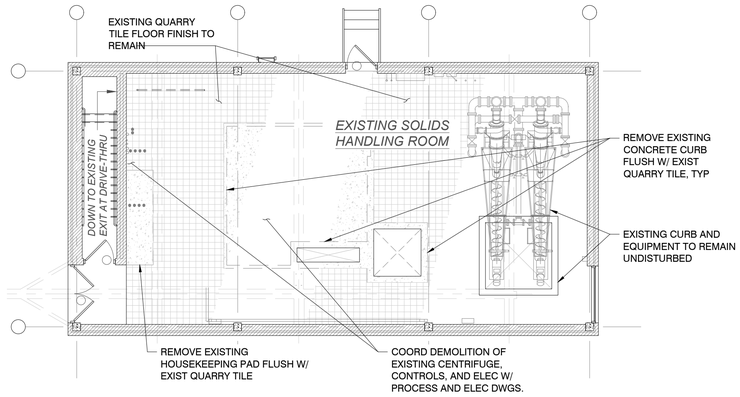
ROOM		FINISHES								REMARKS
				WALLS				CEILING		
NUMBER	NAME	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	TYPE	HEIGHT	
101	*EXIST'G CENTRIFUGES ROOM*	F1	B1	W1/W2	W1/W2	W1	W1	C1	12'-0"	
102	ELECTRICAL ROOM	F1	B1	W1	W1	W2	W2	C2	12'-0"	

FLOOR
F1 EXISTING TO REMAIN

BASE
B1 4"H VINYL BASE (COLOR: BLACK)

WALLS
W1 EXISTING PAINTED CMU
W2 PAINTED GYP. BD. (SW 7014)

CEILING
C1 EXPOSED STRUCTURE (EXISTING)
C2 EXPOSED STRUCTURE, PAINTED (SW 7014)



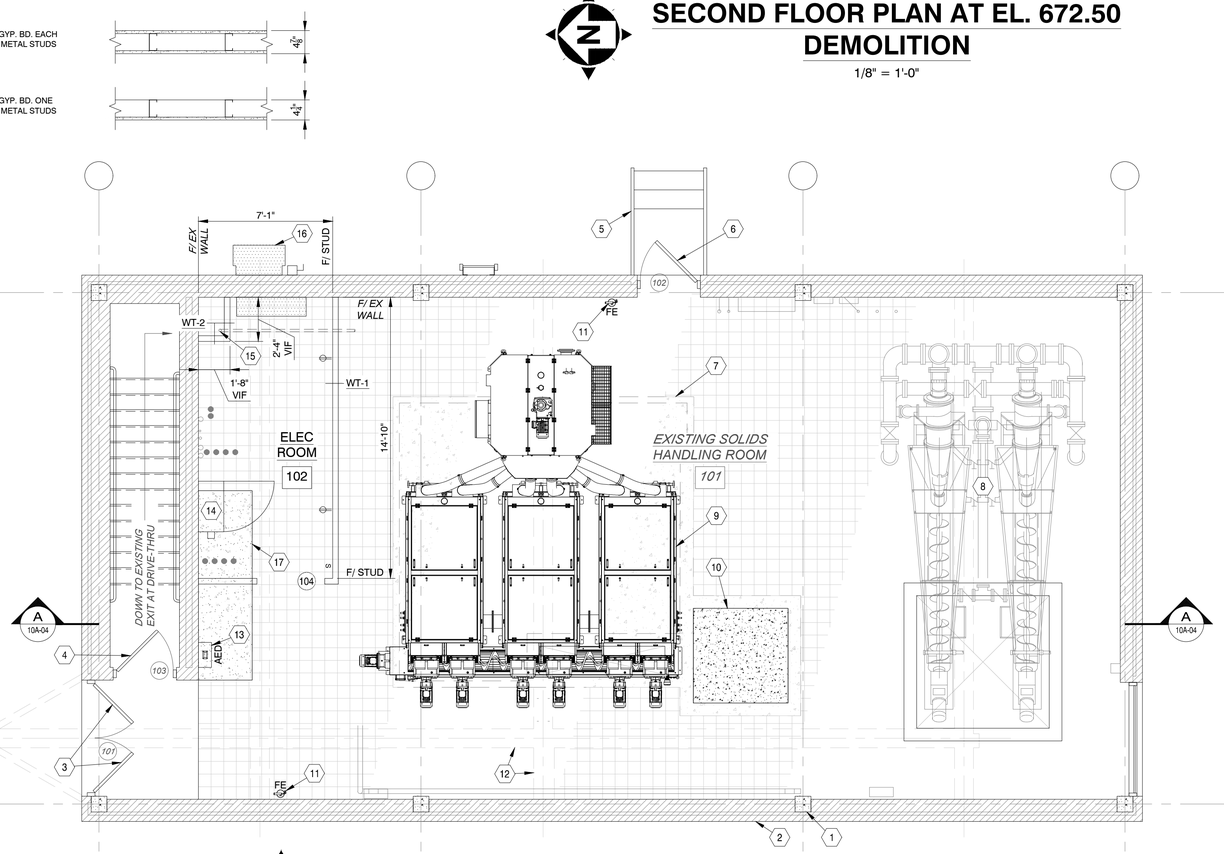
SECOND FLOOR PLAN AT EL. 672.50
DEMOLITION

1/8" = 1'-0"

WALL TYPES

WT-1 PAINTED 5/8" TYPE-X GYP. BD. EACH SIDE OF 3-5/8", 20 GA METAL STUDS (16" O.C., TYP).

WT-2 PAINTED 5/8" TYPE-X GYP. BD. ONE SIDE OF 3-5/8", 20 GA METAL STUDS (16" O.C., TYP).



SECOND FLOOR AT EL. 672.50
IMPROVEMENTS

1/4" = 1'-0"

FLOOR PLAN CODED NOTES

1. EXISTING CONCRETE COLUMN, TYP.
2. EXISTING COMPOSITE MASONRY EXTERIOR WALL, TYP.
3. EXISTING EQUIPMENT LOADING DOORS TO REMAIN. PROVIDE SIGNAGE ON THE INTERIOR FACE OF EACH LEAF. (SEE SHEET 10A-01)
4. EXISTING EXIT DOOR TO REMAIN.
5. EXISTING METAL GRATE LANDING AND STAIRS TO REMAIN.
6. EXISTING ROOF ACCESS DOOR TO REMAIN. PROVIDE "NOT AN EXIT" SIGNAGE ON THE INTERIOR FACE. (SEE SHEET 10A-01)
7. EXISTING CONCRETE CURB TO BE REMOVED, (SEE STRUCTURAL DWGS).
8. EXISTING GRIT CLASSIFIER TO REMAIN.
9. NEW SCREW PRESS ASSEMBLY. (SEE PROCESS DWGS)
10. NEW CONCRETE SLAB INFILL. (SEE STRUCTURAL DWGS)
11. PROVIDE NEW 10LB, CLASS ABC FIRE EXTINGUISHER AND SIGNAGE.
12. EXISTING OVERHEAD MONORAIL & TROLLEY SYSTEM TO REMAIN.
13. PROVIDE NEW AED AND SIGNAGE.
14. NEW ELECTRICAL EQUIP. (SEE ELECTRICAL DWGS)
15. EXISTING POLYMER FEED LINE TO REMAIN.
16. NEW MECH UNIT. (SEE MECH DWGS)
17. LEVEL SLAB FLUSH W/ EXIST TILE W/ LIGHTWEIGHT INFILL.

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

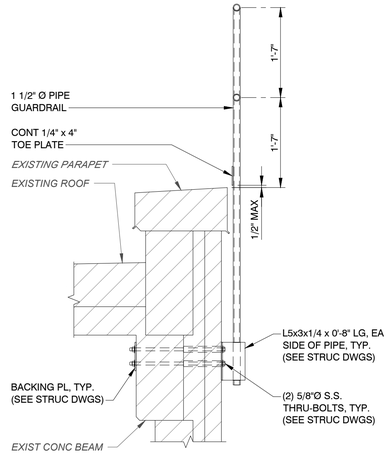
SOLIDS CONTROL CENTER - SECOND FLOOR PLAN AND SCHEDULES

PROJECT NO. 38009

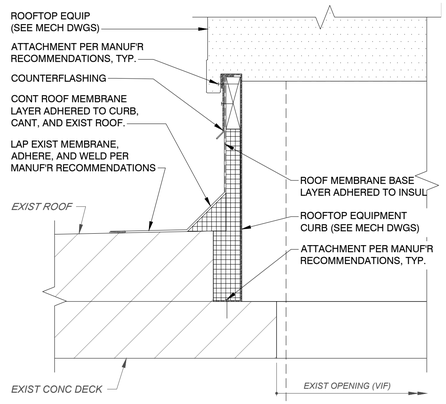
DISCIPLINE: ARCHITECTURAL

SHEET NAME: 10A-02

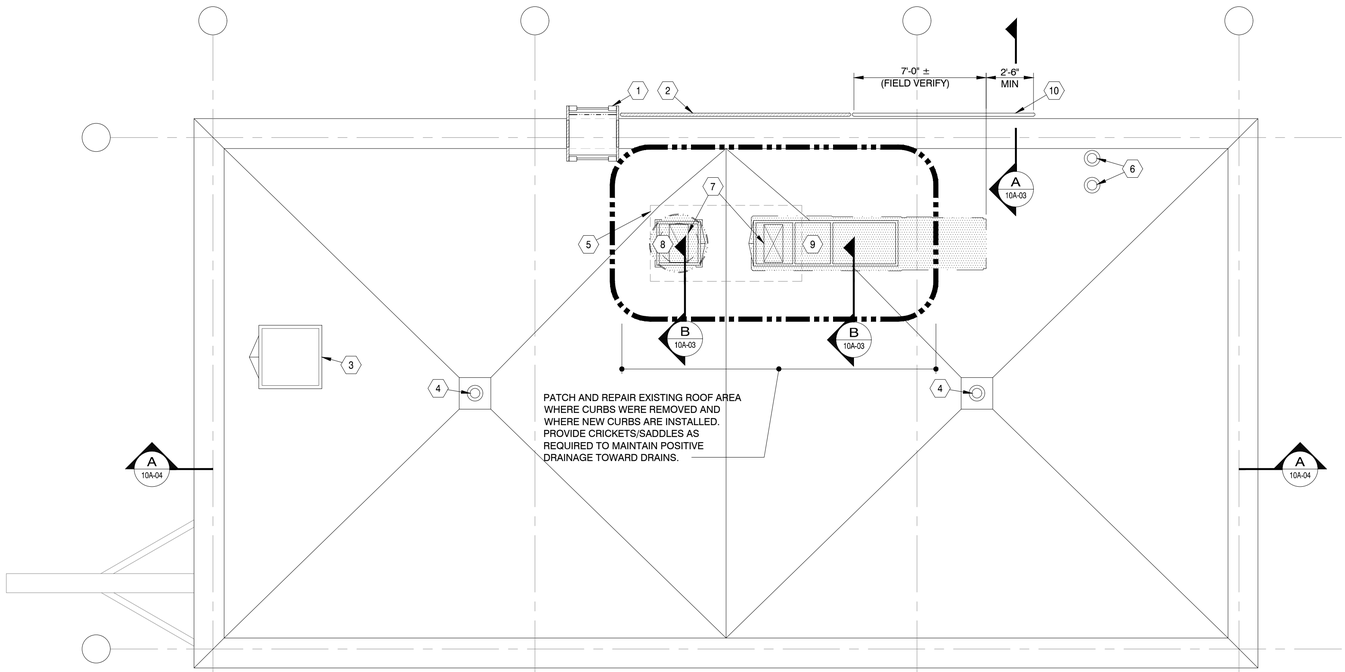
SHEET 10 OF 44



A DETAIL
10A-03 SCALE: 3/4" = 1'-0"



B DETAIL
10A-03 SCALE: 1 1/2" = 1'-0"



N

ROOF PLAN
1/4" = 1'-0"

CODED NOTES

1. EXISTING LADDER TO REMAIN.
2. EXISTING GUARDRAIL TO REMAIN.
3. EXISTING SKYLIGHT TO REMAIN.
4. EXISTING ROOF DRAIN TO REMAIN.
5. EXISTING FCU/MAU AND CURB TO BE REMOVED (SEE MECH DWGS)
6. EXISTING VENTS TO REMAIN, TYP.
7. EXISTING DUCT OPENINGS TO REMAIN AND BE RE-USED (SEE MECH DWGS)
8. NEW EXHAUST FAN AND CURB (SEE MECH DWGS).
9. NEW MAU AND CURB (SEE MECH DWGS).
10. NEW 42" H. GUARDRAIL (EXTEND 30" MIN BEYOND END OF MAU).

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

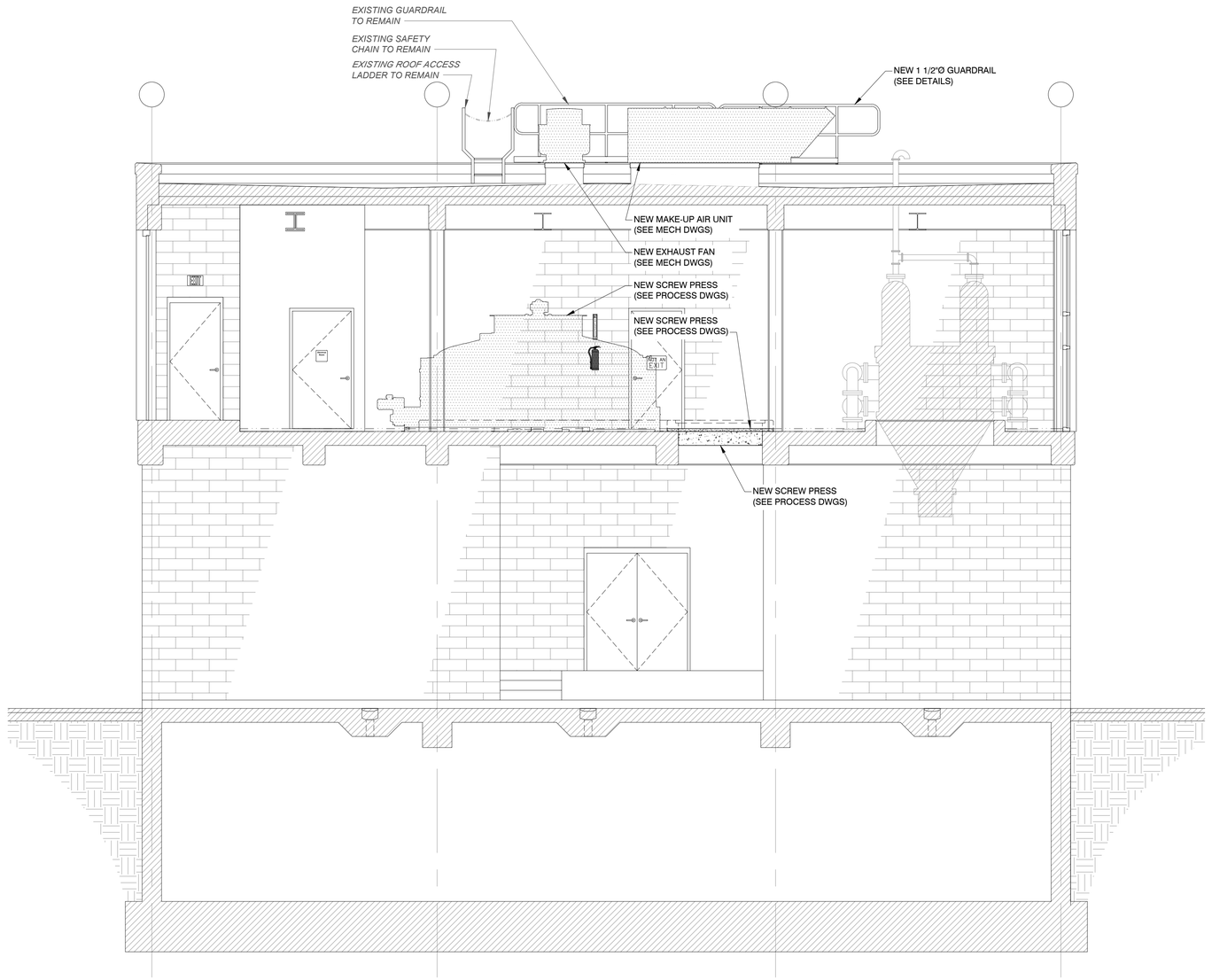
SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER
- ROOF PLAN & DETAILS

PROJECT NO.
38009

DISCIPLINE
ARCHITECTURAL

SHEET NAME
10A-03

SHEET 11 OF 44



A 10A-04 **SECTION**
SCALE: 1/4" = 1'-0"

SECOND FLOOR IMPROVEMENTS

DANIEL E. BARR
REGISTERED
25451
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

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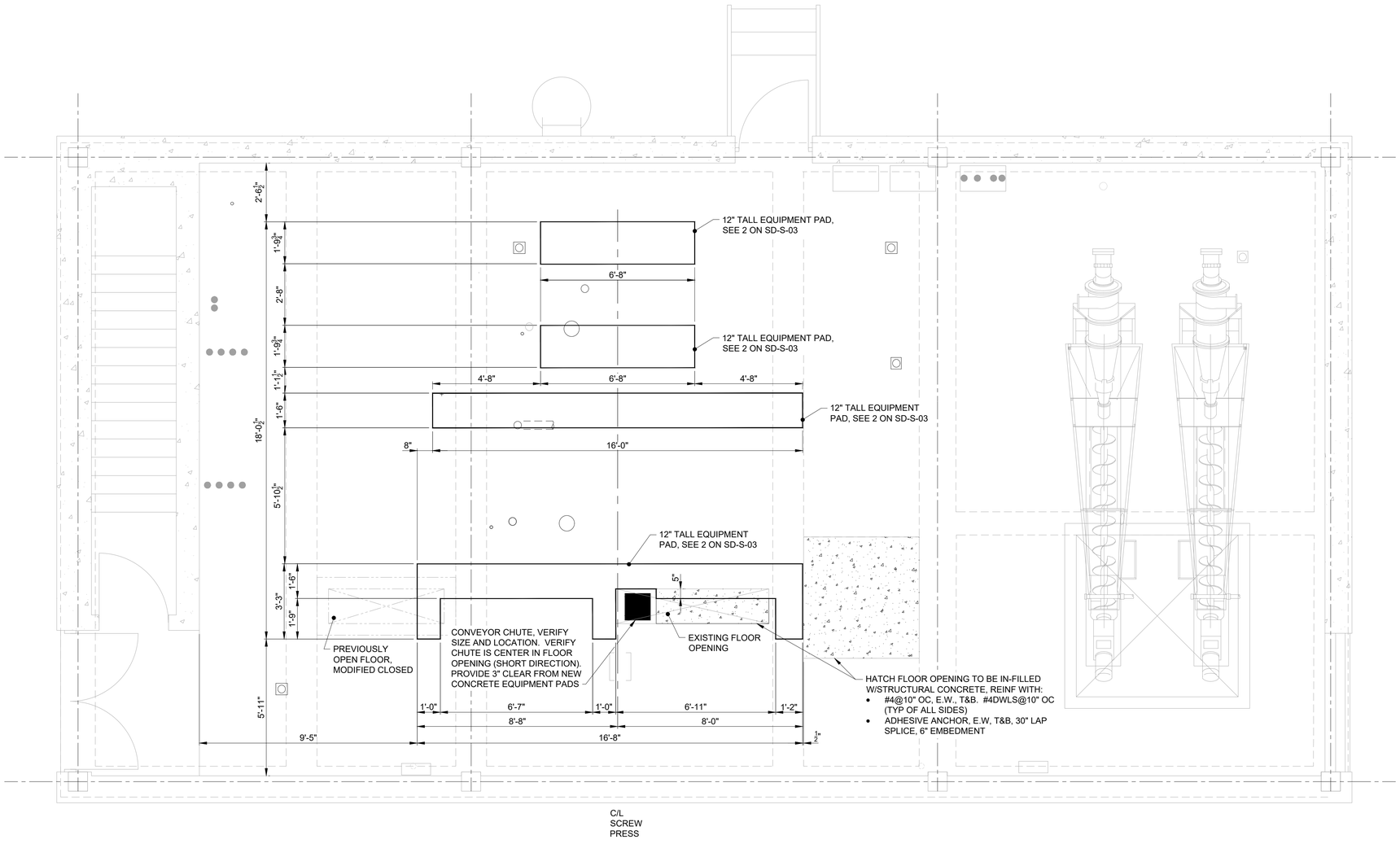
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

SOLIDS CONTROL CENTER - SECTION

PROJECT NO.	
38009	
DISCIPLINE	
ARCHITECTURAL	
SHEET NAME	
10A-04	
SHEET	OF
12	44



SECOND FLOOR PLAN AT EL. 672.50

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

GENERAL NOTES:

1. THE LOCATION OF THE EXISTING FLOOR OPENINGS ARE BASED ON THE RECORD DRAWING FROM STERNS & WHEELER 1977 WASTE WATER FACILITY PLANS PROJECT. EXACT ACTUAL LOCATIONS, SIZES, DIMENSIONS, ETC. MUST BE FIELD VERIFIED BY THE CONTRACTOR.

2. DEWATERING SYSTEM WEIGHTS (DESIGN LOADS):
   - TOTAL DRY WEIGHT: 25,400 LBS.
   - MAX. TOTAL OPERATING WEIGHTS: 40,000 LBS

3. THE WEIGHT OF ONE SCREW PRESS DRUM IS APPROX. 5000 LBS

4. FIELD VERIFY EXISTING CONDITION OF STRUCTURE. NOTIFY ENGINEER IF DAMAGE OR DETERIORATION OF THE STRUCTURE IS OBSERVED.

5. SEE PROCESS AND ARCHITECTURAL DRAWINGS FOR ALL MEASUREMENTS NOT SHOWN. ALL DIMENSIONS SHALL CONFORM TO THE PROCESS DRAWINGS.

6. COORDINATE LOCATION AND SIZE OF PENETRATIONS AND OPENINGS WITH PROCESS, MECHANICAL, PLUMBING, ELECTRICAL AND SITE DRAWINGS.

7. INFORMATION FOR THE EXISTING STRUCTURE HAS BEEN TAKEN FROM DRAWINGS. PRIOR TO CONSTRUCTION, REVIEW AS-BUILT DOCUMENTS. FIELD VERIFY ALL EXISTING ELEVATIONS AND DIMENSIONS. COORDINATE DIMENSIONS NOT SHOWN WITH PROCESS DRAWINGS. DIMENSIONS SHALL CONFORM TO THE PROCESS DRAWINGS.

8. MINIMIZE LOADING ON STRUCTURE. DO NOT STORE EQUIPMENT OR MATERIAL ON THE FLOORS OR ROOF.

9. REMOVE CONCRETE WITH PARTIAL OR FULL DEPTH SAWCUT AND/OR WITH LOW IMPACT METHODS UNTIL A FINAL ELEVATION IS REACHED. DO NOT USE METHODS THAT WILL CAUSE CRACKING OR MICROCRACKS IN THE REMAINING CONCRETE SUBSTRATE. DO NOT CHIP SOUND CONCRETE DEEPER THAN 1" IN A SINGLE PASS WITHOUT APPROVAL OF THE ENGINEER.
   A. APPROVED LOW IMPACT CONCRETE SURFACE REMOVAL METHODS:
      a. HIGH PRESSURE WATER OR ULTRA HIGH PRESSURE WATER JETTING.
      b. CONTROLLED HAND CHIPPING WITH SMALL CHIPPING HAMMERS. USING 14 LBS OR SMALLER CHIPPING HAMMERS, ACI 562 COMPLIANT. DO NOT USE CHIPPING HAMMERS LARGER THAN 15 LBS FOR THIS WORK.
      c. LOW ENERGY GRINDING/SCARIFYING.
      d. SANDBLASTING.
   B. NOT APPROVED HIGH IMPACT SURFACE REMOVAL METHODS, HEAVY MECHANICAL IMPACT CONCRETE REMOVAL:
      a. 60 LB JACKHAMMERS OR HEAVIER.
      b. HYDRAULIC BREAKERS.
      c. DROP HAMMERS.
      d. PERCUSSIVE MECHANICAL MILLING.
      e. SHOTBLASTING.

10. SAW CUTTING OF CONCRETE SHALL BE PERFORMED WITHOUT OVERCUTTING AT CORNERS. AT RE-ENTRY (INSIDE) CORNERS, SAW CUTS SHALL TERMINATE AT THE PERPENDICULAR SAWCUT LINE AND SHALL NOT EXTEND BEYOND THE INTERSECTION. OVERCUTS BEYOND CORNER INTERSECTIONS AND INTO CONCRETE TO REMAIN IS NOT PERMITTED. AT RE-ENTRY, DRILL OR CORE SAW CORNER, IF NEEDED.

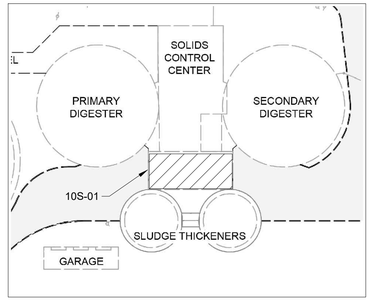
11. AT NEW EQUIPMENT PAD, REMOVE TOP 1/2" CONCRETE AND ROUGHEN. PROVIDE PARTIAL DEPTH SAWCUT AT PERIMIETER OF PAD AND REMOVE CONCRETE, TILE, MORTAR, GROUT, ETC. WITHIN SAWCUT PERIMETER. FINAL CONCRETE SURFACE/INTERFACES WITH NEW CONCRETE SHALL BE ROUGHENED TO 3/8" AMPLITUDE OR CONFORM TO ICRI CSP 6 TO CSP 9 PROFILE. PRIOR TO CONCRETE PLACEMENT, REMOVE DELETERIOUS MATERIAL AND APPLY EPOXY BASED BONDING AGENT.

12. AT LOCATIONS THAT THE EQUIPMENT PAD THAT NEED TO BE MODIFY TO FACILITATE PROCESS PIPING, ANCHORS FOR EQUIPMENT AT LOCATION SHALL EXTEND INTO THE EXISTING SLAB AND THROUGH THE PAD. MINIMUM EMBEDMENT SHALL BE 5".

13. COORDINATE LOCATION AND SIZE OF PENETRATIONS AND OPENINGS WITH PROCESS, MECHANICAL, PLUMBING, ELECTRICAL AND SITE DRAWINGS.

14. CONTRACTOR SHALL EXERCISE EXTREME CAUTION AS NOT TO DAMAGE OR CRACK THE ADJACENT CONCRETE THAT WILL REMAIN.

15. PROVIDE AND INSTALL LIVE LOAD FLOOR SIGN ON WALL WITH TOP OF SIGN NEAR 7'-0" FROM TOP OF FLOOR. THE LIVE LOAD ON THE SIGN SHALL BE NOTED AS "100 PSF". REFER TO FLOOR LOADING SIGN, SEE 4 ON SD-S-03.



KEY PLAN

BART STROBEL
REGISTERED
27655
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
08/03/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	BAS
DRAWN BY:	RLM
CHECKED BY:	BAS

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

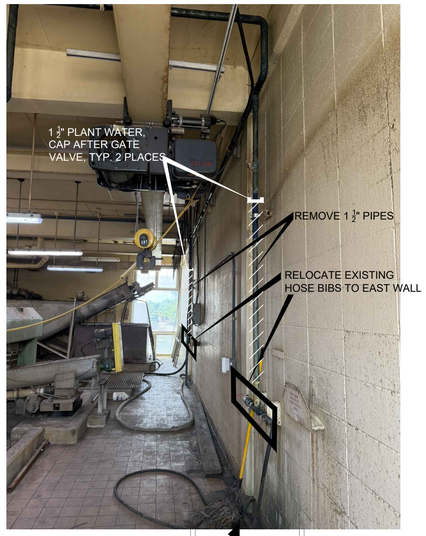
SOLIDS CONTROL CENTER-SECOND FLOOR
PROPOSED EQUIPMENT FOUNDATION

PROJECT NO.
38009

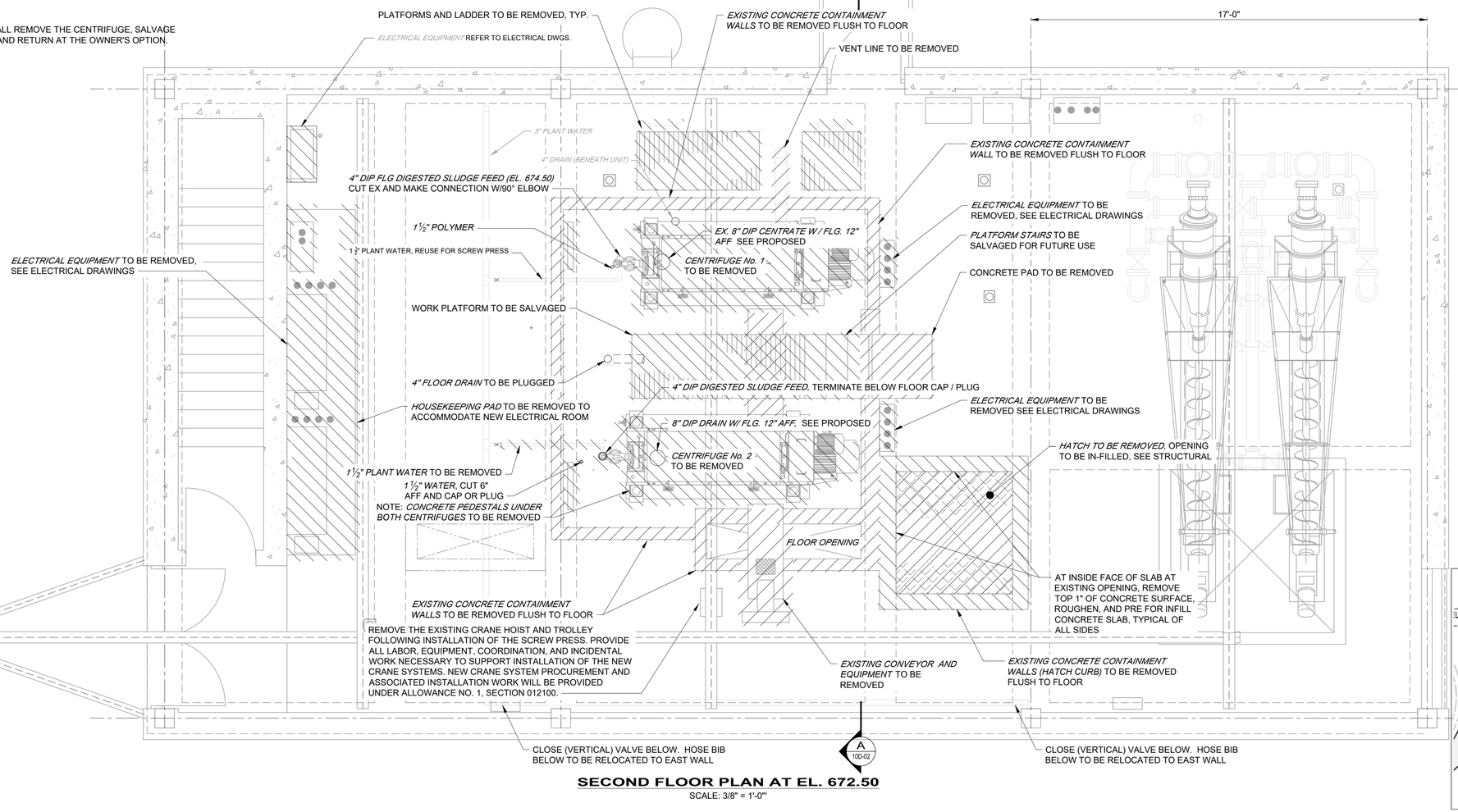
DISCIPLINE
STRUCTURAL

SHEET NAME
10S-01

SHEET 13 OF 44



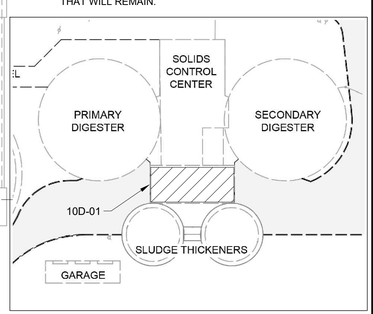
GENERAL NOTES:
1. CONTRACTOR SHALL REMOVE THE CENTRIFUGE, SALVAGE THE EQUIPMENT, AND RETURN AT THE OWNER'S OPTION.



SECOND FLOOR PLAN AT EL. 672.50
SCALE: 3/8" = 1'-0"

SLAB DEMOLITION NOTES:

1. FIELD VERIFY EXISTING CONDITION OF STRUCTURE. NOTIFY ENGINEER IF DAMAGE OR DETERIORATION OF THE STRUCTURE IS OBSERVED.
2. INFORMATION FOR THE EXISTING STRUCTURE HAS BEEN TAKEN FROM DRAWINGS. PRIOR TO CONSTRUCTION, REVIEW AS-BUILT DOCUMENTS. FIELD VERIFY ALL EXISTING ELEVATIONS AND DIMENSIONS. COORDINATE DIMENSIONS NOT SHOWN WITH PROCESS DRAWINGS. DIMENSIONS SHALL CONFORM TO THE PROCESS DRAWINGS.
3. COORDINATE ALL DEMOLITION WITH EACH DISCIPLINE.
4. MINIMIZE LOADING ON STRUCTURE. DO NOT STORE EQUIPMENT OR MATERIAL ON THE FLOORS OR ROOF.
5. REMOVE CONCRETE WITH PARTIAL OR FULL DEPTH SAWCUT AND/OR WITH LOW IMPACT METHODS UNTIL A FINAL ELEVATION IS REACHED. DO NOT USE METHODS THAT WILL CAUSE CRACKING OR MICROCRACKS IN THE REMAINING CONCRETE SUBSTRATE. DO NOT CHIP SOUND CONCRETE DEEPER THAN 1" IN A SINGLE PASS WITHOUT APPROVAL OF THE ENGINEER.
   - A. APPROVED LOW IMPACT CONCRETE SURFACE REMOVAL METHODS:
     - a. HIGH PRESSURE WATER OR ULTRA HIGH PRESSURE WATER JETTING.
     - b. CONTROLLED HAND CHIPPING WITH SMALL CHIPPING HAMMERS. USING 14 LBS OR SMALLER CHIPPING HAMMERS, ACI 562 COMPLIANT. DO NOT USE CHIPPING HAMMERS LARGER THAN 15 LBS FOR THIS WORK.
     - c. LOW ENERGY GRINDING/SCARIFYING.
     - d. SANDBLASTING.
   - B. NOT APPROVED HIGH IMPACT SURFACE REMOVAL METHODS, HEAVY MECHANICAL IMPACT CONCRETE REMOVAL:
     - a. 60 LB JACKHAMMERS OR HEAVIER.
     - b. HYDRAULIC BREAKERS.
     - c. DROP HAMMERS.
     - d. PERCUSSIVE MECHANICAL MILLING.
     - e. SHOTBLASTING.
5. ALL EXPOSED REINFORCING SHALL BE CUT BACK FROM THE CONCRETE SURFACE A MINIMUM OF 1.5". THE HOLE, CONCRETE AT THE PERIMETER SHALL BE ROUGHEN, APPLY BONDING AGENT AND FILL HOLE WITH NON-SHRINK NON-METALLIC GROUT. IF REINFORCING IS CUT BACK USING HEAT, ANY DAMAGED CONCRETE SHALL BE REMOVED BEFORE ROUGHENING.
6. CONTRACTOR SHALL EXERCISE EXTREME CAUTION AS NOT TO DAMAGE OR CRACK THE ADJACENT CONCRETE THAT WILL REMAIN.



KEY PLAN

DANIEL E. BIRR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

BID		
ISSUE FOR:	BID	
ISSUE DATE:	8/03/2026	
SCALE:	3/8" = 1'-0"	
DESIGNED BY:	MIS	MIS
DRAWN BY:	RLM	RLM
CHECKED BY:	MIS	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER -
SECOND FLOOR DEMO PLAN

PROJECT NO.	
38009	
DISCIPLINE	
PROCESS	
SHEET NAME	
10D-01	
SHEET	OF
14	44

NOTE :
SEE DEMOLITION PLAN VIEW EL. 672.50 ON SHEET 14, (10D-01)
SEE PROPOSED PLAN SHEET 20, 10D-07 TO COORDINATE LIMITS OF PIPE AND CONDUIT REMOVAL AS REQUIRED FOR THE INSTALLATION OF THE EQUIPMENT.

1 1/2" PLANT WATER PIPING, COORDINATE WITH PLAN VIEW

WORK PLATFORM (NOT SHOWN) TO BE REMOVED, SALVAGED AND RETURNED TO OWNER

CONVEYOR TO BE REMOVED

HOSE BIBBS / RACK

1 1/2"

CONTAINMENT WALLS TO BE REMOVED

SCREW PRESS FLOOR EL. 672.50

8" CENTRATE DRAIN SEE PROPOSED

3"x3"x3/8" L WITH 5/8" ANCHOR BOLTS AT 18" O.C.

1'-2"

9'-3"

5"

3/4" S.S. BOLTS WITH REINF. HOLES

3/16" S.S.

℄ EL. 667.5

EX. 6" DIGESTER SLUDGE TO BE REMOVED

3/8" WIRE ROPE

9'-9"

SLUDGE CHUTE (2)

SOLIDS LOADING AREA

3" CU
℄ EL. 680.96

CENTRIFUGE TO BE REMOVED

VENT PIPING TO BE REMOVED

3" CU

8" CENTRATE DRAIN TO BE PLUGGED

8" CENTRATE DRAIN TO BE REMOVED

EX. 6" DIGESTER SLUDGE TO BE REMOVED, PLUGGED / CAPPED BELOW FLOOR EL. 672.50

EX. 6" X 4" REDUCER, (ASSUMED LOCATION) DIGESTER SLUDGE

4" FLOOR DRAIN TO REMAIN

1½" POLYMER FEED TO CENTRIFUGE 2 TO BE REMOVED IN IT'S ENTIRETY

1½" POLYMER FEED TO CENTRIFUGE NO. 1 TO REMAIN

CEILING MOUNTED WIRE ROPE GUIDE WHEELS

℄ EL. 666.75

DIGESTER CONTROL PIPING AND SAMPLING PIPES NOT SHOWN

1½" PVC, SUPPORT FROM WALL AND INSULATE. (2 PIPES)

WINCH WITH HAND CRANK (2)

HOSE BIBB

SLUDGE SAMPLING

STORAGE ROOM

RECORDING THERMOMETER

HOSE BIBB / RACK

FIRST FLOOR FLOOR EL. 658.25

14 C.I.P.
℄ EL. 653.0

1½" PVC
℄ EL. 654.17

6" C.I.P.
℄ EL. 651.75

16" C.I.P.
℄ EL. 652.5

6" C.I.P.
℄ EL. 655.0

14" C.I.P.
℄ EL. 655.25

6" C.I.P.
℄ EL. 655.0

8" C.I.P.
℄ EL. 653.5

6" C.I.P.
℄ EL. 653.5

6" C.I.P.
℄ EL. 653.5

6" C.I.P.
℄ EL. 653.5

6" C.I.P.
℄ EL. 652.5

6" C.I.P.
℄ EL. 651.75

AIR CYLINDER OPERATED VALVES (2), DRAINS FILTER FEED PIPES

EYE-WASH STATION

HOSE BIBBS / RACK

3/4"

1 1/2"

10" C.I.P.
℄ EL. 646.0

EXISTING 6" PLUG VALVE

EXISTING 6" EXPANSION JOINT

EXISTING 6" CIP ELBOW (DOWN)

6" CIP

EXISTING 6" PLUG VALVE TO BE REMOVED

EXISTING 6" EXPANSION JOINT

EXISTING 6" X 4" REDUCER

EXISTING 6" CIP SLUDGE SUCTION

6" C.I.P.
℄ EL. 642.5

10" C.I.P.
℄ EL. 643.25

420

CONCRETE EQUIPMENT PAD TO REMAIN

PROGRESSIVE CAVITY PUMPS P11 & P12, MOTOR AND FRAME TO BE REMOVED

16" C.I.P.
℄ EL. 666.0

20" C.I.P.
℄ EL. 653.25

16" C.I.P.
℄ EL. 647.5

24" C.I.P.
℄ EL. 641.0

EL. 639.0

BASEMENT FLOOR EL. 644.50

PUMP GALLERY

WASTE GAS BURNER WITH GAS PILOT LIGHT AND ELECTRIC IGNITION

BASE ℄ WITH 4-1" ANCHOR BOLTS
24"SQ. x 12" H. CONC. BASE

8" C.I.P.
℄ EL. 666.75

TAPPED FLANGES (TYP.)

1" ST. PIPE

GAS METER NO. 2

DRIP TRAP (TYP.)

TO BOILER

6" C.I.P.
℄ EL. 654.5

8" C.I.P.
℄ EL. 653.50

3" PVC
℄ EL. 651.0

14" C.I.P.
℄ EL. 650.75

6" C.I.P.
℄ EL. 655.75

PIPING LEGEND

10	PRIMARY SCUM
11	PRIMARY SLUDGE
13	WASTE SLUDGE
15	DEGRITTED SLUDGE
16	THICKENER EFFLUENT
17	THICKENED SLUDGE
18	PRIMARY DIGESTER SLUDGE
19	PRIMARY DIGESTER LIQUOR
20	PRIMARY DIGESTER HEATING
22	SECONDARY DIGESTER SLUDGE
23	SECONDARY DIGESTER LIQUOR
24	UNVALVED OVERFLOW
25	DIGESTER MIXING
26	FILTRATE
27	DIGESTER GAS
28	POLYMER
33	SUMP PUMP DISCHARGE
34	PLANT WATER
35	DRAIN (PROCESS)

A SECTION
10D-02 SCALE: 3/8" = 1'-0"

RECORD DRAWING
For changes, if any, occurring during construction, refer to Midwest Mechanical, Contractors drawing(s): 79-4-101, 79-4-102, 79-4-104, 79-4-105, 79-4-106, 79-4-107, 79-4-110, 79-4-112, 79-4-114, 79-4-006 SK-8180, SK-8480.
Date: Aug 84 Per GAD

NOTE:
THIS SCANNED IMAGE IS OF RECORD DRAWING FROM THE STERNS & WHEELER 1977 WASTE WATER FACILITY PLANS PROJECT AND IS INTENDED FOR REFERENCE ONLY. ACTUAL LOCATIONS, SIZES, DIMENSIONS, ECT. MUST BE FIELD VERIFIED BY THE CONTRACTOR.

DANIEL E. BARR
REGISTERED
25451
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	RLM
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER
- DEMOLITION SECTIONS

PROJECT NO.
38009
DISCIPLINE
PROCESS
SHEET NAME
10D-02
SHEET 15 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - SOLIDS HANDLING BLDG SECTIONS.DWG - 15 SOLIDS CONTROL CENTER - DEMOLITION SECTIONS - 7/27/2026 4:26:20 PM - ROBERT MARANO

PRIMARY DIGESTER

SECONDARY DIGESTER

3" CU C/L EL. 666.75 PLANT WATER

6" CIP C/L EL. 666.75
DIGESTED SLUDGE

8" FILTRATE AT EL. 655.25

6" CIP C/L EL. 666.75
SECONDARY DIGESTER SLUDGE

6" X 4" REDUCER (TYP.)

4"Ø DIGESTED SLUDGE FEED TO
CENTRIFUGE. F1001 PORTION TO
REMAIN, SEE PROPOSED

1½" PVC POLYMER TO CENTRIFUGE No.1 . TO REMAIN
FIELD VERIFY POINT OF FLOOR PENETRATION

WALL SLEEVE TO REMAIN,
CAP & SEAL

4"Ø DIGESTED SLUDGE FEED
TO CENTRIFUGE. F1001
PORTION TO BE REMOVED

1½" PVC POLYMER TO CENTRIFUGE No.2 TO BE REMOVED

4"Ø DIGESTED SLUDGE UP TO CENTRIFUGE.

4" Ø DIGESTED SLUDGE UP TO EX. CENTRIFUGE. F1001

6" DIP C/L EL. FILTRATE
FROM. CENTRIFUGE. F1002

8" X 8" LATERAL (TYP. OF 5)

6"Ø FRAME DRAIN FROM CENTRIFUGE F1002

8"Ø CENTRATE DRAIN FROM CENTRIFUGE. F1002

6" CIP SECONDARY DIGESTER LIQUOR EL. 666.75

EXISTING POLYMER BLENDING SKIDS,
VALVES & INSTRUMENTS TO BE REMOVED.

EXISTING 1½" PVC NEAT
POLYMER LINE TO REMAIN

EXISTING POLYMER
JUNCTION BOX

EXISTING 950 GALLON
POLYMER STORAGE
(TO REMAIN)

EXISTING POLYMER HOIST

8" CIP PRIMARY SLUDGE
TO DEGRITTER

POLYMER PUMP TO BE REMOVED

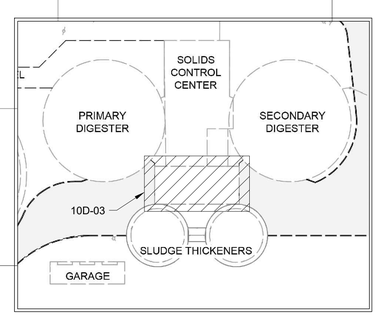
POLYMER TOTES TO BE RELOCATED

EX. 2 TON HOIST RAIL

LOADING DOCK AREA

FIRST FLOOR PLAN AT EL. 658.25

SCALE: 3/8" = 1'-0"



KEY PLAN

DANIEL E. BARR
REGISTERED
25451
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

BID	
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

SOLIDS CONTROL CENTER - FIRST FLOOR
POLYMER FEED - DEMO PLAN

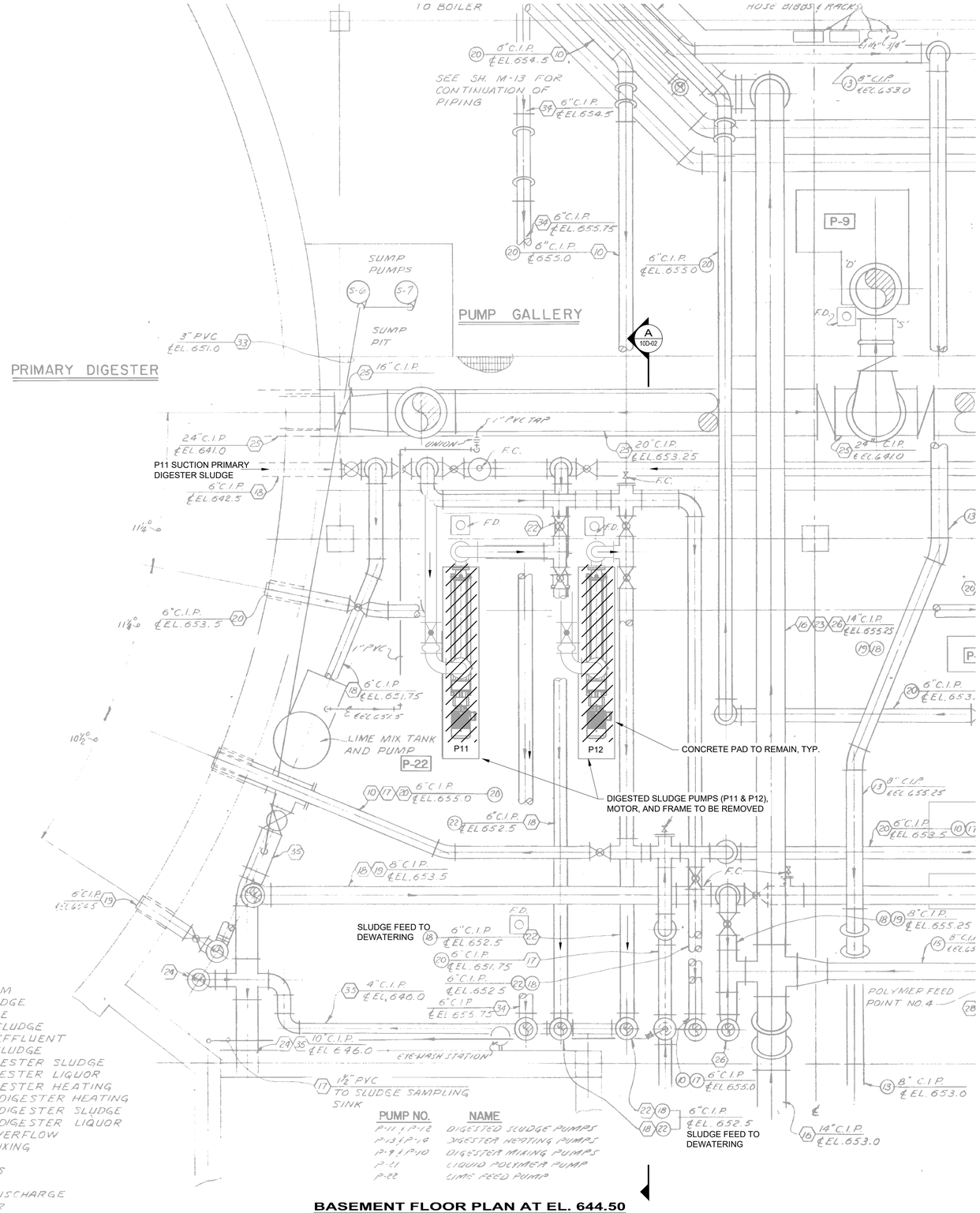
PROJECT NO.
38009

DISCIPLINE
PROCESS

SHEET NAME
10D-03

SHEET 16 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - POLYMER SYSTEM - FIRST FLOOR.DWG - 16 SOLIDS CONTROL CENTER - FIRST FLOOR POLYMER FEED - DEMO PLAN - 7/29/2026 5:26:56 PM - ROBERT MARANO



PIPING LEGEND

10	PRIMARY SCUM
11	PRIMARY SLUDGE
13	WASTE SLUDGE
15	DEGRITTED SLUDGE
16	THICKENER EFFLUENT
17	THICKENED SLUDGE
18	PRIMARY DIGESTER SLUDGE
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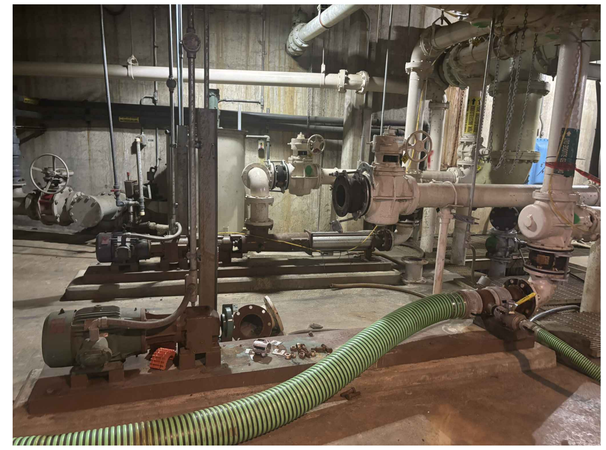
24	UNVALVED OVERFLOW
25	DIGESTER MIXING
26	FILTRATE
27	DIGESTER GAS
28	POLYMER
33	SUMP PUMP DISCHARGE
34	PLANT WATER
35	DRAIN (PROCESS)

PUMP NO.	NAME
P-11 & P-12	DIGESTED SLUDGE PUMPS
P-13 & P-14	DIGESTER HEATING PUMPS
P-9 & P-10	DIGESTER MIXING PUMPS
P-21	LIQUID POLYMER PUMP
P-22	LIME FEED PUMP

BASEMENT FLOOR PLAN AT EL. 644.50

SCALE: 3/8" = 1'-0"



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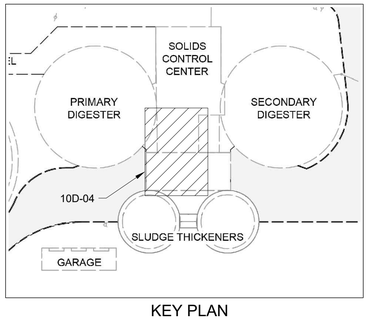


KEY PLAN

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: MS
DRAWN BY: RLM
CHECKED BY: MS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

SOLIDS CONTROL CENTER - BASEMENT FLOOR
SLUDGE PUMPS - DEMO PLAN

PROJECT NO. 38009
DISCIPLINE PROCESS
SHEET NAME 10D-04
SHEET 17 OF 44

P9

P10

P11

P12

P13

P14

LIME MIX TANK

EXISTING HOT WATER BOOSTER PUMPS

6" PIPING

HP16

HEAT EXCHANGER NO. 2

HP15

SECONDARY DIGESTER SLUDGE LIQUOR

(2) 2" POLYMER LINES FROM POLYMER BLENDING UNIT ABOVE TO BE REMOVED

CONTRACTOR SHALL REMOVE THE EXISTING 11,000 GALLON POLYMER STORAGE TANK, ASSOCIATED EQUIPMENT PIPING, APPURTENANCES AND EQUIPMENT PAD

8" DIP CENTRATE DRAIN

EXISTING POLYMER FEED POINT NO. 4
DEMO & PLUG WITH MECHANICAL CAP 1
¾" PVC POLYMER FEED C/L EL. 656.75

8" CIP DEGRITTED SLUDGE
C/L EL.655.25

14" CIP THICKENER EFFLUENT

HEAT EXCHANGER NO. 1

8" CIP C/L EL. 655.25
PRIMARY SLUDGE

TO POLYMER FEED POINTS NO.1 & NO.2
DEMO & PLUG WITH MECHANICAL CAP
1 ½" PVC POLYMER FEED C/L EL. 654.17

(2) 2" POLYMER LINES FROM POLYMER BLENDING UNIT ABOVE TO BE REMOVED

PIPE TRENCH

FUTURE HEAT EXCHANGE AREA

CONTRACTOR TO REMOVE EXISTING POLYMER FEED PUMPS P-17, 18, AND 19, SALVAGE THE EQUIPMENT AND RETURN TO THE OWNER. ONE SALVAGED PUMP SHALL BE REINSTALLED IN THE FIRST-FLOOR POLYMER ROOM AND CONNECTED FOR USE AS THE POLYMER TRANSFER FROM THE TOTE TO THE POLYMER STORAGE TANK.

P-19

AGING TANK No.1

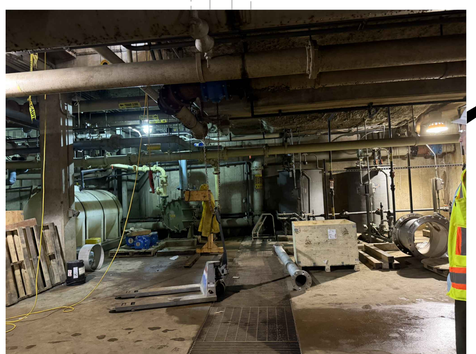
P-18

AGING TANK No.2

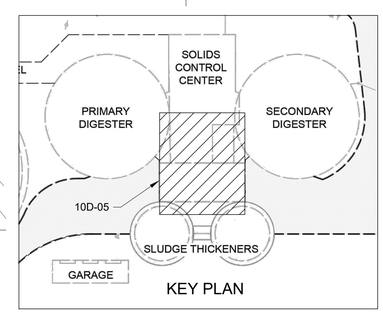
470 GAL. AGING TANKS 4'-0" DIA. X 6'-0" SWD, TYP OF 2 TO BE REMOVED

P-17

1½" PVC POLYMER FEED TO FEED POINT NO. 3



1 ½" PVC POLYMER FEED TO FEED POINT NO. 3
DEMO & PLUG WITH MECHANICAL CAP 1 ½"
PVC POLYMER FEED C/L EL. 654.17



BASEMENT FLOOR PLAN AT EL. 644.50

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

DANIEL E. BARR
REGISTERED
25451
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

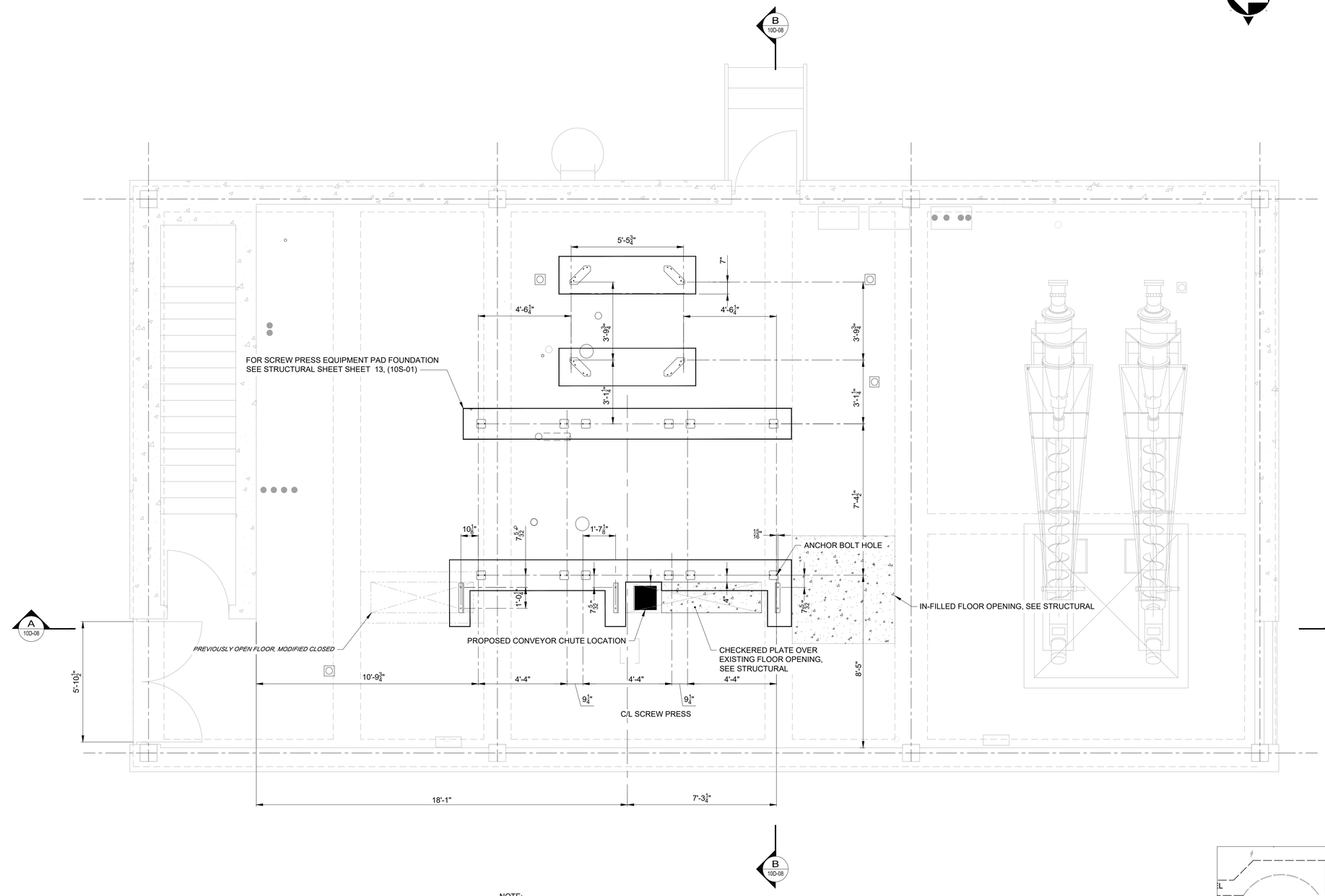
SOLIDS CONTROL CENTER-BASEMENT FLOOR
POLYMER STORAGE AREA - DEMO

PROJECT NO.
38009

DISCIPLINE
PROCESS

SHEET NAME
10D-05

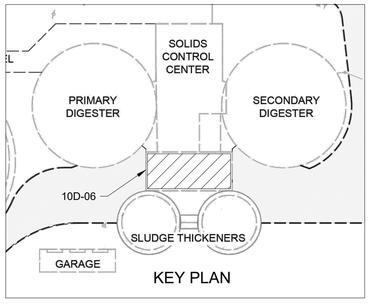
SHEET 18 OF 44



NOTE:
DIMENSIONS ARE TO C/L OF BOLT HOLES. VERIFY WITH EQUIPMENT MANUFACTURER'S DETAILED DIMENSIONS.

SECOND FLOOR PLAN AT EL. 672.50

SCALE: 3/8" = 1'-0"



KEY PLAN

DANIEL E. BARR
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STATE OF
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PROFESSIONAL ENGINEER
8/3/2026

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NO	REVISION	DATE

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ISSUE DATE:	8/03/2026
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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

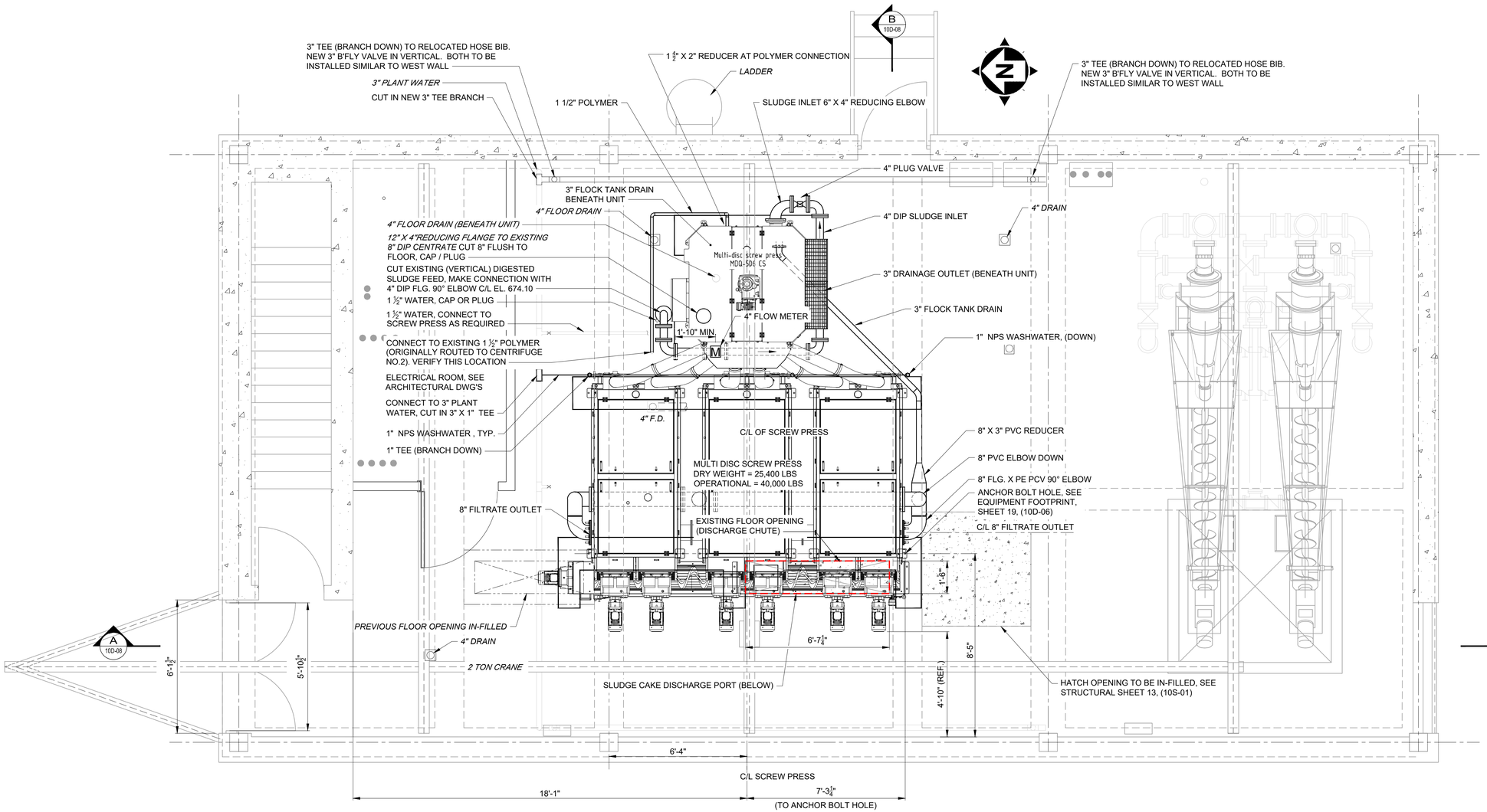
SOLIDS CONTROL CENTER-SECOND FLOOR
PROPOSED EQUIPMENT FOOTPRINT

PROJECT NO.
38009

DISCIPLINE
PROCESS

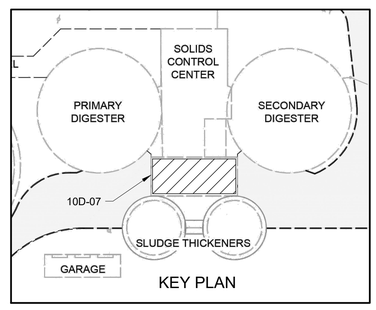
SHEET NAME
10D-06

SHEET	OF
19	44



SECOND FLOOR PLAN AT EL. 672.50

SCALE: 3/8" = 1'-0"



DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
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DESIGNED BY:	MIS
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

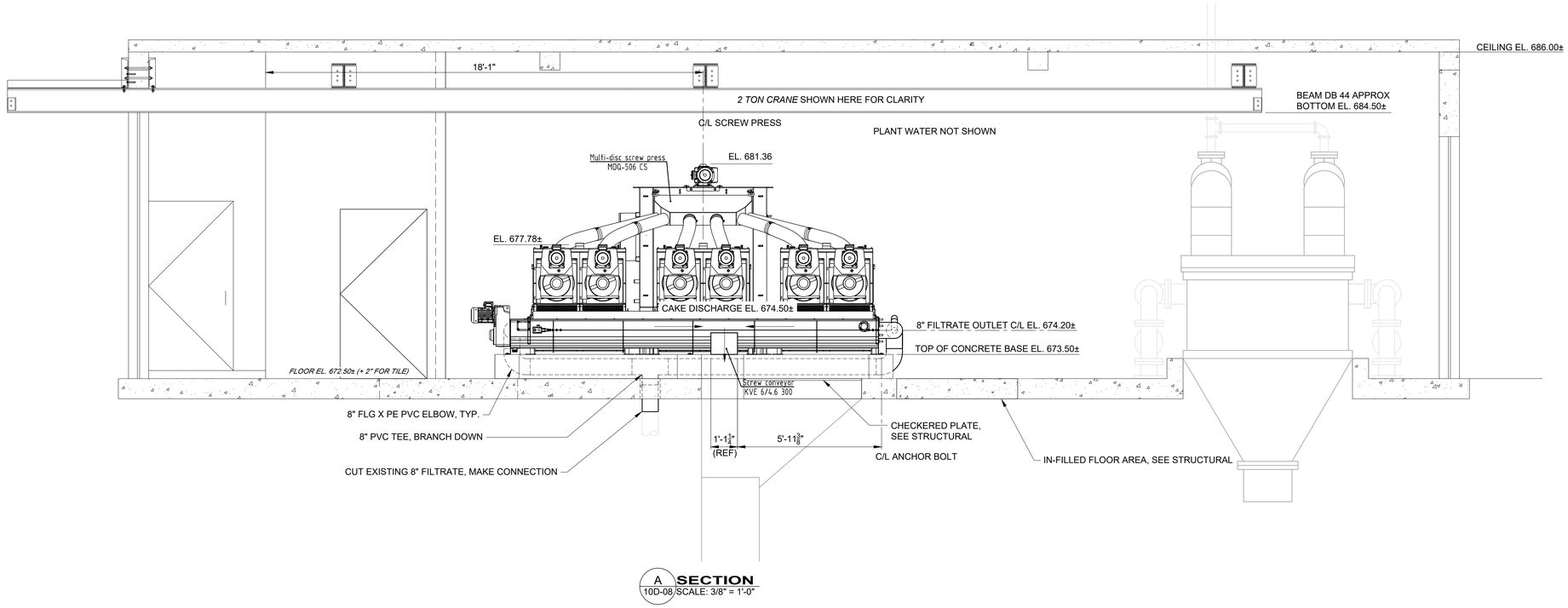
SOLIDS CONTROL CENTER - SECOND FLOOR PROPOSED EQUIPMENT PLAN

PROJECT NO. 38009

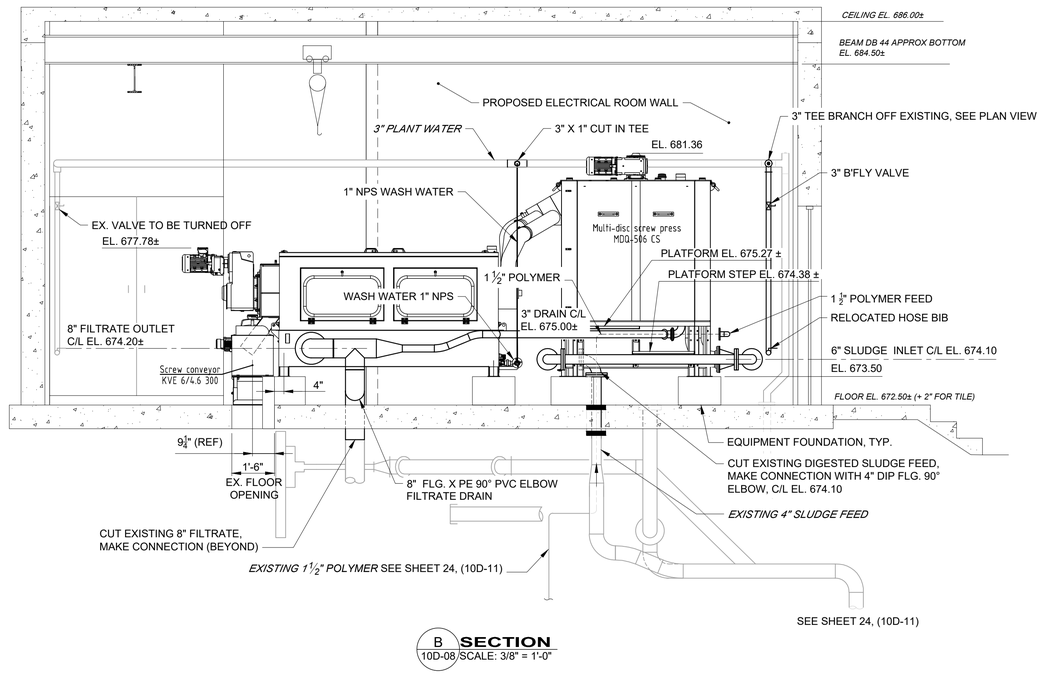
DISCIPLINE: PROCESS

SHEET NAME: 10D-07

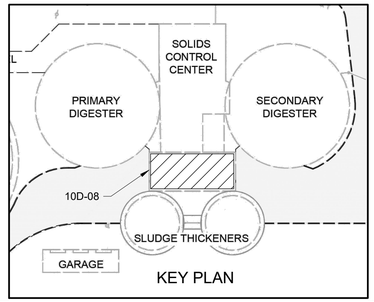
SHEET 20 OF 44



A **SECTION**
10D-08 SCALE: 3/8" = 1'-0"



B **SECTION**
10D-08 SCALE: 3/8" = 1'-0"



DANIEL E. BARR
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25451
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8/3/2026

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DRAWN BY:	RLM
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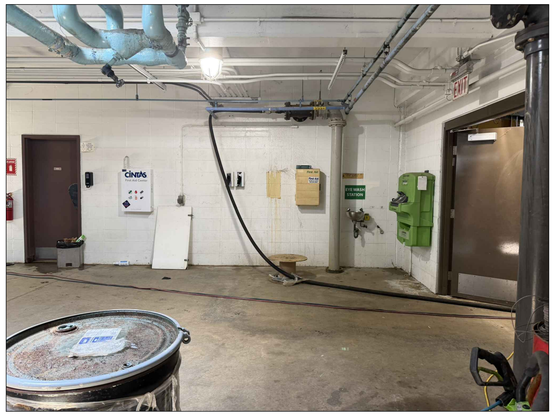
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

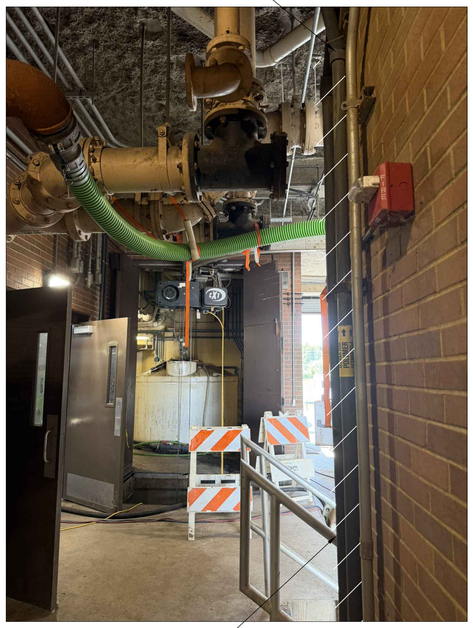
SLUDGE DEWATERING - 10 SERIES

SOLIDS CONTROL CENTER - PROPOSED EQUIPMENT SECTIONS A & B

PROJECT NO.	38009
DISCIPLINE	PROCESS
SHEET NAME	10D-08
SHEET	21
OF	44

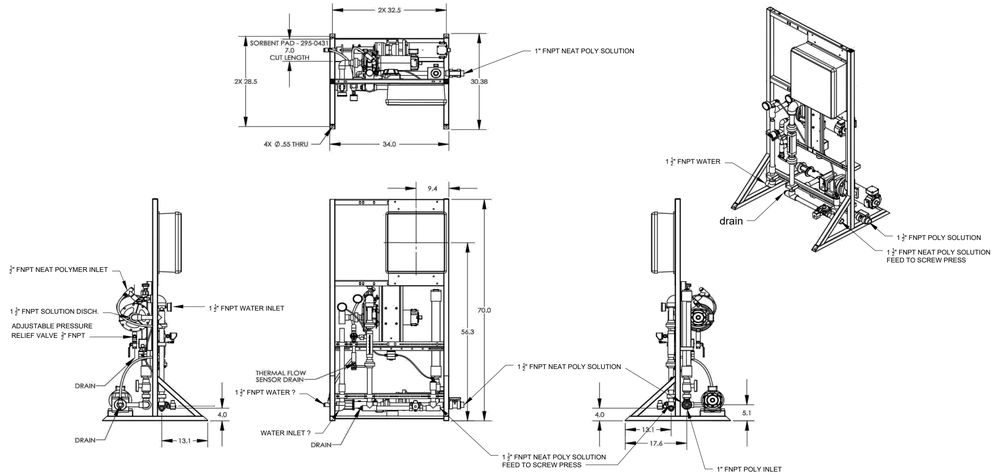
Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - SECOND FLOOR SCREW PRESS BLDG.DWG - 21 SOLIDS CONTROL CENTER - PROPOSED EQUIPMENT SECTIONS A & B - 7/29/2026 4:22:21 PM - ROBERT MARANO





NEW CONNECTION 1 ½"
POLYMER, FIELD VERIFY

DEMO VERTICAL POLYMER PIPING. INSTALL CAPS AT FLOOR PENETRATIONS. CONNECT NEW 1 ½" POLYMER FEED TO ORIGINALLY ROUTE TO CENTRIFUGE No.1.



MANUFACTURER SKID SYSTEM
SCALE: 1/2" = 1'-0"

PRIMARY DIGESTER

SECONDARY DIGESTER

RELOCATED POLYMER TOTES

NEW POLYMER FEED SKIDS, TYP. OF 2

6" CIP SECONDARY DIGESTER LIQUOR EL. 666.75

4'-0" (REF.)

3'-0" (REF)

WATER INLET

FOR PLUMBING, SEE
MANUFACTURER'S DETAILS

CONNECT 1 ½" PVC SHC. 80 POLYMER FEED LINE TO THE EXISTING VERTICAL PIPE TO THE 2nd FLOOR OF THE SLUDGE HANDLING BUILDING. CONTRACTOR SHALL FIELD VERIFY LOCATION OF THE EXISTING PIPE.

3" CU C/L EL. 666.75 PLANT WATER

6" CIP C/L EL. 666.75
DIGESTED SLUDGE

8" FILTRATE AT EL. 655.25

CORE DRILL 3" Ø HOLE FOR 1" PVC
SCH 80 PIPE WITH DOUBLE LINK SEAL

NEW POLYMER TRANSFER PUMP

1 ½" NEAT POLYMER SOLUTION

MODIFY EXISTING PIPING AS REQUIRED

6" CIP C/L EL. 666.75
SECONDARY DIGESTER SLUDGE

6" X 4" REDUCER (TYP.)

4" Ø DIGESTED SLUDGE UP TO EX. CENTRIFUGE. F1001

POLYMER TOTE

10'-0" (REF.)

EXISTING 950 GALLON
POLYMER STORAGE
(TO REMAIN)

EXISTING POLYMER
JUNCTION BOX

CONNECT TO EXISTING 1 ½" POLYMER
(ORIGINALLY ROUTED TO CENTRIFUGE
NO.1). VERIFY THIS LOCATION

6" DIP C/L EL. FILTRATE
FROM. CENTRIFUGE. F1002

EXISTING POLYMER HOIST

NEW POLYMER TRANSFER PUMP

8" X 8" LATERAL (TYP. OF 5)

EX. 2 TON HOIST RAIL

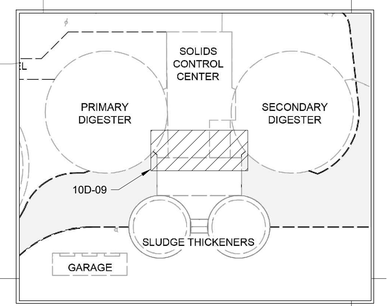
CONNECT TO EXISTING 1 ½" POLYMER
(ORIGINALLY ROUTED TO CENTRIFUGE
NO.1). VERIFY THIS LOCATION

6"Ø FRAME DRAIN FROM CENTRIFUGE. F1002

8"Ø CENTRATE DRAIN FROM CENTRIFUGE. F1002

LOADING DOCK AREA

FIRST FLOOR PLAN AT EL. 658.25
SCALE: 3/8" = 1'-0"



KEY PLAN

DANIEL E. CARR
REGISTERED
25451
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

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NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RLM
CHECKED BY:	MIS

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER - FIRST FLOOR
PROPOSED POLYMER FEED PLAN

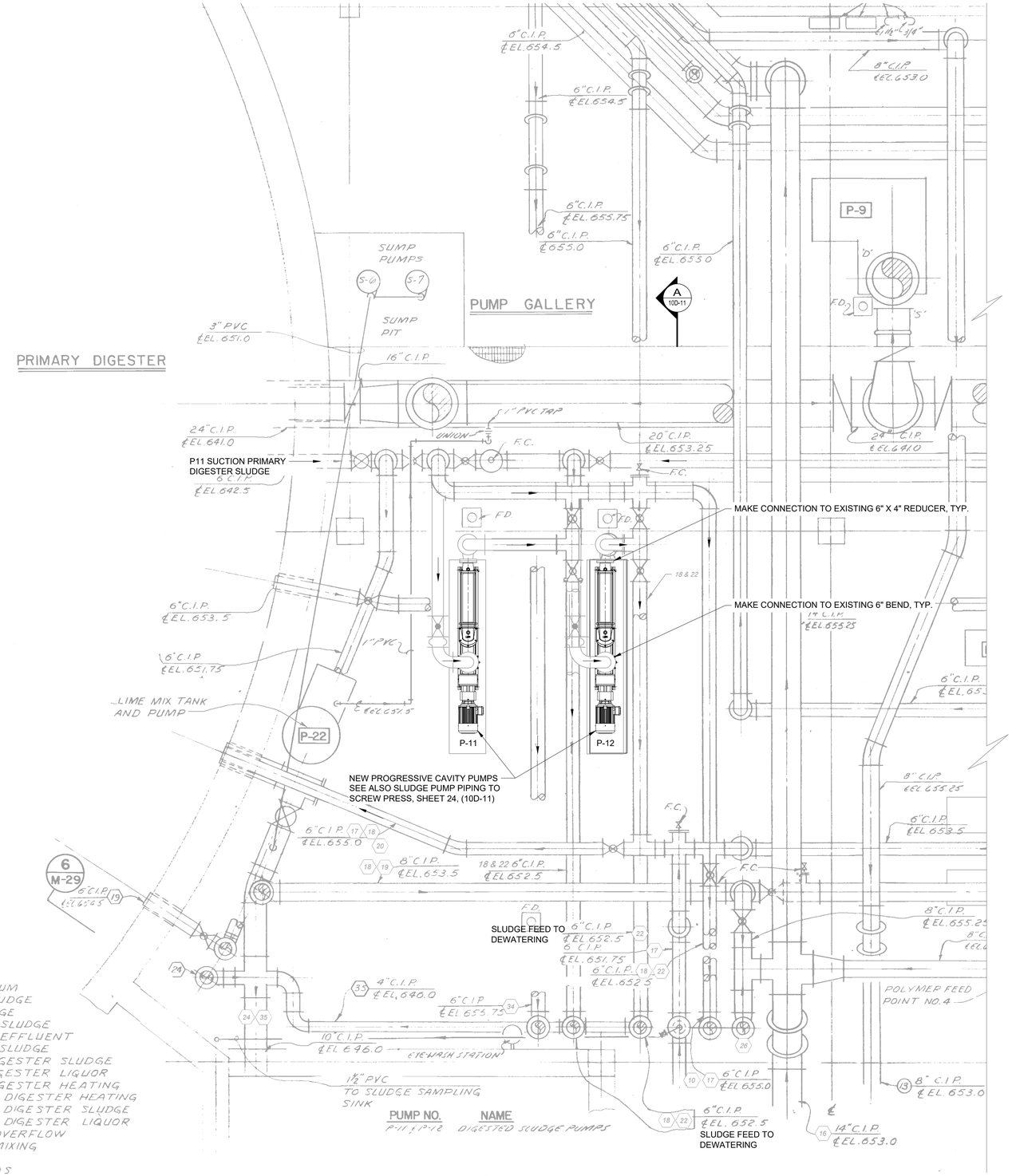
PROJECT NO.
38009

DISCIPLINE
PROCESS

SHEET NAME
10D-09

SHEET 22 OF 44

Z:\PROJECT FILES\WA-KZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - POLYMER SYSTEM - FIRST FLOOR.DWG - 18 SOLIDS CONTROL CENTER-FIRST FLOOR PROPOSED POLYMER FEED PLAN - 8/3/2026 11:22:32 AM - ROBERT MARANO



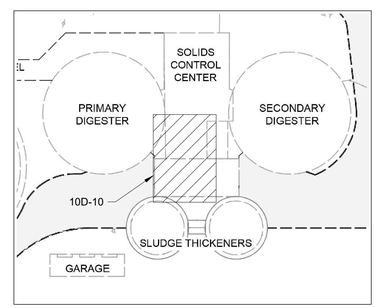
PIPING LEGEND

10 / 11	PRIMARY SCUM / PRIMARY SLUDGE
13 / 15	WASTE SLUDGE / DEGRITTED SLUDGE
16 / 17	THICKENER EFFLUENT / THICKENED SLUDGE
18 / 19	PRIMARY DIGESTER SLUDGE / PRIMARY DIGESTER LIQUOR
20 / 21	PRIMARY DIGESTER HEATING / SECONDARY DIGESTER HEATING
22 / 23	SECONDARY DIGESTER SLUDGE / SECONDARY DIGESTER LIQUOR
24 / 25	UNVALVED OVERFLOW / DIGESTER MIXING
26 / 27	FILTRATE / DIGESTER GAS
28 / 33	POLYMER / SUMP PUMP DISCHARGE
34 / 35	PLANT WATER / DRAIN (PROCESS)

PLAN @ EL. 644.50

SCALE: 3/8" = 1'-0"

NOTE:
THIS SCANNED IMAGE IS OF RECORD DRAWING FROM THE STERNS & WHEELER 1977 WASTE WATER FACILITY PLANS PROJECT (SHEET M19) AND IS INTENDED FOR REFERENCE ONLY. ACTUAL LOCATIONS, SIZES, DIMENSIONS, ECT. MUST BE FIELD VERIFIED BY THE CONTRACTOR.



KEY PLAN

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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NO	REVISION	DATE

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: MIS
DRAWN BY: RLM
CHECKED BY: MIS

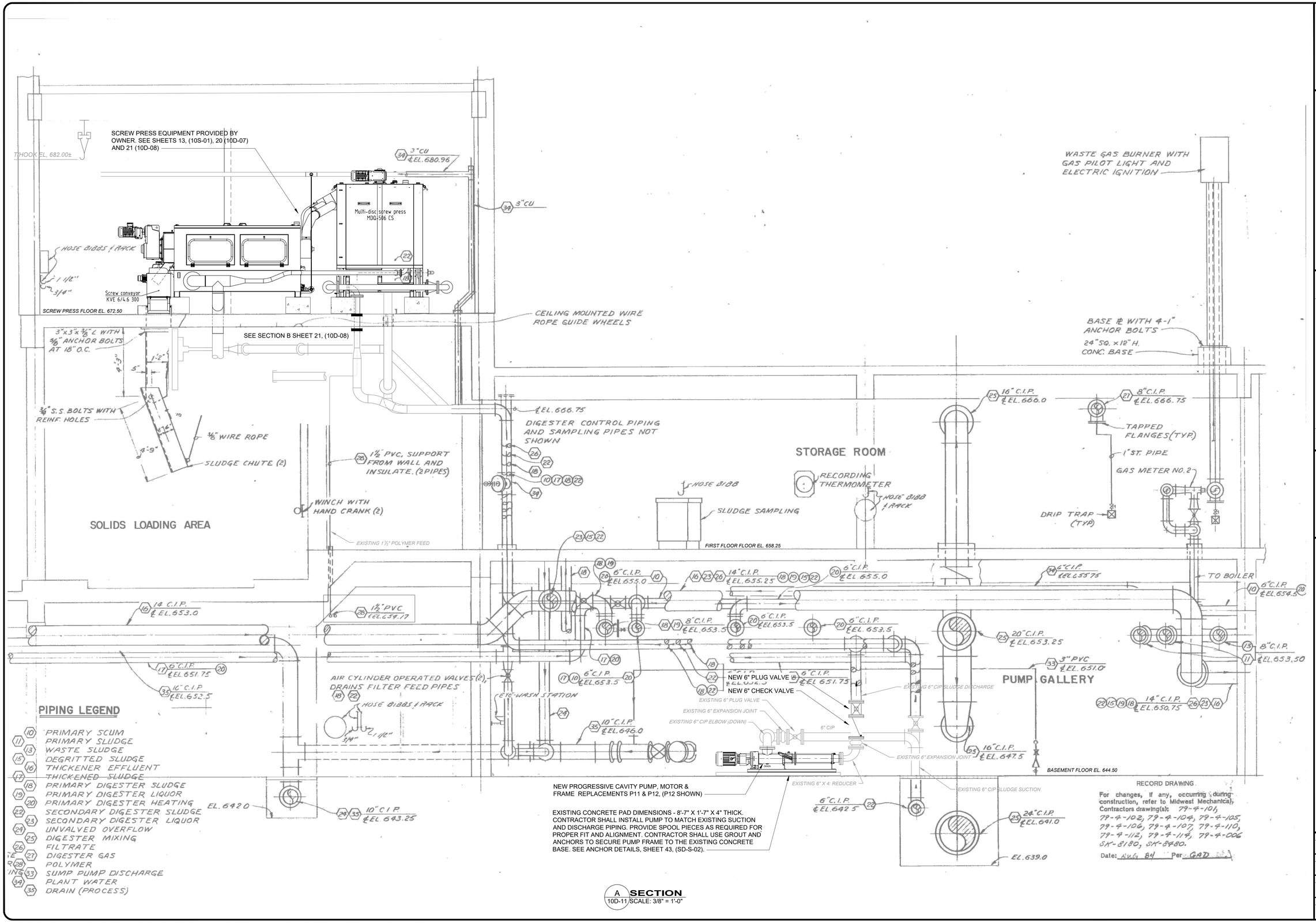
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES

SOLIDS CONTROL CENTER - BASEMENT FLOOR
PROPOSED SLUDGE PUMPS

PROJECT NO. 38009
DISCIPLINE PROCESS
SHEET NAME 10D-10
SHEET 23 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - SLUDGE DIGESTER BLDG.DWG - 23 SOLIDS CONTROL CENTER - BASEMENT FLOOR PROPOSED SLUDGE PUMPS - 7/27/2026 3:15:24 PM - ROBERT MARANO



A SECTION
10D-11 SCALE: 3/8" = 1'-0"

DANIEL E. BARR REGISTERED 25451 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8/3/2026

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

SLUDGE DEWATERING - 10 SERIES
SOLIDS CONTROL CENTER - PROPOSED EQUIPMENT SECTION A (FULL)

PROJECT NO.
38009
DISCIPLINE
PROCESS
SHEET NAME
10D-11
SHEET 24 OF 44

Z:\PROJECT FILES\WA-WZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\D_38009 - SOLIDS HANDLING BLDG SECTIONS.DWG - 24 SOLIDS CONTROL CENTER - PROPOSED EQUIPMENT SECTION A (FULL) - 7/27/2026 4:26:20 PM - ROBERT MARANO

HVAC EQUIPMENT SCHEDULE

SYMBOL	QUANT.	AREA SERVED	DESCRIPTION	ACCESSORIES	ELECTRICAL REQUIREMENTS
MAU-1	1	SOLIDS HANDLING ROOM	GREENHECK #MSX-P112-H12-MF MAKEUP AIR UNIT OUTDOOR, HORIZONTAL ARRANGEMENT, ELECTRIC HEAT, LEFT HAND ACCESS AND CONNECTIONS, DOWN DISCHARGE, DIRECT-DRIVE, MIXED FLOW FAN WITH VARIABLE FREQUENCY DRIVE(VFD), SECTIONS: FAN, CONTROLS, ELECTRIC HEAT, FILTERS, INTAKE HOOD, APPROX. DIMENSIONS: 148"L x 34"W x 39"H, APPROX. WEIGHT: 1,000#±. 2,000 CFM @ 1.0" E.S.P., 1.48" TOTAL S.P., 2234 RPM, 0.86 BHP, 1.5 HP MOTOR, 40 KW HEAT, 136 MBH, 63°F ∆T RISE, 81 Lwa, 70 dBA, 18 SONES	SEE SPEC. #237423 FOR ADDITIONAL INFO. DISCONINECT SWITCH DOUBLE WALL CONSTRUCTION (1" INSULATION) ENTIRE UNIT HINGED ACCESS DOORS HI-PRO POLYESTER COATING: ENTIRE UNIT AND ALL ACCESSORIES MODULATING SCR HEAT CONTROL INLET HOOD WITH ALUMINUM MESH V-BANK FILTER SECTION WITH: 4" THICK, PLEATED, MERV-14 DISP. FILTERS MICROPROCESSOR UNIT CONTROLS WITH REMOTE TOUCHSCREEN PANEL DISCHARGE AIR TEMPERATURE CONTROLS FREEZE PROTECTION HEATING INLET AIR SENSOR DIRTY FILTER SENSOR/SWITCH AUXILIARY CONTACTS: SUPPLY FAN STATUS (AIR PROVING), EXHAUST FAN INTERLOCK. TEFC MOTOR, PREMIUM EFFICIENCY 24" ROOF CURB	460/3/60 66.7 MCA 70A MOCP
EF-1	1	SOLIDS HANDLING ROOM	GREENHECK #CUE-180HP-VG EXHAUST FAN SPUN ALUMINUM, ROOF MOUNTED, 18"Ø CENTR. IMPELLER, DIRECT DRIVE, EC MOTOR WITH REMOTE CONTROL (HOA), 1,900 CFM @ 0.63" S.P., 934 RPM, 0.34 BHP, 10.5 SONES	DISCONNECT SWITCH, NEMA 4 ALUMINUM RUB RING TEFC MOTOR HI-PRO POLYESTER COATING ALUMINUM OR STAINLESS STEEL BIRDSCREEN 24" HIGH ROOF CURB	115/1/60 1 HP
ACU-1	1	ELECTRICAL ROOM	MITSUBISHI AIR CONDITIONING UNIT HEAT PUMP, DUCTLESS SPLIT SYSTEM, R-454B REFRIGERANT, HIGH WALL EVAPORATOR, POLYSTYRENE CABINET, 22 SEER, VARIABLE SPEED INVERTER-DRIVEN COMPRESSOR, NOM. 1.5 TONS COOLING (5.2 MBH MIN., 22 MBH MAX.), 477 CFM; 18.0 MBH RATED CAPACITY, 14.2 MBH SHC, 0.79 SENSIBLE HEAT FACTOR #MSZ-GX18NL INDOOR UNIT, 208V/230/1 (1.0A, WIRED FROM OUTDOOR UNIT), #MUZ-GX18NL CONDENSING UNIT, 208V/230/1, 23 MCA, 25A CB	WIRED LOW VOLTAGE WALL THERMOSTAT REFRIGERANT LINE SETS CONDENSER WALL MOUNTING BRACKETS: STAINLESS STEEL CONDENSER BASEPAN HEATER	208/230/1/60 23 MCA, 25A CB

NOTES:
1. CHARACTERISTICS (RPM, HP, IMPELLERØ, PRESSURE DROP) SHALL NOT VARY BY MORE THAN 10% OF SPEC'D UNITS. SOUND VALUES SHALL NOT EXCEED THE VALUES INDICATED.

SEQUENCE OF OPERATION

1. MAU-1 MAKEUP AIR UNIT (SOLIDS HANDLING ROOM):
   VENTILATION SHALL BE CONTINUOUS, 24 HOURS/DAY, 365 DAYS/YEAR.
   MAU-1 SHALL BE INTERLOCKED WITH EF-1 EXHAUST FAN.
   VENTILATION SYSTEM PROVIDES 6 AIR CHANGES PER HOUR, PER 10 STATES STANDARDS AND NFPA 820.

   MAU-1 SHALL BE PROVIDED WITH AN INTEGRAL UNIT MOUNTED MICROPROCESSOR, DDC CONTROLLER, WITH REMOTE TOUCHSCREEN PANEL.
   FAN SHALL BE SET TO RUN CONTINUOUSLY.
   TEMPERATURE CONTROL SHALL BE VIA DISCHARGE AIR TEMPERATURE.

   SEE ELECTRICAL DRAWINGS FOR MONITORING, AND ALARM PROVISIONS. AN ALARM SIGNAL SHALL BE INITIATED SHOULD MAU-1 OR EF-1 NOT BE OPERATING (CURRENT SENSING RELAY, ETC).

2. EF-1 EXHAUST FAN (SOLIDS HANDLING ROOM):
   VENTILATION SHALL BE CONTINUOUS, 24 HOURS/DAY, 365 DAYS/YEAR.
   MAU-1 MAKEUP AIR UNIT SHALL BE INTERLOCKED WITH EF-1, AS DESCRIBED ABOVE.

3. ACU-1 AIR CONDITIONING UNIT (ELECTRICAL ROOM):
   UNIT SHALL BE A HEAT PUMP TYPE, PROVIDED WITH A 24V LOW VOLTAGE PROGRAMMABLE THERMOSTAT, TO ENERGIZE THE COMPRESSOR AND FAN UPON A CALL FOR COOLING. COMPRESSOR AND FAN SHALL BE ENERGIZED UPON A CALL FOR HEATING.

AIR GRILLE SCHEDULE

SYMBOL	DESCRIPTION
SA-1	PRICE #620-L ALUMINUM SUPPLY REGISTER ALL ALUMINUM CONSTRUCTION, DOUBLE DEFLECTION, SURFACE MOUNT FRAME, 3/4" BLADE SPACING, WITH #B15 ALUMINUM COLOR PAINT, AND ALUMINUM O.B. DAMPER.
EG-1	PRICE #610Z-L ALUMINUM EXHAUST GRILLE ALL ALUMINUM CONSTRUCTION, 0° SINGLE DEFLECTION, SURFACE MOUNT FRAME, 3/4" BLADE SPACING, WITH #B15 ALUMINUM COLOR PAINT.

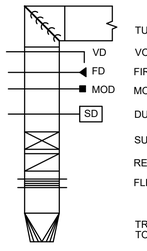
NOTES:
1. SEE PLANS FOR SIZES, QUANTITIES, ETC.

GRILLE MARK * * NECK/DUCT SIZE
* CFM

MECHANICAL GENERAL NOTES:

1. SEE DEMOLITION PLANS FOR EXISTING PIPING, EQUIPMENT, ETC.. NEW PLANS INDICATE NEW AND REVISED ELEMENTS OF WORK, BUT IT IS NOT FEASIBLE TO INDICATE ALL UNCHANGED EXISTING PIPING, EQUIPMENT, ETC..
2. ALL INTERIOR AND EXTERIOR HANGERS, RODS, SUPPORTS, CLAMPS, etc. TO BE CORROSION RESISTANT. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. COORDINATE EXACT LOCATIONS OF ALL PIPES, DUCTS AND EQUIPMENT, AS TO NOT INTERFERE WITH LIGHTS, OVERHEAD DOORS, PROCESS EQUIPMENT, PROCESS PIPING, ETC.
4. SEE STRUCTURAL DETAIL SHEETS FOR CONCRETE HOUSEKEEPING PAD.
5. DEMOLITION OF PLUMBING EQUIPMENT AND PIPING TO INCLUDE ALL ANCILLARY HANGERS, SUPPORTS, ETC. DEMOLITION TO ALSO INCLUDE ASSOCIATED CONCRETE CURBS, AND CONTROL WIRING/CONDUITS.
6. WHERE EXISTING FOUNDATIONS, FLOORS, CONCRETE ROOFS, ETC. ARE PENETRATED FOR NEW PIPING, CORE DRILL AND PROVIDE SLEEVE ACCORDINGLY.
7. MAKE FINAL GAS CONNECTIONS WITH GAS VALVE, UNION, AND DIRT LEG.
8. ALL MOUNTING HEIGHTS ARE REFERENCED TO THE BOTTOM OF EQUIPMENT, UNLESS NOTED OTHERWISE.
9. COORDINATE ALL NEW WALL/ROOF OPENINGS. SEE ARCHITECTURAL AND STRUCTURAL PLANS AND ELEVATIONS.
10. DEMOLITION OF HVAC EQUIPMENT AND PIPING TO INCLUDE ALL ANCILLARY HANGERS, SUPPORTS, FLUE SYSTEMS, ASSOCIATED CONCRETE PADS, AND CONTROLS INCLUDING THERMOSTATS, SWITCHES, WIRING/CONDUITS, ETC.
11. WHERE EQUIPMENT, DUCTS, FLUES, ARE REMOVED THRU WALLS/ROOFS/FLOORS, ETC., COORDINATE PATCHING WITH APPROPRIATE CONTRACTORS. SEE ARCHITECTURAL AND STRUCTURAL PLANS AND ELEVATIONS. WHERE NEW PIPES, FLUES, ETC ARE SHOWN THROUGH EX. WALLS/ROOFS/FLOORS, ETC.; CORE DRILL, SLEEVE, AND SEAL ACCORDINGLY, UNLESS NOTED OTHERWISE.
12. WHERE NEW EQUIPMENT, FANS, LOUVERS, DUCTS, ETC. ARE INSTALLED IN OR OVER EXISTING WALL/ROOF OPENINGS, CONTRACTOR SHALL FIELD VERIFY EXACT OPENING DIMENSIONS PRIOR TO SUBMITTING/ORDERING NEW ITEMS. EXISTING OPENINGS SHALL BE MODIFIED AS NEEDED TO ACCOMMODATE NEW EQUIPMENT.
13. WHERE EQUIPMENT IS ROOF MOUNTED: PROVIDE PATE #ES-5B OR EQUAL, EQUIPMENT SUPPORTS; 13.5" HIGH, FULLY WELDED, 1.5" INSULATION, WOOD NAILER, RAISED CANT.
    WHERE DUCTS PENETRATE ROOFS: PROVIDE PATE #PC-5 OR EQUAL, ROOF CURB; 13.5" HIGH, FULLY WELDED, 1.5" INSULATION, WOOD NAILER, RAISED CANT.
    SUPPORT ROOF MOUNTED DUCTS WITH PATE #DSS-5 OR EQUAL, DUCT SUPPORT SYSTEM; 13.5" HIGH, FULLY WELDED, RAISED CANT, WITH ALL DUCT MOUNTING HARDWARE.
    WHERE PIPING/CONDUITS PENETRATE ROOFS, PROVIDE PIPE CURB ASSEMBLY, PATE #PCA-5B WITH #PCC-1 CAP, OR EQUALS.
    WHERE PIPING IS ROOF MOUNTED: PROVIDE MIRO #3-R-4 OR EQUAL, PIPE STANDS; 4" HIGH, ROLLER BEARING TYPE, WITH 12/12 SUPPORT PADS, AND PIPE GUIDES.
14. LOCATE ROOFTOP EQUIPMENT 10-FT MINIMUM FROM ROOF EDGES. WHERE EQUIPMENT MUST BE LOCATED WITHIN 10-FT OF ROOF EDGES, THEN GUARD RAILS MUST BE PROVIDED. SEE ARCH PLANS FOR ADDITIONAL INFO.
15. SEE ELECTRICAL DRAWINGS FOR POWER AND MONITORING/ALARM WIRING SYSTEMS FOR MAU MAKEUP AIR UNITS, EF EXHAUST FANS, L LOUVERS, MOD'S, ETC..
16. PROVIDE TEMPERATURE CONTROL WIRING, AND INTERLOCK WIRING, IN CONDUITS IN ACCORDANCE WITH DIV. 26 SPECIFICATIONS.

SYMBOL LEGEND



	TURNING VANES (ELBOW)
VD	VOLUME DAMPER
FD	FIRE DAMPER
MOD	MOTOR OPERATED DAMPER
SD	DUCT SMOKE DETECTOR
	SUPPLY DUCT
	RETURN OR EXHAUST DUCT
	FLEXIBLE CONNECTION
	TRANSITION (RECTANGULAR TO ROUND)
T	THERMOSTAT, 48" AFF
HOA	HAND-OFF-AUTO SWITCH
AFF	ABOVE FINISHED FLOOR
AD	ACCESS DOOR
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
CA	COMBUSTION AIR
CDV	COMBINATION DRAIN & VENT
CO	CLEANOUT
CTE	CONNECT TO EXISTING
EA	EXHAUST AIR
EL	ELEVATION
ETR	EXISTING TO REMAIN
EX	EXISTING
FD	FLOOR DRAIN
INV	INVERT
MO	MASONRY OPENING
OA	OUTSIDE AIR
OD	OVERFLOW DRAIN
RA	RETURN AIR
RD	ROOF DRAIN
SA	SUPPLY AIR
TA	TRANSFER AIR
TOD	TOP OF DUCT
VTR	VENT THRU ROOF

ALFRED J. SPECHER, JR.
REGISTERED
26091
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8/3/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
BID	8/03/2026	AS NOTED	JRM	JRM	AJS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

MECHANICAL - M SERIES

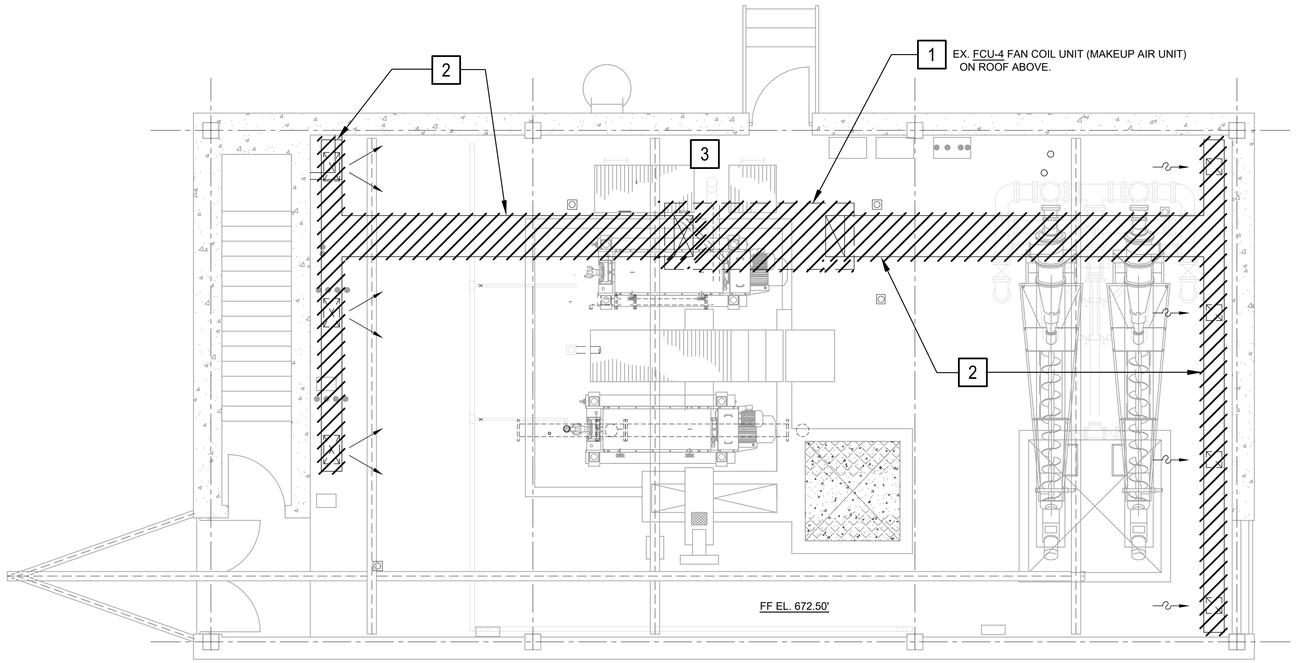
MECHANICAL SCHEDULES, LEGEND & NOTES

PROJECT NO.
38009
DISCIPLINE
MECHANICAL
SHEET NAME
10M-01
SHEET 25 OF 44

EX. FCU-4 UNIT - LOOKING EAST
NOT TO SCALE

EX. FCU-4 UNIT - LOOKING NORTH
NOT TO SCALE

EX. FCU-4 DUCTS PENETRATING ROOF - LOOKING EAST
NOT TO SCALE



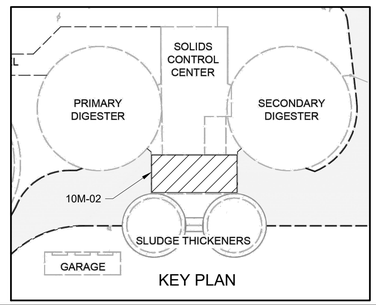
MECHANICAL DEMOLITION PLAN AT EL. 672.50

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

DENOTES ITEM, EQUIPMENT, DUCT, PIPE, ETC. TO BE DEMOLISHED.

– DEMOLITION CODED NOTES:

1. REMOVE AND REPLACE FAN COIL (MAKEUP AIR) UNIT.
   REMOVE EXISTING ROOF CURB ASSEMBLIES DOWN TO CONCRETE ROOF PANELS.
   SEE NEXT SHEET FOR NEW WORK.
2. REMOVE AND REPLACE DUCT SYSTEM; DUCTS, GRILLES, REGISTERS, ETC.
3. REMOVE AND REPLACE MAKEUP AIR UNIT TEMPERATURE CONTROLS.
   FIELD VERIFY CONTROLS EQUIPMENT, LOCATIONS, ETC.



KEY PLAN

ALFRED J. SPEECHER JR.
26091
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WEST VIRGINIA
8/3/2026

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

MECHANICAL - M SERIES

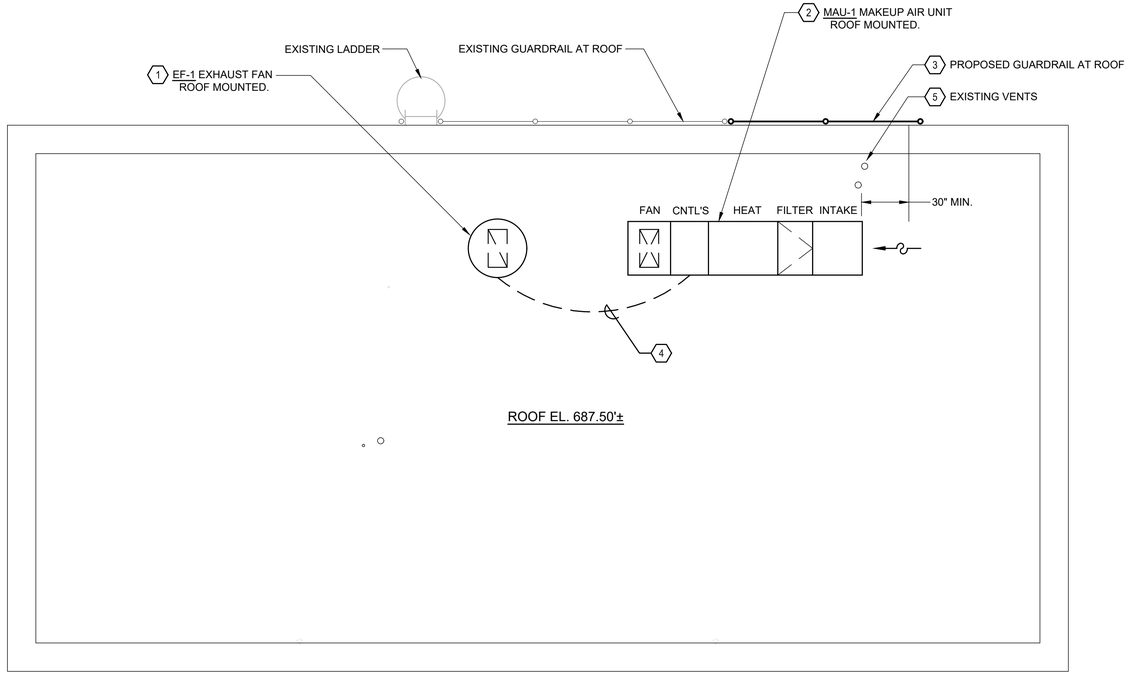
MECHANICAL DEMOLITION PLANS

PROJECT NO.
38009

DISCIPLINE
MECHANICAL

SHEET NAME
10M-02

SHEET 26 OF 44

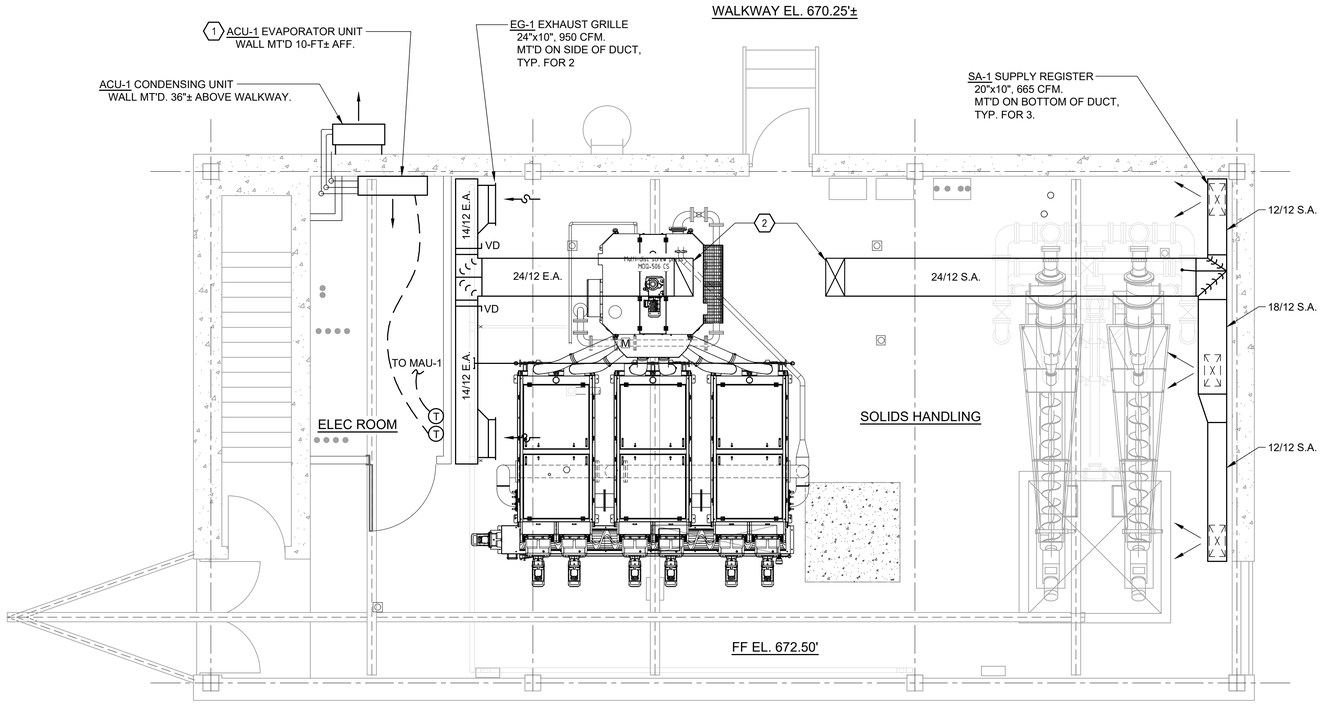


MECHANICAL PROPOSED ROOF PLAN

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

PROPOSED CODED NOTES:

1. LOCATE NEW EF-1 CENTERED OVER EXISTING ROOF OPENING. PROVIDE DUCT TRANSITION FROM EF-1 TO NEW EXHAUST AIR DUCT.
2. LOCATE NEW MAU-1 WITH SUPPLY AIR OPENING CENTERED OVER EXISTING ROOF OPENING. PROVIDE DUCT TRANSTION FROM MAU-1 TO NEW SUPPLY AIR DUCT.
3. SEE ARCHITECTURAL PLANS & DETAILS FOR NEW GUARDRAIL, TO SUIT NEW MAU-1.
4. PROVIDE INTERLOCK WIRING PER EF-1 AND MAU-1 MFR'S GUIDELINES.
5. FIELD VERIFY LOCATION OF EXISTING PLUMBING AND PROCESS VENTS THIS AREA. NOTE: VENTS NEAR INTAKE HOOD ARE ACCEPTABLE, AS THE SPACE IS NOT CONTINUOUSLY OCCUPIED.

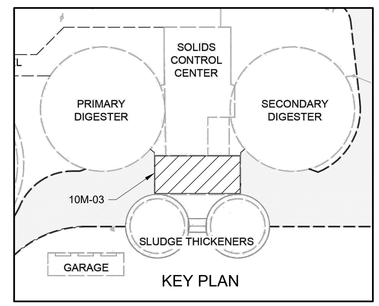


MECHANICAL PROPOSED PLAN AT EL. 672.50

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

PROPOSED CODED NOTES:

1. ROUTE PIPING DOWN ALONG INSIDE OF WALL, WITH REFRIGERANT LINES TO CONDENSING UNIT, AND CONDENSATE OUT WALL 12" AFF, OPEN END.
2. NEW EXHAUST AIR AND SUPPLY AIR DUCTS DOWN THROUGH EXISTING ROOF OPENINGS. ROUTE NEW DUCT MAINS AND BRANCHES UP HIGH, TIGHT TO BOTTOM OF BEAMS, SIMILAR TO EXISTING.



ALFRED J. SPECHER JR. 26091 REGISTERED STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 8/3/2026

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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

MECHANICAL - M SERIES

SOLIDS CONTROL CENTER - PROPOSED MECHANICAL EQUIPMENT PLANS

PROJECT NO. 38009

DISCIPLINE: MECHANICAL

SHEET NAME: 10M-03

SHEET 27 OF 44

PLAN SYMBOLS

ABBREVIATIONS

27	UNDER VOLTAGE RELAY
2SFVNR	2 SPEED FULL VOLTAGE NONREVERSING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
AMP	AMP FRAME
AM	AMMETER
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
CA	AC CONDUIT
CB	CIRCUIT BREAKER
CB	COMPRESSOR BUILDING
CD	DC AND COMMON CONDUIT
CDP	CONTROLS DISTRIBUTION PANEL
C	CONDUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CU, Cu	COPPER
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
FD	FIELD DETERMINE
FLA	FULL LOAD AMPS
FM	FREQUENCY METER
FMC	FLEXIBLE METAL CONDUIT
FO	FIBER OPTIC
FVC	FULL VOLTAGE CONTACTOR
FVNR	FULL VOLTAGE NON REVERSING
GC	GENERAL CONTRACTOR
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTING
GND	GROUND
HD	HEAVY DUTY RATED
HP	HORSE POWER
HSS	HOLLOW STRUCTURAL STEEL
I/O	INPUT / OUTPUT
J, JB	JUNCTION BOX
KAIC	KILO AMPERE INTERRUPT CAPACITY
KVA	KILO VOLT AMPERE
KW	KILOWATT
LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
LRA	LOCKED ROTOR AMPS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR'S	MANUFACTURER'S
MLO	MAIN LUGS ONLY
MPF	MOTOR PROTECTION FILTER
MPR	MOTOR PROTECTIVE RELAY
MS	MOTOR STARTER
OL	OVERLOAD
PB	PULL BOX
PF	POWER FACTOR
PT	POTENTIAL TRANSFORMER
QTY	QUANTITY
RGS	RIGID GALVANIZED STEEL
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RTD	RESISTANCE TEMPERATURE DETECTOR
SCH	SCHEDULE
ST	SHUNT TRIP
TRNSFMR	TRANSFORMER
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V, VAC	VOLT ALTERNATING CURRENT
VDC	VOLT DIRECT CURRENT
VAR	VOLT AMP REACTANCE
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT METER
WHM	WATT HOUR METER
WM	WATT METER
XFMR	TRANSFORMER

POWER

EQUIPMENT SHOWN WITH SCHEDULE SEQUENCE NUMBER AND/OR CIRCUIT NO.

- MCC/3A — MOTOR (HP,VOLTAGE AS INDICATED)
- SPECIAL PURPOSE RECEPTACLE
- REC1 DP1/3 — INDUSTRIAL GRADE SINGLE RECEPTACLE 125V, 20A (UON), SEQUENCE NO. & CIRCUIT NO.
- REC2 DP1/2 — INDUSTRIAL GRADE DUPLEX RECEPTACLE 125V, 20A, SEQUENCE NO. & CIRCUIT NO.
- REC3 DP1/4 — EXPLOSION PROOF RECEPTACLE
- HD DISCONNECT SWITHCH
- HD STARTER
- HD COMBINATION STARTER/DISCONNECT
- S_M — MOTOR RATED SWITCH
- START-STOP EMERGENCY MUSHROOM HEAD PULL STATION
- CONTROLLER - ON/OFF PUSHBUTTONS
- VENTILATION FAN

GENERAL

COMMON EQUIPMENT TAG SUFFIX:

P	POWER
C	CONTROL
I	INSTRUMENTATION
COM	COMMUNICATION
FO	FIBER OPTIC
LSX	LIGHT SWITCH (X = SEQ. #)
RECX	RECEPTACLE (X = SEQ. #)
WP	WEATHERPROOF

- ST — SHUNT TRIP BREAKER
- GF — GROUND FAULT EQUIPMENT PROTECTION
- DETAIL STANDARD NUMBER
- DETAIL DRAWING SHEET NUMBER
- SECTION CUT NUMBER
- SECTION CUT DRAWING
- X — BILL OF MATERIAL ITEM NUMBER; X = NUMBER OF THE ITEM

CONDUIT & CABLE

- CONDUIT OR CABLE, TURNED DOWN
- CONDUIT OR CABLE, TURNED UP
- CONDUIT CAPPED
- MAIN GROUND LOOP, #2/0 AWG Cu, GREEN TYPE TW, 600V,GROUND WIRE, 30" MIN. BFG
- EQUIPMENT GROUND TAP, 600V, Cu., GREEN TW INSULATION, #2 AWG MIN. (UON)
- FLEXIBLE CONDUIT
- CABLE/WIRE CONNECTED
- EXPOSED CONDUIT OR CABLE RUN
- BELOW GRADE OR SURFACE (UON)
- CONDUIT OR CABLE HOME RUN

LIGHTING

FIXTURES SHOWN WITH SCHEDULE DESIGNATOR & SEQUENCE NUMBER.

- A3 — LIGHT FIXTURE, WALL MOUNT
- B3 — LIGHT FIXTURE, STANCHION MOUNT
- D5 — LIGHT FIXTURE, SUSPENDED
- E7 — LIGHT FIXTURE, WALL MOUNT, EMERGENCY
- C5 — LIGHT FIXTURE, SUSPENDED, EMERGENCY
- BATTERY BACK-UP EMERGENCY EGRESS LIGHT, TWO HEADED
- EXIT SIGN, EMERGENCY EGRESS LIGHT COMBINATION W/BATTERY BACK-UP (UON)
- EXIT SIGN W/BATTERY BACK-UP (UON) CEILING & WALL MOUNT
- FLOODLIGHT FIXTURE, WALL MOUNT
- POLE-MOUNTED TWIN HEADED FLOOD LIGHT
- POLE-MOUNTED SINGLE HEADED FLOOD LIGHT
- LINEAR LIGHT FIXTURE FLUSH, SURFACE OR SUSPENDED MOUNTING AS INDICATED (SIZE SCALED TO PLAN)
- EMERGENCY LINEAR LIGHT FIXTURE FLUSH, SURFACE OR SUSPENDED MOUNTING AS INDICATED (SIZE SCALED TO PLAN)
- LS1 — LIGHT SWITCH, SINGLE POLE
- LS2 — LIGHT SWITCH, 3-WAY
- LS3 — LIGHT SWITCH, 4-WAY
- PC — PHOTOCELL
- OC / VS — OCCUPANCY SENSOR / VACANCY SENSOR

SINGLE LINE AND SCHEMATIC DIAGRAM SYMBOLS

- SS / OL — SOLID STATE OVERLOAD RELAY
- SPACE HEATER
- SOLENOID
- DIODE
- INDUCTOR
- CAPACITOR
- VAR - VOLTAGE ADJUSTING RHEOSTAT; SAR - SPEED ADJUSTING RHEOSTAT
- VENDOR WIRING (SCHEMATIC ONLY)
- FIELD WIRING (SCHEMATIC ONLY)
- HP — SINGLE Ø MSCALEOTOR WITH ESTIMATED HORSEPOWER AS INDICATED
- MOTOR THERMAL OVERLOAD RELAY
- OL — MOTOR OVERLOAD THERMAL CONTACTS
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- 15A — CIRCUIT BREAKER, SIZE AS INDICATED
- SEPARABLE CONNECTOR (STAB-IN)
- BUS TIE OR WIRING TERMINATION POINT
- 15A — FUSE, SIZE AS INDICATED
- OPERATING COILS-RELAYS-TIMERS, ETC.
  - CR CONTROL RELAY
  - M MOTOR CONTACTOR
  - T TIME RELAY
  - C CONTACTOR - LIGHTING, HEATER, ETC.
- START — MOMENTARY PUSHBUTTON - NORMALLY OPEN
- STOP — MOMENTARY PUSHBUTTON - NORMALLY CLOSED
- H O A — THREE POSITION MAINTAINED CONTACT SELECTOR SWITCH - "HAND-OFF-AUTO"
- OFF ON — TWO POSITION MAINTAINED CONTACT SELECTOR SWITCH - "ON-OFF"
- R — PILOT LIGHT: R - RED, G - GREEN, W - WHITE, B - BLUE, A - AMBER
- GROUND, EARTH
- GROUND, CHASSIS
- AUTOMATIC TRANSFER SWITCH N-NORMAL, E-EMERGENCY, L-LOAD
- SCP — STATION CONTROL PANEL
- ESD — EMERGENCY SHUT DOWN

TERMINAL	LOCATION
	MOTOR CONTROL CENTER
X	MOTOR STARTER TERMINAL
	PLC OUTPUT
	PLC INPUT
CR	INTERPOSING RELAY LOCATED IN STARTER ENCLOSURE
	DEVICE TERMINAL
	I/O JUNCTION BOX
	ENGINE CONTROL PANEL
	LOCAL CONTROL PANEL
	ENGINE JUNCTION BOX
	MARSHALLING CABINET
	TERMINAL IN PLC
	DCS TERMINAL
	MASTER PANEL JUNCTION BOX
	PNEUMATIC PANEL JUNCTION BOX
	TERMINAL JUNCTION BOX

- LIMIT SWITCH, NORMALLY CLOSED
- LIMIT SWITCH, NORMALLY CLOSED, HELD OPEN.
- LIMIT SWITCH, NORMALLY OPEN
- LIMIT SWITCH, NORMALLY OPEN, HELD CLOSED.
- VIBRATION SWITCH, NORMALLY CLOSED
- PRESSURE OR VACUUM ACTUATED SWITCH, OPENING ON RISING PRESSURE
- PRESSURE OR VACUUM ACTUATED SWITCH CLOSING, ON RISING PRESSURE
- LIQUID LEVEL ACTUATED SWITCH, OPENS ON RISING LEVEL
- LIQUID LEVEL ACTUATED SWITCH, CLOSES ON RISING LEVEL
- TEMPERATURE ACTUATED SWITCH, OPENS ON RISING TEMPERATURE
- TEMPERATURE ACTUATED SWITCH, CLOSES ON RISING TEMPERATURE
- FLOW SWITCH, OPENING ON INCREASE OF FLOW
- FLOW SWITCH, CLOSING ON INCREASE OF FLOW
- VFD AMPS: X — VARIABLE FREQUENCY DRIVE AMPS: X INDICATES CURRENT RATING
- ST / 120 VAC — SHUNT TRIP (120VAC CONTROL)

INTRUMENTATION/CONTROLS TRANSMITTERS

- LS — POSITION - LIMIT SWITCH
- HL — HIGH LEVEL SWITCH
- LL — LOW LEVEL SWITCH
- SS — SPEED SWITCH
- DS — DIRECTIONAL CONTROL SOLENOID
- SV — SOLENOID VALVE
- LT — LEVEL TRANSMITTER
- PT — PRESSURE TRANSMITTER
- PC — PLUGGED CHUTE

GENERAL DEMOLITION NOTES:

1. UNLESS OTHERWISE NOTED ALL WORK ON ELECTRICAL DRAWINGS SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
2. CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. CONTRACTOR SHALL PERFORM THIS, PRIOR TO SUBMITTING BID. IF DISCREPANCIES ARE NOTED BETWEEN DOCUMENTS AND EXISTING CONDITIONS, THE BIDDING CONTRACTOR SHALL IMMEDIATELY BRING THIS TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IN WRITING. SUBMISSION OF BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN COMPLETED.
3. COORDINATE DEMOLITION WORK WITH OWNER IN AREAS OF DEMOLITION, REMOVE ALL EXISTING ABANDONED ELECTRICAL EQUIPMENT IN ITS ENTIRETY.
4. REMOVALS SHOWN ON DRAWINGS GIVE GENERAL INTENT ONLY, AND MAY NOT INDICATE ENTIRE EXTENT WHICH ARE REQUIRED. ALL WIRE NO LONGER NEEDED SHALL BE REMOVED BACK TO ITS SOURCE, UNLESS NOTED OTHERWISE. EXISTING EXPOSED CONDUIT SHALL BE REMOVED. CONDUIT IN FLOOR SHALL BE CUT BACK 2" BELOW FLOOR AND FLOOR PATCHED TO MATCH EXISTING ADJACENT SURFACE.
5. FULL ROUTING OF EXISTING CIRCUITING IS NOT SHOWN. CONTRACTOR SHALL DETERMINE ACTUAL CIRCUITING AS REQUIRED FOR DEMOLITION AND PROPER INSTALLATION OF NEW WORK. FOR RELATIONSHIP OF ELECTRICAL EQUIPMENT AND ACTUAL PHYSICAL INSTALLATION OF CONDUIT AND WIRING, CONTRACTOR SHALL VERIFY PHYSICAL INSTALLATION IN FIELD.
6. WHERE REMOVAL OF ELECTRICAL DEVICES INTERRUPTS SERVICE TO EXISTING SYSTEMS THAT ARE REMAINING, CONTRACTOR SHALL EXTEND SERVICE TO EXISTING EQUIPMENT TO REMAIN TO MAINTAIN OPERATION. ROUTING OF THIS EXTENDED SERVICE SHALL BE SUCH THAT IT DOES NOT INTERFERE WITH NEW WORK.
7. WHERE EXISTING ELECTRICAL EQUIPMENT IS TO REMAIN, THE CIRCUITS WHICH FEED THIS EQUIPMENT SHALL BE REWORKED AS REQUIRED TO MAINTAIN OPERATION OF SUCH EQUIPMENT. WHERE WALLS ARE BEING DEMOLISHED, CONTRACTOR SHALL REWORK ANY CONDUIT AND WIRE WITHIN OR ON THESE WALLS TO MAINTAIN ELECTRICAL SERVICE TO EQUIPMENT WHICH IT SERVES.
8. NO WORK IS SCHEDULED FOR AREAS MARKED NIC (NOT IN CONTRACT). HOWEVER, IF ELECTRICAL SERVICE TO THESE AREAS IS INTERRUPTED DUE TO RENOVATIONS OF ELECTRICAL SYSTEMS, THESE SYSTEMS SHALL BE REWORKED AS REQUIRED TO MAINTAIN SERVICE TO THESE AREAS.
9. UNLESS OTHERWISE NOTED, REMOVED MATERIALS SHALL BE REMOVED FROM THE SITE. REMOVED WIRING OR MATERIALS SHALL NOT BE RE-USED UNLESS OTHERWISE NOTED.
10. DEMOLITION WORK SHALL NOT INTERFERE WITH ACTIVITIES IN OTHER BUILDING AREAS. UNLESS OTHERWISE DESIGNATED, REMOVED MATERIALS SHALL BE PROMPTLY REMOVED. SHUTDOWNS AND SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH AND APPROVED BY OWNER BEFORE THEY ARE IMPLEMENTED. MINIMUM OF FIVE BUSINESS DAYS ADVANCE WRITTEN NOTICE MUST BE PROVIDED TO OWNER PER THE OWNERS REQUIREMENTS.
11. CONTRACTOR SHALL PROVIDE BLANK COVER PLATES ON ALL JUNCTION BOXES AND DEVICE BOXES WHICH ARE UNCOVERED AS A RESULT OF REMOVAL OF EQUIPMENT.
12. CONTRACTOR SHALL IDENTIFY THE SOURCE AND LOAD OF ALL FEEDERS TO BE REMOVED PRIOR TO REMOVAL. FEEDER REMOVALS AND REPLACEMENTS SHALL BE DONE SEQUENTIALLY SO AS NOT TO INTERRUPT SERVICE TO BUILDINGS INVOLVED. FEEDER REMOVALS SHALL INCLUDE COMPLETE DISCONNECTION OF TERMINATIONS AT THE RESPECTIVE ELECTRICAL EQUIPMENT.
13. DISPOSAL OF ALL DEMOLITION MATERIAL SHALL BE OFFSITE IN ACCORDANCE WITH APPLICABLE GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.
14. ALL EXISTING SURFACES DAMAGED OR EXPOSED BY DEMOLITION OR REMOVAL OF EQUIPMENT SHALL BE PATCHED AND REPAIRED WITH MATERIALS AND FINISHES TO MATCH EXISTING ADJACENT SURFACES.
15. CONTRACTOR SHALL COORDINATE DEMOLITION WORK WITH OTHER TRADES.

GENERAL NEW WORK NOTES:

1. REFERENCE TO CODES AND STANDARDS LISTED HEREIN SHALL CONSTITUTE MINIMUM ACCEPTABLE REQUIREMENTS. WHERE DRAWING AND SPECIFICATION REQUIREMENTS EXCEED THOSE OF CODES LISTED, DRAWINGS AND SPECIFICATIONS SHALL TAKE PRECEDENCE FOR WORK OF THIS PROJECT:
   - TITLE 49 OF THE CODE OF FEDERAL REGULATIONS PART 192
   - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 70 - NEC, 70E, 37, 497)
   - NATIONAL ELECTRICAL SAFETY CODE (IEEE/ANSI C2)
   - UNDERWRITERS LABORATORIES (UL)
   - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION (NEMA)
   - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
   - INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
   - AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)
   - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
   - ANY STATE, COUNTY, OF LOCAL ACTS OR CODES HAVING JURISDICTION.
2. DRAWINGS ARE DIAGRAMMATIC IN NATURE. DRAWINGS INDICATE THE GENERAL DETAILS OF WORK INTENDED AND ARE NOT INCLUSIVE OF ALL ANCILLARY ITEMS REQUIRED FOR PROPER INSTALLATION. EC WILL ENSURE ALL REFERENCED CODES AND STANDARDS UNDER ITEM #1 ARE ADHERED TO.
3. CONTRACTOR SHALL PROVIDE ELECTRICAL INSPECTION AND SHALL BE MADE BY AN AGENCY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. ALL CERTIFICATES SHALL BE IN TRIPLICATE, SHALL BE DELIVERED TO AND BECOME PROPERTY OF OWNER.
4. COMPLETE CIRCUIT ROUTING IS NOT SHOWN. FIELD DETERMINE ACTUAL ROUTING AS REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
5. COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT WORK WILL BE PROVIDED IN THE MOST DIRECT MANNER AND SO THAT INTERFERENCE BETWEEN CONDUITS, PIPING, DUCTS, EQUIPMENT, STRUCTURAL FEATURES AND ALL OTHER ASPECTS OF THE WORK WILL BE AVOIDED.
6. MATERIALS SHALL BE PROVIDED IN ACCORDANCE WITH MATERIAL MANUFACTURER'S INSTALLATION INSTRUCTIONS. OBTAIN MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO ROUGHING-IN. WHERE EQUIPMENT IS FURNISHED BY OTHER TRADES FOR INSTALLATION AS WORK UNDER THIS DIVISION, OR WHERE ELECTRICAL SERVICE OR UTILITY CONNECTION TO EQUIPMENT INSTALLED BY OTHERS IS INDICATED AS WORK OF THIS DIVISION, OBTAIN SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS FROM THE RESPECTIVE CONTRACTOR PRIOR TO ROUGHING-IN. DISCREPANCIES BETWEEN INSTALLATION INSTRUCTIONS AND CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL CONTRACTOR.
7. MATERIALS SHALL BE NEW, OF THE BEST OF THEIR RESPECTIVE KINDS, WITHOUT IMPERFECTIONS OR BLEMISHES, AND SHALL BE PROTECTED FROM THE ELEMENTS PRIOR TO INSTALLATION.
8. WORK SHALL BE INSTALLED BY PERSONNEL SKILLED IN THE TRADE INVOLVED.
9. DRAWINGS ARE GENERALLY INDICATIVE OF WORK TO BE INSTALLED, BUT MAY NOT INDICATE ALL BENDS, FITTINGS, BOXES, ETC., REQUIRED TO MEET CONDITIONS. WHERE ITEMS SHOWN ON THE DRAWINGS, OR HEREIN DESCRIBED, ARE NOT CLEARLY UNDERSTOOD, BIDDERS SHALL CONFER WITH THE RPR AND ENGINEER. NO ALLOWANCE WILL BE MADE FOR LACK OF INFORMATION AFTER BID IS SUBMITTED AND PROJECT IS AWARDED TO EC.
10. CONFIRM THE POSITION, LOCATION, AND MANUFACTURER'S REQUIREMENTS FOR EQUIPMENT PRIOR TO ROUGH-IN.
11. CONDUIT, WIRE, CABLE, WIRING DEVICES, AND EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER AS TO PRESERVE ACCESS TO EQUIPMENT INSTALLED UNDER THIS PROJECT.
12. DAMAGES TO FACTORY FINISHES ON ELECTRICAL EQUIPMENT SHALL BE TOUCHED UP TO MATCH ORIGINAL FINISH AND RATINGS.
13. UPON COMPLETION OF WORK, REMOVE ALL DIRT, FOREIGN MATERIALS, STAINS, FINGERPRINTS, ETC., FROM ALL PARTS AND EQUIPMENT. INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE RPR.
14. AFTER INSTALLATION OF WIRING AND ASSOCIATED DEVICES HAS BEEN COMPLETED, ELECTRICAL CONDUCTORS SHALL BE TESTED TO INSURE CONTINUITY, PROPER SPLICING, FREEDOM FROM GROUND (EXCEPT "MADE GROUND" AND THOSE REQUIRED FOR PROTECTION), AND INSULATION RESISTANCE IN ACCORDANCE WITH UNDERWRITERS LABORATORIES REQUIREMENTS. FURNISH AND EMPLOY NECESSARY INSTRUMENTS SUCH AS AMMETERS, VOLTMETERS, MEGGERS, ETC.
15. CONSULT WITH THE PLANT ENGINEER AND CONSULTANT ENGINEER PRIOR TO TESTING AND ADJUSTING TO DETERMINE INTENDED FUNCTION OF EQUIPMENT, WIRING, AND SYSTEMS. PERFORM SUCH TESTS AND MAKE NECESSARY ADJUSTMENTS TO ENSURE THAT DESIGN FUNCTION IS OBTAINED.
16. INTERRUPTIONS OF AN ESTABLISHED POWER SUPPLY SHALL BE CONDUCTED ONLY WHEN AUTHORIZED IN WRITING BY THE ELECTRICAL CONTRACTOR. EC SHALL SUBMIT A WRITTEN REQUEST FIVE (5) DAYS IN ADVANCE, FOR A SERVICE INTERRUPTION AND SHALL STATE THE ESTIMATED TIME INVOLVED DURING WHICH THE POWER SUPPLY WILL BE INTERRUPTED. POWER SUPPLY INTERRUPTIONS SHALL BE COORDINATED WITH OTHER TRADES SO THERE WILL BE A MINIMUM OF INCONVENIENCE TO THESE TRADES. IF TEMPORARY POWER SERVICE IS REQUIRED DURING THE POWER SUPPLY INTERRUPTION, IT SHALL BE THE RESPONSIBILITY OF THE EC TO FURNISH, INSTALL, CONNECT AND OTHERWISE PROVIDE THE TEMPORARY SERVICE AT NO ADDITIONAL COST.
17. UNLESS OTHERWISE NOTED, ALL ELECTRICAL EQUIPMENT AND ITEMS SHALL BE AS LISTED OR AS APPROVED. SUBSTITUTION OF ELECTRICAL EQUIPMENT AND ITEMS MUST BE APPROVED BY PLANT ENGINEER AND CONSULTANT ENGINEER.
18. PROVIDE 2-HOUR FIRE STOP FOR ANY PENETRATIONS THAT PENETRATE FIRE RATED WALLS.
19. PROVIDE AS-BUILT INFORMATION FOR ALL MAJOR ELECTRICAL DEVICES (IE, PULL BOXES, GENERAL CONDUIT ROUTES, DEVICE LOCATIONS) SO TO ENSURE A COMPLETE AND THOROUGH SET OF "AS-BUILT" PLANS.
20. UNLESS OTHERWISE NOTED, ITEMS SHOWN IN DARK LINE WEIGHT IS WORK THAT SHALL BE PERFORMED BY EC, AND ITEMS SHOWN IN LIGHT LINE WEIGHT IS EITHER EXISTING TO REMAIN OR WORK PERFORMED BY OTHERS.
21. ALL EMPTY CONDUITS SHALL HAVE A NYLON CORD PROVIDED CONTINUOUSLY THROUGH THE LENGTH OF EACH EMPTY CONDUIT AND ACCESSIBLE AT BOTH ENDS OF EACH CONDUIT.
22. LOCATION OF NEW EQUIPMENT IS APPROXIMATE AND SHALL BE COORDINATED IN FIELD WITH EXISTING INTERFERENCES. MAINTAIN PROPER CLEARANCES IN AVAILABLE SPACE AS REQUIRED BY NATIONAL ELECTRICAL CODE AND BE RATED FOR ENVIRONMENT.
23. WHERE ITEMS OF MATERIAL OR EQUIPMENT ARE SPECIFIED BY BRAND NAME, CATALOG NUMBERS, OR BY NAMES OF MANUFACTURERS, REFERENCE IS INTENDED TO BE DESCRIPTIVE, NOT RESTRICTIVE, AND IS SOLELY FOR PURPOSES OF INDICATING TYPE, QUALITY, AND APPEARANCE OF ITEM THAT WILL BE ACCEPTABLE.

TROY L DELZER — REGISTERED — 24338 — STATE OF WEST VIRGINIA — PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
BID	8/03/2026	N/A	DJP	DJP	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

ELECTRICAL LEGENDS AND NOTES

PROJECT NO. 38009
DISCIPLINE: ELECTRICAL
SHEET NAME: 10E-01
SHEET 28 OF 44

Z:\PROJECT FILES\WIA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\22.5 ELECTRICAL LEDGENS AND NOTES.DWG - 26 ELECTRICAL LEGENDS AND NOTES - 6/29/2026 8:54:40 AM - ROBERT MARANO

480VAC FEED
FROM ATS-4

MCC-4N, 480VAC, 600A BUS, 400A MCB, 3PHASE, 4 WIRE, 65 KAIC

400 AF
400 AT

1A	1G	1H	1I	2C	2F	2I	3C	3F	3I	3L
	30 AF 30 AT	30 AF 30 AT	80 AF 80 AT	30 AF 30 AT	30 AF 30 AT	80 AF 80 AT	30 AF 30 AT	30 AF 30 AT	30 AF 15 AT	30 AF 15 AT
			FVR 3	FVNR 1	FVNR 1	FVR 3	FVNR 1	FVNR 1	FVNR 1	FVNR 1
			OL	OL RUN	OL RUN	OL	OL RUN	OL RUN	OL RUN	OL RUN
				HOA	HOA		HOA	HOA	ALARM	ALARM

CONTINUED LOWER LEFT

INCOMING LINE
400A
MAIN BREAKER

	FVNR SIZE 1	FVNR SIZE 1	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH
	OL	OL	30 HP	1.5 HP	0.75 HP	30 HP	2 HP	2 HP	1.5 HP	1.5 HP
	10 HP	10 HP	40 FLA #401 DIGESTER MIX PUMP P-9	3.0 FLA #446 LIME FEED MIXER	1.6 FLA #445 LIME FEED PUMP P-22	40 FLA #402 DIGESTER MIX PUMP P-10	3.4 FLA #407 HOT WATER PUMP HP-15	3.4 FLA #425 HOT WATER PUMP HP-16	3.0 FLA #419 SLUDGE THICKENER SCRAPER	3.0 FLA #420 SLUDGE THICKENER SCRAPER
	14 FLA #414 SLUDGE GRINDER 1	14 FLA #415 SLUDGE GRINDER 2								

(LOCATED IN ELECTRICAL ROOM, FIRST FLOOR)

CONTINUED UPPER RIGHT

MCC-4N, 480VAC, 600A BUS, 400A MCB, 3PHASE, 4 WIRE, 65 KAIC

CONTINUED SHEET 2

4C	4D	4E	4F	4G	4H	4I	4L
60 AF 50 AT	30 AF 30 AT	30 AF 30 AT	30 AF 30 AT	60 AF 50 AT	30 AF 15 AT	30 AF 30 AT	30 AF 30 AT
						FVNR 1	FVNR 1
						OL RUN	OL RUN
						HOA	HOA

CONDUIT TO REMAIN, MARK ON BOTH ENDS DESTINATION AND PROVIDE PULL STING FOR FUTURE.

HE-43
PANELBOARD
480/277VAC
3PH, 4W
MLO

	REACTOR	REACTOR	FVNR SIZE 1	CONTROL PANEL	FVNR SIZE 0	DISCONNECT SWITCH	DISCONNECT SWITCH
	VFD 15HP	VFD 15HP	OL		OL	5 HP	5 HP
	SMART BOX	SMART BOX	SLUDGE CONVEYOR EAST	DISCONNECT SWITCH	5.6 KW	7.6 FLA #406 SLUDGE DIGESTER MIXER PUMP P-14	7.6 FLA #405 SLUDGE DIGESTER MIXER PUMP P-13
	FILTER	FILTER		DISCONNECT SWITCH	6.7 A #447 CONVECTION HEATER A		
	HMI HOA SPD	HMI HOA SPD					
	DISCONNECT SWITCH	DISCONNECT SWITCH		7.5 HP			
	7.5 HP	7.5 HP		11 FLA #412 THICKENED SLUDGE PUMP P-15			
	11 FLA #404 DIGESTER SLUDGE PUMP P-12	11 FLA #403 DIGESTER SLUDGE PUMP P-11		11 FLA #413 THICKENED SLUDGE PUMP P-16			

1HP VFD | 1HP VFD | 1HP VFD

1 HP | 1 HP | 1 HP

2.1 FLA POLYMER FEED PUMP P-17 | 2.1 FLA POLYMER FEED PUMP P-18 | 2.1 FLA POLYMER FEED PUMP P-19

ELECTRICAL CONTRACTOR SHALL REMOVE (2) SLUDGE PUMPS, (3) VFDs, AND (2) DISCONNECT SWITCHES IN SOLIDS BUILDING BASEMENT

ELECTRICAL CONTRACTOR SHALL REMOVE CONVEYOR AND STARTER IN SOLIDS BUILDING

NOTES:
1. ELECTRICAL CONTRACTOR SHALL DEENERGIZE ALL MCC CIRCUIT BREAKERS ASSOCIATED WITH EQUIPMENT SLATED TO BE DEMOLISHED. CONTRACTOR SHALL LOCK-OUT AND TAG-OUT CIRCUIT BREAKERS, AND VERIFY THE ABSENCE OF POWER PRIOR TO MECHANICAL DEMOLITION.
2. CIRCUIT BREAKERS IN MCC SHALL BE REUSED AND/OR SPARED.
3. POWER CABLES FOR DEMO EQUIPMENT SHALL BE REMOVED FROM FIELD TERMINALS ON MCC BREAKERS AND DISPOSED.
4. POLYMER PUMP P-17 AND DISCONNECT SWITCH SHALL BE REUSED IN NEW SCREW PRESS SYSTEM. P-17 POWER CABLES SHALL BE REMOVED UP TO LINE SIDE OF LOCAL DISCONNECT SWITCH.

TROY L. DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

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CHECKED BY:	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

DEMO MCC-4N SINGLE LINE DIAGRAM

PROJECT NO.
38009

DISCIPLINE
ELECTRICAL

SHEET NAME
10E-02

SHEET 29 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SINGLE LINES.DWG - 26 DEMO MCC-4N SINGLE LINE DIAGRAM - 7/26/2026 2:30:29 PM - ROBERT MARANO

(LOCATED IN ELECTRICAL ROOM, FIRST FLOOR)

MCC-4N, 480VAC, 600A BUS, 400A MCB, 3PHASE, 4 WIRE, 65 KAIC

CONTINUED SHEET 1

CONTINUED BOTTOM LEFT

5C 125 AF 125 AT

BREAKER PLUG TO BE REMOVED AND REPLACED AS NOTED ON NEW WORK SINGLE LINES

ABANDON IN PLACE AND MARK BOTH ENDS, DISCONNECT FROM BREAKER.

5D 125 AF 125 AT

DISCONNECT FROM LOAD, CONDUCTORS TO REMAIN FOR NEW. SEE NEW WORK SINGLE LINE.

5E 30 AF 15 AT

FVNR SIZE 0

OL

5.6 KW

6.7 A #424 CONVECTION HEATER A

5F 30 AF 30 AT

CONDUIT TO REMAIN, MARK ON BOTH ENDS DESTINATION AND PROVIDE PULL STING FOR FUTURE.

FVNR SIZE 1

OL

SLUDGE CONVEYOR WEST

5G 30 AF 15 AT

CONTROL PANEL

DISCONNECT SWITCH

2 HP

3.4 FLA #416 SOLIDS PUMP S-6

DISCONNECT SWITCH

2 HP

3.4 FLA #417 SOLIDS PUMP S-7

5H 30 AF 15 AT

FVNR SIZE 1

OL

1.5 HP

3.0 FLA #422 NORTH GRIT CLASSIFIER

5I 30 AF 15 AT

FVNR SIZE 1

OL

1.5 HP

3.0 FLA #423 SOUTH GRIT CLASSIFIER

5J 30 AF 15 AT

CONTROL PANEL

DISCONNECT SWITCH

0.75 HP

1.6 FLA #427 SLUDGE THICKENER MECHANICAL SCREEN

DISCONNECT SWITCH

0.75 HP

1.6 FLA #428 SLUDGE THICKENER MECHANICAL SCREEN

ELECTRICAL CONTRACTOR SHALL REMOVE CONVEYOR AND STARTER IN SOLIDS BUILDING

CENTRIFUGE #1 CONTROL PANEL

125 AF 110 AT

50 AF 50 AT

35 AF 35 AT

15 AF 15 AT

30HP VFD

10HP VFD

30 HP

40 FLA SLUDGE CENTRIFUGE 1

10 HP

14 FLA SLUDGE CENTRIFUGE 1

CENTRIFUGE #2 CONTROL PANEL

125 AF 110 AT

50 AF 50 AT

35 AF 35 AT

15 AF 15 AT

30HP VFD

10HP VFD

30 HP

40 FLA SLUDGE CENTRIFUGE 2

10 HP

14 FLA SLUDGE CENTRIFUGE 2

ELECTRICAL CONTRACTOR SHALL REMOVE ALL EQUIPMENT ASSOCIATED WITH (2) CENTRIFUGES, INCLUDING THE (2) CONTROL PANELS IN SOLIDS BUILDING

CONTINUED TOP RIGHT

5K 30 AF 30 AT

FVNR SIZE 1

OL

1.5 HP

3.0 FLA POLYMER MIXER

5L 30 AF 30 AT

DISCONNECT SWITCH

- HP

__ FLA CENTRIFUGE HOIST

5M 100 AF 100 AT

HE-41 PANELBOARD 480/277VAC 3PH, 4W 100A MCB 42CKT 10KAIC

T-41 25KVA 480V-120/208VAC

LE-41 PANELBOARD 120/208VAC 3PH, 4W 125A MCB 42 CKT 10KAIC

NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEENERGIZE ALL MCC CIRCUIT BREAKERS ASSOCIATED WITH EQUIPMENT SLATED TO BE DEMOLISHED. CONTRACTOR SHALL LOCK-OUT AND TAG-OUT CIRCUIT BREAKERS, AND VERIFY THE ABSENCE OF POWER PRIOR TO MECHANICAL DEMOLITION.
2. CIRCUIT BREAKERS IN MCC SHALL BE REUSED AND/OR SPARED.
3. POWER CABLES FOR DEMO EQUIPMENT SHALL BE REMOVED FROM FIELD TERMINALS ON MCC BREAKERS AND DISPOSED.

TROY L. DELZER REGISTERED 24338 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
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DESIGNED BY:	BRA
DRAWN BY:	DJP
CHECKED BY:	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

DEMO MCC-4N SINGLE LINE DIAGRAM

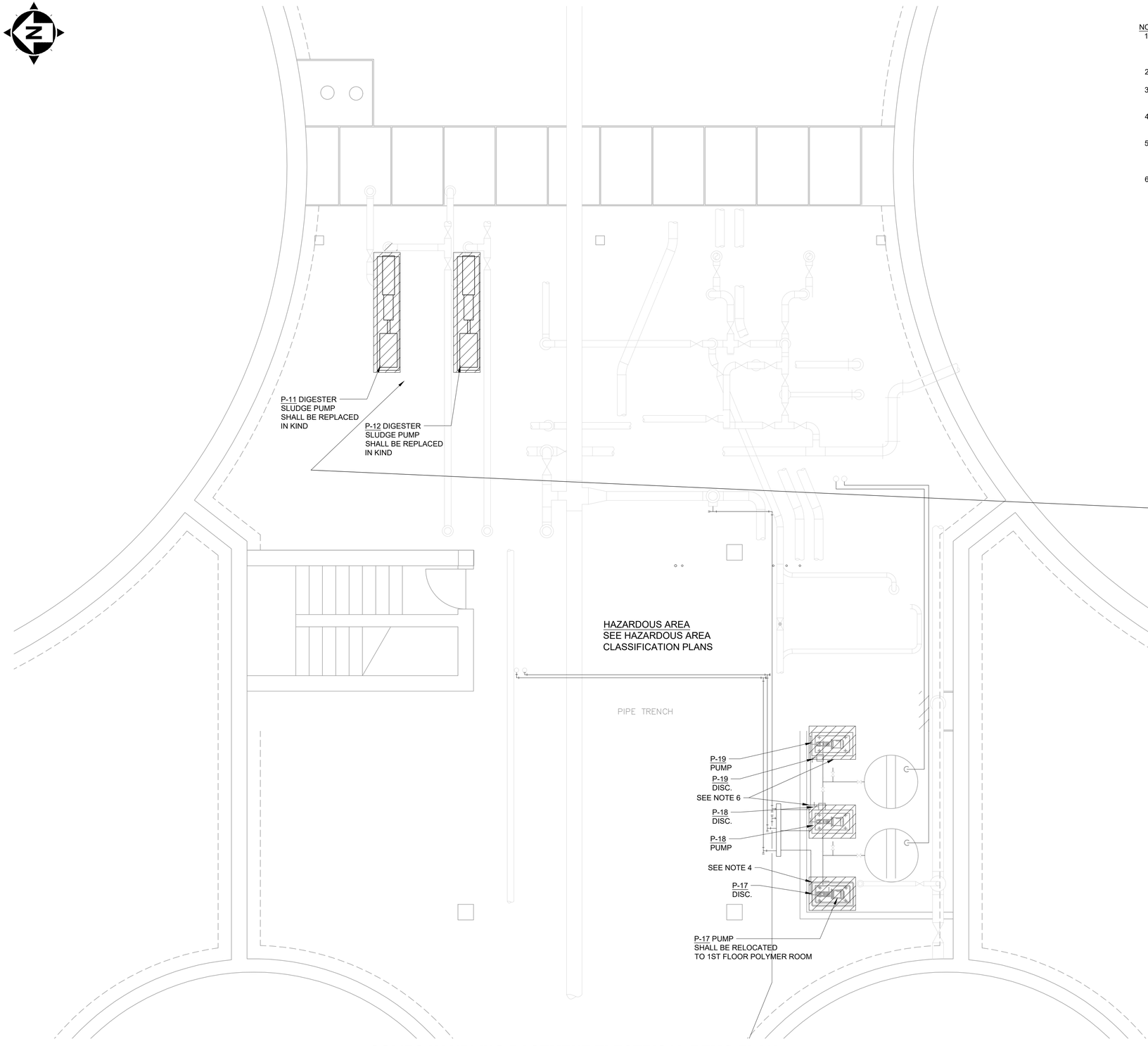
PROJECT NO. 38009

DISCIPLINE ELECTRICAL

SHEET NAME 10E-03

SHEET 30 OF 44

Z:\PROJECT FILES\WA-NZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SINGLE LINES.DWG - 27 DEMO MCC-4N SINGLE LINE DIAGRAM - 7/26/2026 2:30:29 PM - ROBERT MARANO

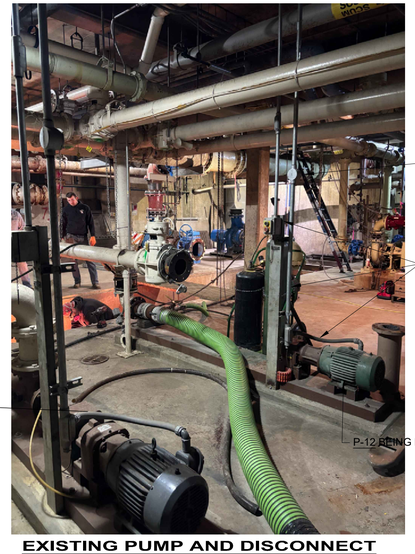


SOLIDS HANDLING BASEMENT ELECTRICAL DEMO PLAN

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

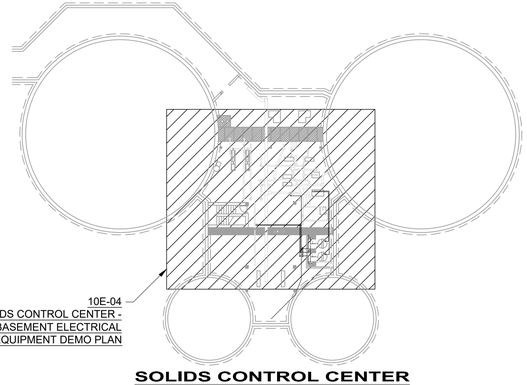
NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEENERGIZE ALL MCC CIRCUIT BREAKERS ASSOCIATED WITH EQUIPMENT SLATED TO BE DEMOLISHED. CONTRACTOR SHALL LOCK-OUT AND TAG-OUT CIRCUIT BREAKERS, AND VERIFY THE ABSENCE OF POWER PRIOR TO MECHANICAL DEMOLITION.
2. CIRCUIT BREAKERS IN MCC SHALL BE REUSED AND/OR SPARED.
3. POWER CABLES FOR DEMO EQUIPMENT SHALL BE REMOVED FROM FIELD TERMINALS ON MCC BREAKERS AND DISPOSED. TYPICAL UNLESS NOTED OTHERWISE.
4. POLYMER PUMP P-17 AND DISCONNECT SWITCH SHALL BE REUSED IN NEW POLYMER SYSTEM AT FIRST FLOOR. P-17 POWER CABLES SHALL BE REMOVED BETWEEN MOTOR AND JUNCTION BOX.
5. SLUDGE PUMP P-11 & P-12 AND LOCAL CONDUIT AND WIRING TO JUNCTION BOX LOCATED ABOVE MOTOR. LEAVE VFD CABLING AND VFD ARE BEING SAVED AND REUSED FOR NEW PUMPS. SEE SHEET 10E-09 FOR NEW BASEMENT PLAN.
6. POLYMER PUMP P-18 & P-19 WIRING AND DISCONNECT SWITCH SHALL BE REMOVED COMPLETELY AS DEPICTED ON SINGLE LINE BACK TO PANEL, SEE SHEET 10E-02.



EXISTING PUMP AND DISCONNECT

PROVIDED FOR REFERENCE



SOLIDS CONTROL CENTER BASEMENT FLOOR

SCALE: NO SCALE

TROY L DELZER REGISTERED 24338 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
8-03-2026

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DRAWN BY:	DJP
CHECKED BY:	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

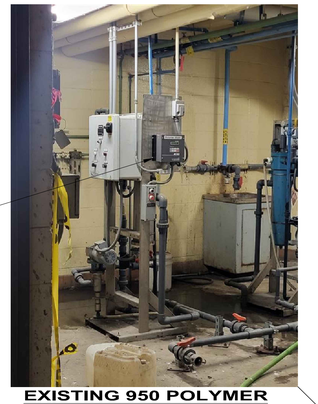
SOLIDS CONTROL CENTER - BASEMENT ELECTRICAL EQUIPMENT DEMO PLAN

PROJECT NO. 38009

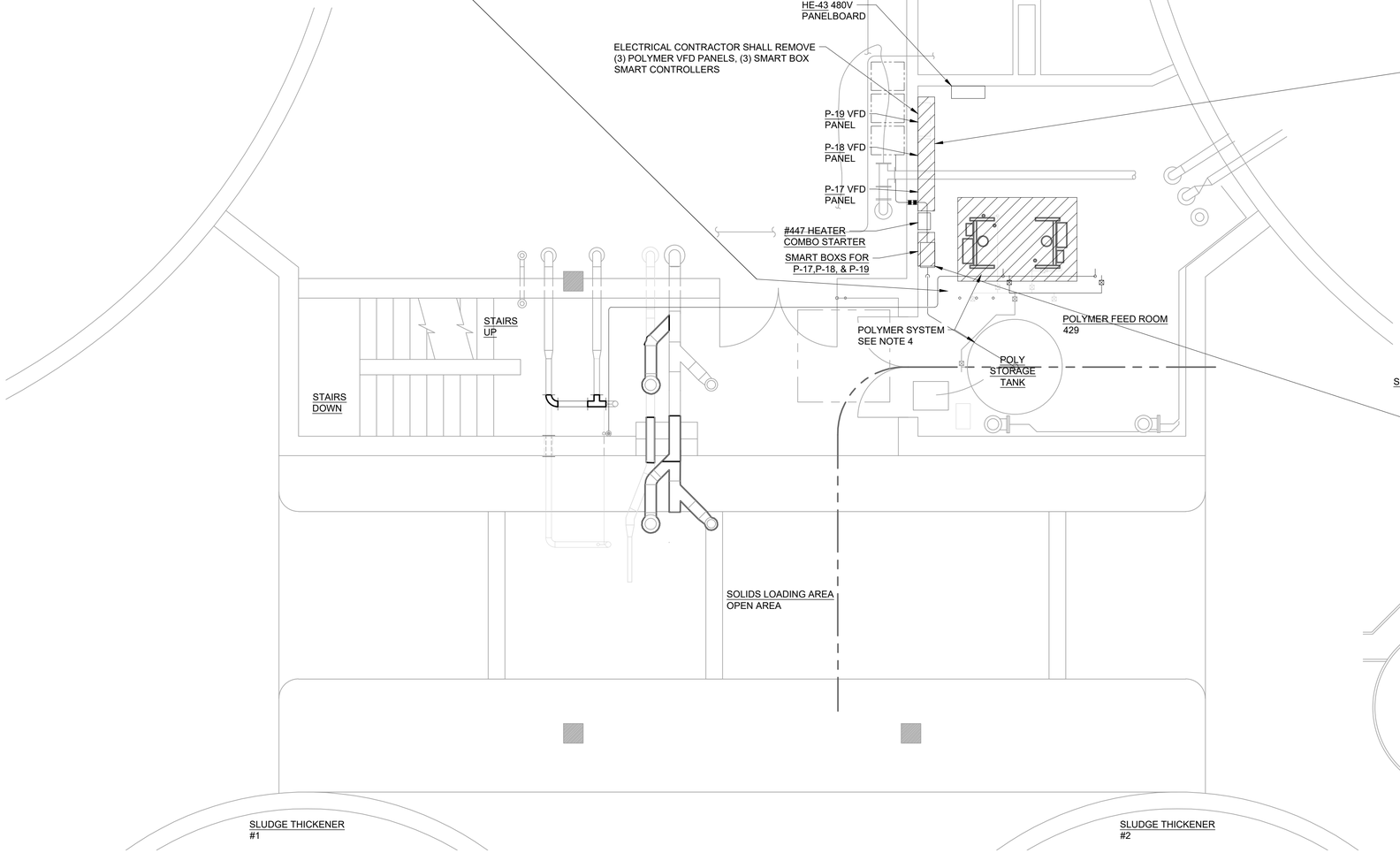
DISCIPLINE: ELECTRICAL

SHEET NAME: 10E-04

SHEET 31 OF 44



EXISTING 950 POLYMER FEED ROOM CONTROLS
PROVIDED FOR REFERENCE

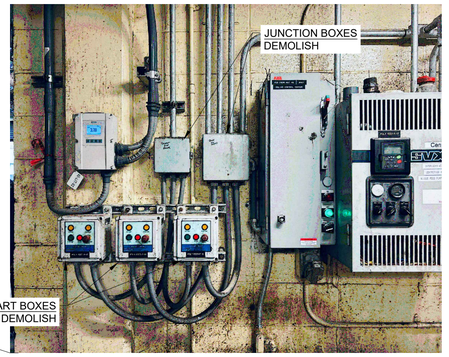


SOLIDS HANDLING FIRST FLOOR ELECTRICAL EQUIPMENT PLAN
SCALE: 1/4" = 1'-0"

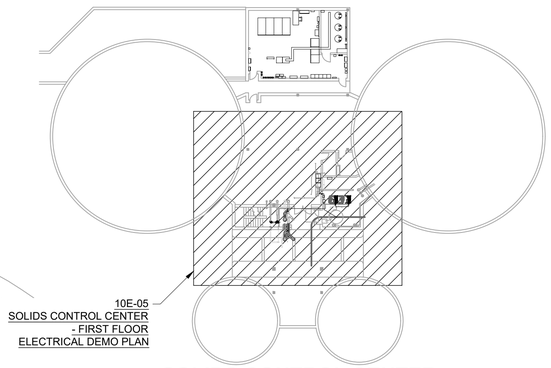
POWER NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEENERGIZE ALL MCC CIRCUIT BREAKERS ASSOCIATED WITH EQUIPMENT SLATED TO BE DEMOLISHED. CONTRACTOR SHALL LOCK-OUT AND TAG-OUT CIRCUIT BREAKERS, AND VERIFY THE ABSENCE OF POWER PRIOR TO MECHANICAL DEMOLITION.
2. CIRCUIT BREAKERS IN MCC SHALL BE REUSED AND/OR SPARED.
3. POWER CABLES FOR DEMO EQUIPMENT SHALL BE REMOVED FROM FIELD TERMINALS ON MCC BREAKERS AND DISPOSED.
4. EXISTING POLYMER SKIDS, REMOVE ELECTRICAL CONNECTION FROM SKID FOR POLY STORAGE FOR MOUNTING ONTO WALL.

EXISTING VFDS
PROVIDED FOR REFERENCE



EXISTING SMART BOXES
PROVIDED FOR REFERENCE



SOLIDS CONTROL CENTER FIRST FLOOR
SCALE: NO SCALE

TROY L DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

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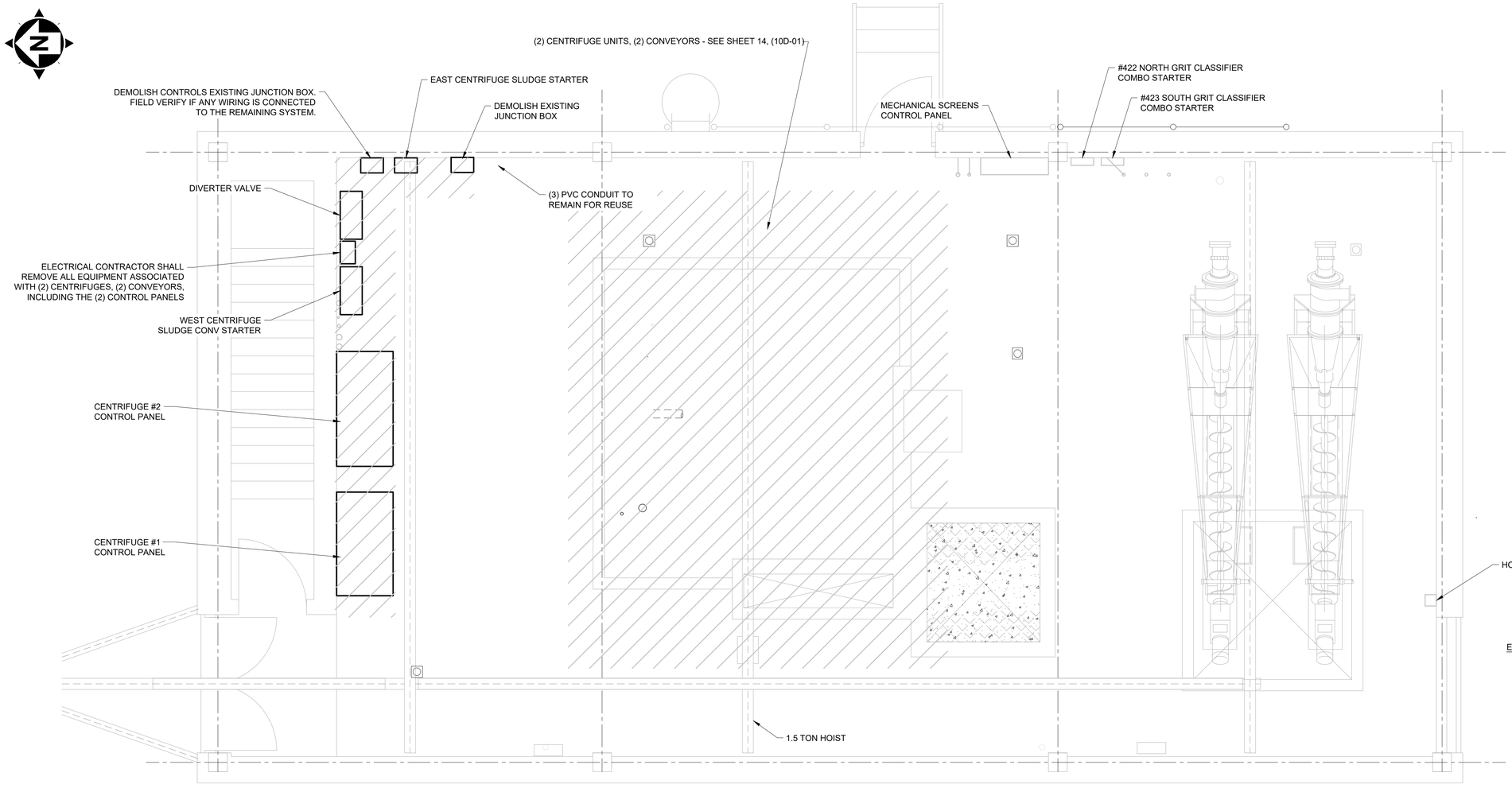
CHECKED BY: TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

SOLIDS CONTROL CENTER - FIRST FLOOR
ELECTRICAL DEMO PLAN

PROJECT NO. 38009
DISCIPLINE: ELECTRICAL
SHEET NAME: 10E-05
SHEET 32 OF 44



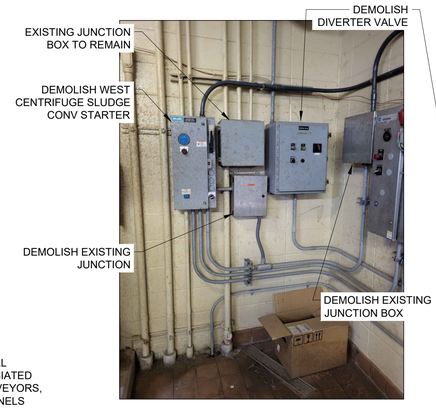
SECOND FLOOR PLAN AT EL. 658.25

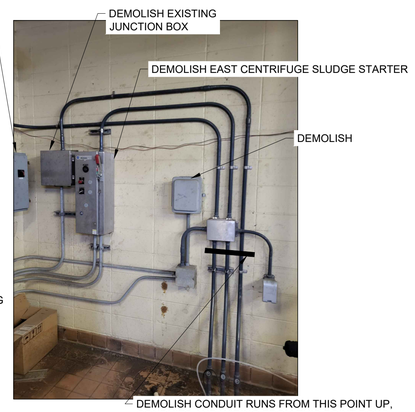
SCALE: 3/8" = 1'-0"

ELECTRICAL GENERAL DEMOLITION NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEENERGIZE ALL MCC CIRCUIT BREAKERS ASSOCIATED WITH EQUIPMENT SLATED TO BE DEMOLISHED. CONTRACTOR SHALL LOCK-OUT AND TAG-OUT CIRCUIT BREAKERS, AND VERIFY THE ABSENCE OF POWER PRIOR TO MECHANICAL DEMOLITION.
2. CIRCUIT BREAKERS IN MCC SHALL BE REUSED AND/OR SPARED.EC SHALL MARK ACCORDINGLY FOR PLANT STAFF.
3. POWER CABLES FOR DEMO EQUIPMENT SHALL BE REMOVED FROM FIELD TERMINALS ON MCC BREAKERS AND DISPOSED.

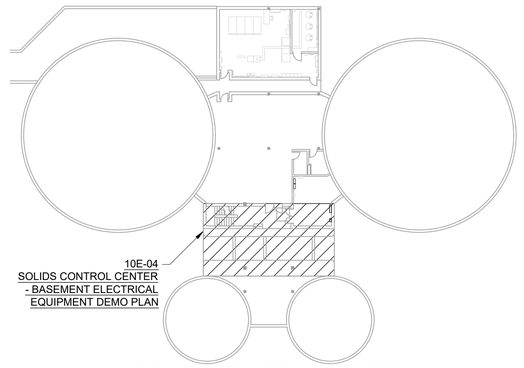
EXISTING ELECTRICAL
PROVIDED FOR REFERENCE





DEMOLISH CONDUIT RUNS FROM THIS POINT UP, CONDUITS AND WIRING FROM THIS POINT DOWN THROUGH FLOOR TO REMAIN FOR NEW AND FUTURE WORK. ANY CIRCUITING AT THIS POINT NOT BEING REUSED FOR THIS PROJECT SHALL BE MARKED CLEARLY IN ELECTRICAL ROOM AND AT THIS POINT.

EXISTING ELECTRICAL
PROVIDED FOR REFERENCE



SOLIDS CONTROL CENTER SECOND FLOOR
SCALE: NO SCALE

TROY L. DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

BID

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: DJP
DRAWN BY: BRA
CHECKED BY: TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES
SOLIDS CONTROL CENTER - SECOND FLOOR
ELECTRICAL DEMO PLAN

PROJECT NO. 38009
DISCIPLINE ELECTRICAL
SHEET NAME 10E-06
SHEET 33 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SECOND FLOOR SOLIDS HANDLING BLDG.DWG - 31 SOLIDS CONTROL CENTER - SECOND FLOOR ELECTRICAL DEMO PLAN - 7/27/2026 4:41:13 PM - ROBERT MARANO

480VAC FEED
FROM ATS-4

MCC-4N, 480VAC, 600A BUS, 400A MCB, 3PHASE, 4 WIRE, 65 KAIC

400 AF
400 AT

1A	1G	1H	1I	2C	2F	2I	3C	3F	3I	3L
	30 AF 30 AT	30 AF 30 AT	80 AF 80 AT	30 AF 30 AT	30 AF 30 AT	80 AF 80 AT	30 AF 30 AT	30 AF 30 AT	30 AF 15 AT	30 AF 15 AT
			FVR 3	FVNR 1	FVNR 1	FVR 3	FVNR 1	FVNR 1	FVNR 1	FVNR 1
			OL	OL	OL	OL	OL	OL	OL	OL
				OL RUN	OL RUN		OL RUN	OL RUN	OL RUN	OL RUN
				HOA			HOA	HOA	ALARM	ALARM
	FVNR SIZE 1	FVNR SIZE 1	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH	DISCONNECT SWITCH
	10 HP	10 HP	30 HP	1.5 HP	0.75 HP	30 HP	2 HP	2 HP	1.5 HP	1.5 HP
	14 FLA #414 SLUDGE GRINDER 1	14 FLA #415 SLUDGE GRINDER 2	40 FLA #401 DIGESTER MIX PUMP P-9	3.0 FLA #446 LIME FEED MIXER	1.6 FLA #445 LIME FEED PUMP P-22	40 FLA #402 DIGESTER MIX PUMP P-10	3.4 FLA #407 HOT WATER PUMP HP-15	3.4 FLA #425 HOT WATER PUMP HP-16	3.0 FLA #419 SLUDGE THICKENER SCRAPER	3.0 FLA #420 SLUDGE THICKENER SCRAPER

INCOMING LINE
400A
MAIN BREAKER

CONTINUED LOWER LEFT

(FIF
POLY

(LOCATED IN ELECTRICAL ROOM, FIRST FLOOR)

MCC-4N, 480VAC, 600A BUS, 400A MCB, 3PHASE, 4 WIRE, 65 KAIC

CONTINUED UPPER RIGHT

4C	4D	4E	4F	4G	4H	4I	4L
60 AF 50 AT	30 AF 30 AT	30 AF 30 AT	30 AF 20 AT	60 AF 50 AT	30 AF 15 AT	30 AF 30 AT	30 AF 30 AT
						FVNR 1	FVNR 1
						OL	OL
						OL RUN	OL RUN
						HOA	HOA
(FIRST FLOOR POLYMER ROOM)	(ELECTRICAL ROOM)	(ELECTRICAL ROOM)	(ELECTRICAL ROOM)		FVNR SIZE 0	DISCONNECT SWITCH	DISCONNECT SWITCH
HE-43 PANELBOARD 480/277VAC 3PH, 4W MLO	REACTOR, VFD 15HP, SMART BOX, FILTER, HMI, HOA, SPD	REACTOR, VFD 15HP, SMART BOX, FILTER, HMI, HOA, SPD	#12 AWG CONDUCTORS, #12 GROUND IN 3/4" CONDUIT	SPARE		5 HP	5 HP
	EXISTING WIRE AND CONDUIT	CONDUIT JUNCTION BOX, SHOWN FOR COORDINATION. LOCATED AT PUMP.	FVNR 1, OL, RUN, HOA	CONTROL PANEL	5.6 KW	7.6 FLA #406 SLUDGE DIGESTER MIXER PUMP P-14	7.6 FLA #405 SLUDGE DIGESTER MIXER PUMP P-13
	CONDUIT JUNCTION BOX, SHOWN FOR COORDINATION. LOCATED AT PUMP.	EXISTING CONDUCTORS IN NEW 3/4" CONDUIT		DISCONNECT SWITCH	6.7 A #447 CONVECTION HEATER A		
	EXISTING CONDUCTORS IN NEW 3/4" CONDUIT	EXISTING CONDUIT WIRE AND CONDUIT	#12 AWG CONDUCTORS, #12 GROUND IN 3/4" CONDUIT	DISCONNECT SWITCH			
	DISCONNECT SWITCH	DISCONNECT SWITCH		7.5 HP			
	#12 AWG CONDUCTORS, #12 GROUND IN 3/4" CONDUIT	#12 AWG CONDUCTORS, #12 GROUND IN 3/4" CONDUIT	1 HP	11 FLA #412 THICKENED SLUDGE PUMP P-15			
	7.5 HP	7.5 HP	2.1 FLA POLYMER FEED PUMP P-17 (FIRST FLOOR POLYMER ROOM)	DISCONNECT SWITCH			
	11 FLA #404 DIGESTER SLUDGE PUMP P-12 (BASEMENT)	11 FLA #403 DIGESTER SLUDGE PUMP P-11 (BASEMENT)		7.5 HP			
				11 FLA #413 THICKENED SLUDGE PUMP P-16			

CONTINUED SHEET 10E-08

POWER NOTES:

1. ALL ELECTRICAL WORK IS TO BE LABELED WITH SOURCE AND LOAD DESCRIPTION.

TROY L DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

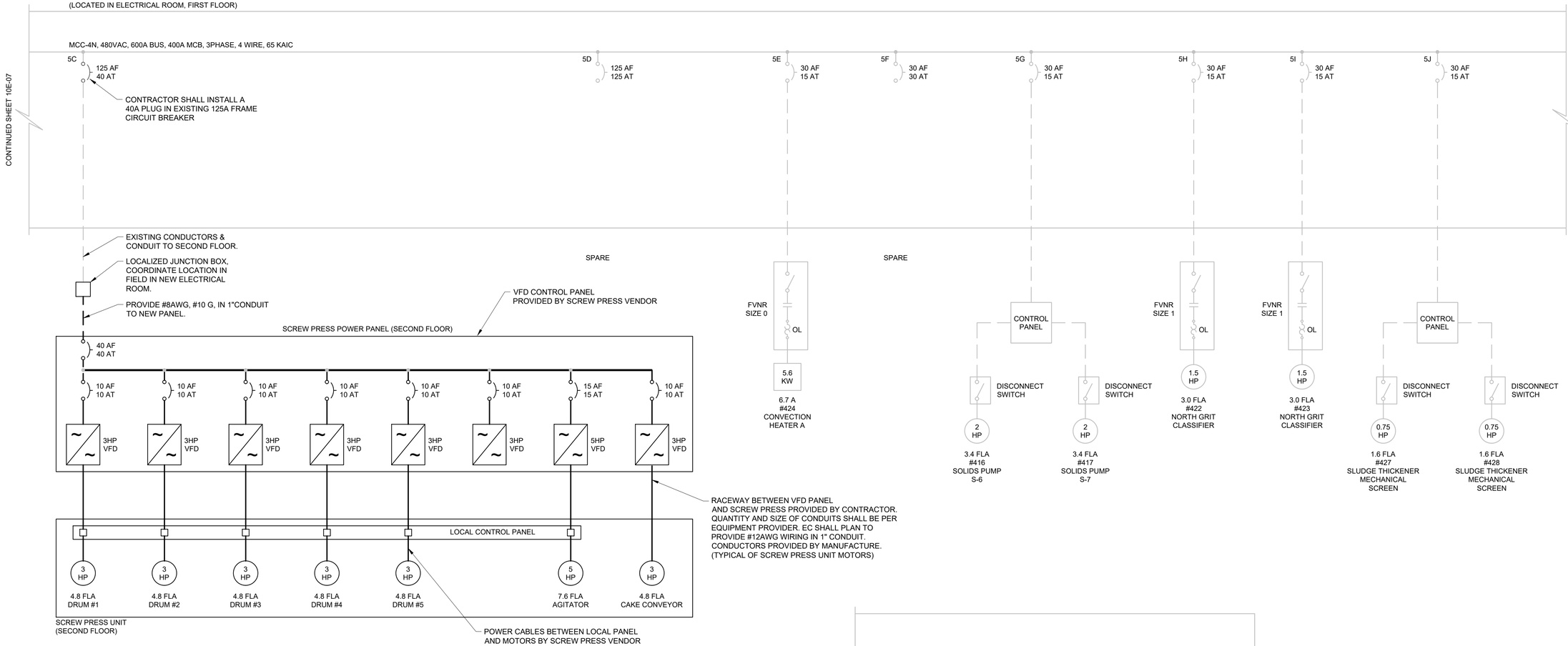
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	N/A
DESIGNED BY:	DJP
DRAWN BY:	BRA
CHECKED BY:	TLD

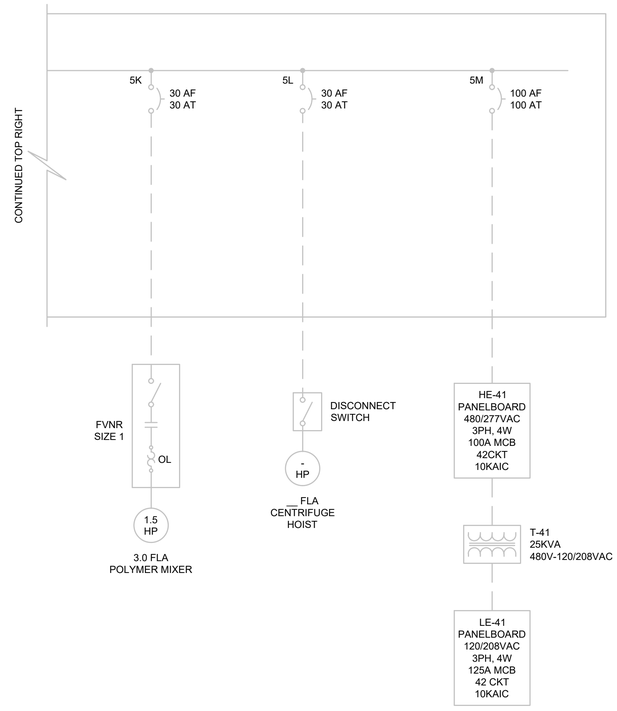
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

MCC-4N SINGLE LINE DIAGRAM

PROJECT NO.	
38009	
DISCIPLINE	
ELECTRICAL	
SHEET NAME	
10E-07	
SHEET	OF
34	44





POWER NOTES:

1. ALL ELECTRICAL WORK IS TO BE LABELED WITH SOURCE AND LOAD DESCRIPTION.

TROY L. DELZER
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CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

MCC-4N SINGLE LINE DIAGRAM

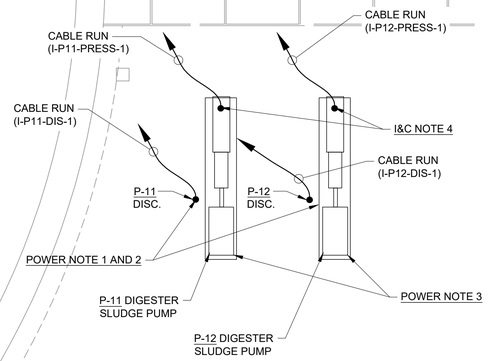
PROJECT NO.
38009

DISCIPLINE
ELECTRICAL

SHEET NAME
10E-08

SHEET 35 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SINGLE LINES.DWG - 32 MCC-4N SINGLE LINE DIAGRAM - 7/26/2026 2:30:29 PM - ROBERT MARANO



HAZARDOUS AREA
SEE HAZARDOUS AREA
CLASSIFICATION PLANS

PIPE TRENCH

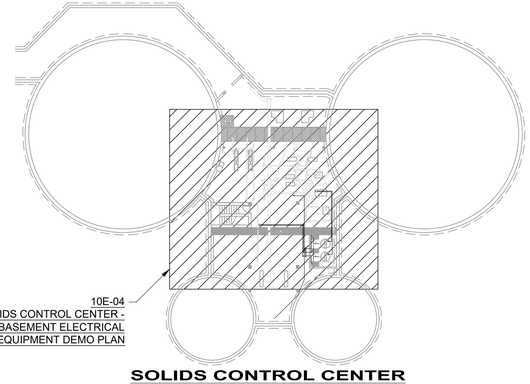
BASEMENT PLAN AT EL. 644.50
SCALE: 1/4" = 1'-0"

POWER NOTES:

1. ALL POWER CABLING FROM MCC TO JUNCTION BOX AT LOCAL PUMP SHALL BE REUSED. EC SHALL PROVIDE PER SINGLE LINE ALL CABLING, EQUIPMENT, AND CONDUIT AFTER JUNCTION BOX AS DEPICTED ON SINGLE LINE. SEE SINGLE LINE ON SHEET 10E-07 FOR DETAILS.
2. PROVIDE NEW DISCONNECT AS SHOWN ON SINGLE LINE, COORDINATE FINAL LOCATION IN FIELD. DISCONNECT SHALL BE RATED FOR LOCATION AND INCLUDE AUXILIARY CONTACTS FOR I&C CONTRACTOR. COORDINATE WITH I&C CONTRACTOR PRIOR TO PURCHASE.
3. ALL NEW CONDUIT SHALL BE COATED PVC FOR NEW INSTALLED WORK.

I&C NOTES:

1. PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING. BASEMENT AND POLY ROOM ARE CLASSIFIED AS C1D2 AND REQUIRE CONDUIT SEALS.
3. REFER TO CONTROL CABLE SCHEDULE ON DRAWING E38 FOR CABLE TYPE, QUANTITY AND DETAILS.
4. CONTRACTOR SHALL INSTALL NEW OWNER PROVIDED PRESSURE MONITOR INSTRUMENTS.



SOLIDS CONTROL CENTER
BASEMENT FLOOR
SCALE: NO SCALE

TROY L DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: DJP
DRAWN BY: BRA
CHECKED BY: TLD

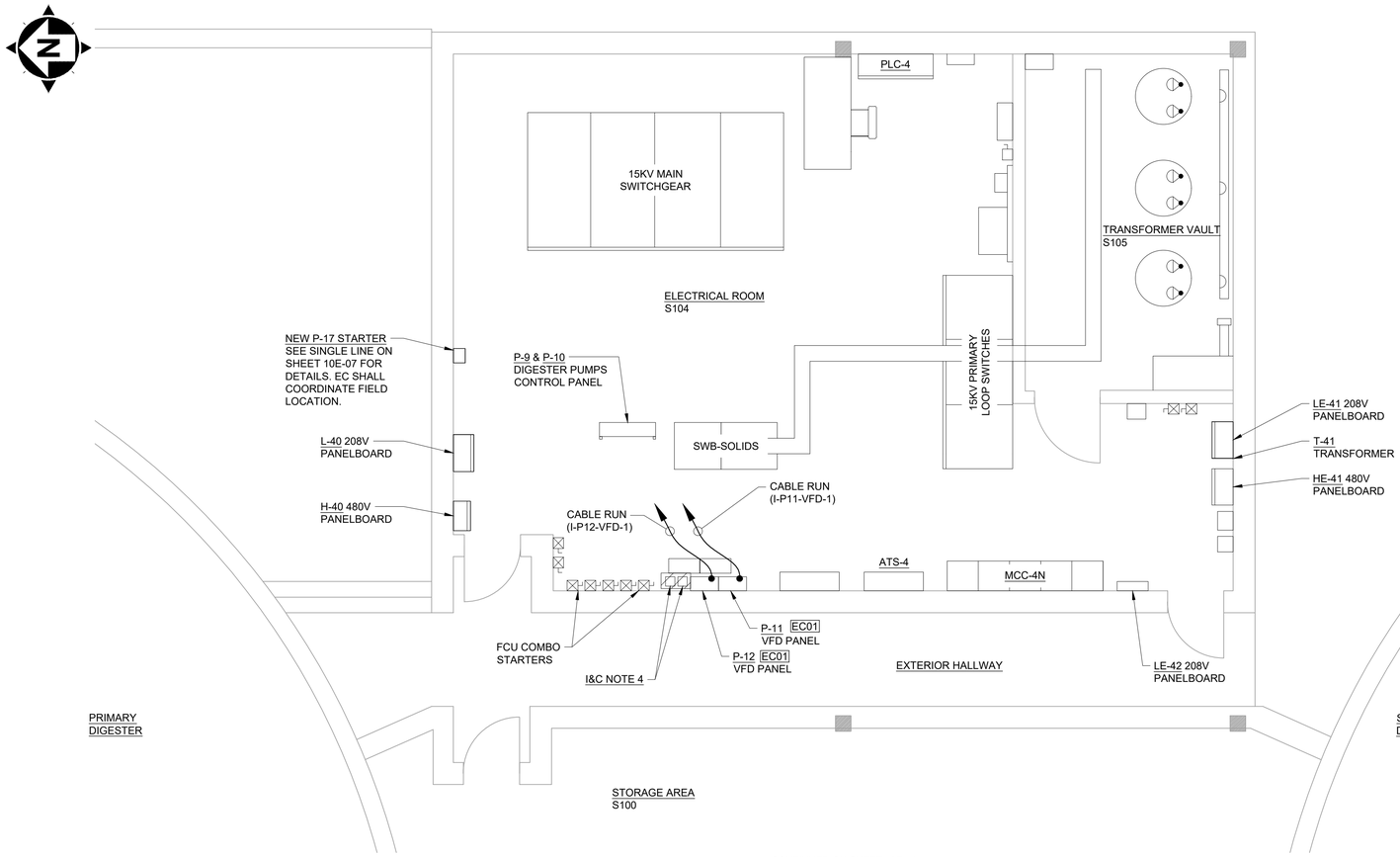
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

SOLIDS CONTROL CENTER - BASEMENT FLOOR
PROPOSED ELECTRICAL PLAN

PROJECT NO.
38009
DISCIPLINE
ELECTRICAL
SHEET NAME
10E-09
SHEET 36 OF 44

Z:\PROJECT FILES\WA-NZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\24 BASEMENT SOLIDS HANDLING BLDG. ELECTRICAL EQUIPMENT PLAN.DWG - 36 SOLIDS CONTROL CENTER - BASEMENT FLOOR ELECTRICAL PLAN - 7/27/2026 4:41:05 PM - ROBERT MARANO



CONTINUED ON SHEET 10E-11

FIRST FLOOR AT EL. 658.25

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

EXISTING PANELBOARD: L-40

MCB RATING: 50A | VOLTS: 208/120V | A.I.C. RATING: 10KA
MAINS RATING: 50A | PHASE: 3 | MOUNTING: SURFACE
LOCATION: ELECTRICAL RM | WIRES: 4 | EXISTING ENCLOSURE

CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A		B		C		POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT
1	ITEM 428 WATER HEATER SOLIDS HANDLING RM.				20	1	0.0	0.0					1	20				ITEM 435 TRANSF. VAULT ROOF FAN	2
3	SPARE - TURNED OFF				20	1			0.0	0.0			1	20				ITEM 436 SW. GEAR RM. ROOF FAN	4
5	TIME CLOCK - SW. GEAR RM.				20	1					0.0	0.0	1	20				ELECTRIC RM. OVER-HEAD FAN	6
7	1-OUTLET AT DRINKING ENTN. STOR. RM.				20	1	0.0	0.0					1	20				SPARE - TURNED OFF	8
9	MAIN LIGHTS - STORAGE RM.				20	1			0.0	0.0			1	20				ROOF LTS	10
11	2-LIGHTS PASSAGE WAY				20	1					0.0	0.0	1	20				RELENTS SOLIDS HANDLE	12
13	LIGHTS-TOILET,JAN. POLYMER RMS.				20	1	0.0	0.0					1	20				SPARE - TURNED OFF	14
15	DRIVEWAY AND TANK LIGHTS				20	1			0.0	0.0								SPARE - TURNED OFF	16
17	DRIVE THRU AND ROOF LIGHTS				20	1					0.0	0.0	3	20					18
19	OUTSIDE-SW. GEAR RM. N. & S.				20	1	0.0	0.0											20
21	SPARE - TURNED OFF				20	3			0.0	0.0			2	20	1"	10	8	ACU-1 ELECTRICAL ROOM AIR CONDITIONING UNIT	22
23					20						0.0	0.0					8		24
25					20		0.0	0.0					1	25	3/4"	1	10	EF-1, ROOF MOUNTED	26
27	SPARE - TURNED OFF				20	1			0.0	0.0			1	20				SPARE - TURNED OFF	28
29	SPARE - TURNED OFF				20	1					0.0	0.0						SPACE	30
31	SPARE - TURNED OFF				20	1	0.0	0.0										SPACE	32
33	SPARE - TURNED OFF				20	1			0.0	0.0			1	20				SPARE - TURNED OFF	34
35	SPACE										0.0	0.0	1	20				SPARE - TURNED OFF	36
37	SPACE						0.0	0.0									-	MAIN	38
39	SPACE								0.0	0.0			3	100	-	-	-		40
41	SPACE										0.0	0.0					-		42
					TOTAL LOAD IN KVA		0.0 A		0.0 B		0.0 C								

REMARKS:
ALL EQUIPMENT AND INSTRUMENTATION BREAKERS ARE TO BE REVIEWED WITH ASSOCIATED TRADE OR PURCHASING PARTY PROVIDING EQUIPMENT OR INSTRUMENTATION PRIOR TO BREAKER PURCHASE FOR MANUFACTURES COMPATIBILITY AND CORRECT SIZING.

PANEL TOTALS	
TOTAL CONNECTED LOAD (KVA)	0.0
TOTAL DEMAND LOAD (KVA)	0.0

POWER NOTES:

1. BREAKERS 22 AND 24 IN PANEL L-40 SHALL BE REMOVED, PROVIDE 40 AMP BREAKER FOR NEW ACU-1 AIR CONDITIONING UNIT.
2. BREAKER POSITION SHALL BE UTILIZED FOR NEW EF-1 LOCATED ON THE ROOF OF SOLIDS HANDLING. EC SHALL PROVIDE NEW BREAKER UNLESS NOTED OTHERWISE.

I&C NOTES:

1. PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING. BASEMENT AND POLY ROOM ARE CLASSIFIED AS C1D2 AND REQUIRE CONDUIT SEALS.
3. REFER TO CONTROL CABLE SCHEDULE ON DRAWING E38 FOR CABLE TYPE, QUANTITY AND DETAILS.
4. CONTRACTOR SHALL REMOVE THE EXISTING SMART BOXES AND WIRING TO RESPECTIVE VFD. NEW PRESSURE MONITORING INSTRUMENTATION SHALL BE INSTALLED AT THE RESPECTIVE PUMP LOCATED IN THE BASEMENT AND WIRED BACK TO THE SCREW PRESS VENDOR MAIN CONTROL PANEL.

EXISTING PANELBOARD: LE-41

MCB RATING: 125A | VOLTS: 208/120V | A.I.C. RATING: 10KA
MAINS RATING: 125A | PHASE: 3 | MOUNTING: SURFACE
LOCATION: ELECTRICAL RM | WIRES: 4 | EXISTING ENCLOSURE

CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A		B		C		POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT
1	3 - RECEPT. PUMP GALLERY EAST	-	-	-	20	1	0.0	0.0					1	20	-	-	-	1-OUTSIDE RECEPT. DRIVE THRU (TELEPHONE BUZZER)	2
3	3 - RECEPT. PUMP GALLERY WEST	-	-	-	20	1			0.0	0.0			1	20	-	-	-	3-RECEPTACLES STORAGE A & POLYMER RM.	4
5	BELT ROOM ?	-	-	-	20	1					0.0	0.0	1	20	-	-	-	3-RECEPTACLES STORAGE RM & EAST WALL	6
7	PLC4	-	-	-	20	1	0.0	0.0					1	20	-	-	-	1-RECEPT. THICKENER TANKS	8
9	LIGHTS - SWITCH GEAR ROOM	-	-	-	20	1			0.0	0.0			1	20	-	-	-	1-RECEPT. SWITCH GEAR RM. SOUTH	10
11	1-RECEPT. SWITCH GEAR RM WEST	-	-	-	20	1					0.0	0.0	1	20	-	-	-	1-RECEPT. SWITCH GEAR RM. EAST	12
13	EXIT LIGHTS SOLIDS CONTROLS CENTER	-	-	-	20	1	0.0	0.0					1	20	-	-	-	EMERGENCY LIGHTS SWITCH GEAR RM. SOUTH	14
15	CENTER LIGHTING STORAGE ROOM	-	-	-	20	1			0.0	0.0			1	20	-	-	-	BATTERY CHARGER SWITCH GEAR RM. EAST	16
17	LIGHTING STAIRWELL 28	-	-	-	20	1					0.0	0.0	1	20	-	-	-	LIGHTS TRANSFORMER VAULT	18
19	DISCONNECT 10/11/85 TANK LIGHTS SECONDARY DIGESTER	-	-	-	20	1	0.0	0.0					1	20	-	-	-	EAST LIGHTS PUMP GALLERY 501	20
21	LIGHTS SOILD HANDING RM	-	-	-	20	1			0.0	0.0			1	20	-	-	-	CENTER LIGHTS PUMP GALLERY 501	22
23	ITER-COMM OUTLET SOLIDS HANDLING RM	-	-	-	20	1					0.0	0.0	1	20	-	-	-	WEST LIGHTS PUMP GALLERY 501	24
25	AIR CYLINDER VALVE 432 PUMP GALLERY - LOCKED OUT	-	-	-	20	1	0.0	0.0					1	20	-	-	-	FCU-6 PUMP (439) STORAGE RM S100	26
27	AIR CYLINDER VALVE 433 PUMP GALLERY - LOCKED OUT	-	-	-	20	1			0.0	0.0			1	20	-	-	-	FCU-5 PUMP(442) STORAGE RM S100	28
29	DIGESTER TEMP. RECORDER	-	-	-	20	1					0.0	0.0	1	20	-	-	-	CO2 ANALYZER (434) STORAGE ROOF	30
31	DISCONNECTED 10/11/85 TANK LIGHTS PRIMARY DIGESTER - OFF	-	-	-	20	1	0.0	0.0					1	20	-	-	-	WASTE GAS BURNER (430) STORAGE ROOF	32
33	SPARE - TURNED OFF	-	-	-	20	1			0.0	0.0			1	20	-	-	-	SOUTH GATE OPERATOR	34
35	MAG METERS BASEMENT-OFF	-	-	-	15	1					0.0	0.0	1	20	-	-	-	DYNAGUARD HAZARDOUS GAS MONITOR	36
37	DEGRITTER WATER	-	-	-	20	1	0.0	0.0									-		38
39	SOUTH TRUCK HEATER	-	-	-	20	1			0.0	0.0			3	100	-	-	-	NORTH TRUCK HEATER	40
41	SPARE - TURNED OFF	-	-	-							0.0	0.0					-		42
					TOTAL LOAD IN KVA		0.0 A		0.0 B		0.0 C								

REMARKS:
ALL EQUIPMENT AND INSTRUMENTATION BREAKERS ARE TO BE REVIEWED WITH ASSOCIATED TRADE OR PURCHASING PARTY PROVIDING EQUIPMENT OR INSTRUMENTATION PRIOR TO BREAKER PURCHASE FOR MANUFACTURES COMPATIBILITY AND CORRECT SIZING.

PANEL TOTALS	
TOTAL CONNECTED LOAD (KVA)	0.0
TOTAL DEMAND LOAD (KVA)	0.0

EC SHALL VERIFY CKT FOR POLYMER ROOM PRIOR TO ANY CONSTRUCTION, NEW POLYMER BLENDING SKIDS SHALL REUSES EXISTING POLYMER SKID CIRCUIT AND LABELED AT PANEL SCHEDULE ACCORDINGLY. PROVIDE #12AWG CONDUCTORS, #12 G. IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.

EXISTING PANELBOARD: H-40

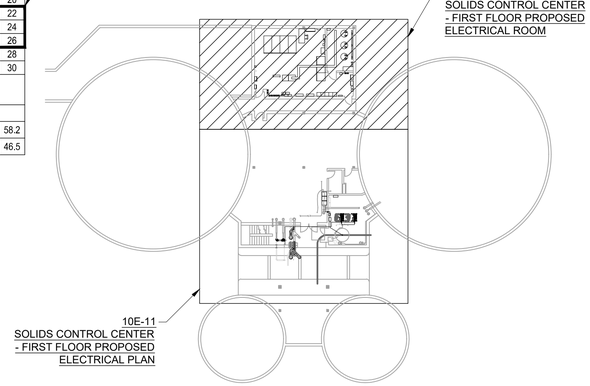
MCB RATING: 100A | VOLTS: 480/277 | A.I.C. RATING: __KA
MAINS RATING: 100A | PHASE: 3 | MOUNTING: SURFACE
LOCATION: ELECTRICAL RM | WIRES: 4 | EXISTING ENCLOSURE

CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A		B		C		POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT
1	SPARE - TURNED OFF				20	1	0.0	0.0					1	20			-	SPARE - TURNED OFF	2
3	SPARE - TURNED OFF				15	3			0.0	0.0			3	15			-	SPARE - TURNED OFF	4
5											0.0	0.0					-		6
7							0.0	0.0									-		8
9	SPARE - TURNED OFF				20	3			0.0	0.0			3	20			-	ITEM #418 SW. GEAR RM. ELEC. HEATER	10
11											0.0	0.0					-		12
13							0.0	0.0									-		14
15	ODOR CONTROL - TURNED OFF				20	3			0.0	0.0			3	30			-	TRANSFORMER T-40 SW. GEAR RM. NORTH WALL	16
17											0.0	0.0					-		18
19							0.0	0.0									-		20
21	SPARE - TURNED OFF				1	3			0.0	19.4			3	70	1-1/2"	8	1	ITEM #444 FCU-4 ROOF SOLIDS HANDLING RM.	22
23											0.0	19.4					1		24
25							0.0	19.4									1		26
27	SPACE								0.0	0.0							-	SPACE	28
29	SPACE										0.0	0.0					-	SPACE	30
					TOTAL LOAD IN KVA		19.4 A		19.4 B		19.4 C								

REMARKS:
ALL EQUIPMENT AND INSTRUMENTATION BREAKERS ARE TO BE REVIEWED WITH ASSOCIATED TRADE OR PURCHASING PARTY PROVIDING EQUIPMENT OR INSTRUMENTATION PRIOR TO BREAKER PURCHASE FOR MANUFACTURES COMPATIBILITY AND CORRECT SIZING.

PANEL TOTALS	
TOTAL CONNECTED LOAD (KVA)	58.2
TOTAL DEMAND LOAD (KVA)	46.5

REMOVE EXISTING 40AMP BREAKER AND REPLACE WITH 70 AMP BREAKER



SOLIDS CONTROL CENTER FIRST FLOOR

SCALE: NO SCALE

TROY L. DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

BID

ISSUE FOR: BID
ISSUE DATE: 8/03/2026
SCALE: AS NOTED
DESIGNED BY: DJP
DRAWN BY: BRA
CHECKED BY: TLD

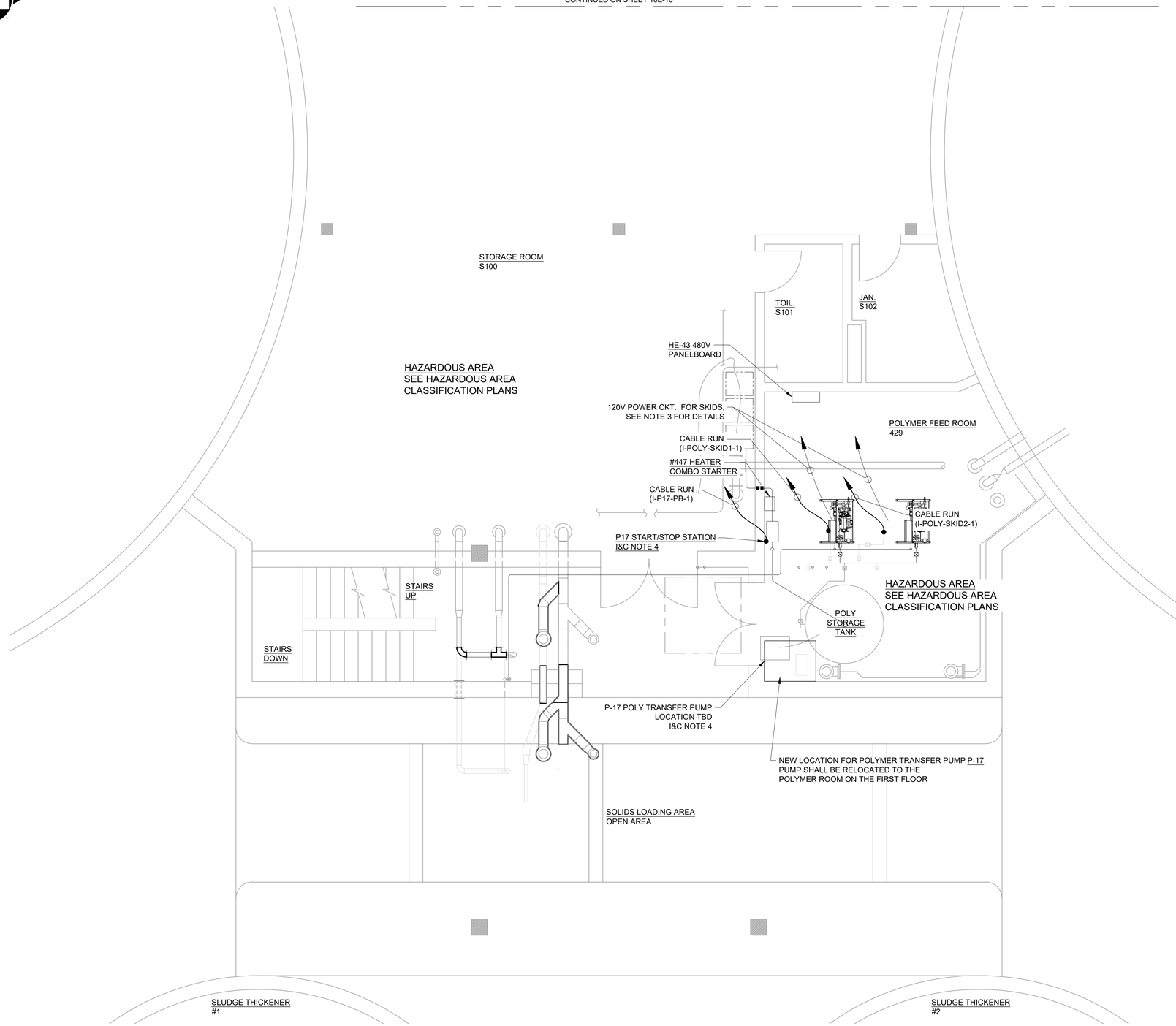
CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

SOLIDS CONTROL CENTER - FIRST FLOOR PROPOSED ELECTRICAL ROOM

PROJECT NO. 38009
DISCIPLINE: ELECTRICAL
SHEET NAME: 10E-10
SHEET 37 OF 44

CONTINUED ON SHEET 10E-10



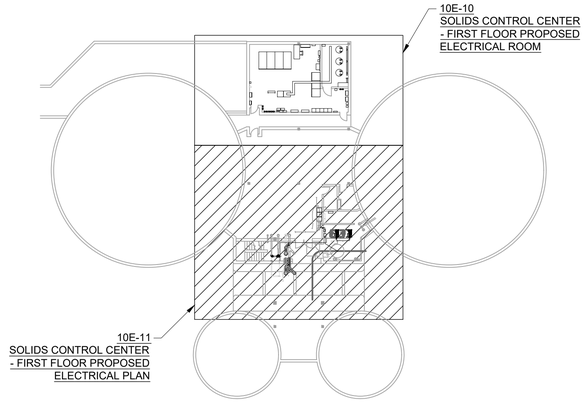
FIRST FLOOR PLAN AT EL. 658.25
SCALE: 1/4" = 1'-0"

POWER NOTES:

1. ALL NEW CONDUIT SHALL BE COATED PVC FOR NEW INSTALLED WORK.
2. NEW PUMP P-17, PUMP SHALL REUSE EXISTING CIRCUIT FROM REMOVED PUMP P-17 THAT WAS IN THE BASEMENT. EC SHALL REWORKED IN THIS AREA FOR NEW EQUIPMENT AND SIZED PER SINGLE-LINE.
3. NEW POLYMER BLENDING SKIDS, EC SHALL PROVIDE 12# AWG CONDUCTORS, #12 G. IN 3/4" CONDUIT AS REQUIRED TO CONNECT TO EXISTING CKT. FROM LE-41 BREAKER 4 LABELED "3-RECEPTACLES STORAGE A & POLYMER RM". EC SHALL HARD WIRE AND PROVIDE DISCONNECT RATED FOR SPACE.

I&C NOTES:

1. PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING. BASEMENT AND POLY ROOM ARE CLASSIFIED AS C1D2 AND REQUIRE CONDUIT SEALS.
3. REFER TO CONTROL CABLE SCHEDULE ON DRAWING E38 FOR CABLE TYPE, QUANTITY AND DETAILS.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL C1D2 RATED START/STOP STATION INCLUDING: 4 HOLE ENCLOSURE, RED STOP PUSH BUTTON, GREEN START PUSH BUTTON, RED OVERLOAD STATUS LIGHT AND GREEN RUNNING STATUS LIGHT. WIRING STATION TO NEW MOTOR STARTER LOCATED IN THE ELECTRICAL ROOM. FURNISH AND INSTALL ALL MATERIAL, CONDUIT, CABLE, SEAL AND ALL HARDWARE REQUIRED TO FACILITATE THE INSTALLATION AND WIRING OF THE PUSH BUTTON STATION.



SOLIDS CONTROL CENTER FIRST FLOOR
SCALE: NO SCALE

TROY L. DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

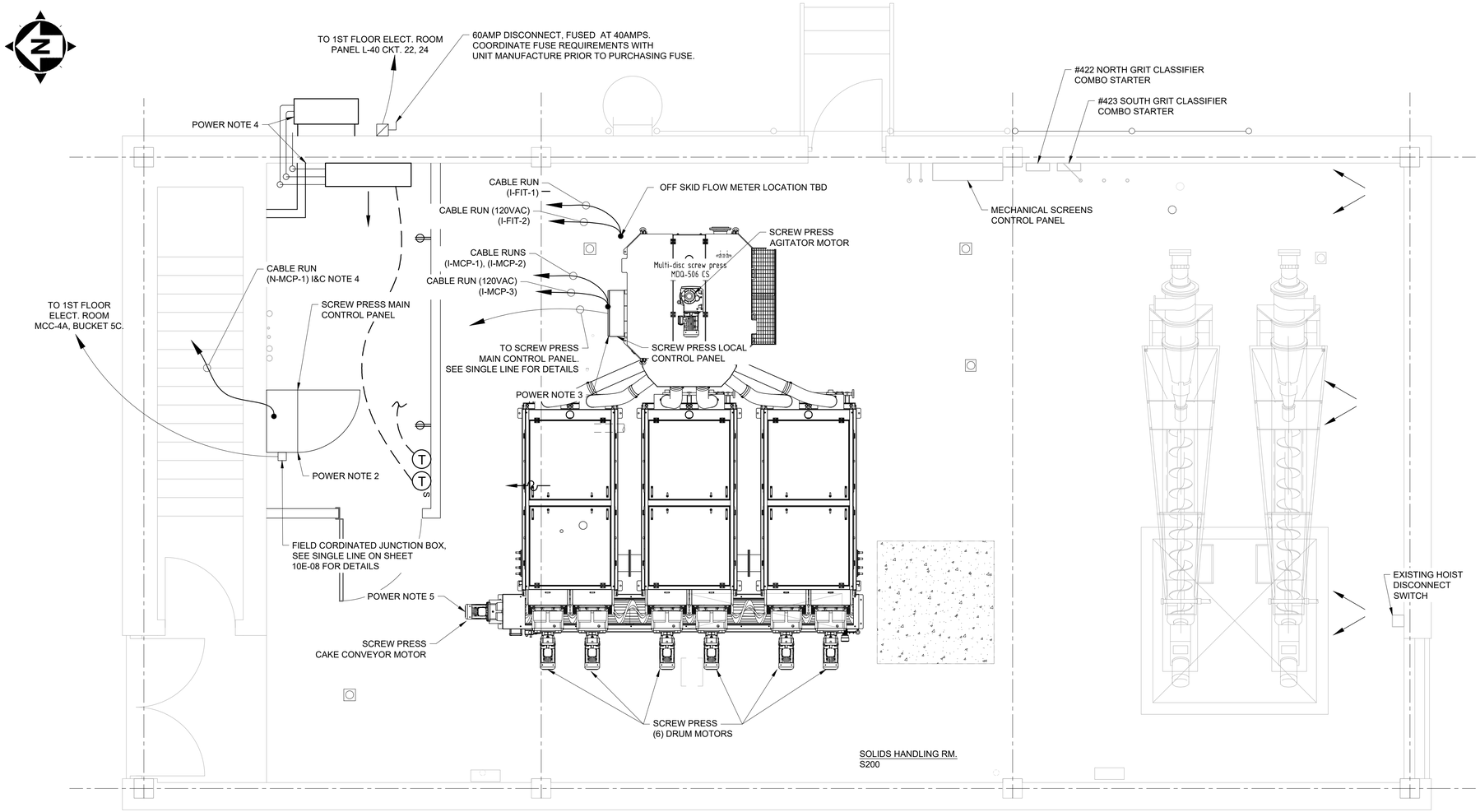
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	DJP
DRAWN BY:	DJP
CHECKED BY:	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

SOLIDS CONTROL CENTER - FIRST FLOOR
PROPOSED ELECTRICAL PLAN

PROJECT NO.
38009
DISCIPLINE
ELECTRICAL
SHEET NAME
10E-11
SHEET 38 OF 44



SECOND FLOOR PLAN AT EL. 672.50

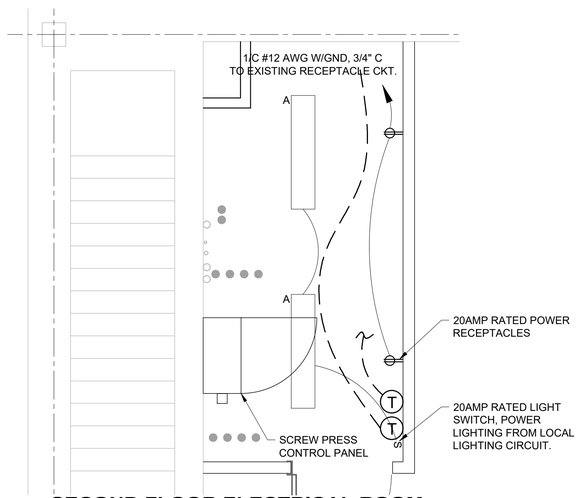
SCALE: 3/8" = 1'-0""

POWER NOTES:

1. ALL NEW CONDUIT SHALL BE COATED PVC FOR NEW INSTALLED WORK.
2. NEW SCREW PRESS CONTROL CABINET, COORDINATE INSTALL WITH PANEL PROVIDER. POWER AS NOTED ON PLAN AND DETAILED ON SINGLE LINE SHEET 10E-08.
3. NEW SCREW PRESS LOCAL CONTROL PANEL, PROVIDE CONDUITS AND POWER WIRING FOR INSTALL. SEE SINGLE LINE ON SHEET 10E-08 FOR SIZES. COORDINATE ROUTING IN FIELD WITH OTHER TRADES.
4. NEW "ACU-1" AIR CONDITIONING UNIT, EC SHALL PROVIDE ELECTRICAL POWER AS NOTED ON DISCONNECT AND CALLED OUT ON PANEL SCHEDULE, SEE SHEET 10E-08. EC SHALL PROVIDE CONTROLS CONDUIT FOR UNIT AS REQUIRED, MINIMUM 3/4" CONDUIT UNLESS NOTED OTHERWISE.
5. SCREW PRESS CAKE CONVEYOR MOTOR, EC SHALL PROVIDE POWER AS CALLED OUT ON SINGLE LINE SHEET 10E-08 FROM SCREW PRESS POWER PANEL.
6. NEW "EF-1" ROOF TOP EXHAUST FAN, EC SHALL PROVIDE NEW POWER CKT. FROM EXISTING PANEL LOCATED IN ELECTRICAL ROOM. COORDINATE ROUTING IN FIELD WITH OTHER TRADES. PROVIDE LOCAL 30AMPS MOTOR SWITCH RATED FOR LOCATION AND UNIT.
7. NEW "MAU-1" MAKEUP AIR UNIT, EC SHALL PROVIDE NEW POWER CKT. FROM EXISTING PANEL LOCATED IN ELECTRICAL ROOM. COORDINATE ROUTING IN FIELD WITH OTHER TRADES.

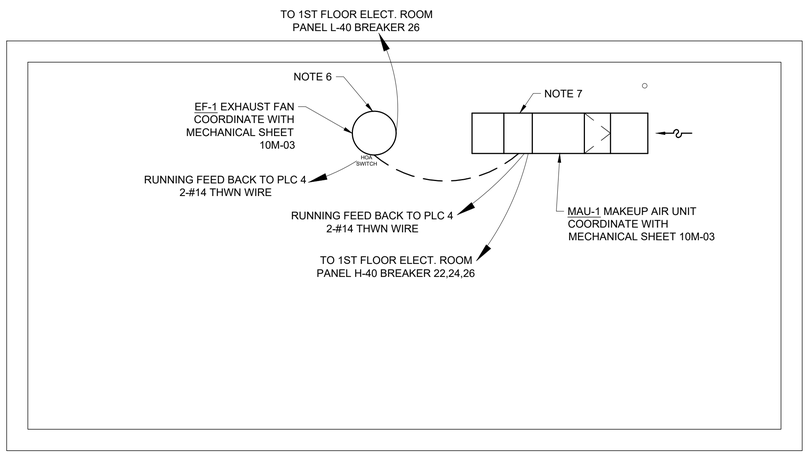
I&C NOTES:

1. PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING. BASEMENT AND POLY ROOM ARE CLASSIFIED AS C1D2 AND REQUIRE CONDUIT SEALS.
3. REFER TO CONTROL CABLE SCHEDULE ON DRAWING E38 FOR CABLE TYPE, QUANTITY AND DETAILS.
4. CONTRACTOR FURNISH AND INSTALL A NEW FIBER PATCH PANEL AND FIBER TO TIE-IN THE NEW SCREW PRESS PANEL INTO THE EXISTING FIBER NETWORK



SECOND FLOOR ELECTRICAL ROOM LIGHTING & RECEPTICAL PLAN

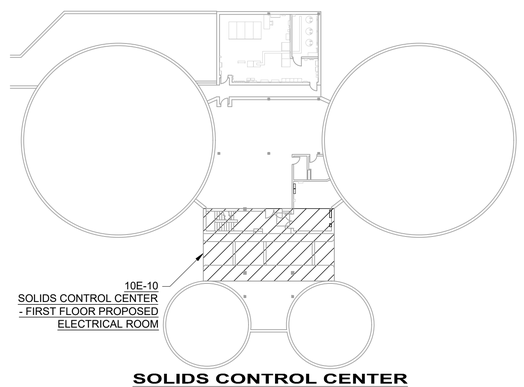
SCALE: 3/8" = 1'-0""



ROOF PLAN - ELECTRICAL EQUIPMENT

SCALE: 3/16" = 1'-0"

LIGHTING SCHEDULE							
TAG	VOLTAGE	LAMP	TEMPETURE	LUMENS	MANUFACTURE	MODEL	DESCRIPTION
A	120-277V 50/60HZ	63 WATTS - LED	4000K	10180	RIG-A-LITE	MHDS09L24U	STAINLESS STEEL LED LIGHTING RATED FOR LOCATION



SOLIDS CONTROL CENTER SECOND FLOOR

SCALE: NO SCALE

TROY L. DELZER
REGISTERED
24338
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	AS NOTED
DESIGNED BY:	DJP
DRAWN BY:	BRA
CHECKED BY:	TLD

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

ELECTRICAL - E SERIES

SOLIDS CONTROL CENTER - SECOND FLOOR
PROPOSED ELECTRICAL PLAN

PROJECT NO.
38009

DISCIPLINE
ELECTRICAL

SHEET NAME
10E-12

SHEET 39 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\E_38009 - SECOND FLOOR SOLIDS HANDLING BLDG.DWG - 37 SOLIDS CONTROL CENTER - SECOND FLOOR PROPOSED ELECTRICAL PLAN - 7/27/2026 4:41:13 PM - ROBERT MARANO

DEWATERING EQUIPMENT NETWORK ADDRESSES			
USE	IP ADRESS	SUBNET MASK	GATEWAY
LOCAL NETWORK - MAIN PLC PORT #1	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCADA INTERFACE - MAIN PLC PORT #2	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS MAIN CONTROL PANEL - HMI	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
OPERATOR PANEL - HMI	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
WEB SERVER / CLOUD	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #1	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #2	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #3	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #4	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #5	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
SCREW PRESS VFD #6	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
MIXER VFD #7	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX
CONVEYOR VFD #8	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX	XXX.XXX.XXX.XXX

SCREW PRESS SKID PACKAGE (NOTE 1)

SCREW PRESS EQUIPMENT INCLUDING:
QTY (6) DRUM MOTORS
QTY (1) MIXER
QTY (1) CONVEYOR
SKID INSTRUMENTATION

MOTOR M1 | MOTOR M2 | MOTOR M3
MOTOR M4 | MOTOR M5 | MOTOR M6
MIXER X | CONVY X

(NOTE 1, 2)
LOCAL CONTROL PANEL
HMI

(CONTROL)
(POWER)

SLUDGE INLET FLOW METER (NOTE 2)
FIT XX
NOTE 3

SCREW PRESSURE ROOM
2ND FLOOR

(POWER)
(CONTROL)
(NETWORK CAT6)
NOTE 3

SCREW PRESS MAIN CONTROL PANEL (PLC / VFD)
PLC & QTY(8) VFDS
SCREW PRESS MAIN CONTROL PANEL
HMI
(NOTE 1, 2)

480VAC POWER FEED FROM XXXXXXX
(POWER)
NOTE 3

NEW ELECTRICAL ROOM

2ND FLOOR
1ST FLOOR

HARDWIRE CONTROL SIGNAL RUNS (NOTE 3)

LOCATION OF NEW PATCH PANEL TBD.
(NETWORK FIBER)
(NOTE 4)
NEW FIBER PATCH PANEL
(NETWORK FIBER)
(NOTE 4)
TO PLANT SCADA SYSTEM (NOTE 5)

SCREW PRESS PLC INTERFACE
RUN COMMAND (DO)
SPEED COMMAND 4-20mA (AO)
IN REMOTE FEEDBACK (DI)
RUNNING FEEDBACK (DI)
FAULT FEEDBACK (DI)

(NOTE 3, 7)
(NOTE 3, 7)

* IN THE EVENT OF A CONTROL SYSTEM (PLC) FAILURE, THE OPERATOR SHALL HAVE THE ABILITY TO RUN THE SLUDGE PUMPS IN MANUAL

480VAC FROM EXISTING MCC-4 BUCKET # 2J
480VAC FROM EXISTING MCC-4 BUCKET # 3J

RUNNING LT | FAULT LT | DISCONNECT
HIM | HAND - OFF - REMOTE | AUTO LT
LOCAL SPEED POT | START PB
RESET PB | STOP PB
METER

SLUDGE PUMP P-11 (PRIMARY) 15HP ABB VFD PANEL (EXISTING) *
SLUDGE PUMP P-12 (BACK-UP) 15HP ABB VFD PANEL (EXISTING) *

(POWER)

ELECTRICAL ROOM 1ST FLOOR

(EXISTING) SMART BOX VFD INTERLOCK (NOTE 6)
REPLACE WITH NEW SYSTEM

(AUX INTERLOCK)
(POWER)
(CONTROL)
NOTE 3

1ST FLOOR
BASMENT

NEW DISCONNECT BY SITE CONTRACTOR
NOTE 3
REPLACE WITH NEW SYSTEM

PUMP P11 | P.S XX
SLUDGE PUMP P11 (15HP) AND HI & LO PRESSURE SWITCHES FOR VFD INTERLOCK (PRIMARY) (NOTE 2, 6)

PUMP P12 | P.S XX
SLUDGE PUMP P12 (15HP) AND HI & LO PRESSURE SWITCHES FOR VFD INTERLOCK (BACK-UP) (NOTE 2, 6)

SCREW PRESS PLC INTERFACE
RUN COMMAND (DO)
SPEED COMMAND 4-20mA (AO)
IN REMOTE FEEDBACK (DI)
RUNNING FEEDBACK (DI)
FAULT FEEDBACK (DI)

120VAC POWER FEED FROM WWTP POWER DIST PANEL XXXXX
(POWER)
NOTE 3

BLENDING SKID LOCAL CONTROL PANEL #1
FLOW | POWER LT | LOCAL SPEED | RUNNING LT | LO DIFF PRESS LT | LOCAL - OFF - REMOTE | LOW FLOW LT

POLYMER BLENDING SYSTEM #1 (PRIMARY)
(NOTE 1, 2)
INCLUDING PUMP, MIXER & INSTRUMENTATION

BLENDING SKID LOCAL CONTROL PANEL #1 *

* IN THE EVENT OF A CONTROL SYSTEM (PLC) FAILURE, THE OPERATOR SHALL HAVE THE ABILITY TO RUN THE POLYMER SYSTEM IN MANUAL

POLY ROOM 1ST FLOOR

SCREW PRESS PLC INTERFACE
RUN COMMAND (DO)
SPEED COMMAND 4-20mA (AO)
IN REMOTE FEEDBACK (DI)
RUNNING FEEDBACK (DI)
FAULT FEEDBACK (DI)

120VAC POWER FEED FROM WWTP POWER DIST PANEL XXXXX
(POWER)
NOTE 3

BLENDING SKID LOCAL CONTROL PANEL #2
FLOW | POWER LT | LOCAL SPEED | RUNNING LT | LO DIFF PRESS LT | LOCAL - OFF - REMOTE | LOW FLOW LT

POLYMER BLENDING SYSTEM #2 (BACK-UP)
(NOTE 1, 2)
INCLUDING PUMP, MIXER & INSTRUMENTATION

BLENDING SKID LOCAL CONTROL PANEL #2 *

* IN THE EVENT OF A CONTROL SYSTEM (PLC) FAILURE, THE OPERATOR SHALL HAVE THE ABILITY TO RUN THE POLYMER SYSTEM IN MANUAL

1ST FLOOR
BASMENT

DRAWING SHOWN FOR REFERENCE ONLY.

THE VENDOR SHALL DESIGN A FULLY FUNCTIONAL EQUIPMENT AND CONTROL SYSTEM FOR THE REQUIRED SIGNALS, INSTALLED EQUIPMENT AND DESIGN SPECIFICATIONS. DESIGN SHALL BE IN ACCORDANCE WITH NEC AND UL-508A.

NOTE

1. NEW EQUIPMENT TO BE INSTALLED. THE VENDOR SHALL ENGINEER AND SUPPLY NEW EQUIPMENT INCLUDING, BUT NOT LIMITED TO SCREW PRESS SYSTEM, CONTROL / VFD PANEL, ELECTRICAL EQUIPMENT AND DISCONNECTS, MOTORS, PUMPS, TANKS, MIXERS AND INSTRUMENTATION.

2. NEW EQUIPMENT IS PROVIDED BY THE VENDOR AND INSTALLED BY THE SITE CONTRACTOR.

3. CABLE, CONDUIT AND TERMINATION BY SITE CONTRACTOR. PROVIDE ALL CABLE, CONDUIT, HARDWARE, SUPPORTS AND MATERIAL REQUIRED TO FACILITATE THE INSTALLATION AND TERMINATION OF THE EQUIPMENT. REFER TO VENDOR AND CONSTRUCTIONS DRAWINGS FOR ADDITIONAL INFORMATION ON REQUIRED SIGNALS, CABLE TYPES AND QUANTITIES AND TERMINATION POINTS.

4. FIBER CABLE, FIBER PATCH BOX, CONDUIT AND TERMINATION BY SITE CONTRACTOR. PROVIDE ALL FIBER CABLE, FIBER PATCH BOX, CONDUIT, HARDWARE, SUPPORTS AND MATERIAL REQUIRED TO FACILITATE THE INSTALLATION AND TERMINATION OF THE EQUIPMENT. ALL FIBER ENDS SHALL BE INSTALLED AND TESTED BY A QUALIFIED TECHNICIAN PRIOR TO NETWORK TIE IN.

5. EXISTING SCADA INTEGRATION BY OTHERS. VENDOR SHALL PROVIDE A TAG MAPPING LIST FOR ALL REQUIRED SIGNALS MONITORED OR CONTROLLED BY SCADA.

6. EXISTING EQUIPMENT TO BE REPLACED. THE SCREW PRESS VENDOR SHALL ENGINEER AND SUPPLY NEW EQUIPMENT INCLUDING, BUT NOT LIMITED TO POLY SYSTEM, BLENDING SYSTEM, LOCAL CONTROL PANELS, VFD / LOCAL CONTROL PANELS, ELECTRICAL EQUIPMENT AND DISCONNECTS, MOTORS, PUMPS, MIXERS, INSTRUMENTATION AND VFD INTERLOCK SYSTEM.

7.EXISTING EQUIPMENT TO BE REUSED. THE VENDOR SHALL INTEGRATE EXISTING EQUIPMENT INTO THE NEW SCREW PRESS / POLY SYSTEM.

TROY L DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

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NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	N/A
DESIGNED BY:	JTS
DRAWN BY:	CMB
CHECKED BY:	JTS

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

INSTRUMENTATION - I SERIES
SCREW PRESS SYSTEM
ARCHITECTURAL PLAN

PROJECT NO.
38009
DISCIPLINE
INSTRUMENTATION
SHEET NAME
101-01
SHEET 40 OF 44

Z:\PROJECT FILES\WA-XZ\WHEELING\38009 - WHEELING WPCD EMERGENCY CENTRIFUGE IMP\CAD\DWG\SHEETS\37 SCREW PRESS SYSTEM ARCHITECTURAL PLAN.DWG - 40 SCREW PRESS SYSTEM ARCHITECTURAL PLAN - 7/27/2026 8:39:12 AM - ROBERT MARANO

verdantas

PROJECT INFORMATION

CLIENT: WHEELING WPCD
PROJECT NAME: DEWATERING UPGRADE

SUBMISSION DATA

ISSUED FOR: REVIEW
DATE: 6/01/2026
REVISION: A

NOTES:
1. XXX
2. XXX
3. XXX
4. XXX

						ROUTING - RACEWAY / CONDUIT TAG (BELOW)										ENGINEERING DATA			
AREA / DESCRIPTION	CABLE TAG	CABLE TYPE	EQUIPMENT DESCRIPTION	VOLTAGE	CABLE LENGTH	SOURCE / ORIGINATION POINT	1	2	3	4	5	6	7	8	LOAD / TERMINATION POINT	VOLTAGE DROP	CONDUIT FILL %	NOTES / COMMENTS	REV
SOLIDS CONTROL BLDG (1ST FLOOR ELECTRICAL ROOM)	I-P11-VFD-1	QTY (12) #14 THWN BLUE QTY (1) #16 TSP	SLUDGE PUMP P-11: RUN COMMAND, IN REMOTE FBK, RUNNING FBK, FAULT FBK, 4-SPARES & ANALOG SPEED COMMAND,	24VDC 4-20mA	FIELD ROUTE	EXISTING SLUDGE PUMP P-11 VFD (1ST FLOOR ELECTRICAL ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (1ST FLOOR ELECTRICAL ROOM)	I-P12-VFD-1	QTY (12) #14 THWN BLUE QTY (1) #16 TSP	SLUDGE PUMP P-12: RUN COMMAND, IN REMOTE FBK, RUNNING FBK, FAULT FBK, 4-SPARES & ANALOG SPEED COMMAND,	24VDC 4-20mA	FIELD ROUTE	EXISTING SLUDGE PUMP P-12 VFD (1ST FLOOR ELECTRICAL ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (BASEMENT)	I-P11-PRESS-1	QTY (3) #16 TSP	SLUDGE PUMP P-11 PRESSURE MONITORING:	4-20mA	FIELD ROUTE	NEW SLUDGE PUMP P-11 INSTRUMENTS (BASEMENT)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (BASEMENT)	I-P12-PRESS-1	QTY (3) #16 TSP	SLUDGE PUMP P-12 PRESSURE MONITORING:	4-20mA	FIELD ROUTE	NEW SLUDGE PUMP P-12 INSTRUMENTS (BASEMENT)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (BASEMENT)	I-P11-DIS-1	QTY (2) #14 THWN BLUE	SLUDGE PUMP P-11 FIELD DISCONNECT AUX FEEDBACK TO VFD	24VDC	FIELD ROUTE	NEW SLUDGE PUMP P-11 DISCONNECT (BASEMENT)									EXISTING SLUDGE PUMP P-11 VFD (1ST FLOOR ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (BASEMENT)	I-P12-DIS-1	QTY (2) #14 THWN BLUE	SLUDGE PUMP P-12 FIELD DISCONNECT AUX FEEDBACK TO VFD	24VDC	FIELD ROUTE	NEW SLUDGE PUMP P-12 DISCONNECT (BASEMENT)									EXISTING SLUDGE PUMP P-12 VFD (1ST FLOOR ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (1ST FLOOR POLY ROOM)	I-POLY-SKID1-1	QTY (12) #14 THWN BLUE QTY (1) #16 TSP	POLYMER BLENDING SKID #1: RUN COMMAND, IN REMOTE FBK, RUNNING FBK, FAULT FBK, 4-SPARES & ANALOG SPEED COMMAND,	24VDC 4-20mA	FIELD ROUTE	POLYMER BLENDING SKID #1 (1ST FLOOR POLY ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (1ST FLOOR POLY ROOM)	I-POLY-SKID2-1	QTY (12) #14 THWN BLUE QTY (1) #16 TSP	POLYMER BLENDING SKID #2: RUN COMMAND, IN REMOTE FBK, RUNNING FBK, FAULT FBK, 4-SPARES & ANALOG SPEED COMMAND,	24VDC 4-20mA	FIELD ROUTE	POLYMER BLENDING SKID #2 (1ST FLOOR POLY ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (1ST FLOOR POLY ROOM)	I-V17-PB-1	QTY (8) #14 THWN RED	POLYMER TRANSFER PUMP LOCAL START/STOP STATION START, STOP, OL LT , RUN LT.	**120VAC**	FIELD ROUTE	P17 REMOTE STATION (1ST FLOOR POLY ROOM)									P17 MOTOR STARTER (2ND FLOOR NEW ELECTRICAL ROOM)			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	I-FIT-1	QTY (1) #16 TSP	SLUDGE FLOW METER: ANALOG FLOW RATE	24VDC	FIELD ROUTE	SLUDGE FLOW METER (2ND FLOOR SCREW PRESS ROOM)									SCREW PRESS LOCAL CONTROL PANEL (ON-SKID) (2ND FLOOR SCREW PRESS ROOM)			REFER TO VENDOR DOCUMENTATION FOR CONDUIT SIZE	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	I-FIT-2	QTY (3) #14 THWN (BLK, WHT, GRN)	SLUDGE FLOW METER: 1**20VAC POWER**	**120VAC**	FIELD ROUTE	SLUDGE FLOW METER (2ND FLOOR SCREW PRESS ROOM)									SCREW PRESS LOCAL CONTROL PANEL (ON-SKID) (2ND FLOOR SCREW PRESS ROOM)			REFER TO VENDOR DOCUMENTATION FOR CONDUIT SIZE	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	I-MCP-1	(FOR REF, SEE NOTE) QTY (20) #16 THWN (BLU) QTY (13) #16 THWN (BLU/ WHT) QTY (11) #16 THWN (GRN) QTY (11) #16 THWN (YEL)	SCREW PRESS LOCAL CONTROL PANEL TO MAIN CONTROL PANEL DIGITALS	24VDC	FIELD ROUTE	SCREW PRESS LOCAL CONTROL PANEL (ON-SKID) (2ND FLOOR SCREW PRESS ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			REFER TO VENDOR DOCUMENTATION FOR CABLE TYPE AND CONDUIT SIZE	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	I-MCP-2	(FOR REF, SEE NOTE) QTY (3) #16 1TSP QTY (1) CAT 6	SCREW PRESS LOCAL CONTROL PANEL TO MAIN CONTROL PANEL ANALOG AND COMM	4-20mA CAT 6	FIELD ROUTE	SCREW PRESS LOCAL CONTROL PANEL (ON-SKID) (2ND FLOOR SCREW PRESS ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			REFER TO VENDOR DOCUMENTATION FOR CABLE TYPE AND CONDUIT SIZE	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	N-MCP-1	QTY (1) 12 PR FIBER	SCREW PRESS LOCAL CONTROL PANEL TO MAIN CONTROL PANEL IFIBER NETWORK	FIBER	FIELD ROUTE	SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)									NEW FIBER PATCH BOX FOR NETWORK TIE-IN			UTILIZE EXISTING CONDUITS IF FEASIBLE. FURNISH & INSTALL NEW CONDUITS IF REQUIRED. INSTALL PER NEC.	A
SOLIDS CONTROL BLDG (2ND SCREW PRESS ROOM)	I-MCP-3	(FOR REF SEE NOTE) QTY (4) #16 THWN (BLK) QTY (4) #16 THWN (WHT) QTY (11) #16 THWN (GRN)	SCREW PRESS LOCAL CONTROL PANEL TO MAIN CONTROL PANEL - **120VAC POWER**	**120VAC**	FIELD ROUTE	SCREW PRESS LOCAL CONTROL PANEL (ON-SKID) (2ND FLOOR SCREW PRESS ROOM)									SCREW PRESS MAIN CONTROL PANEL (2ND FLOOR NEW ELECTRICAL ROOM)			REFER TO VENDOR DOCUMENTATION FOR CABLE TYPE AND CONDUIT SIZE	A
END OF SCHEDULE																			

TROY L DELZER
REGISTERED
24338
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8-03-2026

verdantas

NO	REVISION	DATE

BID	
ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	N/A
DESIGNED BY:	ABC
DRAWN BY:	ABC
CHECKED BY:	ABC

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

INSTRUMENTATION - I SERIES
CONTROL CABLE SCHEDULE

PROJECT NO.
38009

DISCIPLINE
INSTRUMENTATION

SHEET NAME
10I-02

SHEET 41 OF 44

GENERAL:

1. THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY. THE WORK SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS, CONSTRUCTION SPECIFICATIONS AND THE LATEST EDITION OF THE APPLICABLE LOCAL AND STATE BUILDING CODES.
   A. WHERE CONFLICT IS FOUND TO EXIST BETWEEN THE SPECIFICATIONS AND THESE NOTES, THE REQUIREMENTS OF THE SPECIFICATIONS SHALL GOVERN.
   B. ALL WORK SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE OHIO BUILDING CODE LATEST EDITION) OR THESE DOCUMENTS - WHICHEVER IS MORE STRINGENT.

2. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON THE PLANS BUT APPLY UNLESS NOTED OTHERWISE.

3. SHOP DRAWINGS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER/ARCHITECT.

   A. SHOP DRAWINGS PREPARED BY THE CONTRACTORS, SUPPLIERS, ETC., WILL BE REVIEWED BY THE ENGINEER ONLY FOR CONFORMANCE WITH DESIGN CONCEPT.
   B. NO WORK AFFECTED BY THE SHOP DRAWINGS SHALL BE STARTED WITHOUT SUCH REVIEW.
   C. THE GENERAL CONTRACTOR SHALL COORDINATE ALL REVISIONS, CORRECTIONS, AND COMMENTS INDICATED ON THE SHOP DRAWINGS BY THE ENGINEER.

4. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND COORDINATED WITH THE AS-BUILT DRAWINGS BY THE CONTRACTOR. DIMENSIONS AND ELEVATIONS MARKED "REF" ARE FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO USING THEM FOR ANY CONSTRUCTION.

5. THE STRUCTURAL CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.

6. ALL REQUIRED MATERIAL TESTING SHALL BE PERFORMED AT THE EXPENSE OF CONTRACTOR AND PERFORMED BY AN APPROVED TESTING AGENCY OR LABORATORY. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

7. THE OWNER SHALL EMPLOY A TESTING AGENCY TO PERFORM SPECIAL INSPECTIONS. CONTRACTOR SHALL ADHERE TO THE STRUCTURAL QUALITY ASSURANCE PLAN AS PER SECTION 17 OF THE IBC. THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR.
   A. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS AS NECESSARY TO PROVIDE INSPECTIONS AND VERIFICATIONS DURING CONSTRUCTION.
   B. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMOSTRATING THE COMPETENCE AND RELEVANT EXPEREIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. EXPERIENCE OR TRAINING SHALL BE CONSIDERED TO BE RELEVANT WHERE THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION OR TESTING ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES.
   C. SPECIAL INSPECTIONS AND TESTS, STATEMENT OF SPECIAL INSPECTIONS, RESPONSIBILITIES OF CONTRACTORS, SUBMITTALS TO THE BUILDING OFFICIAL AND STRUCTURAL OBSERVATIONS SHALL MEET THE REQUIREMENTS INDICATED BY THESE CONTRACT DOCUMENTS AND SECTION 1704 OF THE INTERNATIONAL BUILDING CODE.
   D. ANY DEFICIENCES FOUND DURING THE INSPECTIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER, CONTRACTOR, AND OWNER.

8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY WORK THAT IS DAMAGED OR IS NON-COMPLIANT IN ACCORDANCE WITH THE GOVERNING CODE OR AS INDICATED IN THE CONTRACT DOCUMENTS OR AS DEMEANED BY THE BUILDING OFFICIAL, ARCHITECT OR ENGINEER OF RECORD.

9. ALL STRUCTURES ARE DESIGNED TO BE STABLE AND SELF-SUPPORTING AT THE COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, AND TEMPORARY SUPPORTS OF THE STRUCTURE SO THAT IT WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURE IS DESIGNED FOR A COMPLETED CONDITION ONLY AND THEREFORE MAY REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION. PROVIDE TEMPORARY SHORING FOR EXISTING CONSTRUCTION UNTIL NEW CONSTRUCTION IS IN PLACE AND PROPERLY ANCHORED IN FINAL FORM.

10. CAST-IN-PLACE CONCRETE STRUCTURAL SLAB(S) SHALL BE SHORED UNTIL THE STRUCTURAL SLAB HAS REACHED A 28 DAY CONCRETE STRENGTH (F'C = 5 KSI).

11. SHORING LOADS FOR EXISTING STRUCTURE ARE SHOWN IN THE DOCUMENTS. SHORING SHALL BE DESIGNED AND CERTIFIED BY AN ENGINEER LICENSED IN THE STATE OF OHIO.

12. ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT BEING SUBSTITUTED.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

14. COORDINATE WITH MECHANICAL, PROCESS MECHANICAL, HVAC AND ELECTRICAL DRAWINGS FOR PIPE SLEEVES, DRAINS, INSERTS, HANGERS, WALL AND SLAB OPENINGS, CONDUIT RUNS IN WALLS AND SLABS, SIZE AND LOCATION OF SUPPORTS, CONCRETE ANCHORS, RAILING, ETC. THE CONTRACTOR SHALL PROVIDE THESE OPENINGS IN ACCORDANCE WITH THE OTHER CONTRACT DRAWINGS. REINFORCEMENT AROUND OPENINGS FOR NEW WALLS AND SLABS SHALL BE PER THE STANDARD DETAILS. UNLESS OTHERWISE SHOWN, SEE STANDARD DETAILS FOR CONSTRUCTION OF OPENINGS IN EXISTING WALLS AND SLABS.

15. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNER TO AVOID SYSTEM/OPERATION INTERRUPTIONS.

16. MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHALL BE STORED AT OWNER'S DESIGNATED LOCATIONS.

17. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE WORK AREA AND SURROUNDING PREMISES FREE OF WASTE, SURPLUS MATERIALS, RUBBISH, AND DEBRIS RESULTING FROM THE WORK.

18. ALL CONTRACTORS SHALL CONFORM TO THE SAFETY REQUIREMENTS OF THE OWNER, AIA DOCUMENTS A201, OSHA SAFETY AND HEALTH STANDARDS, OWNERS SAFETY REGULATIONS, AND ANY OTHER LOCAL AUTHORITY IN CONNECTION WITH THE PROJECT. ALL EXCAVATIONS SHALL BE PROPERLY SHORED IN ACCORDANCE WITH OSHA STANDARDS AND REQUIREMENTS. ENGINEER DOES NOT ASSUME ANY RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.

19. NO SUBSTITUTIONS OF MATERIAL WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

GOVERNING CODES AND STANDARDS:

THE FOLLOWING CODES AND STANDARDS SHALL BE UTILIZED BY THE CONTRACTOR TO ESTABLISH MINIMUM LEVELS OF QUALITY AND CONSTRUCTION TECHNIQUES. UNLESS NOTED OTHERWISE, REFERENCE THE BUILDING CODE AND/OR ASCE FOR THE REFERENCED STANDARD'S EDITION.

IBC - INTERNATIONAL BUILDING CODE, 2018 EDITION
IEBC - INTERNATIONAL EXISTING BUILDING CODE, 2018 EDITION
ASCE 7 2016 EDITION - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES,
ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 350 STRUCTURES - CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE
ACI 350.3 - SEISMIC DESIGN OF LIQUID-CONTAINING CONCRETE STRUCTURES
ACI 350.1 STRUCTURES - TIGHTNESS TESTING OF ENVIRONMENTAL ENGINEERING CONCRETE
ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
ACI 302 CONSTRUCTION - RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB
ACI 544 FINISHING STEEL FIBER REINFORCED CONCRETE - GUIDE FOR SPECIFYING, PROPORTIONING, MIXING, PLACING, AND
ACI 347 - GUIDE TO FORMWORK FOR CONCRETE
ACI 345R - HOT WEATHER CONCRETING
ACI 306R - COLD WEATHER CONCRETING
ACI 207 - GUIDE TO MASS CONCRETE
ACI 211.1 CONCRETE - SELECTING PROPORTIONS FOR NORMAL, HEAVY WEIGHT AND MASS
ACI 217.4R - COOLING AND INSULATING SYSTEMS FOR MASS
ACI SP-66 - ACI DETAILING MANUAL
PCA - DESIGN AND CONTROL OF CONCRETE MIXTURES
MSP-2 - MANUAL OF STANDARD PRACTICE
AISC 360 STEEL BUILDINGS - LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL
AISC 341 - SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS
AISC DESIGN GUIDE 27 - STRUCTURAL STAINLESS STEEL
ADM1 - ALUMINUM DESIGN MANUAL
AWS D1.1 - STRUCTURAL WELDING CODE - STEEL
AWS D1.2 - STRUCTURAL WELDING CODE - ALUMINUM
AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL
AWS D1.4 - STRUCTURAL WELDING CODE - REINFORCING STEEL
AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL
AWS D1.8 - STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT
NAAMM MGB 531 - METAL BAR GRATING MANUAL
NAAMM MGB 532 - HEAVY DUTY METAL BAR GRATING MANUAL

SUBMITTALS

1. SHOP DRAWINGS AND SUBMITTALS
   A. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
   B. ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR.
   C. REVIEW OF SHOP DRAWINGS WILL BE FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS REGARDING ARRANGEMENT AND SIZES OF MEMBERS AND THE CONTRACTOR'S INTERPRETATION OF THE DESIGN LOADS, IF APPLICABLE, AND CONSTRUCTION DOCUMENT DETAILS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE FULL RESPONSIBILITY TO COMPLY WITH THE CONSTRUCTION DOCUMENTS.

2. SUBMITTALS
   A. THE STRUCTURAL QUALITY ASSURANCE PLAN AND SPECIFICATIONS IDENTIFY THE REQUIRED SUBMITTALS. PRIOR TO (OR WITH) THE FIRST SUBMITTAL, CONTRACTOR SHALL SUBMIT A LIST OF ALL REQUIRED SUBMITTALS FOR ENGINEER'S REVIEW.

3. DEFERRED SUBMITTALS
   A. DEFERRED SUBMITTALS INCLUDE THOSE PORTIONS OF THE PROJECT THAT ARE FURNISHED BY THE CONTRACTOR AND DESIGNED BY SOMEONE OTHER THAN THE ENGINEER OF RECORD AND ARE SUBMITTED AT THE TIME OF THE APPLICATION. DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO FABRICATION AND INSTALLATION.
   B. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTALS:
      a. SHALL BE INCLUDED IN THE CONTRACTOR'S SCOPE OF SERVICES AND SHALL BE SEALED BY AN ENGINEER LICENSED IN THE PROJECT STATE. DESIGN OF DEFERRED SUBMITTALS SHALL BE IN ACCORDANCE WITH THE GOVERNING BUILDING CODE INDICATED ABOVE.
      b. SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
      c. SUBMITTAL DOCUMENTS MAY ALSO INCLUDE SUBSTANTIATING CALCULATIONS, WHEN REQUIRED.
   C. THE FOLLOWING SHALL BE CONSIDERED DEFERRED SUBMITTALS:
      a. GROUND IMPROVEMENT METHODS
      b. STEEL CONNECTIONS - SEE "STRUCTURAL STEEL" SECTION
      c. SLOTTED CHANNEL STRUT FRAMING (E.G. UNISTRUT)
      d. SEISMIC ANCHORAGE AND BRACING OF MPE EQUIPMENT

REINFORCEMENT

1. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-315, LATEST EDITION) AND MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (CRSI, LATEST EDITION). REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.

2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. ALL REINFORCING USED IN SEISMIC DESIGN CATEGORY (SDC) D AND HIGHER OR REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60. REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.

3. ALL WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185, A1064 PROVIDED IN FLAT SHEETS.

4. PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. SUPPORTS THAT BEAR DIRECTLY ON EXPOSED SURFACES SHALL BE A CRSI CLASS 1. STRUCTURAL SLABS SHALL UTILIZE A CRSI CLASS 2 SUPPORTS.

5. ALL DEVELOPMENT AND SPLICE LENGTHS SHALL BE PER ACI 318 WITH CLEAR SPACING GREATER OR EQUAL TO 3 BAR DIAMETER. PROVIDE CLASS "B" TENSION LAP SPLICE OR FULL MECHANICAL SPLICE (ACI 318, SECT. 25.4.2) FOR ALL REINFORCING. SEE LAP SCHEDULE ON SHEET SD-S-02 FOR LAP LENGTHS, UNO.

6. LAP SPLICES SHALL NOT BE MADE AT POINTS OF MAXIMUM STRESS AS DETERMINED BY THE ENGINEER. LAP SPLICES FOR CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS, WITH DOUBLE MAT OF REINFORCING, SHALL BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN FOR TOP BARS AND CENTERED OVER THE SUPPORT FOR THE BOTTOM BARS. LAP SPLICE IN BEAMS, CONTINUOUS SLABS AND WALLS SHALL BE STAGGERED. CENTERLINE OF STAGGERS SHALL BE A MINIMUM OF A SPLICE LENGTH APART.

7. A TOP BAR IS A HORIZONTAL BAR WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST DIRECTLY BELOW THE BAR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS. FOR EPOXY-COATED REINFORCEMENT, MULTIPLY THE TABULATED VALUES BY 1.5 FOR 'REGULAR BARS' AND 1.3 FOR 'TOP BARS'.

8. SUBMIT REINFORCING SHOP DRAWINGS FOR REVIEW. AT A MINIMUM, THESE DRAWINGS SHALL SHOW THE GENERAL PLACEMENT OF REINFORCING, CONSTRUCTION JOINTS, CONTROL JOINTS, EXPANSION JOINTS, CONCRETE MEMBER DIMENSIONS, DOWELS, BAR LENGTHS, SPLICE LENGTH, AND REINFORCING BEND TABLES.

9. TACK WELDING OR WELDING OF REBAR SHALL NOT BE PERMITTED UNLESS OTHERWISE CALLED FOR OR APPROVED BY THE ENGINEER. IF APPROVED, REINFORCING MAY BE WELDED IN ACCORDANCE WITH AWS SPECIFICATION D1.4. ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.

10. IN ADDITION TO NORMAL ACCESSORIES USED TO HOLD REINFORCING STEEL FIRMLY IN POSITION, EXTRA ACCESSORY BARS SHALL BE USED AS FOLLOWS:
    A. IN SLABS, #5 RAISER BARS AT 36" ON CENTER MAXIMUM TO SUPPORT TOP REINFORCING STEEL.
    B. IN WALLS WITH TWO CURTAINS, #3 U OR Z-SHAPE SPACERS AT 6'-0 " ON CENTER EACH WAY.

11. CONCRETE CONSTRUCTION SHALL BE REINFORCED CONCRETE EXCEPT WHERE PLAIN CONCRETE IS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED, MINIMUM REINFORCING STEEL SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING SCHEDULES:

SLAB THICKNESS	SIZE	SPACING E.W.	LOCATION
4"	#3	12"	CENTERED
5"	#4	12"	CENTERED
6"	#4	12"	CENTERED
8"	#4	12"	T & B
9"	#4	12"	T & B
10"	#4	12"	T & B
12"	#5	12"	T & B

WALL THICKNESS	SIZE	SPACING E.W.	LOCATION
6"	#4	12"	CENTERED
8"	#5	12"	CENTERED
10"	#4	12"	E F
12"	#5	12"	E F
14"	#5	12"	E F
16"	#6	12"	E F
18"	#6	12"	E F

12. ALL HOOKS SHALL BE ACI STANDARD HOOKS UNLESS DIMENSIONED OTHERWISE. BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, SECT. 25.3. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS REQUIRED TO PROVIDE SPECIFIED DEVELOPMENT LENGTH DUE TO AN ADJACENT STRUCTURE, EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

13. LAP SPLICE WELDED WIRE FABRIC ONE SPACE PLUS 2 INCHES AT EDGES AND ENDS AND PROVIDE ADDITIONAL REINFORCING WHERE SHOWN ON DRAWINGS. PLACE MESH 2 INCHES FROM TOP OF SLAB FOR SLABS ON GROUND AND 1 INCH FROM TOP OF SUPPORTED SLABS UNLESS NOTED OTHERWISE.

CAST-IN-PLACE CONCRETE:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318 AND ACI 350. CAST-IN-PLACE CONCRETE SHALL CONFORM WITH THE REQUIREMENT OF THE SPECIFICATIONS AND CONFORM TO THE MINIMUM REQUIREMENT OF ODOT Class C reinforced concrete.

2. CONCRETE FOR STRUCTURES SHALL HAVE THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS:
   CAST-IN-PLACE CONCRETE: 5,000 PSI
   FILL CONCRETE: 1,500 PSI

3. USE 6% ±1.5%, ENTRAINED AIR PER ASTM C260 FOR ALL CONCRETE EXPOSED TO WEATHER.

4. ADMIXTURES SHALL CONTAIN NO MORE THAN 0.05% CHLORIDE IONS BY WEIGHT OF CEMENT WHEN TESTED IN ACCORDANCE WITH AASHTO T260.

5. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED, AND CURED IN ACCORDANCE WITH ACI 301,304,308,309 AND 318. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED IN ACCORDANCE WITH ACI 304 AND ACI 309.

6. CONTRACTOR SHALL KEEP A COPY OF "FIELD REFERENCE MANUAL: STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 WITH SELECTED ACI REFERENCES", (ACI PUBLICATION SP-15) AT THE PROJECT FIELD OFFICE.

7. ALL REINFORCING DETAILS SHALL CONFORM TO THE ACI DETAILING MANUAL, SP-66, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.

8. SUBMIT FOR APPROVAL CONCRETE MIX DESIGN AND CERTIFICATION OF CONCRETE MATERIALS CONFORMING TO THE FOLLOWING EXPOSURE CATEGORIES:

FREEZE AND THAWING	F1
SULFATE	S1
IN CONTACT WITH WATER	W1
CORROSION PROTECTION	C2

9. THE CONTRACTOR SHALL EMPLOY A TESTING LABORATORY APPROVED BY THE ENGINEER/ARCHITECT TO PERFORM THE TESTING SPECIFIED PER PARAGRAPH 1.6.4 OF ACI 301. THE TESTING LABORATORY SHALL MEET THE REQUIREMENTS OF ASTM E329. TESTING SHALL BE MADE BY AN ACI CONCRETE FIELD-TESTING TECHNICIAN GRADE 1 OR APPROVED EQUIVALENT. A TECHNICIAN GRADE 1 SHALL BE PRESENT DURING ALL CONCRETE PLACEMENT.

10. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CORNERS OF SLABS UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWINGS. MINIMUM CLEARANCES FOR REINFORCING STEEL SHALL BE MAINTAINED. CHAMFERS SHALL EXTEND 2'-0", MINIMUM, BELOW GRADE.

11. CURE ALL CONCRETE FOR A MINIMUM 7-DAYS. APPLY CURING COMPOUND AT THE MAXIMUM COVERAGE RATE OF 300 SQUARE FEET PER GALLON. USE PRODUCT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS.

12. CONTRACTOR SHALL PROVIDE AN EPOXY BONDING AGENT TO ALL SURFACES BETWEEN EXISTING AND FRESH CONCRETE. BONDING AGENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. PRIOR TO APPLICATION OF BONDING AGENT, THE EXISTING CONCRETE BASE SURFACE SHALL BE THOROUGHLY CLEANED TO REMOVE ANY GREASE, OIL OR OTHER CONTAMINANTS THAT MAY PREVENT ADEQUATE BOND TO THE EXISTING CONCRETE. REMOVE WEAK OR DETERIORATED CONCRETE.

13. THE CONCRETE INTERFACE OF ALL CONSTRUCTION JOINTS SHALL BE ROUGHEN TO 1/4", MINIMUM, AMPLITUDE.

14. ALUMINUM OR DISSIMILAR METALS IN CONTACT WITH CONCRETE SHALL BE COATED WITH GRAY EPOXY PRIMER, EPOXY PRIMER SHALL BE PRE-APPROVED BY THE ENGINEER.

15. FORMWORK, FOR ALL CONCRETE THAT WILL BE EXPOSED IN THE COMPLETED STRUCTURE, SHALL BE CONSTRUCTED FROM A METAL OR SUITABLE SURFACE PLYWOOD THAT WILL PRODUCE AN ACCEPTABLY SMOOTH SURFACE. SEE SPECIFICATIONS.

16. CONCRETE PROTECTION (CLEAR COVER) FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
    A. CONCRETE IN CONTACT WITH SEWAGE OR WATER:
       - 2 INCHES
    B. CONCRETE IN CONTACT WITH GROUND OR WEATHER:
       - 2 INCHES
    C. CONCRETE NOT TO BE EXPOSED TO GROUND, WEATHER OR LIQUID
       - 2 INCHES, SLABS AND WALLS
       - 1-1/2 INCHES, STIRRUPS & TIES

17. ANCHOR BOLTS SHALL BE ASTM F1554-36 UNLESS OTHERWISE NOTED. EMBEDMENT, EDGE DISTANCES AND ALLOWABLE LOADS SHALL CONFORM TO IBC TABLE 1912.2 OR AS NOTED ON THE DRAWINGS. CONFORM TO ADDITIONAL REQUIREMENTS IN SPECIFICATION 05 SECTION AS APPLICABLE.

ALUMINUM:

1. ALUMINUM MEMBERS SHALL BE FABRICATED, TRANSPORTED, AND ERECTED PER THE ALUMINUM DESIGN MANUAL BY THE ALUMINUM ASSOCIATION, INC.

2. ALUMINUM MEMBERS SHALL BE CUT BY SHEARING, SAWING, NIBBLING, ROUTING, ARC CUTTING, LASER OR ABRASIVE WATER JET. OXYGEN CUT SHALL BE PROHIBITED.

3. CONTRACTOR SHALL NOT WELD ALUMINUM MEMBERS WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER OF RECORD.

4. ALUMINUM MEMBERS SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:
   A. PLATES: ALUMINUM ALLOY 6061-T6, ASTM B209
      a. MINIMUM TENSILE STRESS = 42 KSI
      b. MINIMUM YIELD STRESS = 35 KSI
   B. TUBING: ALUMINUM ALLOY 6061-T6, ASTM B308
      a. MINIMUM TENSILE STRESS = 42 KSI
      b. MINIMUM YIELD STRESS = 35 KSI
   C. SOLID BAR: ALUMINUM ALLOY 6061-T651, ASTM B211
      a. MINIMUM TENSILE STRESS = 38 KSI
      b. MINIMUM YIELD STRESS = 35 KSI
   D. BOLTS: ALUMINUM ALLOY 2024-T4, ASTM F468 OR STAINLESS STEEL, ASTM F593

5. WHERE ALUMINUM IS IN CONTACT WITH OR FASTENED TO STEEL, WOOD, FIBERBOARD, CONCRETE OR MASONRY, A COMPATIBLE, NONPOROUS ISOLATOR BETWEEN THE ALUMINUM AND OTHER MATERIAL SHALL BE SUPPLIED.

6. A COMPATIBLE, NONPOROUS ISOLATER SHALL CONSIST OF EITHER A HEAVY COATING OF ALKALI RESISTANT BITUMINOUS PAINT OR AN APPROVED ALTERNATIVE METHOD.

7. ALUMINIZED, HOT-DIP GALVANIZED OR ELECTRO-GALVANIZED STEEL IN CONTACT WITH ALUMINUM NEED NOT BE PAINTED.

8. ALL BOLTS SHALL BE INSTALLED TO A SNUG-TIGHT CONDITION, UNLESS NOTED OTHERWISE.

9. ALL BOLTS SHALL BE PROVIDED WITH LOCK WASHERS, PALNUTS, OR LOCK NUTS.

POST-INSTALLED FASTENERS:

1. POST-INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS.

2. ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION IS REQUIRED FOR ALL INSTALLERS OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION. THIS CERTIFICATION CAN BE OBTAINED THROUGH ACI OR APPROVED EQUIVALENT.

3. FASTENERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING IN COORDINATION WITH INFORMATION HEREIN. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST BETWEEN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND THE REQUIREMENTS HEREIN.

4. REINFORCEMENT STEEL SHALL NOT BE CUT. PRIOR TO DRILLING THE CONCRETE, THE REINFORCING SHALL BE LOCATED WITH A MAGNETIC BAR LOCATOR. POST-INSTALLED BOLTS AND FASTENERS SHALL BE INSTALLED TO MISS REINFORCEMENT STEEL IN CONCRETE. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS.

5. DRILL HOLES USING ROTARY PERCUSSION DRILL WITH A DEPTH GAGE. DO NOT DRILL THROUGH FULL THICKNESS OF CONCRETE. USE OF A DIAMOND CORE BIT WITH ROUGHENING TOOL FOR ANCHOR HOLES MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO DRILLING. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL HOLES SHALL BE DRILLED PERPENDICULAR TO THE CONCRETE SURFACE. CLEAN HOLES IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IF CONCRETE IS DAMP, BLOW DRY HOLE WITH OIL-FREE COMPRESSED AIR. CLEAN HOLE WITH WATER ONLY IF RECOMMENDED BY MANUFACTURER. ADHESIVE ANCHORS MAY NOT BE SET IF WATER IS SEEPING INTO HOLE AND THE STRUCTURAL ENGINEER. OF RECORD SHALL BE NOTIFIED.

6. ANCHOR SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE SUBMITTED AND APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR ITS USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.

7. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.

8. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS. CONTRACTOR SHALL CONTACT STRUCTURAL ENGINEER SHOULD THE LAYOUT OF THE ANCHOR, EMBEDMENT, SPACING OR EDGE DISTANCES, IS MODIFIED.

9. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES:

BART STROBEL REGISTERED 27655 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
08/05/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
ISSUE DATE:	8/03/2026
SCALE:	N/A
DESIGNED BY:	BAS
DRAWN BY:	RLM
CHECKED BY:	BAS

CITY OF WHEELING W.VA.
WASTEWATER TREATMENT PLANT
SL

CONSIST OF THE FOLLOWING ANCHOR TYPES:

A. ANCHORAGE TO CONCRETE:

- ADHESIVE ANCHORS:

1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD
2. HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS-V-36 GRADE 36 THREADED ROD
3. HILTI HIT-RE 500v3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS THREADED ROD
4. SIMPSON SET-XP WITH ASTM A36 THREADED ROD
5. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD
6. APPROVED EQUAL

- MECHANICAL ANCHORS:

1. HILTI KWIK HUS-EZ (KH-EZ), KH-EZ CRC, KH-EZ SS316, KH-EZ C, KH-EZ E, KH-EZ I, AND KH-EZ P SCREW ANCHOR SAFE SET SYSTEM INSTALLED USING HOLLOW DRILL BIT AND VACUUM
2. HILTI KWIK BOLT-1 EXPANSION ANCHOR
3. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR
4. SIMPSON TITEN HD SCREW ANCHOR
5. SIMPSON STRONG-BOLT 2 WEDGE ANCHOR
6. APPROVED EQUAL

- REBAR DOWELING INTO CONCRETE:

1. HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR
2. HILTI HIT-HY 500v3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR
3. SIMPSON SET-XP WITH CONTINUOUSLY DEFORMED REBAR
4. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH CONTINUOUSLY DEFORMED REBAR
5. APPROVED EQUAL

B. ANCHORAGE TO SOLID GROUTED MASONRY:

- ADHESIVE ANCHORS:

1. HILTI HIT-HY 270 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HILTI HAS CONTINUOUSLY THREADED ROD OR DEFORMED REBAR.
2. SIMPSON SET-XP WITH ASTM A36 THREADED ROD OR CONTINUOUSLY DEFORMED REBAR
3. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD OR CONTINUOUSLY DEFORMED REBAR
4. APPROVED EQUAL

- MECHANICAL ANCHORS USE:

1. HILTI KWIK BOLT-1 EXPANSION ANCHOR
2. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR
3. HILTI KH-EZ, KH-EZ CRC, KH-EZ SS316, KH-EZ C, AND KH-EZ P SCREW ANCHORS
4. SIMPSON STRONG-BOLT 2 WEDGE ANCHOR
5. SIMPSON WEDGE-ALL WEDGE ANCHOR
6. APPROVED EQUAL

C. ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY:

- ADHESIVE ANCHORS USE:

1. HILTI HIT-HY 270 SAFE SET SYSTEM INSTALLED USING THE APPROPRIATE SIZE SCREEN TUBE PER THE ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND A HILTI HOLLOW DRILL BIT AND VACUUM WITH HILTI HAS CONTINUOUSLY THREADED ROD OR DEFORMED REBAR.
   SIMPSON SET-XP THE APPROPRIATE SIZE SCREEN TUBE PER THE ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS WITH ASTM A36 THREADED ROD
2. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD
3. APPROVED EQUAL

SPECIAL INSPECTIONS:

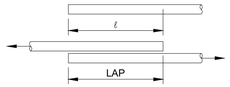
PER THE IBC SECTION 1705, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK DESIGNATED TO ASSURE IT IS CONSTRUCTED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND TESTS TO THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
   C. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
   D. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED WITHIN THE AGREED UPON TIME TO THE BUILDING OFFICIAL PRIOR TO THE START ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
   E. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY ACKNOWLEDGING THE AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

2. CONCRETE:
   A. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT. (PERIODIC)
   B. REINFORCING BAR WELDING:
1. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706. (PERIODIC)
2. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" (PERIODIC)
3. INSPECT ALL OTHER WELDS (CONTINUOUS)
   C. INSPECT ANCHORS CAST IN CONCRETE (PERIODIC)
   D. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:
1. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. (CONTINOUS)
2. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE. (PERIODIC)
   E. VERIFY USE OF REQUIRED MIX DESIGN. (PERIODIC)
   F. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. (CONTINUOUS)
   G. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. (CONTINUOUS)
   H. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. (PERIODIC)
   I. INSPECT PRESTRESSED CONCRETE FOR:
1. APPLICATION OF PRESTRESSING FORCES. (CONTINUOUS)
2. GROUTING OF BONDED PRESTRESSING TENDONS. (CONTINUOUS)
   J. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS. (PERIODIC)
   K. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS. (PERIODIC)
   L. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. (PERIODIC)
   M. NO INSPECTION IS REQUIRED FOR SLABS-ON-GRADE.

STRUCTURAL DRAWING ABBREVIATIONS

ADDL	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
&	AND
APPROX	APPROXIMATELY
@	AT or SPACING
B/	BOTTOM OF
BM	BEAM
BRDG	BRIDGING
BRG	BEARING
BOT	BOTTOM
CL	CENTERLINE
CLR	CLEAR
CTR	CENTER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CJ	CONTROL/CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNIT
DBL	DOUBLE
DEG or °	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DIAG	DIAGONAL
DIA or ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMBED	EMBEDDED, EMBEDMENT
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FV	FIELD VERIFY
FIN	FINISH
FS	FARSIDE
FT	FOOT, FEET
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GEN	GENERAL
GR	GRADE
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IF	INSIDE FACE
INT	INTERIOR
INV	INVERT
INV	INVERT
JT	JOINT
L	ANGLE
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW POINT
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
NO or #	NUMBER
NOM	NOMINAL
NS	NEARSIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PAR	PARALLEL
PERP	PERPENDICULAR
PL	PLATE
QTY	QUANTITY
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCEMENT, REINFORCING, REINFORCED
REQD	REQUIRED
SECT	SECTION
SER	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SPA	SPACING
SS	STAINLESS STEEL
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURAL
T	TOP
T/	TOP OF
T&B	TOP AND BOTTOM
THD	THREAD
THK	THICK
THRU	THROUGH
TRANS	TRANSVERSE
TYP	TYPICAL
UN or UNO	UNLESS NOTED (OTHERWISE)
VERT	VERTICAL
VIF	VERIFY IN FIELD
w/	WITH
WWF	WELDED WIRE FABRIC

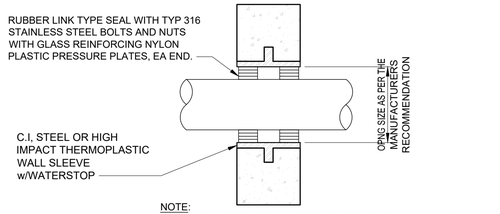


LAP TABLE (f'c = 5,000 PSI)

BAR SIZE	LAP CLASS	UNCOATED BARS			
		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2
#3	A	17	25	13	19
	B	22	33	17	25
#4	A	22	33	17	26
	B	29	43	22	33
#5	A	28	42	22	32
	B	36	54	28	42
#6	A	33	50	26	38
	B	43	65	33	50
#7	A	49	73	37	56
	B	63	94	49	73
#8	A	55	83	43	64
	B	72	108	55	83
#9	A	63	94	48	72
	B	81	122	63	94
#10	A	70	105	54	81
	B	91	137	70	105
#11	A	78	117	60	90
	B	101	152	78	117
#14	N/A	94	140	72	108
#18	N/A	125	187	96	144

NOTES:
1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH OF 60,000 PSI [420 MPa]. LENGTHS ARE IN INCHES.
2. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL MEMBER, CONCRETE COVER, AND OC SPACING OF THE BARS ARE DEFINED AS:
   BEAMS AND COLUMNS
   - CASE 1: CONCRETE COVER AT LEAST $1.0d_b$ AND OC SPACING AT LEAST $2.0\ d_b$
   - CASE 2: CONCRETE COVER LESS THAN $1.0d_b$ OR OC SPACING LESS THAN $2.0\ d_b$

   OTHER BARS
   - CASE 1: CONCRETE COVER AT LEAST $1.0d_b$ AND OC SPACING AT LEAST $3.0\ d_b$
   - CASE 2: CONCRETE COVER LESS THAN $1.0d_b$ OR OC SPACING LESS THAN $3.0\ d_b$
3. TENSION LAP SPLICES OF #14 OR #18 [#43 OR #57] BARS ARE NOT PERMITTED. THE TABLE VALUES FOR THOSE BAR SIZES ARE TENSION DEVELOP LENGTHS.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES [300 mm] OF CONCRETE CAST BELOW THE BARS.

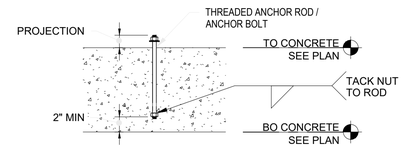


NOTE:
FOR EXISTING CONCRETE, PROVIDE CORED HOLE IN LIEU OF SLEEVE. DO NOT CORE THROUGH EXISTING REINFORCING.

COMPRESSIVE RUBBER LINK TYPE

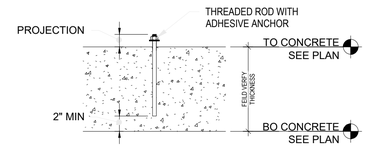
9 / SD-S-02 TYPICAL PIPE SLEEVE THRU CONCRETE WALL DETAIL

SCALE: NTS



NOTES:
1. USE HEAD BOLTS OR TACK WELD
2. COORDINATE PROJECTION WITH EQUIPMENT SUPPLIER UNLESS NOTED OTHERWISE
3. DO NOT USE 'J' BOLTS. 'J' BOLTS ARE NOT ACCEPTABLE
4. ANCHOR BOLTS TO BE STAINLESS STEEL UNLESS NOTED OTHERWISE

ANCHORS IN NEW CONCRETE



NOTES:
1. COORDINATE PROJECTION WITH EQUIPMENT SUPPLIER UNLESS NOTED OTHERWISE
2. ANCHOR BOLTS TO BE STAINLESS STEEL UNLESS NOTED OTHERWISE

ANCHORS IN EXISTING CONCRETE

10 / SD-S-02 ANCHORS IN CONCRETE

SCALE: NTS

BART STROBEL
REGISTERED
27655
STATE OF
VIRGINIA
PROFESSIONAL ENGINEER
08/05/2026

verdantas

NO	REVISION	DATE

ISSUE FOR:	BID
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DESIGNED BY:	BAS
DRAWN BY:	RLM
CHECKED BY:	BAS

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

STANDARD DETAIL - SD SERIES

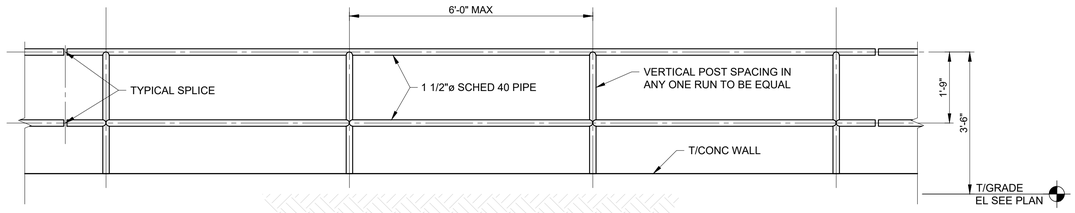
STRUCTURAL GENERAL NOTES AND DETAILS

PROJECT NO.
38009

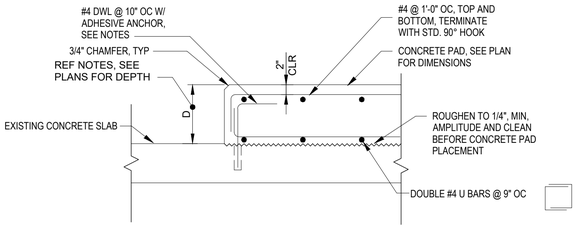
DISCIPLINE
STRUCTURAL

SHEET NAME
SD-S-02

SHEET 43 OF 44



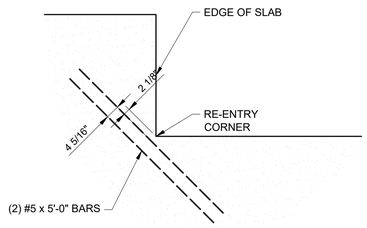
1 SD-S-03 TYPICAL GUARDRAIL ELEVATION DETAIL
SCALE: NTS



NOTES:

1. FOR "D" LESS THEN 10", REINFORCING CAN BE #4@1'-2" OC AND #4DOWEL @12" OC.
2. ADHESIVE ANCHOR DEPTH SHALL BE 2/3 EXISTING SLAB DEPTH. MAXIMUM DEPTH DOES NOT NEED TO EXCEED 5 1/2".
3. AT A MINIMUM, FOR SMALL PADS, PROVIDE (2) DOWELS AT EACH SIDE OF THE PAD FOR A TOTAL OF (4) DOWELS.
4. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
5. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE PROJECT REPRESENTATIVE. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
6. EQUIPMENT BASES SHALL BE INSTALLED LEVEL, REFER TO EQUIPMENT MANUFACTURES DOCUMENTS FOR MINIMUM LEVELING REQUIREMENT.
7. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. ANCHOR BOLTS MAY BE USED FOR LEVELING WITH DOUBLE NUTS. HOWEVER, PRIOR TO TIGHTENING, THE BASE PLATE MUST BE HARD-SHIMMED AND THE LEVELING NUTS BACKED OFF. EACH ANCHOR BOLT MUST HAVE IT'S OWN SHIM PACK AND THE NUT FULLY TIGHTENED PRIOR TO GROUTING. WEDGES OR SHIMS THAT ARE LEFT IN PLACE SHALL NOT BE EXPOSED TO VIEW.

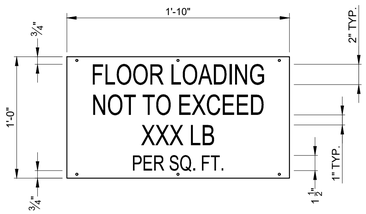
2 SD-S-03 ANCHORS IN NEW CONCRETE
SCALE: NTS



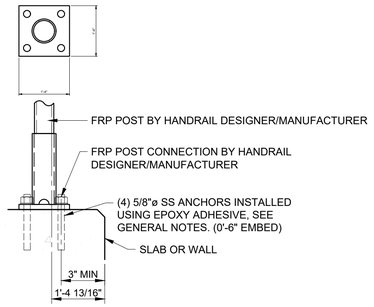
NOTE:
PROVIDE RE-ENTRY REINFORCING AT ALL RE-ENTRY CORNERS. PROVIDE STD HOOK IS AT INTERFACE. PROVIDE REINFORCING AS SHOWN AT ALL CORNERS IN SLAB.

3 SD-S-03 TYPICAL CONCRETE REINF AT RE-ENTRANT CORNERS DETAIL
SCALE: NTS

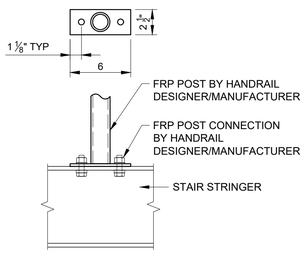
NOTE:
PROVIDE MINIMUM (1) SIGN PER ROOM WHICH INCLUDES STRUCTURAL WORK IN THIS PROJECT, AND ALSO MINIMUM (1) SIGN PER 10,000 SQUARE FEET OF EACH ROOM WHICH INCLUDES STRUCTURAL WORK IN THIS PROJECT



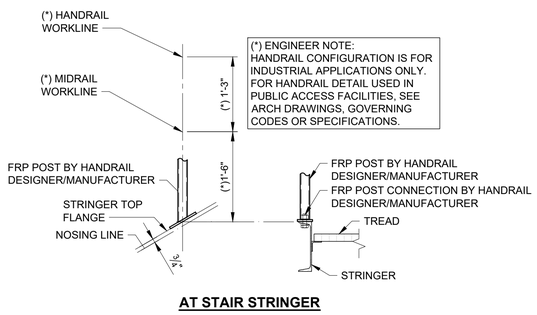
4 SD-S-03 FLOOR LOADING SIGN
SCALE: NTS



5 SD-S-03 TYPICAL REMOVABLE RAILING BASE DETAIL
SCALE: NTS

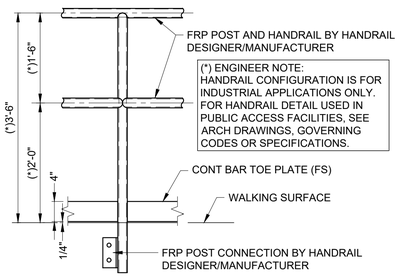


6 SD-S-03 TYPICAL STAIR RAIL POST BASE MOUNTING DETAIL
SCALE: NTS

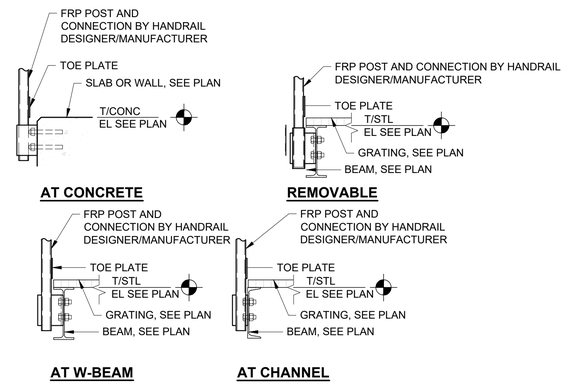


AT STAIR STRINGER

7 SD-S-03 TYPICAL HANDRAIL CONNECTION DETAIL
SCALE: NTS



8 SD-S-03 TYPICAL HANDRAIL DETAIL
SCALE: NTS



9 SD-S-03 TYPICAL HANDRAIL CONNECTION DETAILS
SCALE: NTS

BART STROBEL
REGISTERED
27655
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
08/05/2026

verdantas

NO	REVISION	DATE

BID	ISSUE FOR:
8/03/2026	ISSUE DATE:
AS NOTED	SCALE:
BAS	DESIGNED BY:
RLM	DRAWN BY:
BAS	CHECKED BY:

CITY OF WHEELING W.V.A.
WASTEWATER TREATMENT PLANT
SLUDGE DEWATERING IMPROVEMENTS

STANDARD DETAIL - SD SERIES

STRUCTURAL STANDARD DETAILS

PROJECT NO.
38009
DISCIPLINE
STRUCTURAL
SHEET NAME
SD-S-03
SHEET 44 OF 44