Public Works & Utilities
CITY OF WICHITA

CITY OF WICHITA, KANSAS

SEWAGE TREATMENT PLANT 2

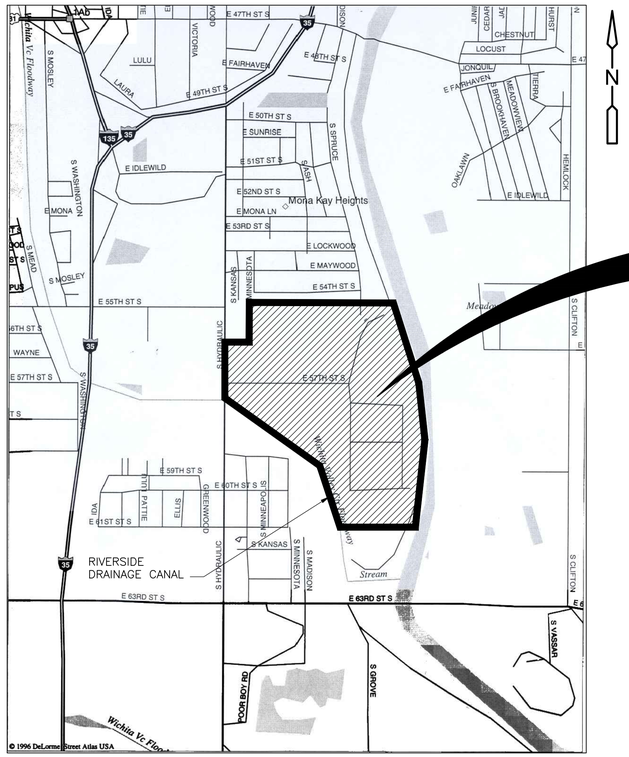
BIOLOGICAL NUTRIENT REMOVAL IMPROVEMENTS

PACKAGE NO.4
DEWATERING IMPROVEMENTS

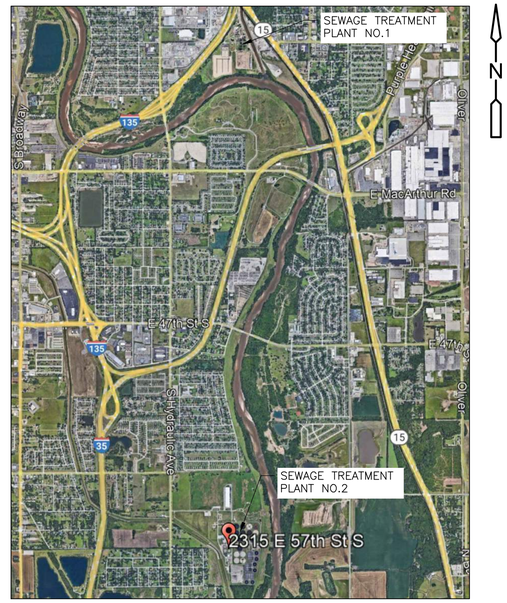
CONTRACT NO. 468-2022-040653

MARCH 2024

100% SUBMITTAL



LOCATION PLAN



VICINITY MAP

811 Know what's **below.** **Call** before you dig.

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AACE · BAUGHMAN · CUSTOM ENGINEERING MECHANICAL & ELECTRICAL ENGINEERING · EAE · KMB ENGINEERING

DUSTIN LEVI CRAG — LICENSED — 24664 — 03.18.2024 — KANSAS — PROFESSIONAL ENGINEER

SARAH A. STEWART — LICENSED — 21336 — KANSAS — PROFESSIONAL ENGINEER — 3-18-2024

SUBMITTED BY: _____ DATE: _____

SARAH A. STEWART, P.E.
CDM Smith, Inc.

2395-267343

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DRAWING INDEX I

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G001SHL

SHEET NO.
G-1

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ICC BUILDING

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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APPROVED BY: M. MALLOY
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

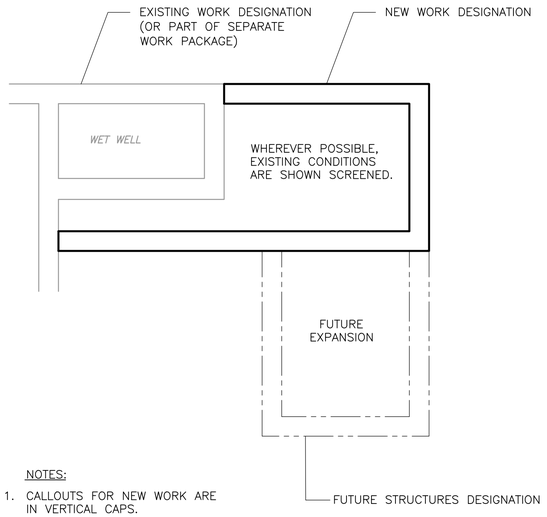
DRAWING INDEX II

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G001SHL

SHEET NO.
G-2

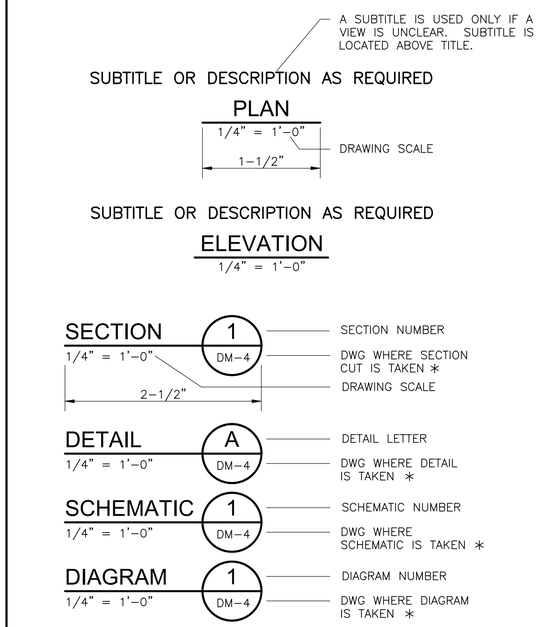
EXISTING OR FUTURE CONDITION DESIGNATION



NOTES:

1. CALLOUTS FOR NEW WORK ARE IN VERTICAL CAPS.
2. FUTURE STRUCTURES SHOWN IN A PHANTOM LINE AND LABELED 'FUTURE'.

DRAWING, SECTION AND DETAIL TITLES



* IF SECTION, DETAIL, SCHEMATIC OR DIAGRAM IS DRAWN ON THE SAME SHEET THAT IT IS TAKEN FROM, REPLACE THE SHEET NUMBER WITH A HYPHEN. IF THE SECTION IS REFERENCED ON MULTIPLE SHEETS, THE SHEET NUMBER INDICATES THE FIRST SHEET THE SECTION IS TAKEN FROM.

GENERAL NOTES

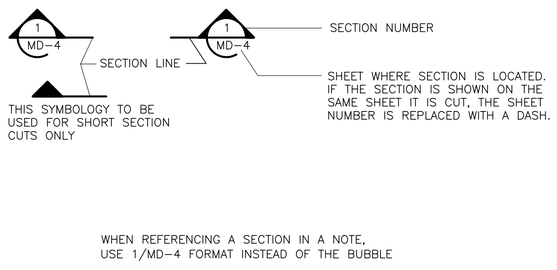
OVERALL

1. LOCATION OF ALL EXISTING UTILITIES, STRUCTURES, PROPERTY LINES, SUBSURFACE SOIL OR ROCK CONDITIONS ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL EXISTING FACILITIES OR POTENTIAL CONFLICTS ARE SHOWN. EXISTING ITEMS SHOWN IN PROFILE ARE APPROXIMATE ELEVATIONS ONLY. ALL OVERHEAD ELECTRICAL AND TELEPHONE CABLES AND POLES ARE NOT WARRANTED TO BE SHOWN.
2. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL PROPERTY LINES, EASEMENTS AND EXISTING UTILITIES. CONTRACTOR SHALL REPORT FINDINGS TO THE ENGINEER PRIOR TO CONSTRUCTION. IT IS THE INTENT TO SHOW ALL PROPERTY LINES, EXISTING UTILITIES AND UNDERGROUND STRUCTURES, HOWEVER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SATISFY HIMSELF/HERSELF THAT ALL EXISTING UTILITIES AND OTHER ITEMS, WHETHER SHOWN ON THESE DRAWINGS OR NOT, HAVE BEEN PROPERLY LOCATED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING ITEMS, UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS OR MAKE EXPLORATORY EXCAVATIONS AS NECESSARY AND AS NOTED ON THE DRAWINGS TO DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AND THE LIMITS AND CHARACTER OF SOIL AND/OR ROCK. IF ANY ITEM REQUIRES RELOCATION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF THE ITEM WELL IN ADVANCE OF APPROACH TO THE ITEM AND SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS WITH THE OWNER FOR RELOCATION OF THE ITEM. RELOCATION OF MINOR FACILITIES MAY BE DONE BY THE CONTRACTOR IF ACCEPTABLE TO THE ENGINEER.
4. SLANTED AND SCREENED TEXT DENOTES INFORMATION TAKEN FROM OR CALCULATED FROM AS-BUILT SOURCES THAT HAVE NOT BEEN FIELD VERIFIED. AS-BUILT INFORMATION WAS TAKEN FROM EXISTING PLANT RECORD DRAWINGS. THESE DRAWINGS ARE AVAILABLE FOR REVIEW BY CONTRACTOR AT OWNER'S CONVENIENCE. UNLESS OTHERWISE NOTED, ALL INFORMATION OBTAINED FROM AS-BUILT SOURCES HAS NOT BEEN FIELD VERIFIED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL PROJECT SAFETY INCLUDING, BUT NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, TRAFFIC CONTROL, CONFINED SPACE ENTRY AND SITE SECURITY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF HIS/HER OWN EQUIPMENT, TOOLS, FACILITIES, MATERIALS, OFFICES, AND OTHER APPURTENANCES DURING THE LIFE OF PROJECT.
6. THE CONTRACTOR SHALL LIMIT HIS/HER ACTIVITY TO WITHIN THE PLANT SITE BOUNDARIES. EXISTING TREES AND SHRUBS SHALL BE REMOVED ONLY IF ACCEPTABLE TO THE OWNER OR IF SPECIFICALLY NOTED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL VERIFY PIPE MATERIAL AND TYPE OF JOINT BEFORE CONNECTIONS BETWEEN EXISTING AND NEW PIPES ARE MADE. THE CONTRACTOR SHALL SUPPORT ALL PIPING AND CONDUITS EXPOSED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLOW DIVERSION AND DEWATERING OF EXISTING PIPE LINES BEFORE INSTALLING TIE-INS.
8. THE CONTRACTOR SHALL REPAIR PAVEMENT THAT HAVE BEEN CUT OR DAMAGED DURING CONSTRUCTION IN ACCORDANCE WITH THE CITY OF WICHITA STANDARDS. REPAIRS SHALL BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION.
9. THE CONTRACTOR SHALL RESTORE ALL AREAS OF CONSTRUCTION PER RESTORATION AS SHOWN ON THE EROSION AND SEDIMENT CONTROL DRAWINGS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORM WATER, SILT AND EROSION CONTROL DURING ALL PHASES OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL ASSOCIATED CONSTRUCTION PERMITS.
11. ALL EXCESS MATERIALS AND DEMOLITION DEBRIS SHALL BECOME THE PROPERTY OF CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN OFF-SITE SOLID WASTE LANDFILL OR OTHER ACCEPTABLE LOCATION. EXCESS SOIL SHALL BE STOCKPILED AT THE SITE IN A LOCATION ACCEPTABLE TO THE OWNER AND SHALL REMAIN THE PROPERTY OF THE OWNER. STOCKPILED SOIL SHALL NOT CONTAIN CONSTRUCTION DEBRIS, ROCK OR OTHER DELETERIOUS SUBSTANCES, CONTAMINATED SOIL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISPOSAL COST AND OBTAINING THE REQUIRED PERMITS.
12. THE TERM "ACCEPTABLE TO ENGINEER" SHALL MEAN WRITTEN ACCEPTANCE BY ENGINEER TO BE RECEIVED BEFORE WORK IS STARTED.
13. ANY DEVIATION FROM CONTRACT DRAWINGS OR SPECIFICATIONS MUST BE ACCEPTED BY THE ENGINEER IN WRITING PRIOR TO THE WORK BEING STARTED. ANY DEVIATION PERFORMED WITHOUT THE ENGINEER'S ACCEPTANCE WILL NOT BE PAID FOR AND MAY BE REQUIRED TO BE REDONE AT THE CONTRACTOR'S EXPENSE.
14. EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK SHALL BE IN ACCORDANCE WITH ALL CITY OF WICHITA STANDARDS. THE CONTRACTOR SHALL HAVE A COPY OF ALL APPLICABLE STANDARD SPECIFICATIONS AND DRAWINGS AT THE WORK SITE AT ALL TIMES.
15. SEE INDIVIDUAL SHEETS FOR ADDITIONAL ABBREVIATIONS, SYMBOLS, LEGENDS, DETAILS AND NOTES, IF ANY. NOT ALL "STANDARD" DETAILS SHOWN MAY BE APPLICABLE TO THIS PROJECT.
16. CONTRACTOR SHALL COORDINATE WITH KANSAS ONE-CALL, OR OTHER UTILITY LOCATION SERVICE, TO LOCATE ALL UNDERGROUND UTILITIES. KANSAS ONE-CALL CAN BE REACHED AT (316) 687-2470.

MEASUREMENTS

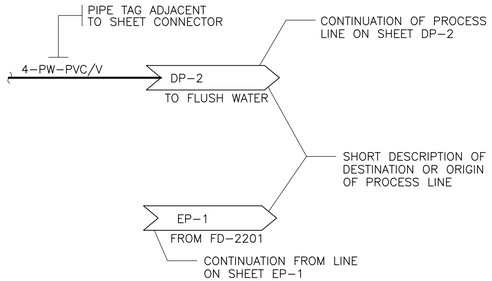
1. ALL STATIONS AND/OR DISTANCES SHOWN ARE TAKEN OFF THE CENTERLINE OF THE NEW PIPELINES OR REPRESENT DISTANCES MEASURED FROM INSIDE FACE OF A STRUCTURE, UNLESS OTHERWISE NOTED.
2. STATIONING IS BASED ON DIMENSIONING INFORMATION FROM PREVIOUS AS-BUILT DRAWINGS. ACTUAL STATIONING SHALL BE RECORDED BY THE CONTRACTOR AND INCLUDED IN THE RECORD DRAWINGS.
3. WRITTEN DISTANCES AND ELEVATIONS SHALL GOVERN OVER SCALED DISTANCES AND ELEVATIONS.
4. PIPE LENGTHS SHOWN ON PROFILE OR PLAN ARE APPROXIMATE AND MAY VARY UP TO 5% OF THE INDICATED LENGTH.

SECTION CUT SYMBOLS

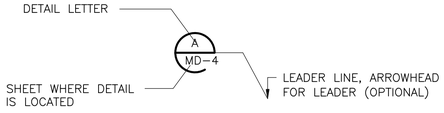


WHEN REFERENCING A SECTION IN A NOTE, USE 1/MD-4 FORMAT INSTEAD OF THE BUBBLE

FLOW DIAGRAM SHEET CONNECTIONS

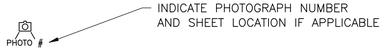


DETAIL CALL OUT SYMBOLS



WHERE A NOTE IS REQUIRED FOR CLARITY, A/MD-4 FORMAT IS USED IN THE NOTE INSTEAD OF BUBBLE. IF MULTIPLE DETAILS REFER TO THE SAME AREA OF THE DRAWING, THE BUBBLES ARE STACKED SIDE BY SIDE.

PHOTOGRAPH CALL OUT SYMBOL



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MILLER
CROSS CHK'D BY: M. WOO
APPROVED BY: S. STEWART
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

GENERAL NOTES, DRAWING STANDARDS, PROCESS LEGENDS, AND ABBREVIATIONS

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G005STPL

SHEET NO.
G-5

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PIPE AND FITTING SYMBOLS

DOUBLE LINE PIPING	SINGLE LINE PIPING	FEATURE
		PROCESS PIPING
		EXISTING PROCESS PIPING
		FUTURE PROCESS PIPING
		WELDED JOINT
		DIRECTION OF FLOW
		SCREWED OR THREADED JOINT OR WELDED SOCKET PVC (SEE NOTE 1)
		FLANGED JOINT (SEE NOTE 1)
(F)	(R)	COUPLING FOR GROOVED END JOINTS: (F) FLEXIBLE OR (R) RIGID
		MECHANICAL JOINT (SEE NOTE 1)
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT (SEE NOTE 1)
		FLANGE x PLAIN END PIPE COUPLING (FLANGE ADAPTOR)
		FLANGE x PLAIN END PIPE COUPLING, RESTRAINED (FLANGE ADAPTOR, RESTRAINED)
		PIPE COUPLING (SLEEVE–TYPE)
		PIPE COUPLING, RESTRAINED (AWWA–11)
		FLEXIBLE COUPLING OR EXPANSION JOINT (SLEEVE TYPE)
		UNION
		FLEXIBLE COUPLING OR EXPANSION JOINT (BELLOWS TYPE)
		FLANGE GUARD
		PLUG
		PIPE TURNED 90° TOWARD
		PIPE TURNED 90° AWAY
		TEE IN PIPE RUN WITH BRANCH DOWN
		90° PIPE BEND

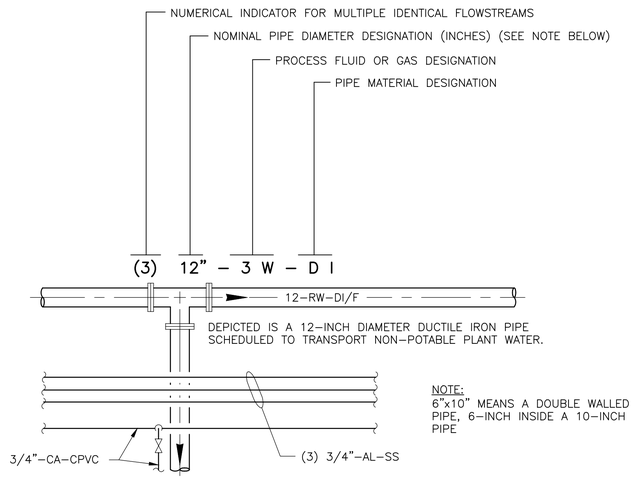
PIPE AND FITTING SYMBOLS (CONT.)

DOUBLE LINE PIPING	SINGLE LINE PIPING	FEATURE
		TEE IN PIPE RUN WITH BRANCH UP
		PITCH PIPE TO LOW POINT
		MECHANICAL JOINT – RESTRAINED
		BALL JOINT
		QUICK CONNECT COUPLING
		HOSE COUPLING
		HOSE COUPLING w/CAP
		BLIND FLANGE
		DRAIN
		LIQUID QUICK DISCONNECT
		AIR QUICK DISCONNECT
		DIAPHRAM SEAL STANDARD
		FLEXIBLE HOSE CONNECTION

PIPE AND FITTING SYMBOLS NOTES:

1. GENERIC JOINT SYMBOL IS USED FOR ALL SINGLE LINE PIPING SHOWN ON THE INTERIOR AND EXTERIOR PIPING DRAWINGS.
2. UNLESS MODIFIED BY THE GENERAL PROJECT NOTES OR DETAILED ON THE LAYOUT AND SCHEMATIC DRAWINGS, PIPE AND FITTING JOINT REQUIREMENTS FOR THE VARIOUS PIPE MATERIALS ARE DEFINED IN THE SPECIFICATIONS AND ARE INDICATED ON THE PROCESS PIPE SCHEDULES

PIPE IDENTIFICATION SYSTEM



PIPE MATERIALS LEGEND

DESIGNATION	PIPE MATERIALS
ABS	ACRYLONITRILE – BUTADIENE – STYRENE
BS	BLACK STEEL
CI	CAST IRON
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CU	COPPER
DI	DUCTILE IRON
DIGL	DUCTILE IRON GLASS LINED
FRP	FIBER REINFORCED PLASTIC
GCS	GALVANIZED CARBON STEEL
HDPE	HIGH DENSITY POLYETHYLENE
PCCP	PRESTRESSED CONCRETE CYLINDER
PE	POLYETHYLENE
PE(PVC)	POLYETHYLENE CARRIER TUBING WITHIN PVC CONTAINMENT TUBING
PP	POLYPROPYLENE
PVC	POLYVINYL CHLORIDE
PVCD	POLYVINYL CHLORIDE (DOUBLED WALLED PVC CONTAINMENT WITH PVC CARRIER)
RBH	RUBBER HOSE
RCP	REINFORCED CONCRETE
SS	STAINLESS STEEL
XX	UNKNOWN

PIPE JOINT LEGEND

DESIGNATION	JOINT TYPE
BSM	BELL & SPIGOT – MORTAR JOINT
BSO	BELL & SPIGOT – RUBBER O RING
C	COMPRESSION (TUBE FITTINGS)
F	FLANGED
G	GROOVED
H	HEAT FUSION
MJ	MECHANICAL JOINT
PE	PLAIN END
PO	PUSH ON
POR	PUSH ON RESTRAINED
RMJ	RESTRAINED MECHANICAL JOINT
S	SOLDERED
SW	SOCKET WELDED
T	THREADED
V	SOLVENT CEMENTED
W	BUTT WELDED
QD	QUICK DISCONNECT COUPLING

PROCESS FLOW ABBREVIATIONS

1W	POTABLE WATER
2W	PLANT PROCESS WATER (PROTECTED POTABLE WATER)
3W	NON–POTABLE PLANT WATER
AIR	AIR
BS	BIOSOLIDS
CA	COMPRESSED AIR
CEN	CENTRATE
CS	CIRCULATION SLUDGE
DG	DIGESTER GAS
DR	DRAIN
DS	DIGESTED SLUDGE
FA	FOUL AIR
FC	FERRIC CHLORIDE
FE	FINAL OR TREATED EFFLUENT
FLT	FILTRATE
GR	GRIT
HCF	HYDROCYCLONE FEED
HCO	HYDROCYCLONE OVERFLOW
HCU	HYDROCYCLONE UNDERFLOW
HRR	HOT RESERVOIR RETURN
HRS	HEAT RESERVOIR SUPPLY
HW	DOMESTIC HOT WATER
IA	INSTRUMENT AIR
LPA	LOW PRESSURE AIR
ML	MIXED LIQUOR
MS	MIXED SLUDGE
NG	NATURAL GAS
NR	NITRATE RECYCLE
NUT	NUTRIENT
OVF	OVERFLOW (OVERFLOW DRAIN)
PE	PRIMARY EFFLUENT
PF	PRESSURIZED FLOW
POLN	NEAT POLYMER
POLS	POLYMER SOLUTION
PS	PRIMARY SLUDGE
PSC	PRIMARY SCUM
RAS	RETURN ACTIVATED SLUDGE
REC	RECYCLE
RS	RAW SEWAGE
SC	SUPPLEMENTAL CARBON
SCN	SCREENINGS
SE	SECONDARY EFFLUENT
SEP	SEPTAGE
SHC	SODIUM HYPOCHLORITE
SNT	SUBNATANT AND SUPERNATANT
SS	SANITARY SEWER
SSC	SECONDARY SCUM
SWS	STORM WATER SEWER
TBS	THICKENER BOTTOM SLUDGE
TD	TANK DRAIN
TFE	TRICKLING FILTER EFFLUENT
THF	TRICKLING FILTER INFLUENT
THS	THICKENED SLUDGE
TW	TEPID WATER
V	VENT (PROCESS)
WAS	WASTE ACTIVATED SLUDGE

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER 3-1-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MILLER
CROSS CHK'D BY: M. WOO
APPROVED BY: S. STEWART
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PIPE LEGENDS AND ABBREVIATIONS

PROJECT NO. 2395–267343
FILE NAME: G006LGAB.dwg

SHEET NO.
G-6

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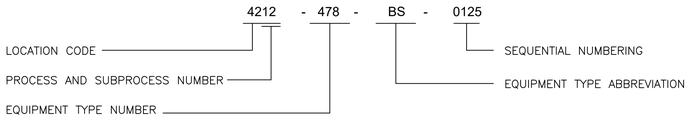
TYPICAL VALVE AND EQUIPMENT NUMBER



NOTE: THE SUBPROCESS AREA WILL BE INDICATED BY NOTE ON THE PROCESS AND INSTRUMENTATION DIAGRAMS.

PROCESS AND SUBPROCESS NUMBERING SYSTEM

00 SERIES SITE
- 08 SITE UTILITIES
- 09 ODOR CONTROL

10 SERIES PRETREATMENT
- 12 HEADWORKS / BAR SCREENS
- 13 INFLUENT PUMPING
- 15 GRIT / SLUDGE SCREENING
- 17 PRIMARY CLARIFIER 2 (PL2)
- 18 PRIMARY CLARIFIER 3 (SWING)
- 19 PRIMARY CLARIFIER 1 (PL1)

20 SERIES SECONDARY TREATMENT
- 25 SETTLED SEWAGE PUMPING
- 27 BNR STRUCTURE
- 28 BNR BUILDING
- 29 SECONDARY TREATMENT SUPPORT

40 SERIES THICKENING
- 41 PS AND WAS STORAGE
- 44 THICKENING SUPPORT
- 45 RDT ODOR BUILDING
- 47 RDT BUILDING
- 48 THICKENING POLYMER

50 SERIES DIGESTION
- 51 DIGESTION
- 58 DIGESTION SUPPORT
- 59 BIOGAS

60 SERIES DEWATERING
- 61 SLUDGE HOLDING
- 62 CENTRIFUGE BUILDING
- 67 DEWATERING SUPPORT BUILDING
- 68 POLYMER
- 69 SOLIDS CONVEYANCE

80 SERIES FINAL
- 81 FINAL CLARIFICATION
- 82 BLOWER BUILDING 1 AREA
- 83 BLOWER BUILDING 2 AREA
- 84 BLOWER BUILDING 3 AREA
- 86 FINAL CONVEYANCE
- 87 DISINFECTION
- 89 3W SYSTEM AND SPIRIT REUSE

NOTE:
THE FIRST DIGIT INDICATES THE PROCESS AREA AND THE SECOND DIGIT INDICATES THE SUBPROCESS AREA. I.E. 18 IS IN THE PRETREATMENT PROCESS AREA AND THE PRIMARY CLARIFIER 3 SUBPROCESS AREA.

EQUIPMENT AND VALVE ABBREVIATION / STRUCTURE DESIGNATION

ACU	AIR CONDITIONING UNIT
AD	AIR DRYER
AER	AERATOR/AEROBIC
AFD	ADJUSTABLE FREQUENCY DRIVE, VARIABLE FREQUENCY DRIVE, ADJUSTABLE SPEED DRIVE
AN	ANAEROBIC
ARV	AIR RELEASE VALVE
AX1	PRE-ANOXIC ZONE 1
AX2	PRE-ANOXIC ZONE 2
BCV	BALL CHECK VALVE
BFP	BACKFLOW PREVENTER
BL	BLOWER
BLDG	BUILDING
BLR	BLOWER/FOUL AIR FAN
BNR	BIOLOGICAL NUTRIENT REMOVAL
BS	BAR SCREEN
BTF	BIOTRICKLING FILTER
CA	CONDENSATE ACCUMULATOR
CAU	CARBON ADSORPTION UNIT
CAV	COMBINATION AIR VALVE
CE	CHLORINE EJECTOR
CFG	CENTRIFUGE
CHM	CHEMICAL
CLD	CHLORINE DETECTOR
CLF	CLARIFIER
CO	CLEANOUT
COM	COMPRESSOR
CON	CONVEYOR
CP	CONTROL PANEL
CU	CONDENSING UNIT
CV	CHECK VALVE
CY	CUBIC YARD
DAFT	DISSOLVED AIR FLOTATION THICKENER
DC	DUST COLLECTOR
DF	DIFFUSER
DIG	DIGESTER
DIST	DISTRIBUTION
DMP	DAMPER
DRY	AIR DRYER
ECC	ECCENTRIC
EEW	EMERGENCY EYE WASH
ELE	ELECTRICAL
EWC	ELECTRIC WATER COOLER
EWES	EMERGENCY SHOWER/EYEWASH
EWH	ELECTRIC WATER HEATER
FA	FLAME ARRESTOR
FC	FINAL CLARIFIER
FE	FLOW METER (FLOW ELEMENT)
GC	GRIT UNIT
GD	GAS DETECTOR
GEN	GENERATOR (ELECTRICAL POWER)
GFD	GAS FEEDER
GR	GREASE RESERVOIR
GRD	GRINDER
GRT	GRIT REMOVAL UNIT
GS	GRIT SCREEN
GWC	GRIT WASHER/CLASSIFER
HC	HYDROCYCLONE
HPT	HYDRO-PNEUMATIC TANK
HS	HAND SWITCH (SELECTOR SWITCH)
HTX	HEAT EXCHANGER
JB	JUNCTION BOX
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
MTR	MOTOR
MS	MOTOR STARTER
MXR	MIXER
OCS	ODOR CONTROL SCRUBBER
P, PMP	PUMP
PBU	POLYMER BLENDING UNITS
PC	PRIMARY CLARIFIER
PE	PRESSURE ELEMENT
PFU	POLYMER FEED UNITS
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR (GAUGE)
PLC	PROGRAMMABLE LOGIC CONTROLLER
RDT	ROTARY DRUM THICKENER
RED	REDUCER
RTU	REMOTE TERMINAL UNIT
SAM	SAMPLER
SC	SCREW CONVEYOR
SCB	SCRUBBER
SCN	SCREEN
SCP	WASHER COMPACTOR
SDG	SLIDE GATE
SF	SUPPLY FAN
SL	STOP LOG
SLU	SLUICE CONVEYOR
SSG	IN-LINE SOLIDS GRINGER
SSPS	SETTLED SEWAGE PUMP STATION
ST	SLUDGE THICKENER, SLUICE TROUGH, SEDIMENT TRAP
SWP	SCREENINGS WASH PRESS
SX1	BIO SELECTORS
SYS	SYSTEM (GENERIC)
TF	TRICKLING FILTER
TFR	TRANSFORMER
THM	THERMOSTAT
TNK	TANK
TYP	TYPICAL
UPS	UNINTERRUPTED POWER SUPPLY
UV	ULTRAVIOLET DISINFECTION
VB	VACUUM BREAKER
VCP	VALVE CONTROL PANEL
VLV	VALVE
W	WEIR
WE	WEIGH ELEMENT
WGB	WASTE GAS BURNER
WP	WATER PANEL
YH	YARD HYDRANT
ARV	AIR RELEASE VALVE
ASC	COMBINATION AIR VALVE FOR WASTEWATER
AV	ANGLE VALVE
AVRV	COMBINATION AIR/VACUUM RELEASE VALVE
BCV	BALL CHECK VALVE
BFV	BUTTERFLY VALVE
BPV	BACK PRESSURE REGULATING VALVE
BV	BALL VALVE
CV	SWING CHECK VALVE
CSCV	AIR OR OIL CUSHIONED SWING CHECK VALVE
DV	DIAPHRAGM VALVE
ESV	EMERGENCY SHUTOFF VALVE
FCV	FLOW CONTROL VALVE
FG	FLAP GATE
FLPV	FLAP VALVE
GLV	GLOBE VALVE
GV	GATE VALVE
ICV	INLINE CHECK VALVE
KGV	KNIFE GATE VALVE
MV	MUD VALVE
PCHV	PINCH VALVE
PRV	PRESSURE RELIEF VALVE
PVCV	PRESSURE REDUCING CHECK VALVE
PLV	PLUG VALVE
PVRV	PRESSURE VACUUM RELIEF VALVE
SCRV	SELF-CONTAINED REGULATING VALVE
SDCV	SPLIT DISC CHECK VALVE
SV	SOLENOID VALVE
SRV	SURGE RELIEF VALVE
TDCV	TILTING DISC CHECK VALVE
TSV	TELESCOPING VALVE
VRV	VACUUM RELIEF VALVE

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EQUIPMENT AND VALVE LEGEND AND ABBREVIATIONS

PROJECT NO. 2395-267343
FILE NAME: G007LGAB.dwg
SHEET NO.
G-7

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PROCESS PIPE SCHEDULE

SERVICE ABBREVIATION	SERVICE NAME	DESCRIPTION	BURIED / ABOVE GRADE	PIPE MATERIAL	SCHEDULE / CLASS	LINING	JOINT TYPE	GASKET MATERIAL	OPERATING PRESSURE (PSIG)	TEST PRESSURE (PSIG)	MIN/MAX FLUID TEMPERATURE (DEG. F)	PIPE SUPPORT SCOPE	PACKAGE	INSULATE / HEAT TRACE	SPEC REFERENCE
1W	POTABLE WATER	BURIED < 4-IN DIA / ALL AREAS	BURIED	PVC	SCH 40	--	SOLVENT WELD	EPDM	80	150	55 / 85	NA	2 / 3 / 4	--	330531.16
1W	POTABLE WATER	BURIED ≥ 4-IN DIA / ALL AREAS	BURIED	PVC	C900/DR 25	--	PUSH ON RESTRAINED	EPDM	80	150	55 / 85	NA	2 / 3 / 4	--	330531.16
1W	POTABLE WATER	EXPOSED (OUTDOOR) POTABLE WATER (EYEWASH, ETC.) < 4-IN DIA.	ABOVE GRADE	CPVC	SCH 80	--	SOLVENT WELD	EPDM	80	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	INSULATE, HEAT TRACE	400510
1W	POTABLE WATER	ADMIN LAB	ABOVE GRADE	CU	TYPE L	--	SOLDERED	EPDM	80	150	45 / 110	STANDARD SPACING PER ASME B31	3	INSULATE	221116
1W	TEPID WATER	INDOOR	ABOVE GRADE	CU	TYPE L	--	SOLDERED	EPDM	80	150	60/ 95	STANDARD SPACING PER ASME B31	3/4	INSULATE, PVC JACKET	221116
1W	TEPID WATER	OUTDOOR	ABOVE GRADE	CU	TYPE L	--	SOLDERED	EPDM	80	150	60/ 95	STANDARD SPACING PER ASME B31	3/4	INSULATE, HEAT TRACE, FLEXIBLE WEATHERPROOF JACKET	221116
1W	TEPID WATER	OUTDOOR	BURIED	CU/PVC	TYPE L / SCH 40	--	SOLDERED / SOLVENT	EPDM	80	150	60/ 95	NA	3/4	PRE-INSULATED	221116
2W	PLANT PROCESS WATER (PROTECTED POTABLE WATER)	PIPING SIZE ≤ 4-IN DIA.	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	EPDM	80	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	--	400510
2W	PLANT PROCESS WATER (PROTECTED POTABLE WATER)	PIPING SIZE > 4-IN DIA.	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	EPDM	80	150	55 / 85	DELEGATED DESIGN	2 / 3 / 4	--	400510
2W	PLANT PROCESS WATER (PROTECTED POTABLE WATER)	ALL SIZES/ AREAS	BURIED	PVC	SCH 40	--	SOLVENT WELD	EPDM	80	150	55 / 85	NA	2 / 3 / 4	--	330531.16
3W	NON-POTABLE PLANT WATER	3W PUMP STATION (INDOOR)	ABOVE GRADE	DI	CLASS 53	--	FLANGED	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	3	--	400510
3W	NON-POTABLE PLANT WATER	3W PUMP STATION (OUTDOOR)	ABOVE GRADE	DI	CLASS 53	--	FLANGED	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	3	INSULATE, HEAT TRACE	400510
3W	NON-POTABLE PLANT WATER	EXPOSED (OUTDOOR) PIPING SIZE > 4-IN DIA.	ABOVE GRADE	CPVC	SCH 80	--	SOLVENT WELD	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	INSULATE, HEAT TRACE	400510
3W	NON-POTABLE PLANT WATER	EXPOSED (OUTDOOR) PIPING SIZE ≤ 4-IN DIA.	ABOVE GRADE	CPVC	SCH 80	--	SOLVENT WELD	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	INSULATE, HEAT TRACE	400510
3W	NON-POTABLE PLANT WATER	< 4-IN DIA / AREAS	BURIED	PVC	SCH 80	--	SOLVENT WELD	EPDM	100	150	55 / 85	NA	2 / 3 / 4	--	330531.16
3W	NON-POTABLE PLANT WATER	≥ 4-IN DIA / AREAS	BURIED	PVC	C900/DR 25	--	PUSH ON RESTRAINED	EPDM	100	150	55 / 85	NA	2 / 3 / 4	--	330531.16
CA	COMPRESSED AIR	BURIED PIPE FROM RAS CHANNEL TO BASINS	BURIED	SS	SCH 10	--	GROOVED	EPDM	115	250	75 / 200	NA	3	--	400510
CA	COMPRESSED AIR	PIPE IN COMPRESSOR AREA AND ALONG RAS CHANNEL	ABOVE GRADE	SS	SCH 10	--	WELDED	EPDM	115	250	75 / 200	STANDARD SPACING PER ASME B31	3	--	400510
CEN	CENTRATE (CENTRIFUGES AND DRAINS)	CENTRATE INSIDE CENTRIFUGE BLDG.	ABOVE GRADE	DI	CLASS 53	GLASS LINING	GROOVED	NITRILE	35	75	80 / 110	DELEGATED DESIGN	4	INSULATE	400510
CEN	CENTRATE (CENTRIFUGES AND DRAINS)	CENTRATE BURIED UNDER CENTRIFUGE BLDG. TO MANHOLE	BURIED	DI	CLASS 350	GLASS LINING	PUSH ON RESTRAINED	NITRILE	35	75	80 / 110	NA	4	--	330519
CEN	CENTRATE (DRAINS)	CENTRIFUGE BLDG. MANHOLE TO HEADWORKS	BURIED	HDPE	DR 17	--	BUTT FUSION WELDED	SBR	10	25	80 / 110	NA	4	--	330533.23
CS	CIRCULATION SLUDGE	DIGESTER RECIRCULATION - MIXING LOOPS, SLUDGE RECIRC AND DOME RECIRCULATION (DOWNSTREAM OF PUMPS) LOOPS - INDOORS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	35	75	80 / 125	DELEGATED DESIGN	2	--	400510
CS	CIRCULATION SLUDGE	DIGESTER RECIRCULATION - HEAT RECIRCULATION LOOPS, AND DOME RECIRCULATION (UPSTREAM OF PUMPS) LOOPS - INDOORS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	35	75	80 / 125	DELEGATED DESIGN	2	INSULATE	400510
CS	CIRCULATION SLUDGE	DIGESTER RECIRCULATION - DOME RECIRCULATION LOOPS - OUTDOORS, ON DIGESTER COVERS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	35	75	80 / 125	DELEGATED DESIGN	2	INSULATE, HEAT TRACE	400510
DG	DIGESTER GAS	ELEVATED SMALL DIAMETER (<4") DIGESTER GAS PIPING ON DIGESTER COVERS	ABOVE GRADE	SS 316	SCH 10	--	WELDED	NEOPRENE	1	2	0 / 110	DELEGATED DESIGN	2	--	400510
DG	DIGESTER GAS	ELEVATED DIGESTER GAS PIPING ON DIGESTER COVERS	ABOVE GRADE	SS 316	SCH 10	--	WELDED	NEOPRENE	1	2	0 / 110	SUPPLY AS SHOWN	2	--	400510
DG	DIGESTER GAS	DIGESTER GAS AT WASTE GAS BURNER	ABOVE GRADE	SS 316	SCH 10	--	WELDED	NEOPRENE	1	2	0 / 110	SUPPLY AS SHOWN	2	--	400510
DG	DIGESTER GAS	DIGESTER GAS TO WASTE GAS BURNER	BURIED	HDPE	DR 11	--	BUTT FUSION WELDED	NEOPRENE	1	2	0 / 110	NA	2	--	330533.23
DR	DRAIN	REFER TO DRAWINGS	BURIED	PVC	SCH 40	--	SOLVENT WELD	EPDM	10	75	0 / 110	NA	2 / 3 / 4	--	330531.16
DR	DRAIN	EXPOSED (OUTDOOR) DRAINS	ABOVE GRADE	CPVC	SCH 80	--	SOLVENT WELD	EPDM	10	25	0 / 110	STANDARD SPACING PER ASME B31	2	INSULATE, HEAT TRACE	400510
DR	DRAIN	SMALL DIA. (≤ 4-IN DIA.) DRAIN WITHIN FROST DEPTH	BURIED	PVC	SCH 80	--	SOLVENT WELD	EPDM	10	25	50 / 110	NA	2	INSULATE, HEAT TRACE	400510
DS	DIGESTED SLUDGE	INDOORS IN DIGESTER GALLERIES	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	35	75	80 / 110	DELEGATED DESIGN	2	--	400510
DS	DIGESTED SLUDGE	FROM DIGESTERS TO SHT AREA, FROM SHT AREA TO DEWATERING SUPPORT BUILDING	BURIED	DI	CLASS 350	EPOXY LINING	PUSH ON RESTRAINED	NITRILE	35	75	55 / 110	NA	2	--	330519
DS	DIGESTED SLUDGE	ABOVE GRADE SHT TO CENTRIFUGES	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	125	150	80 / 110	DELEGATED DESIGN	4	--	400510
DS	DIGESTED SLUDGE	DIGESTED SLUDGE FROM SHTS AND PUMPED TO CENTRIFUGES	BELOW GRADE	HDPE	DR 11	--	BUTT FUSION WELDED	NEOPRENE	125	150	80 / 110	NA	4	--	310529
FA	FOUL AIR	INDOOR FOUL AIR PIPING	ABOVE GRADE	SS 316	SCH 10	--	WELDED/FLANGED	EPDM	+/- 15 in WC	30 in WC	50 / 100	STANDARD SPACING PER SMACNA	2	--	233113
FA	FOUL AIR	BURIED FOUL AIR PIPING	BURIED	HDPE	DR 11	--	BUTT FUSION WELDED	EPDM	+/- 15 in WC	30 in WC	50 / 100	NA	2	--	330533.23
FA	FOUL AIR	EXPOSED (OUTDOOR) FOUL AIR	ABOVE GRADE	FRP	REFER TO SPEC	REFER TO SPEC	BUTT & WRAP / BELL & SPIGOT / FLANGED	VITON	+/- 15 in WC	30 in WC	50 / 100	SUPPLY AS SHOWN	2	--	233116
FC	FERRIC CHLORIDE	FROM FERRIC TANK TO FERRIC PUMPS (OUTDOOR)	BELOW GRADE	PVCD	SCH 80	--	SOLVENT WELD	EPDM	10	60	55 / 85	SUPPLY AS SHOWN	4	INSULATE, HEAT TRACE	400510
FC	FERRIC CHLORIDE	FERRIC PUMP SUCTION/DISCHARGE (INDOOR)	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	--	400510
FC	FERRIC CHLORIDE	≤ 4-IN DIA	BURIED	PE(PVC)	SCH 80, LDPE	--	SOLVENT WELD, COMPRESSION FITTINGS	EPDM	100	150	55 / 85	NA	2 / 3 / 4	--	330531.16
FC	FERRIC CHLORIDE	EXPOSED (OUTDOOR) ≤ 4-IN DIA	ABOVE GRADE	PE(PVC)	SCH 80, LDPE	--	SOLVENT WELD, COMPRESSION FITTINGS	EPDM	100	150	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	INSULATE, HEAT TRACE	400510
FE	TREATED EFFLUENT	DOWNSTREAM OF DISINFECTION, RE-AERATION BYPASSS	BURIED	FRP	STIFFNESS CLASS 46	--	FIBERGLASS SLEEVE COUPLING	--	10	25	55 / 85	NA	3	--	333100
FLT	FILTRATE (RDTS)	RDT FILTRATE	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	NITRILE	10	25	80 / 110	DELEGATED DESIGN	2	--	400510
FLT	FILTRATE (RDTS)	BURIED UNDER SLAB AND TO DRAIN MANHOLE	BELOW GRADE	DI	CLASS 350	EPOXY LINING	PUSH ON RESTRAINED	NITRILE	10	25	80 / 110	NA	2	--	330519
GR	GRIT	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	GLASS LINING	GROOVED	NITRILE	35	75	80 / 110	DELEGATED DESIGN	2	--	400510
HCF	HYDROCYCLONE FEED	INDOOR / ABOVE GRADE	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	SBR	50	75	55 / 85	SUPPLY AS SHOWN	3	--	400510
HCO	HYDROCYCLONE OVERFLOW	INSIDE FACILITY	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD/FLANGED (REFER TO DRAWINGS)	SBR	10	15	55 / 85	STANDARD SPACING PER IPC	3	--	400510
HCO	HYDROCYCLONE OVERFLOW	EXPOSED OUTSIDE	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	SBR	10	15	55 / 85	STANDARD SPACING PER ASME B31	3	--	400510
HCU	HYDROCYCLONE UNDERFLOW	INSIDE FACILITY	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD/FLANGED (REFER TO DRAWINGS)	SBR	10	15	55 / 85	STANDARD SPACING PER IPC	3	--	400510
HCU	HYDROCYCLONE UNDERFLOW	EXPOSED OUTSIDE	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED/GROOVED (REFER TO DRAWINGS)	NITRILE	10	15	55 / 85	DELEGATED DESIGN	3	--	400510
HRR	HOT RESERVOIR RETURN (POTABLE)	ALL SERVICES / AREAS	ABOVE GRADE	CS	SCH 80	--	NPT (2" DIA. OR LESS)/ WELDED (2-1/2" DIA. OR MORE)	EPDM	55	125	125 / 175	DELEGATED DESIGN	2 / 3 / 4	INSULATE	400510
HRS	HEAT RESERVOIR SUPPLY (POTABLE)	ALL SERVICES / AREAS	ABOVE GRADE	CS	SCH 80	--	NPT	EPDM	55	125	125 / 175	DELEGATED DESIGN	2 / 3 / 4	INSULATE	400510
HW	DOMESTIC HOT WATER (POTABLE)	ALL SERVICES / AREAS	ABOVE GRADE	CPVC	SCH 80	--	SOLVENT WELD	NA	80	130	100 / 150	STANDARD SPACING PER IPC	2 / 3 / 4	INSULATE	221116
IA	INSTRUMENT AIR	ALL SERVICES / AREAS	ABOVE GRADE	SS	SCH 10	--	COMPRESSION FITTINGS	NA	100	250	65 / 175	STANDARD SPACING PER ASME B31	2 / 3 / 4	--	400510
IRR	IRRIGATION	EXPOSED ALL ODOR CONTROL SYSTEMS	ABOVE GRADE	PVC	SCH 40	--	SOLVENT WELD	NA	80	120	55 / 85	DELEGATED DESIGN	2	INSULATE, HEAT TRACE	400510

NOTES:

1. REFER TO NOTES ON SHEET G-8B.

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PIPE SCHEDULE I

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G008LGAB

SHEET NO.
G-8A

PROCESS PIPE SCHEDULE

SERVICE ABBREVIATION	SERVICE NAME	DESCRIPTION	BURIED / ABOVE GRADE	PIPE MATERIAL	SCHEDULE / CLASS	LINING	JOINT TYPE	GASKET MATERIAL	OPERATING PRESSURE (PSIG)	TEST PRESSURE (PSIG)	MIN/MAX FLUID TEMPERATURE (DEG. F)	PIPE SUPPORT SCOPE	PACKAGE	INSULATE / HEAT TRACE	SPEC REFERENCE
LPA	LOW PRESSURE AIR	BNR STRUCTURE	ABOVE GRADE	304 SS	SCH 10	--	WELDED/FLANGED (REFER TO DRAWINGS)	VITON	11	20	-20 / 280	SUPPLY AS SHOWN	3	INSULATE (REFER TO DRAWINGS FOR LOCATIONS)	400510
LPA	LOW PRESSURE AIR	BNR BUILDING	ABOVE GRADE	304 SS	SCH 10	--	WELDED/FLANGED (REFER TO DRAWINGS)	VITON	11	20	-20 / 280	SUPPLY AS SHOWN	3	INSULATE (REFER TO DRAWINGS FOR LOCATIONS)	400510
LPA	LOW PRESSURE AIR	EXISTING BLOWER BUILDINGS	ABOVE GRADE	304 SS	SCH 10	--	WELDED/FLANGED (REFER TO DRAWINGS)	VITON	7.1	15	-20 / 200	SUPPLY AS SHOWN	3	INSULATE (REFER TO DRAWINGS FOR LOCATIONS)	400510
ML	MIXED LIQUOR	BNR STRUCTURE	ABOVE GRADE	CS	SEE SPEC	EPOXY LINING	WELDED	SBR	15	25	55 / 85	SUPPLY AS SHOWN	3	–	400510
ML	MIXED LIQUOR	BNR STRUCTURE EFFLUENT CONDUIT TO MLSS JUNCTION BOX	BURIED	FRP	STIFFNESS CLASS 72	--	FIBERGLASS SLEEVE COUPLING	–	15	25	55 / 85	NA	3	–	333100
NG	NATURAL GAS	WASTE GAS BURNER SUPPLY	ABOVE GRADE	SS	SCH 40	NONE	NPT	NA	3	15	55/85	STANDARD SPACING PER ASME B30	2	–	400510
NG	NATURAL GAS	ALL SERVICES / AREAS	ABOVE GRADE	CS	SCH 40	NONE	NPT (2" DIA. OR LESS)	NA	3	15	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	–	222123
NG	NATURAL GAS	ALL SERVICES / AREAS	ABOVE GRADE	CS	SCH 40	NONE	WELDED (2-1/2" DIA. OR MORE)	NA	3	15	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	–	222123
NG	NATURAL GAS	ALL SERVICES / AREAS	BELOW GRADE	HDPE	DR 11	NONE	BUTT FUSION WELDED	NA	3	15	55 / 85	NA	2 / 3 / 4	–	330533.23
NR	NITRATE RECYCLE	SUBMERGED	ABOVE GRADE	CS	SEE SPEC	EPOXY LINING	WELDED/FLANGED (REFER TO DRAWINGS)	SBR	10	25	55 / 80	SUPPLY AS SHOWN	3	–	400510
OVF	OVERFLOW (BIOTRICKLING FILTER)	FROM TANK TO DRAIN BYPASSING RECYCLE	ABOVE GRADE	PVC	SCH 40	–	SOLVENT WELD	–	15	25	85/130	STANDARD SPACING PER ASME B31	2	INSULATE, HEAT TRACE	400510
OVF	OVERFLOW (OVERFLOW DRAIN)	REFER TO DRAWINGS	ABOVE GRADE	PVC	SCH 40	–	SOLVENT WELD	–	5	50	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	INSULATE, HEAT TRACE	400510
PE	PRIMARY EFFLUENT	ABOVE GRADE	ABOVE GRADE	CS	SEE SPEC	EPOXY LINING	WELDED/FLANGED/GROOVED (REFER TO DRAWINGS)	SBR	35	75	55 / 85	SUPPLY AS SHOWN	3	–	400510
PE	PRIMARY EFFLUENT	BURIED	BURIED	CS	SEE SPEC	EPOXY LINING	WELDED	SBR	35	75	55 / 85	NA	3	–	400510
POLN	NEAT POLYMER	ALL SERVICES / AREAS INDOORS EXCEPT THICKENING POLYMER TANK	ABOVE GRADE	PVC	SCH 40	–	SOLVENT WELD	–	50	135	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	–	400510
POLN	NEAT POLYMER	THICKENING POLYMER TANK	BURIED / ABOVE GRADE	PVCT	SCH 40	–	SOLVENT WELD	NA	50	135	55 / 85	NA	2	INSULATE, HEAT TRACE	400510
POLS	POLYMER SOLUTION	ALL SERVICES / AREAS	ABOVE GRADE	PVC	SCH 40	–	SOLVENT WELD	NA	50	135	55 / 85	STANDARD SPACING PER ASME B31	2 / 3 / 4	–	400510
PS	PRIMARY SLUDGE	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	NEOPRENE	50	75	80 / 110	DELEGATED DESIGN	2	–	400510
PSC	PRIMARY SCUM	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	NEOPRENE	50	75	80 / 110	DELEGATED DESIGN	2	–	400510
RAS	RETURN ACTIVATED SLUDGE	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED/GROOVED (REFER TO DRAWINGS)	NITRILE	20	30	55 / 85	DELEGATED DESIGN	3	–	400510
RAS	RETURN ACTIVATED SLUDGE	ALL SERVICES / AREAS	BURIED	DI	CLASS 53	EPOXY LINING	RESTRAINED	EPDM	20	30	55 / 85	NA	3	–	330519
REC	RECYCLE	EXPOSED STARTUP FOR ODOR CONTROL SLABS	ABOVE GRADE	PVC	SCH 40	--	SOLVENT WELD	NA	80	120	55 / 85	STANDARD SPACING PER ASME B31	2	INSULATE, HEAT TRACE	400510
SC	SUPPLEMENTAL CARBON	PUMP SUCTION/DISCHARGE (INDOOR)	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	EPDM	10	75	55 / 85	STANDARD SPACING PER ASME B31	3/4	–	400510
SC	SUPPLEMENTAL CARBON	ALL AREAS < 4-IN DIA	BURIED	PE(PVC)	SCH 80, LDPE	--	SOLVENT WELD, COMPRESSION FITTINGS	EPDM	30	75	55 / 85	NA	3/4	–	330531.16
SC	SUPPLEMENTAL CARBON	ALL AREAS < 4-IN DIA (OUTDOOR)	ABOVE GRADE	PE(PVC)	SCH 80, LDPE	--	SOLVENT WELD, COMPRESSION FITTINGS	EPDM	30	75	55 / 85	STANDARD SPACING PER ASME B31	3/4	INSULATE, HEAT TRACE	400510
SEP	SEPTAGE	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	GLASS LINING	GROOVED	NITRILE	50	75	80 / 110	DELEGATED DESIGN	2	–	400510
SHC	SODIUM HYPOCHLORITE	ALL SERVICES / AREAS	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	EPDM	10	90	55 / 85	SUPPLY AS SHOWN	3	–	400510
SNT	SUBNATANT AND SUPERNATANT	ALL SERVICES / AREAS	ABOVE GRADE	PVC	SCH 80	--	SOLVENT WELD	–	35	75	80 / 110	DELEGATED DESIGN	2	–	400510
SNT	SUBNATANT AND SUPERNATANT	ALL SERVICES / AREAS	BURIED	DI	CLASS 350	--	PUSH ON RESTRAINED	–	35	75	80 / 110	NA	2	–	330519
SS	SANITARY SEWER	ALL SERVICES / AREAS	ABOVE GRADE	PVC	SCH 40	NONE	SOLVENT WELD	–	1	4.3	55/110	STANDARD SPACING PER IPC	2 / 3 / 4	–	221316
SS	SANITARY SEWER	ALL SERVICES / AREAS	BURIED	PVC	SCH 40	NONE	SOLVENT WELD	–	1	4.3	55/110	N/A	2 / 3 / 4	–	221316
SSC	SECONDARY SCUM	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	NITRILE	50	75	80 / 110	DELEGATED DESIGN	3	–	400510
SSC	SECONDARY SCUM	ALL SERVICES / AREAS	BURIED	DI	CLASS 350	EPOXY LINING	PUSH ON RESTRAINED	NITRILE	35	75	55 / 110	NA	3	–	330519
SWS	STORM WATER SEWER	ALL SERVICES / AREAS	BURIED	RCP	CLASS III, WALL B	--	BELL & SPIGOT	EPDM	1	25	55 / 85	NA	2 / 3 / 4	–	334100
THS	THICKENED SLUDGE	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	GLASS LINING	GROOVED	NITRILE	100	150	55 / 85	DELEGATED DESIGN	2	–	400510
TW	TEPID WATER	ALL SERVICES / AREAS	ABOVE GRADE	CPVC	SCH 80	NONE	SOLVENT WELD	EPDM	80	130	55 / 85	STANDARD SPACING PER IPC	2 / 3 / 4	INSULATE	221116
V	VENT (PROCESS)	REFER TO DRAWINGS	ABOVE GRADE	PVC/SS	SCH 80	--	SOLVENT WELD	EPDM	10	90	55 / 85	STANDARD SPACING PER IPC	2 / 3 / 4	–	400510
WAS	WASTE ACTIVATED SLUDGE	ALL SERVICES / AREAS	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	50	75	55 / 85	DELEGATED DESIGN	2	–	400510
WAS	WASTE ACTIVATED SLUDGE	ALL SERVICES / AREAS EXCEPT WAS OVERFLOW	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	FLANGED	NITRILE	50	75	55 / 85	DELEGATED DESIGN	3	–	400510
WAS	WASTE ACTIVATED SLUDGE	WAS OVERFLOW FROM WAS PUMP STAION WET WELL TO PE/RAS MIXING CHAMBER	ABOVE GRADE	DI	CLASS 53	EPOXY LINING	GROOVED	NITRILE	50	75	55 / 85	DELEGATED DESIGN	3	–	400510
WAS	WASTE ACTIVATED SLUDGE	ALL SERVICES / AREAS	BURIED	DI	CLASS 350	EPOXY LINING	PUSH ON RESTRAINED	SBR	50	75	55 / 85	NA	2 / 3	–	330519

NOTES:

1. REFER TO DIVISION 9 FOR PIPE COLOR COATING REQUIREMENTS AND REFER TO DIVISION 40 FOR PIPING AND VALVES MARKING AND LABELING REQUIREMENTS.
2. FOR DOUBLE WALL CHEMICAL PIPE REFER TO SPECIFICATION 400510 FOR CARRIER AND CONTAINMENT PIPE TESTING REQUIREMENTS.
3. CONTRACTOR SHALL SUPPLY WRITTEN RECOMMENDATIONS FOR GASKET MATERIALS FOR EACH CHEMICAL AND PROCESS PIPING TYPE PER SPECIFIC PIPE MATERIALS SPECIFICATIONS.
4. PROVIDE AN INSULATED FLANGE DIELECTRIC ISOLATION KIT AND TRANSITION COUPLING AT EVERY LOCATION WHERE THERE ARE DISSIMILAR METALS DUE TO CONSTRUCTION MATERIAL CHANGE.
5. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR PLUMBING PIPING REQUIREMENTS.
6. SEE SECTION 400507 REGARDING PIPE STRESS ANALYSIS AND DELEGATED DESIGN OF PIPE SUPPORT SYSTEMS.
7. WHERE A SAMPLE LINE IS CONNECTED TO ANOTHER PROCESS LINE, OPERATING AND TEST PRESSURE TO MATCH THE CONNECTED PROCESS LINE FROM WHICH THE SAMPLE IS TAKEN.
8. SEE SPECIFIC PIPE SPECIFICATIONS FOR LINING REQUIREMENTS.
9. INSULATION AND HEAT TRACE REQUIREMENTS PER PIPE SCHEDULE, DRAWINGS, AND SPECIFICATIONS. INSULATE AND HEAT TRACE BELOW GRADE TO THE FROST DEPTH.
10. PROVIDE JOINT TYPES AND FITTING TYPES AS INDICATED BELOW UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR SPECIFICATIONS. PROVIDE FLANGED CONNECTIONS WHERE CONNECTING TO FLANGED VALVES OR EQUIPMENT.
    A. BELOW GRADE PIPING: AS INDICATED ON DRAWINGS AND SPECIFICATIONS.
    B. ABOVE GRADE DUCTILE IRON PIPE: PROVIDE VICTAULIC FITTINGS ON PIPING WHERE IDENTIFIED. VICTAULIC FITTINGS ONLY PERMITTED BETWEEN PIPE JOINT AND FITTINGS. FLANGED CONNECTIONS STILL REQUIRED TO VALVES AND/OR EQUIPMENT. IF NOT IDENTIFIED, PROVIDE FLANGED FITTINGS AND JOINTS.
    C. ABOVE GROUND CARBON STEEL PIPE 2–INCHES OR LESS: THREADED JOINTS AND FITTINGS.
    D. ABOVE GROUND CARBON STEEL PIPE GREATER THAN 2–INCHES PROVIDE: FLANGED FITTINGS. WELDED MANIFOLD PIPING IS ACCEPTABLE.
    E. ABOVE GROUND PVC PIPE: BELL END PIPE, SOLVENT WELDED.
11. CONTRACTOR TO REFER TO MECHANICAL SHEETS FOR LOCATIONS WHERE 3W LINES TO BE DRAINED AND WINTERIZED INSTEAD OF HEAT TRACED/INSULATED.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MILLER
CROSS CHK'D BY: M. WOO
APPROVED BY: S. STEWART
DATE: MARCH 2024

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CITY OF WICHITA, KS

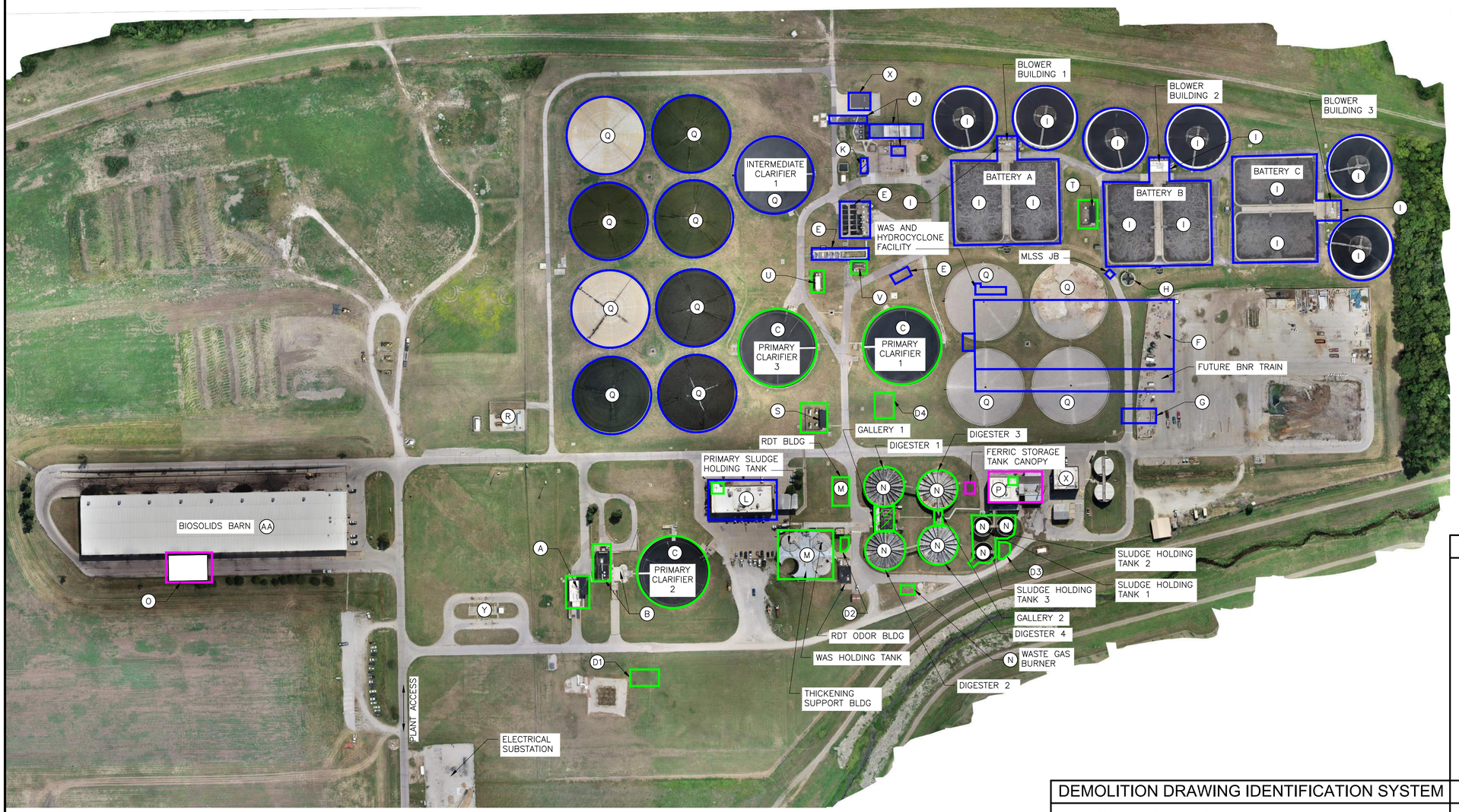
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PIPE SCHEDULE II

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G008LGAB

SHEET NO.
G-8B



PROCESS AREA DESIGNATIONS

DESIGNATION	DESCRIPTION	CONSTRUCTION PACKAGE
A	SCREENINGS AND PUMP INFLUENT STATION	2
B	GRIT FACILITY	2
C	PRIMARY CLARIFIERS	2
D	ODOR CONTROL SYSTEMS 1, 2, 3, & 4	2
E	SETTLED SEWAGE PS & ELECTRICAL BLDG, INTERMEDIATE PS	3
F	BNR STRUCTURE	3
G	BNR BUILDING	3
H	BNR CONTROL STRUCTURE 1	3
I	RAS PUMP STATIONS, BLOWER BLDGS, AERATION BASINS, AND FINAL CLARIFIERS	3
J	UV DISINFECTION	3
K	3W PUMP STATION	3
L	ADMINISTRATION BUILDING	2 & 3
M	THICKENING FACILITY	2
N	DIGESTER FACILITY AND SLUDGE HOLDING TANKS	2
O	CENTRIFUGE BUILDING	4
P	DEWATERING SUPPORT BUILDING	2 & 4
Q	TRICKLING FILTERS AND INTERMEDIATE CLARIFIER	3
R	ELECTRICAL SITE EQUIPMENT	ALL
S	ELECTRICAL SUBSTATION NO.1	2
T	ELECTRICAL SUBSTATION NO.2	2
U	TRICKLING FILTER ELECTRICAL BUILDING	2
V	VERTICAL TURBINE ELECTRICAL BUILDING	2
W	NOT USED	N/A
X	ICC BUILDING	3
Y	SEPTAGE RECEIVING STATION	3
AA	BIOSOLIDS BARN	4

* NOTE "Z" IS RESERVED FOR STANDARD DETAILS

NOTES:

1. TRICKLING FILTERS IN AREA Q BENEATH THE BNR BASIN ARE REMOVED IN PACKAGE 1 PRIOR TO MOBILIZATION FOR PACKAGES 2, 3, AND 4. SEE CIVIL SHEETS FOR FURTHER INFORMATION TO SITE CONDITIONS.

LEGEND:

- PACKAGE 2 – PRELIMINARY TREATMENT, SOLIDS, AND ODOR IMPROVEMENTS
- PACKAGE 3 – BNR AND UV IMPROVEMENTS
- PACKAGE 4 – DEWATERING IMPROVEMENTS

DRAWING IDENTIFICATION SYSTEM

G M – 2
- G: PROCESS AREA DESIGNATION (SEE TABLE ABOVE FOR KEY MAP LEGEND)
- M: DESIGN DISCIPLINE DESIGNATION (SEE THIS SHEET)
- 2: SEQUENTIAL SHEET NUMBER (DEPICTED IS SHEET NO. 2 OF PROCESS MECHANICAL DISCIPLINE FOR THE BNR BUILDING)

M Z – 2
- Z: STANDARD DETAIL SHEETS
- 2: (DEPICTED IS STANDARD MECHANICAL DETAIL SHEET NO. 2)

DEMOLITION DRAWING IDENTIFICATION SYSTEM

E D – 301
- E: PROCESS AREA DESIGNATION (SEE TABLE ABOVE FOR KEY MAP LEGEND)
- D: DEMOLITION DESIGNATION
- 301: SEQUENTIAL SHEET NUMBER (DEPICTED IS SHEET NO. 1 OF PROCESS MECHANICAL DEMOLITION FOR THE INTERMEDIATE AND SETTLED SEWAGE PUMPING STATION)
  - 100 SERIES ARCHITECTURAL
  - 200 SERIES STRUCTURAL
  - 300 SERIES PROCESS MECHANICAL
  - 400 SERIES HVAC
  - 500 SERIES PLUMBING
  - 600 SERIES ELECTRICAL
  - 700 SERIES INSTRUMENTATION

DESIGN DISCIPLINE DESIGNATIONS

DESIGNATION	DESCRIPTION
G	GENERAL
C	CIVIL
D	DEMOLITION
A	ARCHITECTURAL
S	STRUCTURAL
M	PROCESS MECHANICAL
H	HVAC
PL	PLUMBING
E	ELECTRICAL
I	INSTRUMENTATION

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MILLER
CROSS CHK'D BY: M. WOO
APPROVED BY: S. STEWART
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

OVERALL KEY AND PACKAGING PLAN

PROJECT NO. 2395-267343
FILE NAME: G009STPL.dwg
SHEET NO. G-9

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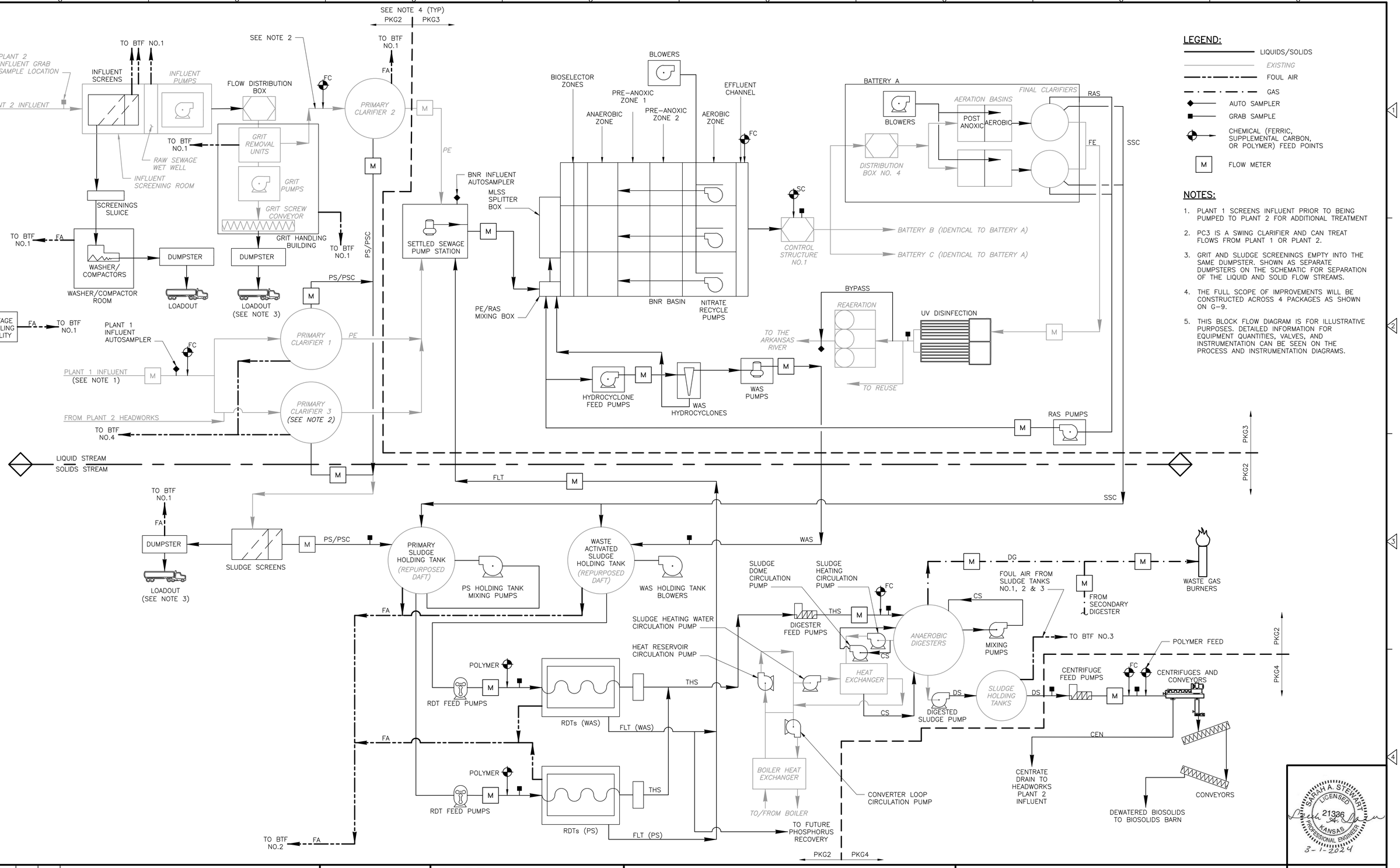

LEGEND:

- LIQUIDS/SOLIDS
- *EXISTING*
- FOUL AIR
- GAS
- AUTO SAMPLER
- GRAB SAMPLE
- CHEMICAL (FERRIC, SUPPLEMENTAL CARBON, OR POLYMER) FEED POINTS
- M — FLOW METER

NOTES:

1. PLANT 1 SCREENS INFLUENT PRIOR TO BEING PUMPED TO PLANT 2 FOR ADDITIONAL TREATMENT
2. PC3 IS A SWING CLARIFIER AND CAN TREAT FLOWS FROM PLANT 1 OR PLANT 2.
3. GRIT AND SLUDGE SCREENINGS EMPTY INTO THE SAME DUMPSTER. SHOWN AS SEPARATE DUMPSTERS ON THE SCHEMATIC FOR SEPARATION OF THE LIQUID AND SOLID FLOW STREAMS.
4. THE FULL SCOPE OF IMPROVEMENTS WILL BE CONSTRUCTED ACROSS 4 PACKAGES AS SHOWN ON G-9.
5. THIS BLOCK FLOW DIAGRAM IS FOR ILLUSTRATIVE PURPOSES. DETAILED INFORMATION FOR EQUIPMENT QUANTITIES, VALVES, AND INSTRUMENTATION CAN BE SEEN ON THE PROCESS AND INSTRUMENTATION DIAGRAMS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: D. CRAIG
CROSS CHK'D BY: M. MILLER
APPROVED BY: S. STEWART
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

OVERALL BLOCK FLOW DIAGRAM

SARAH A. STEWART LICENSED 21336 KANSAS PROFESSIONAL ENGINEER
3-1-2024

PROJECT NO. 2395-267343
FILE NAME: G010PFD.dwg

SHEET NO.
G-10

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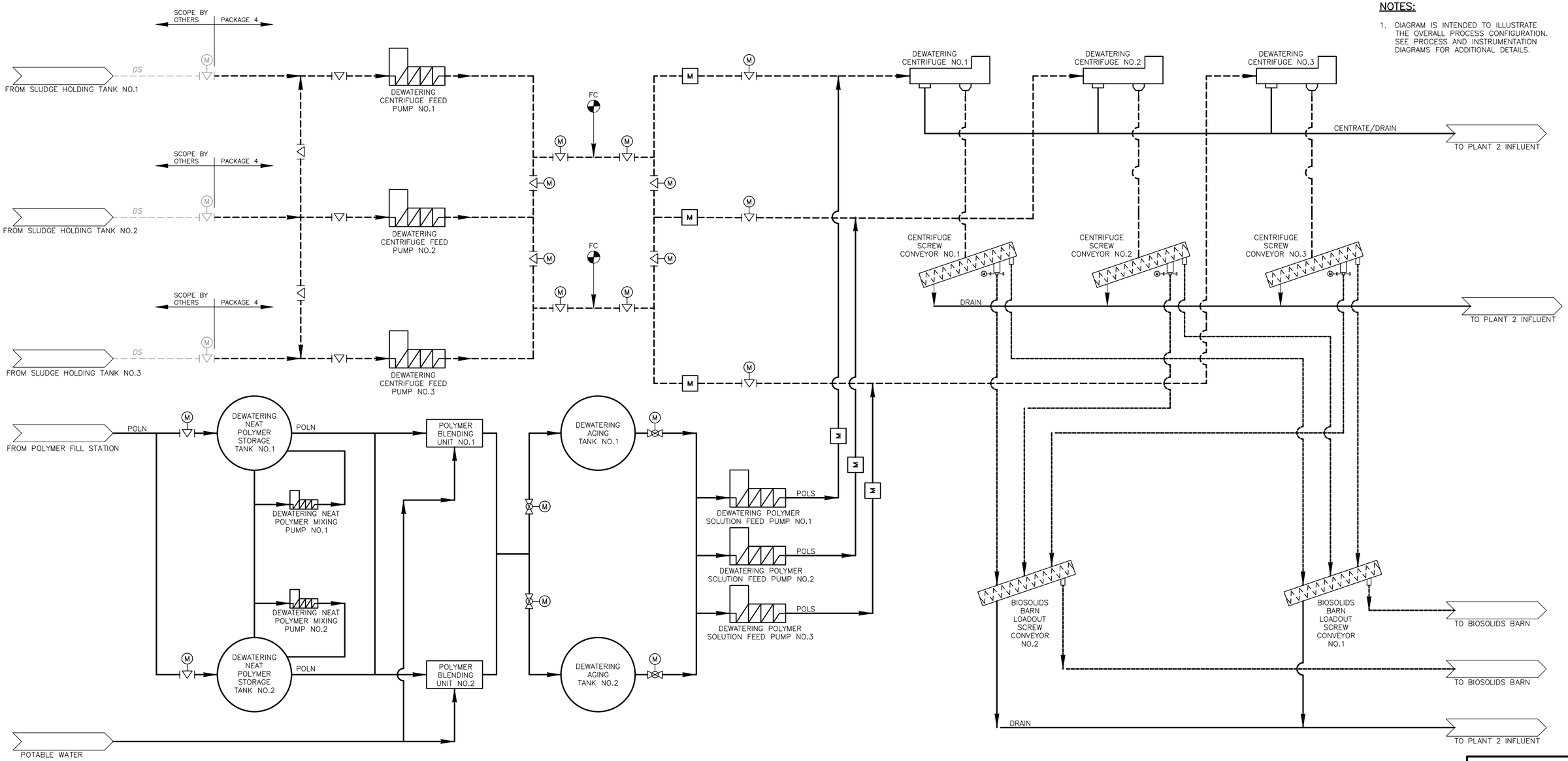
LINE LEGEND:

- LIQUIDS
- SOLIDS
- GAS
- DEWATERED CAKE

NOTES:

1. DIAGRAM IS INTENDED TO ILLUSTRATE THE OVERALL PROCESS CONFIGURATION. SEE PROCESS AND INSTRUMENTATION DIAGRAMS FOR ADDITIONAL DETAILS.



DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
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APPROVED BY: D. CRAIG
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS FLOW DIAGRAM
DEWATERING

PROJECT NO. 2395-267343
FILE NAME: G011PFDD.dwg

SHEET NO.
G-11

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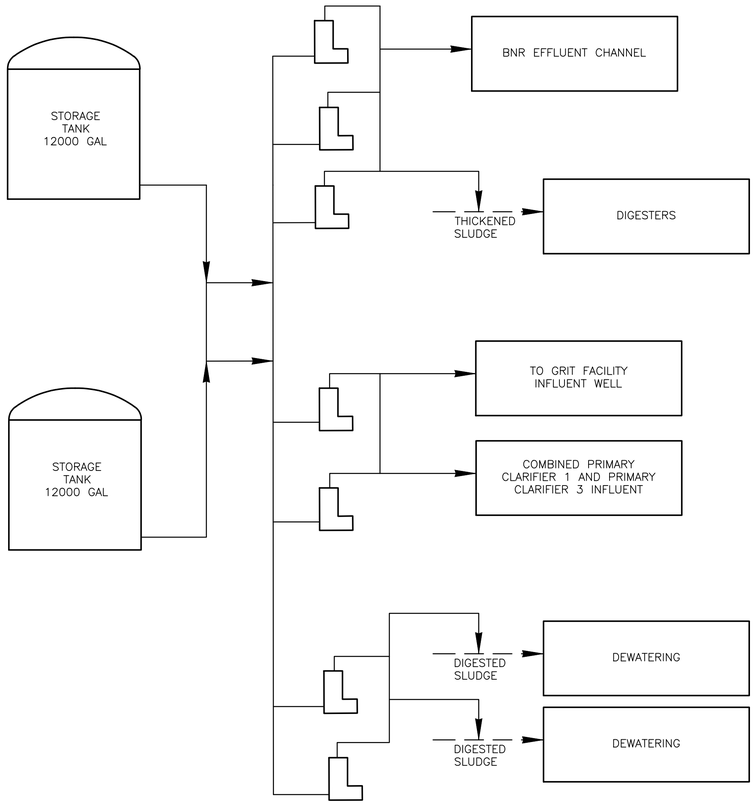
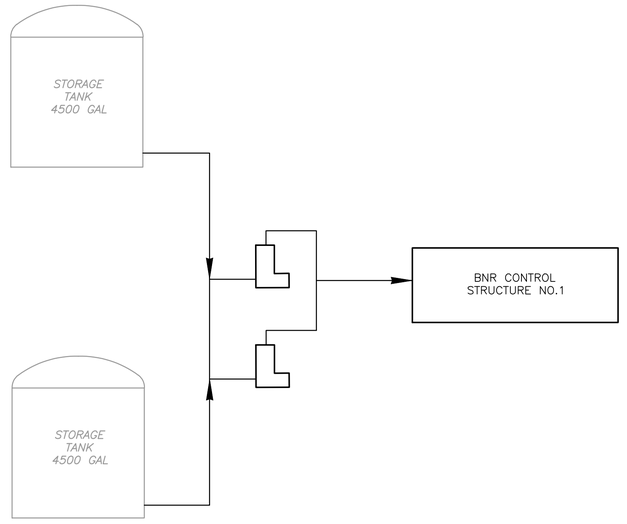


FERRIC CHLORIDE



SUPPLEMENTAL CARBON

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS FLOW DIAGRAM
CHEMICAL SYSTEMS

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: G013PFDCFS.dwg

SHEET NO.
G-13

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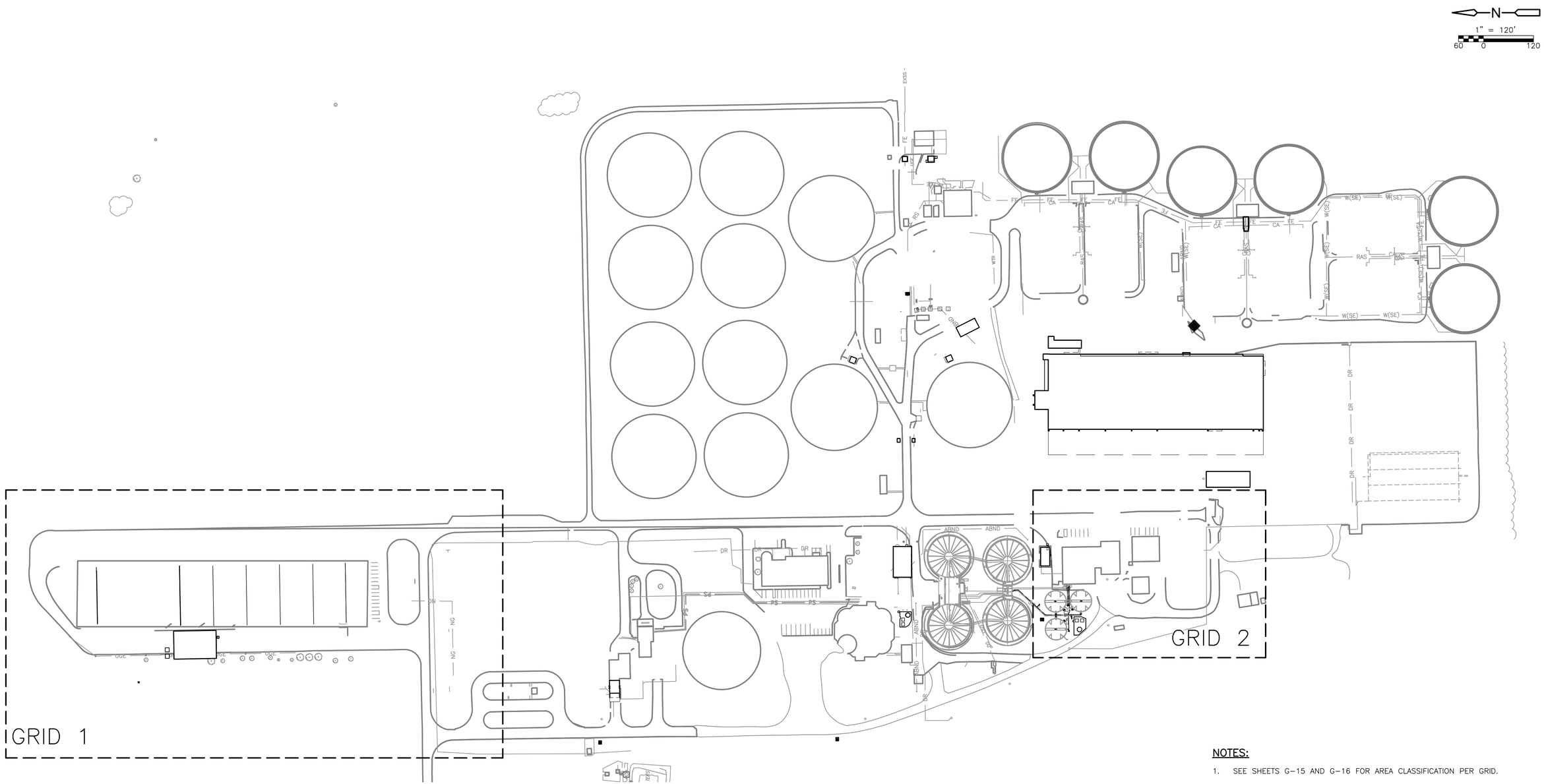

NOTES:

1. SEE SHEETS G-15 AND G-16 FOR AREA CLASSIFICATION PER GRID.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
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SHEET CHK'D BY: M. MALLOY
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APPROVED BY: D. CRAIG
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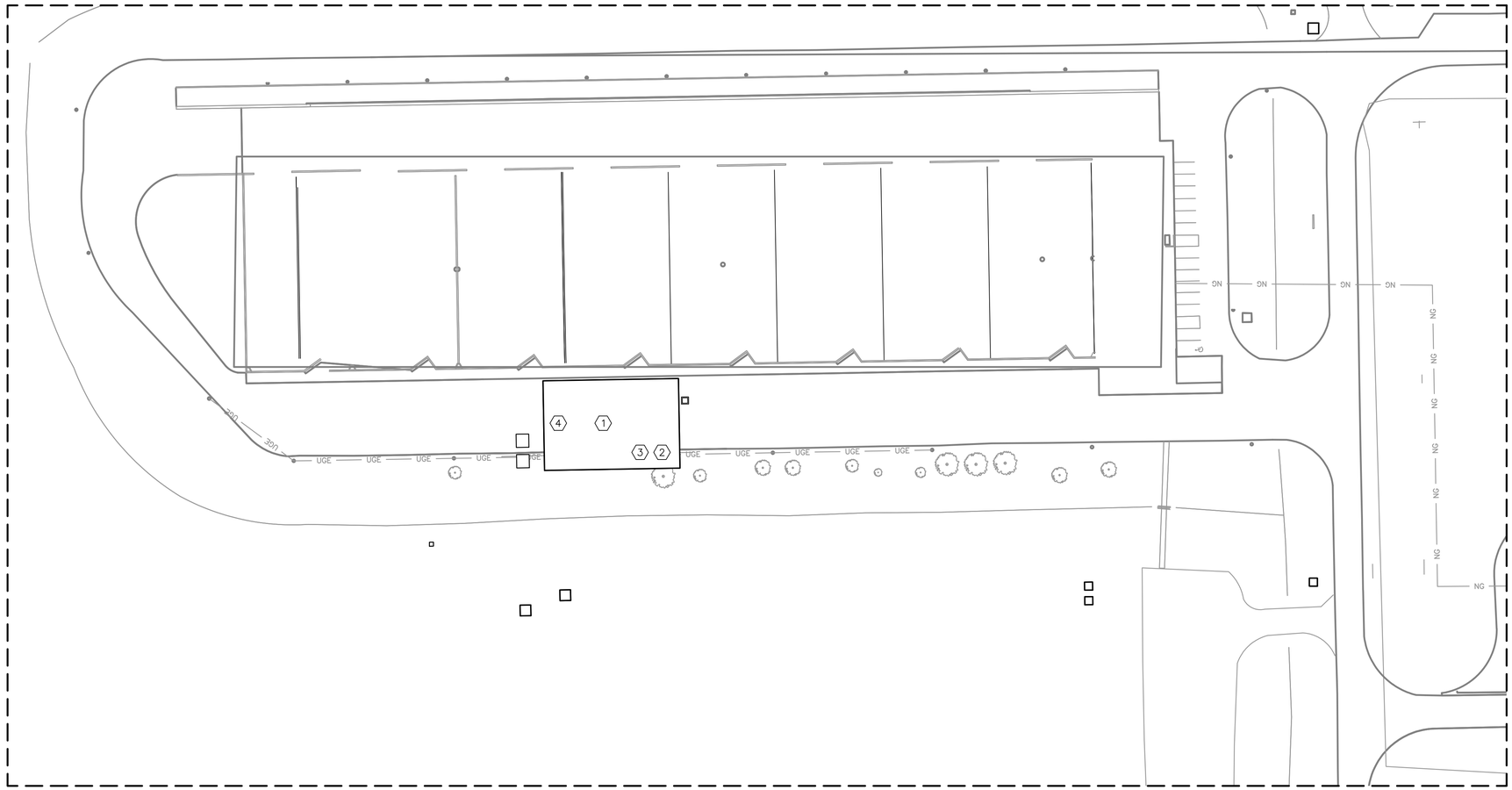
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

AREA CLASSIFICATION OVERALL SITE PLAN

PROJECT NO. 2395-267343
FILE NAME: G014ACPL.dwg

SHEET NO.
G-14



CITY OF WICHITA, KANSAS - SEWAGE TREATMENT PLANT NO. 2
AREA CLASSIFICATIONS

TAG	PROCESS AREA DESIGNATION (SEE NOTE 2)	PROCESS AREA DESCRIPTION (SEE NOTE 2)	SUB-AREA	HAZARD CLASSIFICATION	NFPA 820 2020 REFERENCE	ROOM VENTILATION REQUIREMENTS	ROOM/PROCESS ACTUAL VENTILATION	EXTENT OF CLASSIFIED AREA	FPM PROTECTION MEASURES (FPM) (SEE NOTE 4)	NOTES
1	O	CENTRIFUGE BUILDING	PROCESS AREA	UNCLASSIFIED	TABLE 6.2.2 (A) ROW 12A	CONTINUOUSLY VENTILATED AT 6 ACH	6 ACH	ENTIRE ROOM	H, FE, FAS	INDOOR, WET, CORROSIVE
2			MECHANICAL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY
3			CONTROL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY
4			ELECTRICAL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY

1 AREA CLASSIFICATIONS DEFINED IN TABLE ARE AT THE CONCLUSION OF IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCESSING EXISTING CONDITIONS OF AREAS DURING CONSTRUCTION ACTIVITIES.
2 REFER TO SHEET G-9 FOR OVERALL SITE PLAN WITH PROCESS AREA DESIGNATION AND DESCRIPTIONS.
3 NFPA 820 (2020 EDITION) TABLES 5.2.2 AND 6.2.2 DO NOT EXPLICITLY PROVIDE GUIDANCE FOR VENTS, HATCHES, AND PRESSURE RELIEF VALVES. GUIDANCE PROVIDED IN ANNEX A OF NFPA 820 (2020 EDITION) USED FOR CLASSIFICATION OF AREAS AROUND VENTS, HATCHES, AND PRESSURE RELIEF VALVES.
4 *FIRE PROTECTION MEASURES (FPM): COMBUSTIBLE GAS DETECTION (CGD), FIRE ALARM SYSTEM (FAS), PORTABLE FIRE EXSTINGUISHER (FE), HYDRANT PROTECTION PER NFPA 820 7.2.4 (H), NO REQUIREMENT (NR)
5 AIR CHANGE RATE IN AIR CHANGES PER HOUR (ACH) DEFINED WITH TANKS HALF-FULL OF RESPECTIVE PROCESS FLUID.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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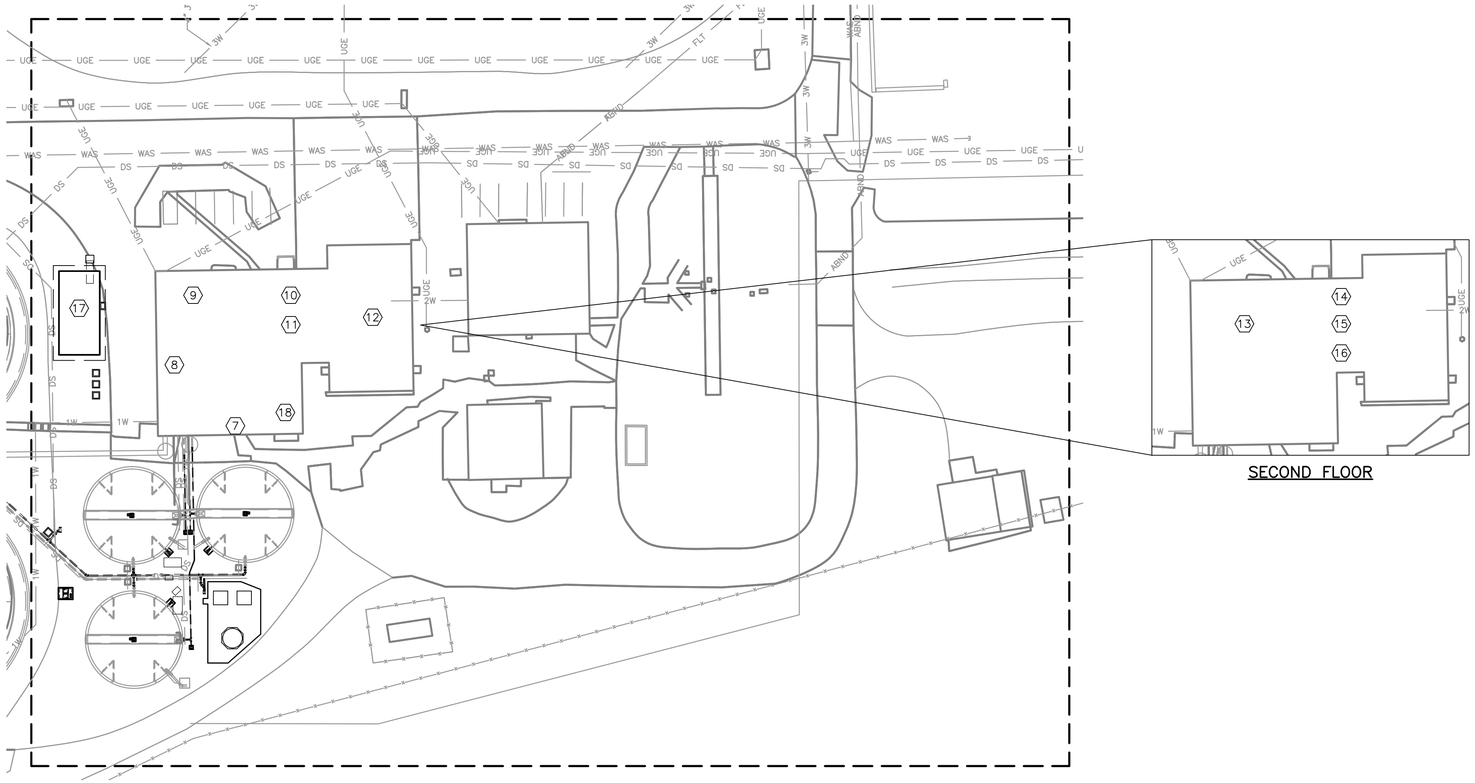
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

AREA CLASSIFICATION
GRID 1

PROJECT NO. 2395-267343
FILE NAME: G013ACPL.dwg
SHEET NO.
G-15



CITY OF WICHITA, KANSAS - SEWAGE TREATMENT PLANT NO. 2
AREA CLASSIFICATIONS

TAG	PROCESS AREA DESIGNATION (SEE NOTE 2)	PROCESS AREA DESCRIPTION (SEE NOTE 2)	SUB-AREA	HAZARD CLASSIFICATION	NFPA 820 2020 REFERENCE	ROOM VENTILATION REQUIREMENTS	ROOM/PROCESS ACTUAL VENTILATION	EXTENT OF CLASSIFIED AREA	FPM PROTECTION MEASURES (FPM) (SEE NOTE 4)	NOTES
7	P	DEWATERING SUPPORT BUILDING	CENTRIFUGE FEED PUMP ROOM	UNCLASSIFIED	TABLE 6.2.2(A); ROW 9B	CONTINUOUSLY VENTILATED AT 6 ACH	6 ACH	ENTIRE AREA	H and FE	INDOOR, WET, CORROSIVE
8			CHEMICAL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET, CORROSIVE
9			STORAGE ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET
10			SOLIDS ELECTRICAL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY
11			PLC ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY
12			LOADOUT AREA/GARAGE	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET
13			UPPER LEVEL PROCESS AREA	UNCLASSIFIED	NA	NA	6 ACH	NA	NR	INDOOR, WET
14			UPPER LEVEL STORAGE ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET
15			OFFICE/SAMPLE ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET
16			RESTROOM/LOCKERS	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, WET
17			FERRIC STORAGE TANK CANOPY	UNCLASSIFIED	NA	NA	NA	NA	NR	OUTDOOR, WET, CORROSIVE
18			MECHANICAL ROOM	UNCLASSIFIED	NA	NA	NA	NA	NR	INDOOR, DRY

1 AREA CLASSIFICATIONS DEFINED IN TABLE ARE AT THE CONCLUSION OF IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCESSING EXISTING CONDITIONS OF AREAS DURING CONSTRUCTION ACTIVITIES.
2 REFER TO SHEET G-9 FOR OVERALL SITE PLAN WITH PROCESS AREA DESIGNATION AND DESCRIPTIONS.
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4 *FIRE PROTECTION MEASURES (FPM): COMBUSTIBLE GAS DETECTION (CGD), FIRE ALARM SYSTEM (FAS), PORTABLE FIRE EXSTINGUISHER (FE), HYDRANT PROTECTION PER NFPA 820 7.2.4 (H), NO REQUIREMENT (NR)
5 AIR CHANGE RATE IN AIR CHANGES PER HOUR (ACH) DEFINED WITH TANKS HALF-FULL OF RESPECTIVE PROCESS FLUID.

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APPROVED BY: M. MALLOY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

AREA CLASSIFICATION
GRID 2

PROJECT NO. 2395-267343
FILE NAME: G013ACPL.dwg
SHEET NO.
G-16

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DESIGNATION [NOTE 3]	HAZARDOUS CLASSIFICATION	NEMA 250 ENCLOSURE CLASSIFICATION	NEMA 250 ENCLOSURE MATERIALS [NOTE 4]	ELECTRICAL CONDUIT MATERIALS [NOTE 5]	MATERIALS FOR ELECTRICAL OUTLET AND DEVICE BOXES, MOUNTING PLATES AND FITTINGS	MATERIALS FOR ELECTRICAL CONDUIT / CABLE TRAY SUPPORTS	ELECTRICAL FRAMING CHANNEL MATERIAL	DUCTWORK MATERIALS [NOTE 8]	MATERIALS FOR DUCTWORK SUPPORTS [NOTE 1 & 4]	MATERIALS FOR PIPING SUPPORTS FOR ALL TRADES [NOTE 1 & 4]	GRATING	HANDRAILS	ANCHOR BOLTS FOR ALL TRADES [NOTE 9]	MOUNTING HARDWARE FOR ALL TRADES (I.E. NUTS, BOLTS, FASTENERS, ETC.) [NOTE 2 & 9]
OUTDOOR, WET CORROSIVE	CLASSIFIED	NEMA 7	CAST ALUMINUM	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED	NEMA 4X	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED, CHEMICAL, FERRIC	NEMA 4X	FRP	RIGID NON-METALLIC, SCHEDULE 80 PVC	PVC	316 SS	316 SS	N/A	N/A	FRP	FRP	FRP	GRADE 2 TITANIUM	GRADE 2 TITANIUM
OUTDOOR, WET	CLASSIFIED	NEMA 7	CAST ALUMINUM	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM / FRP	304 SS	304 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED	NEMA 4	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM / FRP	304 SS	304 SS	316 SS, ALUMINUM	316 SS, ALUMINUM	316 SS	316 SS
INDOOR, CORROSIVE	UNCLASSIFIED	NEMA 4X	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM / FRP	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
INDOOR, DRY	UNCLASSIFIED	NEMA 1/NEMA 12	PAINTED STEEL	RIGID ALUMINUM [6]	CAST ALUMINUM [6]	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM	304 SS	304 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
INDOOR, DRY, CORROSIVE	CLASSIFIED	NEMA 7	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED	NEMA 4X	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
INDOOR, WET	UNCLASSIFIED	N/A	N/A	RIGID ALUMINUM	CAST ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
INDOOR, WET, CORROSIVE	CLASSIFIED	NEMA 7	ALUMINUM / 316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED	NEMA 4X	316 SS	RIGID ALUMINUM	CAST ALUMINUM	316 SS	316 SS	ALUMINUM	316 SS	316 SS	ALUMINUM	ALUMINUM	316 SS	316 SS
	UNCLASSIFIED, CHEMICAL, FERRIC	NEMA 4X	FRP	RIGID NON-METALLIC, SCHEDULE 80 PVC	PVC	316 SS	316 SS	FRP	316 SS	316 SS	FRP	FRP	GRADE 2 TITANIUM	GRADE 2 TITANIUM
SUBMERGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	316 SS	N/A	N/A	316 SS	316 SS

[1] PIPE SUPPORT MATERIALS SHALL BE SIMILAR FOR PROCESS MECHANICAL, PLUMBING, FIRE, HVAC PIPING SYSTEMS.

[2] HARDWARE MATERIALS SHALL BE SIMILAR FOR PROCESS MECHANICAL, PLUMBING, FIRE, HVAC, ELECTRICAL, AND INSTRUMENTATION & CONTROL SYSTEMS UNLESS OTHERWISE NOTED.

[3] DESIGNATIONS ARE NOTED ON AREA CLASSIFICATION SHEETS.

[4] MATERIALS NOTED ABOVE APPLY TO ALL AREAS OF THE PROJECT AND ARE INTENDED TO INDICATE MINIMUM MATERIAL REQUIREMENTS. IF THE DRAWINGS OR SPECIFICATIONS INDICATE A DIFFERENT MATERIAL THAN THIS TABLE, PROVIDE THE HIGHER PRICED OPTION IN THE BID AND CONFIRM WITH ENGINEER WHICH MATERIAL IS TO BE PROVIDED.

[5] LIQUIDTIGHT FLEXIBLE ALUMINUM CONDUIT SHALL BE USED FOR CONNECTION TO ONLY VIBRATING EQUIPMENT IN ALL AREAS. CONDUIT BENDS OF MORE THAN 15 DEGREES IN DUCTBANKS AND LOCATIONS WHERE CONDUIT TRANSITIONS FROM BELOW GRADE TO ABOVE GRADE SHALL BE PVC COATED ALUMINUM.

[6] ELECTRIC METALLIC TUBING (EMT) - STEEL AND HOT DIPPED GALVANIZED STEEL DEVICE BOXES, HARDWARE AND SUPPORTS SHALL BE USED IN DRY INDOOR AREAS OF THE ADMINISTRATION CONTROL BUILDING (AREA L).

[7] PROVIDE SUITABLE INSULATING MATERIAL WITH ADEQUATE DIELECTRIC STRENGTH WHEN DISSIMILAR METALS COME IN CONTACT, AS DETERMINED BY THE PIPE SUPPORT DESIGN ENGINEER.

[8] REFERENCE HVAC DRAWINGS FOR DUCT CONSTRUCTION REQUIREMENTS. DUCT MATERIALS INDICATED ARE FOR GENERAL VENTILATION DUCTWORK. FOUL AIR DUCTWORK FOR ODOR CONTROL PURPOSES SHALL BE FIBERGLASS REINFORCED PLASTIC (FRP) DUCTWORK REGARDLESS OF LOCATION.

[9] ALL ANCHORS SHALL BE EPOXY TYPE; RATED FOR CRACKED CONCRETE. COORDINATE WITH THE STRUCTURAL DRAWINGS AND STRUCTURAL SPECIFICATIONS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

MATERIALS SCHEDULE

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: G017MTCH.dwg

SHEET NO.
G-17

O - CENTRIFUGE BUILDING	
DEWATERING NEAT POLYMER STORAGE TANK	
NUMBER	2
VOLUME, EACH	6,500 GAL
MATERIAL	DENSITY POLYETHYLENE
DEWATERING NEAT POLYMER MIXING PUMP	
NUMBER	2
TYPE	PROGRESSIVE CAVITY
CAPACITY, EACH	50 GPM @ 4 PSI
MOTOR HORSEPOWER	5 HP
DRIVE TYPE	CONSTANT SPEED
RATED SPEED	450 RPM MAX
POLYMER BLENDING UNIT - NEAT POLYMER PUMPS	
NUMBER (DUTY/STANDBY)	2 (1/1)
TYPE	PROGRESSIVE CAVITY
AVERAGE POLYMER DOSAGE	30 ACTIVE LBS/DT SOLIDS
NEAT POLYMER CAPACITY RANGE, EACH	16 TO 40 GPH
MOTOR HORSEPOWER	0.5 HP
RATED SPEED	450 RPM MAX
POLYMER BLENDING UNIT - POLYMER/WATER MIX	
NUMBER (DUTY/STANDBY)	2 (1/1)
TYPE	HYDRODYNAMIC OR VARIABLE SPEED MIXING
APPLICABLE)	2 HP
DEWATERING POLYMER AGING TANK	
NUMBER	2
VOLUME, EACH	6,500 GAL
MATERIAL	DENSITY POLYETHYLENE
DEWATERING POLYMER SOLUTION FEED PUMP	
NUMBER (DUTY/STANDBY)	3 (2/1)
TYPE	PROGRESSIVE CAVITY
CAPACITY, EACH	100 GPM @ 23 PSI
MOTOR HORSEPOWER	10 HP
DRIVE TYPE	AFD
RATED SPEED	450 RPM MAX
DEWATERING CENTRIFUGE	
NUMBER (DUTY/STANDBY)	3(2/1)
MINIMUM DEWATERED CAKE SOLIDS	22%
MINIMUM SOLIDS CAPTURE	0.95
BOWL DIAMETER	28.35 (+/-) INCHES
MAXIMUM SPEED	2900 RPM MAX
MAIN MOTOR HP	200 HP MAX
BACK DRIVE MOTOR HP	60 HP MAX
SCENARIO 1: 2 CENTRIFUGES OPERATING 4 DAYS/WEEK 15 HOURS/DAY	
FLOW RATE CAPACITY, EACH	360 GPM @ 2% SOLIDS 240 GPM @ 3% SOLIDS
EACH	3,600 DRY LBS/HOUR
SCENARIO 2: 1 CENTRIFUGE OPERATING 7 DAYS/WEEK 15 HOURS/DAY	
FLOW RATE CAPACITY, EACH	415 GPM @ 2% SOLIDS 275 GPM @ 3% SOLIDS
EACH	4,100 DRY LBS/HOUR
CENTRIFUGE SCREW CONVEYOR	
NUMBER	3
TYPE	SHAFTLESS SCREW
DISCHARGE POINTS	2
CAPACITY	470 CUFT/HR
SCREW DIAMETER	16 IN MAX
MOTOR HORSEPOWER	10 HP MAX
BIOSOLIDS BARN LOADOUT SCREW CONVEYOR	
NUMBER	2
TYPE	SHAFTED SCREW
DISCHARGE POINTS	1
CAPACITY	940 CUFT/HR
SCREW DIAMETER	20 IN MAX
MOTOR HORSEPOWER	30 HP MAX

P - DEWATERING SUPPORT BUILDING	
DEWATERING CENTRIFUGE FEED PUMP	
NUMBER (DUTY/STANDBY)	3 (2/1)
TYPE	PROGRESSIVE CAVITY
CAPACITY, EACH	450 GPM @ 100 PSI
MOTOR HORSEPOWER	60 HP
DRIVE TYPE	VFD
RATED SPEED	300 RPM MAX
FERRIC CHLORIDE STORAGE TANK	
NUMBER	2
VOLUME, EACH	12,000 GAL
STORAGE TANK MATERIAL	VERTICAL XLHDPE
FERRIC CHLORIDE FEED PUMPS FOR PRIMARY	
NUMBER (DUTY)	2
TYPE	PERISTALTIC HOSE
CAPACITY, EACH	10 GPH
DISCHARGE PRESSURE	19 PSI (PRIMARY CLARIFIER 1 & 3)
	23 PSI (GRIT)
APPLICATION POINTS	PRIMARY CLARIFIER 1 AND 3 COMBINED INFLUENT
	GRIT FACILITY
FERRIC CHLORIDE FEED PUMPS FOR BNR EFFLUENT	
NUMBER (DUTY)	1
TYPE	PERISTALTIC HOSE
CAPACITY, EACH	83 GPH
DISCHARGE PRESSURE	26 PSI
FERRIC CHLORIDE FEED PUMPS FOR SOLIDS PROCESSING	
NUMBER (DUTY/SWING STANDBY)	4 (3/1)
TYPE	PERISTALTIC HOSE
CAPACITY, EACH	83 GPH (THICKENED SLUDGE)
	63 GPH (DIGESTED SLUDGE)
DISCHARGE PRESSURE	107 PSI (THICKENED SLUDGE)
	106 PSI (DIGESTED SLUDGE)
APPLICATION POINTS	DIGESTER FEED
	CENTRIFUGE FEED (2 POINTS)
SUPPLEMENTAL CARBON STORAGE TANK	
NUMBER	2
EXISTING TANKS TO BE REPURPOSED	DEWATERING POLYMER TANKS NO. 1 AND NO.2
VOLUME, EACH	4,500 GAL
MATERIAL	FIBERGLASS
SUPPLEMENTAL CARBON FEED PUMPS	
NUMBER (DUTY/STANDBY)	2 (1/1)
TYPE	PERISTALTIC HOSE
CAPACITY, EACH	42 GPH
DISCHARGE PRESSURE	68 PSI
APPLICATION POINTS	BNR CONTROL STRUCTURE NO. 1

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: K. REESE
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CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DESIGN CRITERIA

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: G018DCTA.dwg

SHEET NO.
G-18

YARD PIPING NOTES

1. THE CONTRACTOR SHALL PROVIDE A MINIMUM GROUND COVER OF 36 INCHES ON ALL PIPELINES WITH THE EXCEPTION OF WATER MAINS WHICH REQUIRE ADDITIONAL MINIMUM COVER, DEPENDANT ON DIAMETER, PER CITY OF WICHITA SPECIFICATION SECTION 803.5, UNLESS OTHERWISE NOTED ON PLANS.
2. UNLESS OTHERWISE INDICATED, SMALL YARD PIPING (10 INCHES OR LESS IN DIAMETER) IS SHOWN AS A CENTERLINE ON THE PLANS TO SCALE BUT NOT DIMENSIONED. THE CONTRACTOR SHALL FIELD VERIFY TO INSTALL THE SMALL YARD PIPING ON LINE AND GRADE BURIED WITH COVER NO LESS THAN THE MINIMUM COVER INDICATED HEREINBEFORE. CONFLICTS SHALL BE RESOLVED AS FOLLOWS: GRAVITY LINES HAVE PRIORITY; PRESSURE LINES SHALL BE ROUTED UNDER OR OVER GRAVITY LINES AS NECESSARY.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF A MINIMUM VERTICAL SEPARATION (FROM OUTSIDE OF PIPE WALL) OF 24 INCHES BETWEEN THE UNDERGROUND UTILITIES CANNOT BE MAINTAINED.
4. NO PIPELINE SHALL BE INSTALLED ON FILL MATERIAL WITHOUT FIRST MEETING THE SUBGRADE COMPACTION REQUIREMENTS, PER SPECIFICATION 312333.
5. THE CONTRACTOR SHALL ADJUST ALL VALVES BOXES TO FINISHED GRADE SHOWN, UNLESS OTHERWISE INDICATED. ALL MANHOLES (WITH THE EXCEPTION OF STORMWATER MANHOLES WITH GRATED TOPS) IN OPEN FIELD SHALL BE SET 6.0 INCHES ABOVE FINISHED GRADE.
6. PIPE/CONDUIT ELEVATIONS SHOWN ARE TO CENTERLINE OF THE PIPE/CONDUIT, UNLESS OTHERWISE INDICATED. FOR PIPE CONNECTION TO STRUCTURES, REFER TO PROCESS MECHANICAL DRAWINGS.
7. STRAIGHT SLOPES SHALL BE MAINTAINED BETWEEN PIPE INVERTS OR CENTERLINE ELEVATIONS SHOWN.
8. ALL PIPES TRENCHES AND BACKFILL SHALL BE IN ACCORDANCE WITH DETAIL E ON SHEET CZ–11.
9. ALL BURIED VALVE INSTALLATIONS SHALL BE IN ACCORDANCE WITH DETAIL A TO L ON SHEET CZ–13.
10. CONCRETE PIPE ENCASEMENT WHERE INDICATED SHALL BE CONSTRUCTED IN ACCORDANCE WITH SHEET CZ–8.
11. UPON COMPLETION OF EACH DAY'S WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE WORK AREA FREE OF HAZARDS AND SHALL PROVIDE ALL NECESSARY TEMPORARY SIGNS, WARNING DEVICES, BARRICADES AND TEMPORARY TRAFFIC PLATES.
12. THE CONTRACTOR SHALL ENSURE THAT DUST CONTROL MEASURES ARE IMPLEMENTED IN COMPLIANCE WITH THE REGULATORY REQUIREMENTS.
13. LOCATION OF ELECTRICAL MANHOLES AND PULL BOXES SHOWN ON CIVIL DRAWINGS ARE IN COORDINATION WITH ELECTRICAL DESIGN. ADDITIONAL ELECTRICAL MANHOLES AND PULL BOXES MAY BE REQUIRED TO COMPLY WITH ELECTRICAL DESIGN REQUIREMENTS. REFER TO ELECTRICAL CONTRACT DOCUMENTS FOR DETAILS RELATED TO THE ELECTRICAL DESIGN.
14. FOR LOCATIONS OF MISCELLANEOUS STRUCTURE, REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
15. REFER TO GEOTECHNICAL REPORT DATED DECEMBER 2022 FOR EVALUATION WORK FOR THE GEOTECHNICAL REPORTS OF EXPLORATION AND TESTS OF SUBSURFACE CONDITIONS AT THE SITE.
16. EXISTING SURFACE FEATURES SHOWN ON ALL PLANS HEREIN ARE BASED ON THE TOPOGRAPHIC SURVEY CONDUCTED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING SURFACE FEATURES, WHETHER SHOWN OR NOT HEREIN BEFORE COMMENCEMENT OF ANY FIELD WORK.
17. WHEN TRENCH EXCAVATION IS CLOSE TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SHEETING, SHORING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE–INS AND SETTLEMENT AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS, OR UNDER PINNING TO FULLY PROTECT THEM FROM DAMAGE.
18. ALL BURIED WATER DISTRIBUTION VALVES SHALL MEET THE REQUIREMENTS IN ACCORDANCE WITH SPECIFICATION 331216. ALL BURIED PROCESS VALVES SHALL MEET THE REQUIREMENTS IN ACCORDANCE WITH THEIR RESPECTIVE SPECIFICATION SECTION AS PROVIDED IN THE VALVE SCHEDULE.
19. PIPING IMMEDIATELY OUTSIDE A STRUCTURE OR CONCRETE ENCASEMENT SHALL MEET STANDARD DETAIL D ON SHEET CZ–10 UNLESS OTHERWISE INDICATED ON THE PROFILE SHEET.
20. ALL PRESSURIZED YARD PIPING SHALL BE FULLY RESTRAINED.
21. INSTALL YARD HYDRANT ASSEMBLY WITH A TEE FROM 3W MAIN PER DETAIL D ON SHEET CZ–12, SIZE PER PLAN.
22. INSTALL FIRE HYDRANT ASSEMBLY WITH 6" GATE VALVE, VALVE BOX AND APPURTENANCES PER CITY OF WICHITA STANDARD DETAIL AS SHOWN ON SHEET CZ–9. ALL 3W FIRE HYDRANTS SHALL BE PAINTED PURPLE TO COMPLY WITH PLANT STANDARDS.
23. PIPE JOINTS SHALL NOT BE DEFLECTED AT ANY ANGLE GREATER THAN 80% OF THE MAXIMUM ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
24. PIPE SHALL BE HANDLED SO AS TO PROTECT PIPE AT ALL TIMES AND SHALL BE CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT UNEVEN SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN END OF INSTALLED PIPE SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
25. BACKFILL SHALL BE COMPACTED TO THE GREATER OF 90% RELATIVE COMPACTION, EQUIVALENT TO THE SURROUNDING GROUND, OR TO THE REQUIREMENTS PER SPECIFICATION 312333.
26. NEW MANHOLE BASE SHALL BE CAST–IN–PLACE PER CITY OF WICHITA STANDARD DETAIL A ON SHEET CZ–7. MANHOLE SHAFTS CAN NOT BE INSTALLED UNTIL CAST–IN–PLACE MANHOLE BASE HAS CURED SUFFICIENTLY.
27. PROVIDE LEAK DETECTION ON DOUBLE CONTAINED PIPES AS SHOWN ON C–11 SHEETS AND IN DETAIL E ON SHEET CZ–10.
28. SEE THIS SHEET FOR EXISTING SYMBOLS, SURFACE AND UTILITIES LEGEND.
29. SEE SHEET G–6 FOR PIPE LEGENDS AND ABBREVIATIONS.
30. SEE SHEET C–11 FOR OVERALL YARD PIPING AND UTILITIES LAYOUT.
31. SEE SHEET E–4 AND E–5 FOR ELECTRICAL SITE PLAN.
32. FOR YARD PIPING COORDINATES SEE C–11.Z SHEETS.
33. FOR UNDERGROUND PIPING MATERIAL SPECIFICATION SECTIONS, SEE PIPE SCHEDULE ON DRAWING SHEET G–8. SEE SPECIFICATION 330519, 330524.23 OR 330531.16. FOR RCP PIPING MATERIAL AND INSTALLATION SEE CITY OF WICHITA STANDARD SPECIFICATION 804.
34. CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL UTILITY CONNECTIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.
35. FLOWABLE FILL IS ACCEPTABLE BEDDING MATERIAL AND TRENCH FILL MATERIAL, CONTRACTOR SHALL PLACE THE FILL IN SEQUENCE TO PREVENT PIPE FLOTATION AND PIPE SETTLEMENT.
36. CONSTRUCT MANHOLE PER DETAILS SHOWN ON SHEETS CZ–6, CZ–7, AND DETAIL A ON SHEET CZ–10.
37. MANHOLE COVER SHALL BE AIR–TIGHT WITH REMOVABLE AND BOLTABLE LID AND COMPLY WITH SPECIFICATION 330513.
38. CONSTRUCT BLOW–OFF VALVE PER CITY OF WICHITA STANDARD DETAIL ON SHEET CZ–9.
39. CONSTRUCT CLEAN OUT PER DETAIL C ON SHEET CZ–11.
40. LOCATION AND SIZE OF THE CONTROL VALVE (S) FOR THE YARD HYDRANTS ARE NOT SHOWN ON THE DRAWING. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH ENGINEER FOR LOCATION OF THE VALVES REQUIRED FOR THE YARD HYDRANTS.
41. SUPPLY PIPE ROUTING FOR YARD HYDRANT SHOWN ON PLAN IS FOR INFORMATION ONLY, CONTRACTOR TO FIELD VERIFY AND CONFIRM ACTUAL ROUTING OF THE SUPPLY LINE WITH ENGINEER. SUPPLY PIPE FROM THE MAIN LINE OF THE NON POTABLE WATER SYSTEM SHALL COMPLY WITH THE BURY DEPTH PER CITY OF WICHITA SPECIFICATION SECTION 803.5.
42. CONSTRUCT AIR VACUUM AND AIR RELEASE VALVE PER DETAIL C ON SHEET CZ–10.
43. INSTALL OUTSIDE DROP MANHOLE WHERE THE DIFFERENCE BETWEEN PIPE INVERTS EXCEED 24" OR WITH PRESSURE INLET PIPE PER DETAIL A ON SHEET CZ–7.
44. INSTALL 2" OR SMALLER WATER SERVICE TAP–IN FROM NON–POTABLE WATER MAIN 8" OR GREATER PER DETAIL F ON SHEET CZ–13 WHERE APPLICABLE.
45. ALL CAPS/PLUGS ARE NOT SHOWN ON THESE PLAN SHEETS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING PIPE CAPS/PLUGS IN COORDINATION WITH CITY OF WICHITA STANDARD SPECIFICATION SECTION 804.6. RESTRAINED MECHANICAL CAPS OR PLUGS ARE REQUIRED FOR PIPES THAT WILL REMAIN IN SERVICE OR FOR FUTURE STUB–OUTS.
46. ANY PERMANENT RELOCATION OF EXISTING UTILITIES NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO RELOCATION AND SHALL CONFORM TO THE APPLICABLE GOVERNING STANDARDS AND SPECIFICATIONS OF THE CITY OF WICHITA.
47. IN AREA WHERE 1W PIPES AND SANITARY SEWERS OR DRAIN LINES CARRYING PROCESS WATER ARE LAID PARALLEL TO EACH OTHER, THE HORIZONTAL DISTANCE BETWEEN THEN SHALL NOT BE LESS THAN 10 FEET FROM EDGE TO EDGE. WHERE THIS CANNOT BE ACHIEVED, THE SANITARY SEWER/DRAIN SHALL BE CONCRETE ENCASED PER DETAIL ON CZ–8. REFER TO CITY OF WICHITA SPECIFICATION SECTION 803.4.
48. ALL ABANDONED IN PLACE PIPES SHALL COMPLY WITH CITY OF WICHITA STANDARD SPECIFICATION SECTION 804.6.

ACCESSIBILITY NOTES

1. ADA STANDARDS ARE NOT REQUIRED UNLESS EXPLICTILY SHOWN OR CALLED OUT FOR ON THE PLANS.
2. CONTRACTOR SHALL ENSURE THAT CONSTRUCTED SLOPES AND ELEVATIONS COMPLY WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND WITH CITY OF WICHITA ACCESSIBILITY STANDARDS. GRADES SHOWN HEREON HAVE BEEN CAREFULLY SELECTED TO COMPLY WITH ACCESSIBILITY REQUIREMENTS. THE FOLLOWING SHALL BE CONSIDERED DURING CONSTRUCTION.
3. ALL ACCESSIBLE SPACES AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND WITH CITY OF WICHITA ACCESSIBILITY STANDARDS.
4. ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%.
5. ACCESSIBLE ROUTES MAY HAVE LONGITUDINAL SLOPES UP TO 5% (SEE NOTE 8 FOR SLOPES GREATER THAN 5%)
6. WHERE AN ACCESSIBLE ROUTE CHANGES DIRECTION AND AT ALL POINTS OF BUILDING EGRESS, A 5'x5' MINIMUM LANDING SHALL BE PROVIDED WITH MAXIMUM 2% SLOPE IN ANY DIRECTION.
7. TOP OF WALK OR TOP OF LANDING ELEVATIONS AT BUILDING ENTRANCES/EXITS SHALL BE A MAXIMUM OF 1/4" BELOW FINISHED FLOOR ELEVATION.
8. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS. CURB RAMPS COMPLYING WITH THE CITY OF WICHITA GUIDE TO ACCESSIBLE PARKING SHALL BE PROVIDED AT ALL PASSENGER LOADING ZONES.
9. ALL RAMPS SHALL BE MAXIMUM 1 VERTICAL UNIT FOR EVERY 12 HORIZONTAL UNITS (8.33%). ALL RAMPS MUST HAVE 5'x5' LANDING WITH MAXIMUM 2% SLOPE IN ALL DIRECTIONS AT THE TOP AND BOTTOM. RAMP RUNS RISING MORE THAN 6 INCHES VERTICAL REQUIRE HANDRAILS AND EDGE PROTECTION.
10. SLOPES OF CURB RAMPS SHALL COMPLY WITH THE CITY OF WICHITA GUIDE TO ACCESSIBLE PARKING. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
11. EACH ACCESSIBLE PARKING SPACE SHALL BE DESIGNATED AS RESERVED BY A VERTICALLY MOUNTED OR SUSPENDED SIGN SHOWING THE SYMBOL OF ACCESSIBILITY PER THE CITY OF WICHITA GUIDE TO ACCESSIBLE PARKING.
    A. CHARACTERS AND SYMBOLS ON SUCH SIGNS SHALL BE LOCATED 60" (1525 MM) MINIMUM ABOVE THE GROUND, FLOOR, OR PAVING SURFACE SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
    B. SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL COMPLY WITH THE CITY OF WICHITA GUIDE TO ACCESSIBLE PARKING.
    C. CHARACTERS AND SYMBOLS ON OVERHEAD SIGNS SHALL COMPLY WITH THE CITY OF WICHITA GUIDE TO ACCESSIBLE PARKING.

CIVIL GENERAL NOTES

1. THE VERTICAL DATUM IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. THE CONTRACTOR IS DIRECTED TO CONDUCT WHATEVER INVESTIGATIONS DEEMED NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
3. THE CONTRACTOR SHALL SECURE ALL NECESSARY CONSTRUCTION PERMITS AND INSPECTIONS REQUIRED FOR THE WORK. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF ALL PERMITS REQUIRED FOR THE WORK.
4. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL SAFETY CODES DURING THE PROCESS OF THE WORK AND ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THIS CONTRACT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
5. THE CONTRACTOR SHALL CONFORM AND ADHERE TO ALL APPLICABLE OSHA SAFETY ORDERS.

EXISTING SYMBOLS

- A/C = AC UNIT
- ATT = A.T.&T. MARKER
- ATTPED = A.T.&T. PEDESTAL
- ATTVT = A.T.&T. VAULT
- BB = BREAKER BOX
- CMH = COMMUNICATIONS MANHOLE
- CO = CLEANOUT
- CP = CABLE TV PEDESTAL
- DI = DROP INLET
- EB = ELECTRIC BOX
- EMH = ELECTRIC MANHOLE
- EVT = ELECTRIC VAULT
- FDC = FIRE DEPARTMENT CONNECTION
- FH = FIRE HYDRANT
- = GUY POST
- GR = GAS REGULATOR
- GU = GUARD POST
- Guy = GUY ANCHOR
- JBOX = JUNCTION BOX
- LP = LIGHT POLE
- Post = POST
- PP = POWER POLE
- RD = ROOF DRAIN
- SB = SWITCH BOX
- Sign = SIGN
- SP = STAND PIPE
- SSMH = SANITARY SEWER MANHOLE
- SWSMH = STORMWATER SEWER MANHOLE
- TR 2" = TREE
- UB = UTILITY BOX
- WM = WATER METER
- WV = WATER VALVE
- WVT = WATER VAULT
- XFMR = TRANSFORMER
- YH = YARD HYDRANT

EXISTING UTILITIES

- ABND = ABANDONED LINE
- CA = COMPRESSED AIR
- SNT = DAFT SUBNATANT
- DS = DIGESTED SLUDGE
- OHE = ELECTRIC, OVERHEAD
- UGE = ELECTRIC, UNDERGROUND
- FLT = FILTRATE
- FE = FINAL EFFLUENT
- FA = FOUL AIR
- IS = INTERMEDIATE SLUDGE
- NG = NATURAL GAS
- OVF = OVERFLOW
- PE = PRIMARY EFFLUENT
- PSC = PRIMARY SCUM
- PS = PRIMARY SLUDGE
- RS = RAW SEWAGE
- RAS = RETURN ACTIVATED SLUDGE
- DR = SANITARY DRAIN
- SE = SECONDARY EFFLUENT
- SWS = STORM WATER SEWER
- TELE = TELEPHONE
- TFE = TRICKLING FILTER EFFLUENT
- WAS = WASTE ACTIVATED SLUDGE
- 1W = 1W WATER, POTABLE
- 2W = 2W WATER, NONPOTABLE CITY
- 3W = 3W WATER, NONPOTABLE PLANT

EXISTING SURFACES

- = SAND
- = GRAVEL
- = ASPHALT
- = CONCRETE

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL AND YARD PIPING GENERAL NOTES AND LEGEND

PROJECT NO. 2395–267343
FILE NAME: C001NFLG
SHEET NO. C-1

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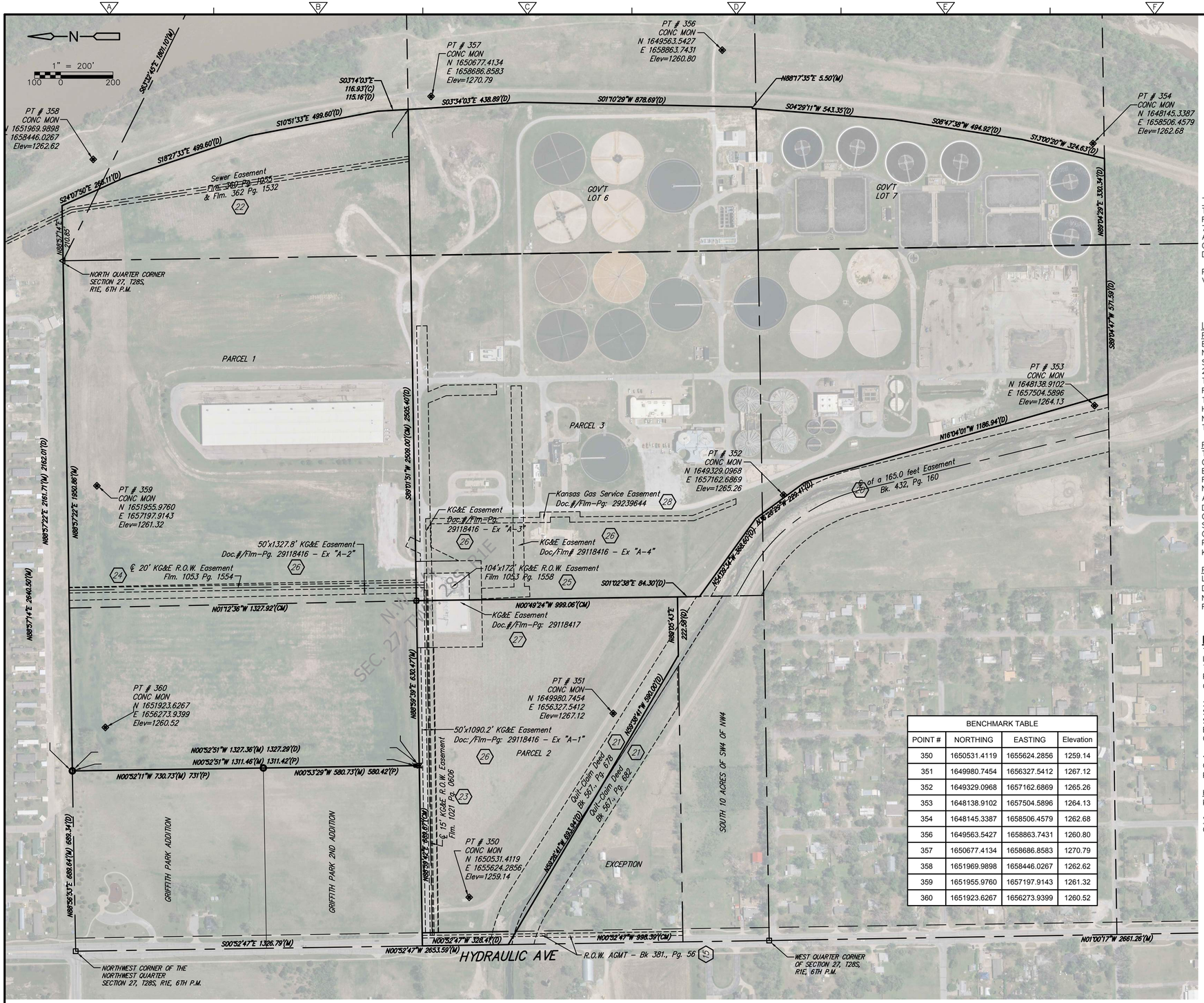

BENCHMARK TABLE			
POINT #	NORTHING	EASTING	Elevation
350	1650531.4119	1655624.2856	1259.14
351	1649980.7454	1656327.5412	1267.12
352	1649329.0968	1657162.6869	1265.26
353	1648138.9102	1657504.5896	1264.13
354	1648145.3387	1658506.4579	1262.68
356	1649563.5427	1658863.7431	1260.80
357	1650677.4134	1658686.8583	1270.79
358	1651969.9898	1658446.0267	1262.62
359	1651955.9760	1657197.9143	1261.32
360	1651923.6267	1656273.9399	1260.52

STATE OF KANSAS)
SS
COUNTY OF SEDGWICK)

CDM SMITH, INC.
APRIL 5, 2022

WE, BAUGHMAN COMPANY, P.A., SURVEYORS IN AFORESAID COUNTY AND STATE DO HEREBY CERTIFY THAT, UNDER THE SUPERVISION OF THE UNDERSIGNED, WE DID ON THIS 4TH DAY OF APRIL, 2022, PERFORM A TOPOGRAPHICAL SURVEY OF THE FOLLOWING:

WICHITA BNR PLANT 2, WICHITA, SEDGWICK COUNTY, KANSAS, MORE PARTICULARLY DESCRIBED BELOW.

THE ACCOMPANYING SKETCH IS A TRUE AND CORRECT EXHIBIT OF SAID SURVEY BASED ON ACTUAL FIELD MEASUREMENTS WHERE THE MONUMENTS ARE OF THE CHARACTER AND OCCUPY THE POSITIONS AS INDICATED.

March 1, 2024

JONATHAN C. HUBBELL #1680 DATE
CHUBBELL@BAUGHMANCO.COM

TITLE NOTES:

TITLE COMMITMENT PROVIDED TO BAUGHMAN COMPANY, P.A., BY:
FIRST AMERICAN TITLE & SECURITY 1ST TITLE
727 N. WACO, SUITE 300, WICHITA, KS 67203
ALTA UNIVERSAL ID: 1010831
COMMITMENT NUMBER: C–DH3019360
DATE OF POLICY: JANUARY 10, 2022

PROPERTY ADDRESS: 1801 E. 57TH ST. S. WICHITA, KS 67216
VESTED IN:
PARCEL 1: CITY OF WICHITA
PARCEL 2: CITY OF WICHITA, A MUNICIPAL CORPORATION
PARCEL 3: CITY OF WICHITA A/K/A THE CITY OF WICHITA, A MUNICIPAL CORPORATION

LEGAL DESCRIPTION:

PARCEL 1:
BEGINNING AT A POINT IN THE NORTH LINE AND 689.34 FEET EAST OF THE NORTHWEST CORNER OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 28 SOUTH, RANGE 1 EAST OF THE SIXTH PRINCIPAL MERIDIAN, SEDGWICK COUNTY, KANSAS, THENCE ALONG SAID NORTH LINE EXTENDED BEARING N89°40'00"E A DISTANCE OF 2162.01 FEET TO A POINT IN THE WEST RIGHT OF WAY LINE OF THE WICHITA–VALLEY CENTER RIVERSIDE LEVEE; THENCE ALONG SAID LEVEE THE FOLLOWING BEARINGS AND DISTANCES, S23°25'04"E A DISTANCE OF 266.11 FEET; THENCE S17°44'47"E A DISTANCE OF 499.60 FEET; THENCE S10°08'47"E A DISTANCE OF 499.60 FEET; THENCE S2°31'17"E A DISTANCE OF 115.16 FEET TO A POINT IN THE SOUTH LINE EXTENDED OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SAID SECTION 27; THENCE ALONG SAID SOUTH LINE EXTENDED, BEARING N89°42'10"W A DISTANCE OF 2505.40 FEET; THENCE BEARING N0°20'00"W A DISTANCE OF 1327.29 FEET TO THE POINT OF BEGINNING.

PARCEL 2:
THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 28 SOUTH, RANGE 1 EAST OF THE SIXTH PRINCIPAL MERIDIAN, SEDGWICK COUNTY, KANSAS, EXCEPT THE SOUTH 10 ACRES THEREOF AND EXCEPT THEREFROM THAT PORTION LYING SOUTH OF THE CENTER LINE OF THE RIVERSIDE DRAINAGE DISTRICT RIGHT OF WAY, SAID EXCEPTION ALSO DESCRIBED AS BEGINNING AT A POINT ON THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 28 SOUTH, RANGE 1 EAST OF THE SIXTH PRINCIPAL MERIDIAN AND 1655.2 FEET SOUTH OF THE NORTHWEST CORNER OF SAID SECTION 27; THENCE SOUTH 58'35' EAST A DISTANCE OF 693.94 FEET; THENCE SOUTH 58°47' EAST A DISTANCE OF 590 FEET MORE OR LESS TO A POINT ON THE NORTH LINE OF THE SOUTH 10 ACRES OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 27; THENCE WEST ALONG THE NORTH LINE OF THE SOUTH 10 ACRES OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 27 A DISTANCE OF 1117 FEET MORE OR LESS TO A POINT IN THE WEST LINE OF SECTION 27; THENCE NORTH 668.3 FEET TO BEGINNING, SEDGWICK COUNTY, KANSAS, AND EXCEPT THAT PORTION DEDICATED FOR STREET PURPOSES IN DOC#/FLM–PG: 28534403.

PARCEL 3:
LOTS 6 AND 7 OF SECTION 27, AND ALL OF THE LAND LYING NORTH AND EAST OF THE RIVERSIDE DRAINAGE DITCH IN THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 27, AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER (NE/4 SW/4) OF SECTION 27, ALL IN TOWNSHIP 28 SOUTH, RANGE 1 EAST OF THE SIXTH PRINCIPAL MERIDIAN, SEDGWICK COUNTY, KANSAS.

NOTES:

1. THE UTILITY LOCATIONS REPRESENTED IN THIS PLAN SET WERE COMPILED BY BOTH FIELD OBSERVATION AND INFORMATION FROM THE VARIOUS UTILITY COMPANIES. IF ANY CONSTRUCTION OR RELOCATION IS PLANNED FOR THIS SITE THE VARIOUS UTILITY COMPANIES SHOULD BE REQUESTED TO VERIFY THEIR LOCATIONS IN THE FIELD PRIOR TO FINAL DESIGN OR CONSTRUCTION. ANY UTILITIES NOT SHOWN ARE DUE TO NO RESPONSE TO KANSAS ONE CALL "1–800–DIG–SAFE" TICKET NUMBER 22131735.

2. THE EXISTENCE OF UNDERGROUND STORAGE FACILITIES, BURIED FOUNDATIONS, PIPELINES, OR ANY OTHER SUBSURFACE STRUCTURE MAY BE PRESENT. ALL VISIBLE ABOVE GROUND EVIDENCE OF UNDERGROUND STRUCTURES OR APPURTENANCES HAVE BEEN SHOWN IN THIS PLAN SET. ADDITIONAL SUBSURFACE EXPLORATION WORK OR DETAILED RECORD DATA WILL BE REQUIRED TO FURTHER DELINEATE ANY SUBSURFACE CONDITIONS NOT DEFINED BY THIS SURVEY.

4. ACCORDING TO SCALED LOCATION ON FEMA FIRM 20173C0508G, EFFECTIVE DECEMBER 22, 2016 A PORTION OF THE SUBJECT PROPERTY LIES WITHIN ZONE X (AREA WITH REDUCED FLOOD RISK DUE TO LEVEE), AND A PORTION OF THE SUBJECT PROPERTY LIES WITHIN ZONE AH (WITHOUT BASE FLOOD ELEVATION). SEE SHEET C–3

HORIZONTAL CONTROL:
KANSAS SOUTH ZONE GRID BEARING SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).

VERTICAL RELIEF:
GROUND SURVEY, CONTOURS AT 1 FOOT INTERVAL, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

JONATHAN C. HUBBELL LS-1680 3-1-24 KANSAS PROFESSIONAL SURVEYOR

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. STEWART
SHEET CHK'D BY: C. HUBBELL
CROSS CHK'D BY: T. WOOTEN
APPROVED BY: C. HUBBELL
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

TITLE SURVEY CONTROL PLAN

PROJECT NO. 2395–267343
FILE NAME: C002STPL

SHEET NO.
C-2

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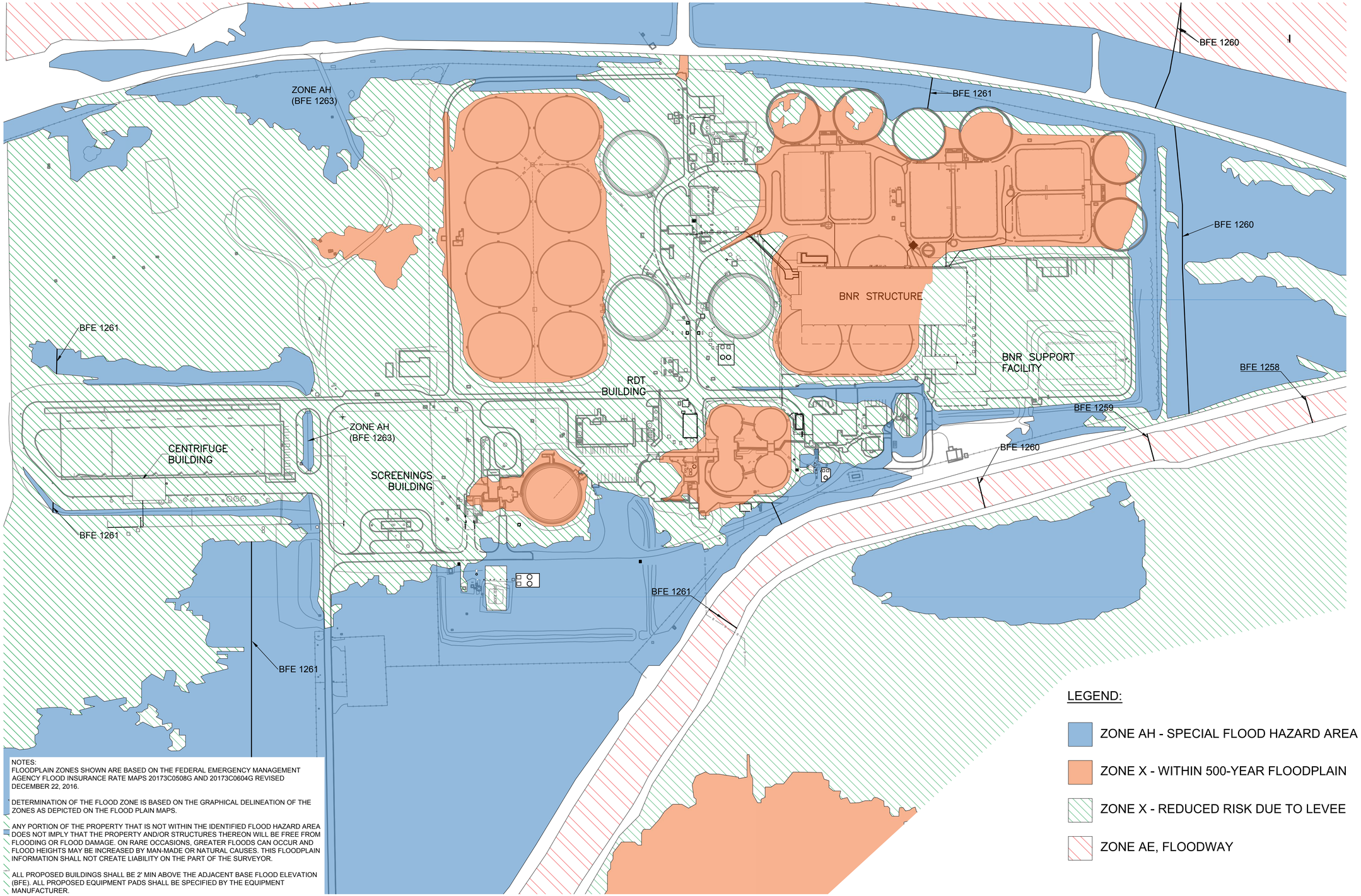

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
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BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EXISTING FEMA FLOODPLAIN MAPS

JAMES WOOTEN
LICENSED
21190
3-1-24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C003FEMA
SHEET NO.
C-3

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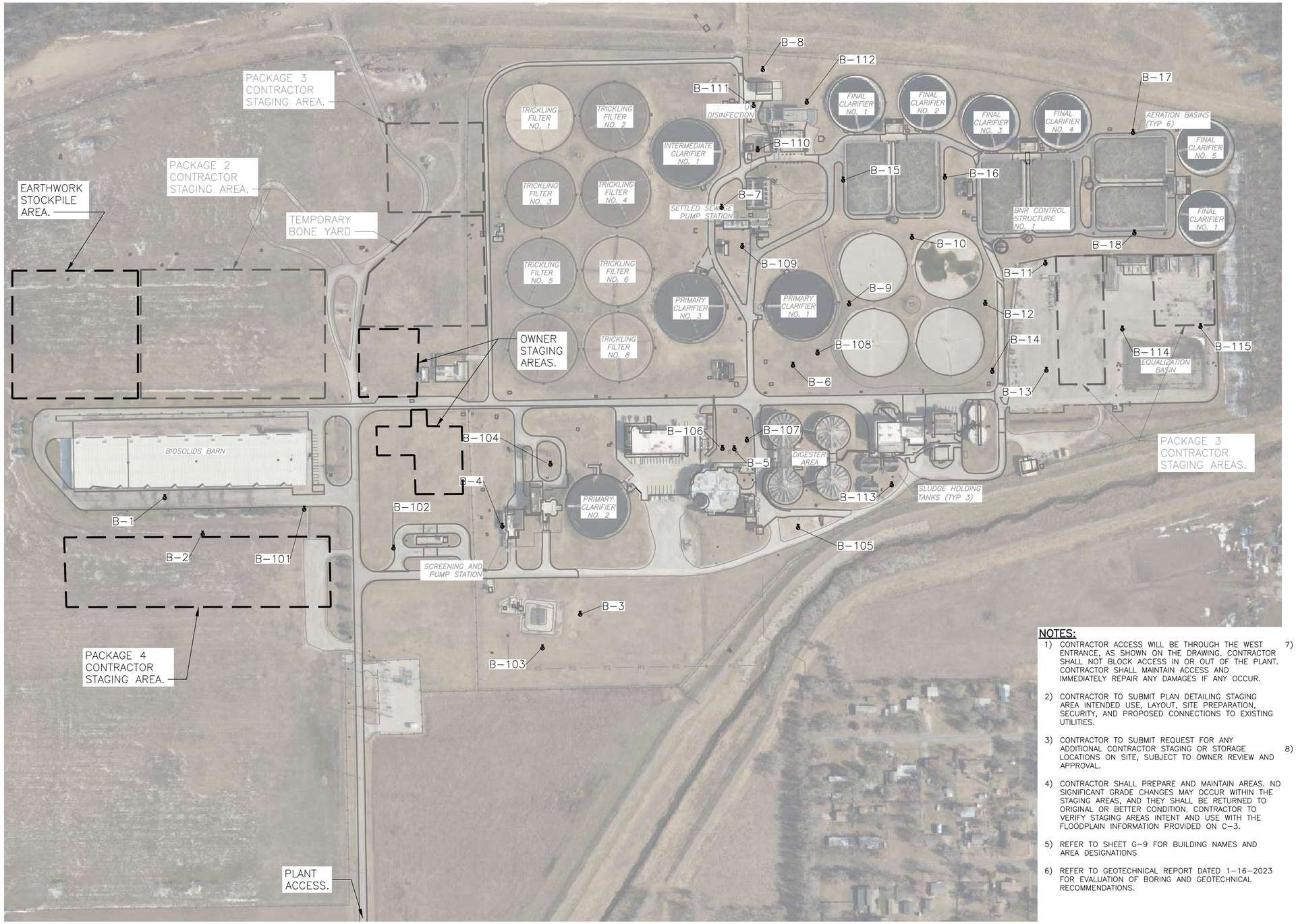

N

1" = 150'
75 0 150

GEOTECHNICAL BORINGS			
	BORING NUMBER	NORTHING	EASTING
	B-1	1651289.03	1657331.25
	B-2	1651177.52	1657224.62
	B-3	1650069.83	1656988.92
	B-4	1650298.37	1657247.24
	B-5	1649617.61	1657474.62
	B-6	1649445.24	1657719.78
	B-7	1649654.85	1658183.47
	B-8	1649533.84	1658587.54
	B-9	1649280.46	1657899.65
	B-10	1649096.32	1658094.83
	B-11	1648704.52	1658019.28
	B-12	1648881.03	1657901.54
	B-13	1648701.66	1657705.19
	B-14	1648860.25	1657702.14
	B-15	1649298.20	1658263.19
	B-16	1648999.51	1658271.47
	B-17	1648447.37	1658402.97
	B-18	1648443.56	1658107.92
	B-101	1650879.58	1657297.23
	B-102	1650617.54	1657182.99
	B-103	1650180.25	1656890.19
	B-104	1650157.15	1657429.26
	B-105	1649430.33	1657243.92
	B-106	1649652.41	1657475.32
	B-107	1649580.68	1657499.81
	B-108	1649373.24	1657755.79
	B-109	1649593.98	1658068.52
	B-110	1649549.04	1658352.31
	B-111	1649561.02	1658482.05
	B-112	1649404.76	1658491.95
	B-113	1649155.65	1657368.68
	B-114	1648478.72	1657826.34
	B-115	1648249.24	1657833.31

NOTES:

1) CONTRACTOR ACCESS WILL BE THROUGH THE WEST ENTRANCE, AS SHOWN ON THE DRAWING. CONTRACTOR SHALL NOT BLOCK ACCESS IN OR OUT OF THE PLANT. CONTRACTOR SHALL MAINTAIN ACCESS AND IMMEDIATELY REPAIR ANY DAMAGES IF ANY OCCUR.

2) CONTRACTOR TO SUBMIT PLAN DETAILING STAGING AREA INTENDED USE, LAYOUT, SITE PREPARATION, SECURITY, AND PROPOSED CONNECTIONS TO EXISTING UTILITIES.

3) CONTRACTOR TO SUBMIT REQUEST FOR ANY ADDITIONAL CONTRACTOR STAGING OR STORAGE LOCATIONS ON SITE, SUBJECT TO OWNER REVIEW AND APPROVAL.

4) CONTRACTOR SHALL PREPARE AND MAINTAIN AREAS. NO SIGNIFICANT GRADE CHANGES MAY OCCUR WITHIN THE STAGING AREAS, AND THEY SHALL BE RETURNED TO ORIGINAL OR BETTER CONDITION. CONTRACTOR TO VERIFY STAGING AREAS INTENT AND USE WITH THE FLOODPLAIN INFORMATION PROVIDED ON C-3.

5) REFER TO SHEET G-9 FOR BUILDING NAMES AND AREA DESIGNATIONS

6) REFER TO GEOTECHNICAL REPORT DATED 1-16-2023 FOR EVALUATION OF BORING AND GEOTECHNICAL RECOMMENDATIONS.

7) TEMPORARY POWER (BOTH 480V, 3PH, AND 120 SINGLE PHASE) IS AVAILABLE IN BIOSOLIDS BARN ELECTRICAL ROOM. CONTRACTOR TO PROVIDE ALL TEMPORARY CONDUIT, CONDUCTORS, TRANSFORMERS, AND CIRCUIT BREAKERS TO PACKAGE 2 CONTRACTORS STAGING AREA AS IDENTIFIED. CONTRACTOR SHALL FIELD ROUTE TEMPORARY POWER CONNECTIONS AND SEAL TIGHT AROUND THE CONDUIT FOR ANY PENETRATIONS. AFTER THE TEMPORARY POWER IS NOT REQUIRED CONTRACTOR SHALL REMOVE THE CONDUIT AND FILL THE HOLE(S) AND RESTORE TO EXISTING CONDITION. PROVIDE PVC CONDUIT FOR ALL TEMPORARY POWER WITH SPECIAL CONDUIT GUARDS AT TRAFFIC PATH OF ROADWAY CROSSINGS.

8) TEMPORARY UTILITY SERVICE AND CONNECTION TO EXISTING SANITARY DRAIN LINES THAT FLOW BACK TO HEADWORKS ARE AVAILABLE FOR USE BY THE CONTRACTOR. TO DETERMINE EXACT LOCATION OF EXISTING UTILITIES, REFER TO C-11 DRAWINGS FOR MORE DETAIL. CONTRACTOR TO PROVIDE ALL NECESSARY PIPING AND APPURTENANCES AS NEEDED TO PACKAGE 2 CONTRACTORS STAGING AREA AS IDENTIFIED. ANY ROAD CROSSINGS SHALL BE INSTALLED TO MAINTAIN TRAFFIC FLOW AT ALL TIMES. AFTER THE TEMPORARY CONNECTION IS NO LONGER REQUIRED, CONTRACTOR SHALL REMOVE THE TEMPORARY PIPE AND APPURTENANCES AND RESTORE SITE TO EXISTING CONDITION.

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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315 S. Ellis, Wichita, KS 67211 (316) 262-7271
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EXISTING SITE PLAN

PROJECT NO. 2395-267343
FILE NAME: C004STPL

SHEET NO.
C-4

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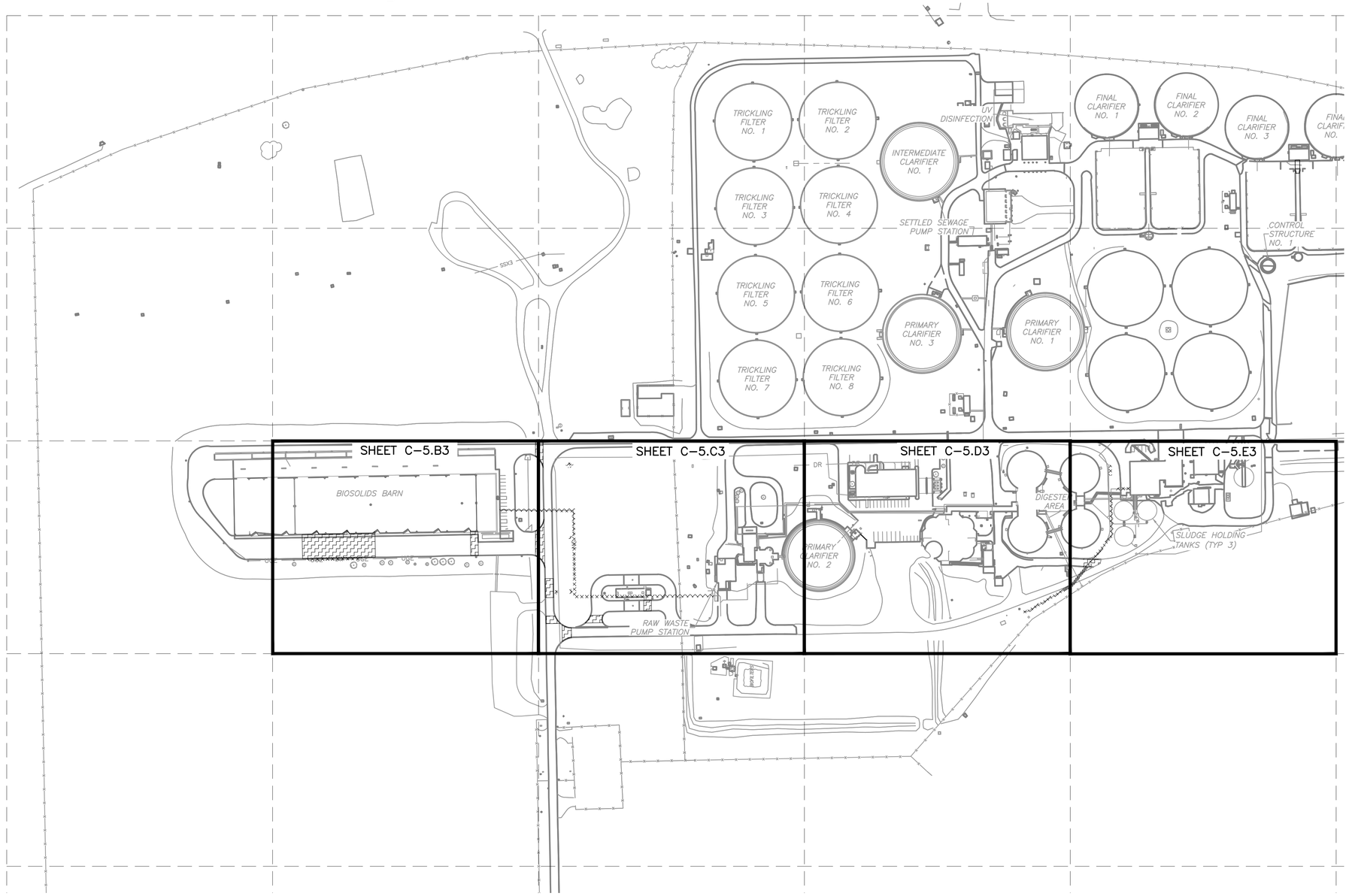

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1" = 150'
75 0 150

LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL

DEMOLITION NOTES:

1. THE DRAWINGS HEREIN SERVE TO DEPICT GENERAL WORK LIMIT OF DEMOLITION WORK FOR THE PROJECT. NOT EVERY SINGLE DETAIL IS SHOWN. CONTRACTOR IS RECOMMENDED TO CONDUCT A PRE-BID SITE WALKTHROUGH TO DETERMINE FURTHER DETAILS IF NECESSARY.
2. DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH SPEC SECTION 311000.
3. CONTRACTOR SHALL THOROUGHLY REMOVE AND CLEANUP ALL DEBRIS AS A RESULT OF DEMOLITION AND CONSTRUCTION OF PROPOSED WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER. ALL DEMOLITION DEBRIS SHALL BE LEGALLY DISPOSED OF OFF SITE.
4. YARD PIPING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM RECORD DRAWINGS PROVIDED BY THE OWNER. CONTRACTOR TO FIELD VERIFY PRIOR TO DEMOLITION WORK.
5. THE CONTRACTOR SHALL REPAIR DAMAGE CAUSED BY DEMOLITION WORK AND RESTORE DAMAGED AREAS TO EXISTING OR BETTER CONDITION.
6. IF CONTRACTOR IDENTIFIES EXISTING ELECTRICAL DUCTBANKS NOT SHOWN ON THIS PLAN THAT WILL BE AFFECTED BY THE DEMOLITION WORK, THE CONTRACTOR SHALL NOTIFY OWNER/CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE DEMOLITION WORK.
7. IF THE CONTRACTOR DAMAGES AN EXISTING ELECTRICAL DUCTBANK THAT IS IDENTIFIED ON THIS PLAN AND NOTED AS REQUIRING PROTECTION, THE CONTRACTOR SHALL BE LIABLE FOR RESTORING DAMAGED AREAS TO EXISTING OR BETTER CONDITION AS WELL AS ANY ENGINEERING LABOR NECESSARY TO MANAGE THE IMPACT OR ASSIST WITH THE RESTORATION OF THE DAMAGED CIRCUITS.
8. PRIOR TO PERFORMING ANY DEMOLITION WORK THAT WOULD DAMAGE EXISTING DUCTBANK THAT WILL REMAIN, THE CONTRACTOR SHALL WORK WITH OWNER/CONSTRUCTION MANAGER TO PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE. TEMPORARY WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE.
9. CONTRACTOR REQUIRED TO LIMIT THE OPEN CUTS ACROSS FACILITY ACCESS ROADWAYS TO GREATEST EXTENT POSSIBLE. FACILITY ACCESS IS REQUIRED FOR PLANNED AND UNPLANNED ACTIVITIES BY MAINTENANCE AND OPERATIONS STAFF. CONTRACTOR SHALL HAVE STEEL PLATING ON-HAND AND AVAILABLE TO PROVIDE TEMPORARY ACCESS ACROSS ANY OPEN ROADWAY EXCAVATIONS.

TREVOR JAMES WOOTEN LICENSED 21190 3·1·24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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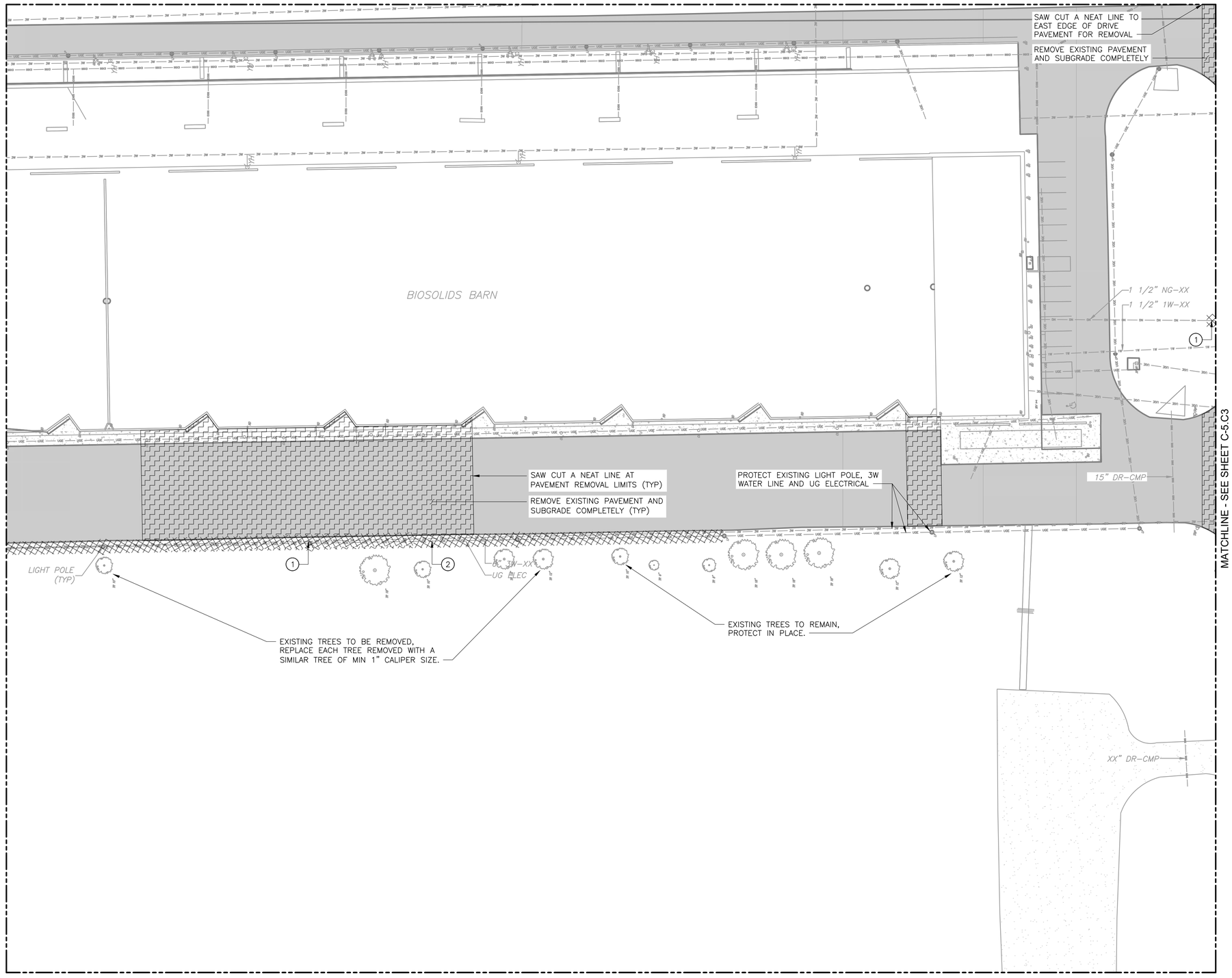
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN

PROJECT NO. 2395-267343
FILE NAME: C005DEMO

SHEET NO.
C-5



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1" = 30'

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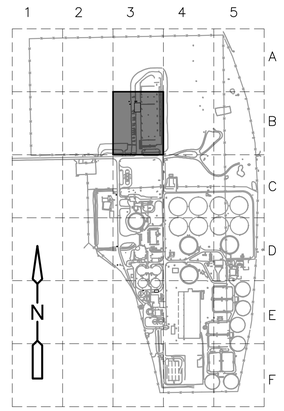
LEGEND:

ABANDON IN PLACE

DEMOLISH/REMOVE

PAVEMENT REMOVAL



KEYPLAN

KEYNOTES: (*)

1. CUT, CAP AND REMOVE (OR ABANDON) EXISTING PIPE AS NECESSARY. SEE ASSOCIATED NEW WORK ON C-11.B3 AND PROCESS MECHANICAL SHEETS TO DETERMINE EXTENT OF REMOVAL (OR ABANDONMENT).
2. REFER TO ELECTRICAL DRAWING OE-14 FOR DETAILS AND EXTENTS OF ELECTRICAL DEMOLITION.

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN
AREA B3

PROJECT NO. 2395-267343
FILE NAME: C005.B3STPL

SHEET NO.
C-5.B3

XREFs: IGRID, CWP000YP, CEP000SS, grading BNR 2, CWP000SS, 267343_CDMS_2234-P4, CWP004KP, X-STMP-DWG] Images: []
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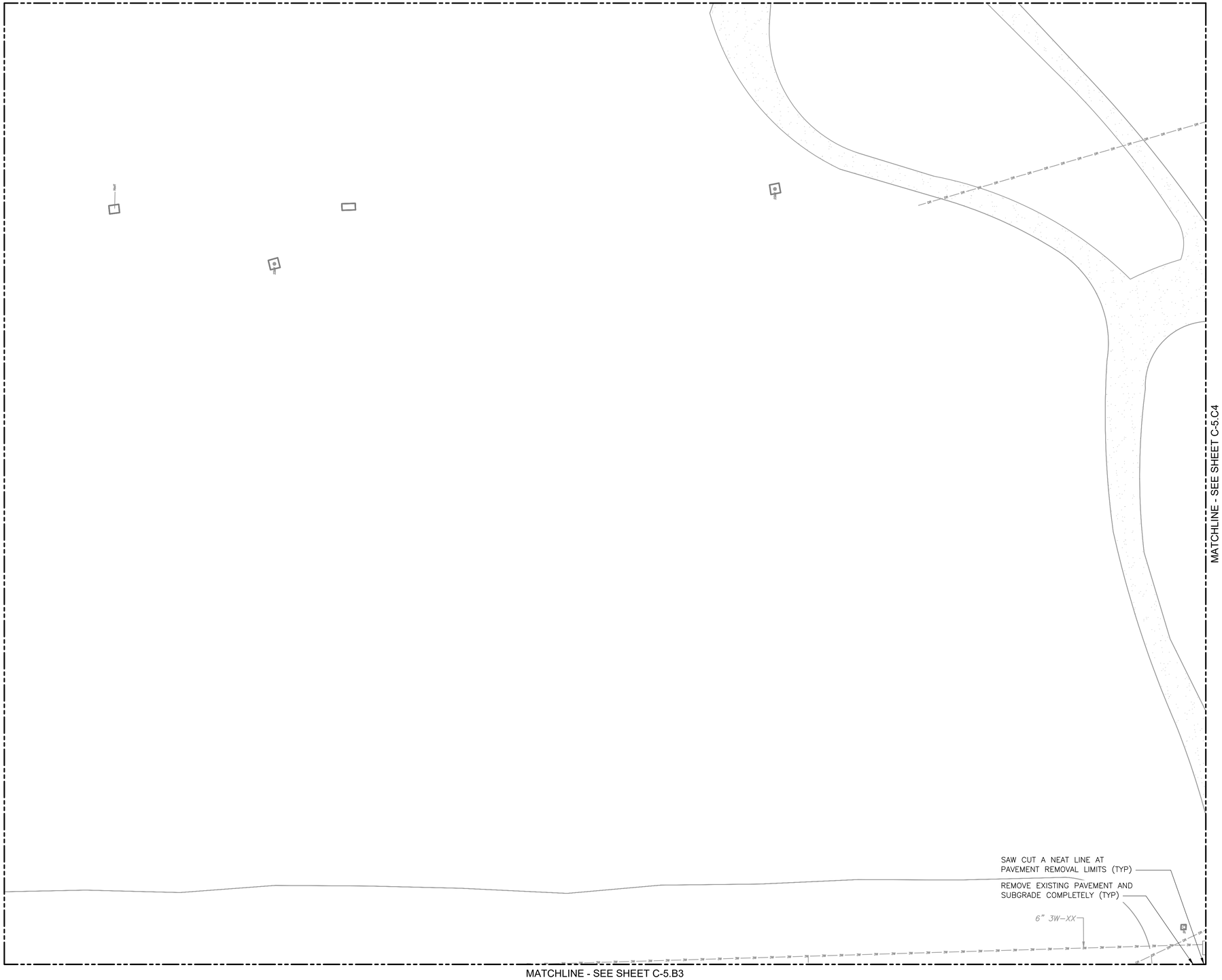
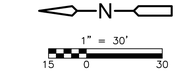
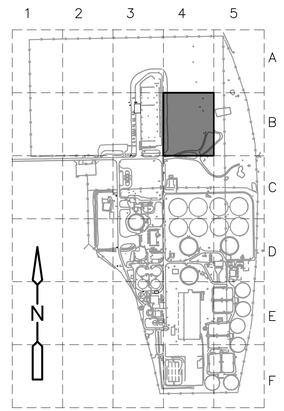




LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL



KEYPLAN

DANA W. GIESY
LICENSED
26999
12/20/2023
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: DECEMBER 2023

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN AREA B4

PROJECT NO. 2395-267343
FILE NAME: C005.B4STPL

SHEET NO.
C-5.B4

XREFs: [GRID_CWP000YP, CEP000SS, grading BNR 2, CWP000SS, 267343_CDMS_2234-P4, CWP004KP, X-STMP-DWG] Images: []
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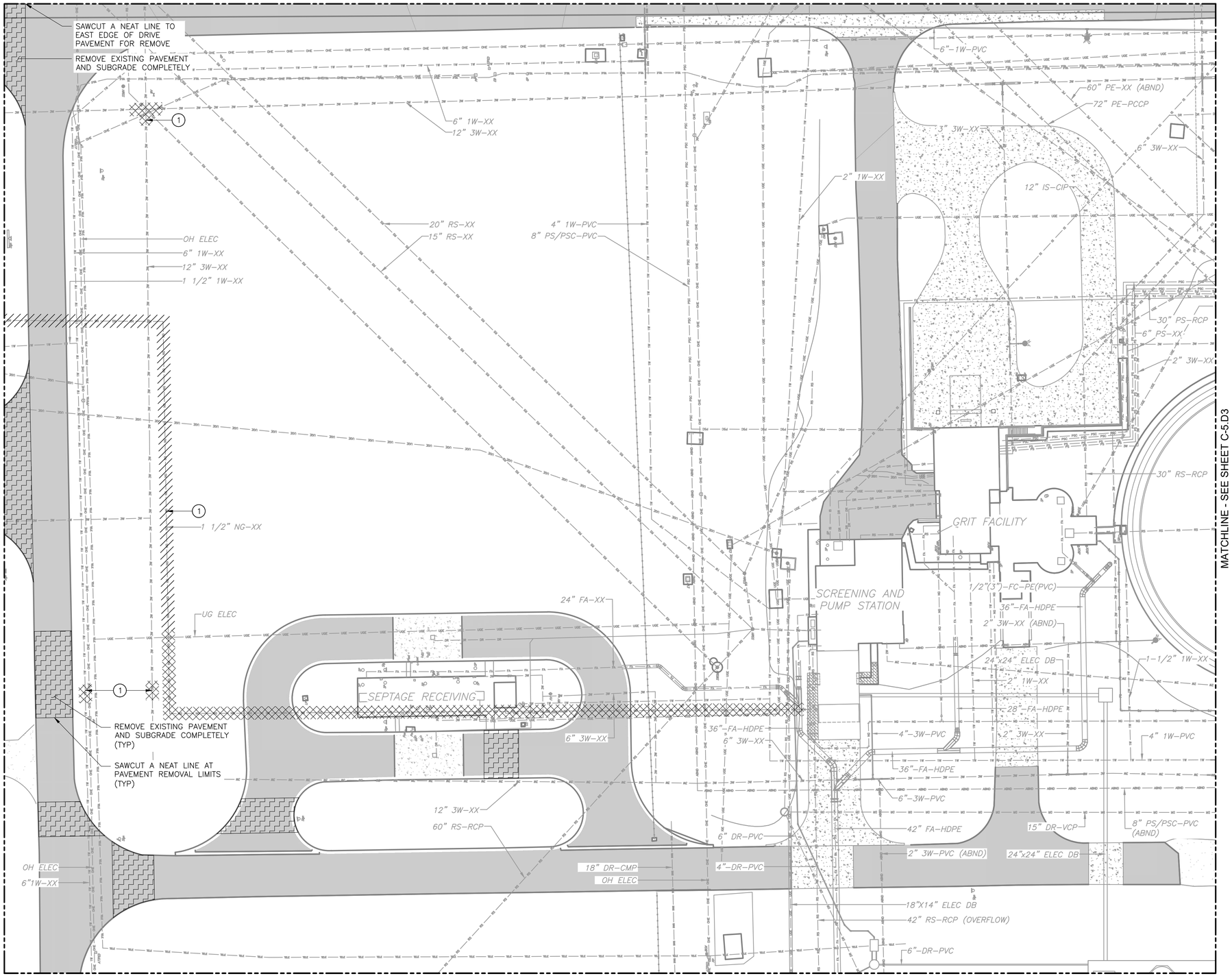
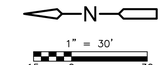
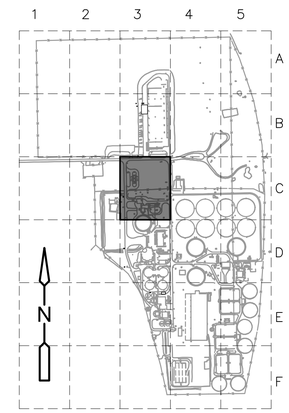




LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL



KEYPLAN

KEYNOTES: (*)

1. CUT, CAP AND REMOVE (OR ABANDON) EXISTING PIPE AS NECESSARY. SEE ASSOCIATED NEW WORK ON C–11.C3 AND PROCESS MECHANICAL SHEETS TO DETERMINE EXTENT OF REMOVAL (OR ABANDONMENT).

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN AREA C3

PROJECT NO. 2395–267343
FILE NAME: C005.C3STPL

SHEET NO.
C-5.C3

XREFs: (GRID, CWP000SS, CWP000VP, grading BNR 2, CEP000SS, X-STMP-DWG, 267343_CDMS_2234-P4, CWP004KP) Images: []
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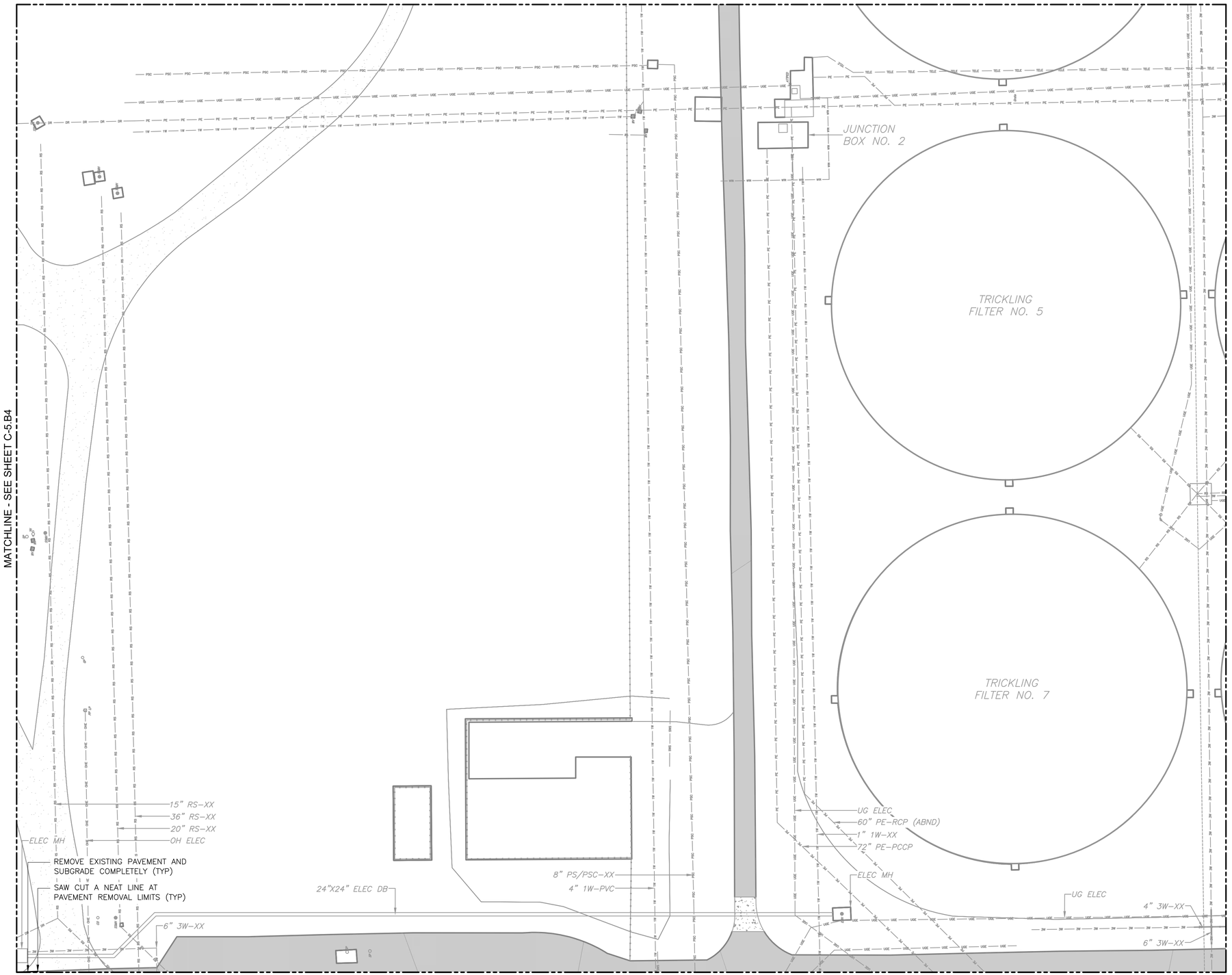
MATCHLINE - SEE SHEET C-5.B4



MATCHLINE - SEE SHEET C-5.C3

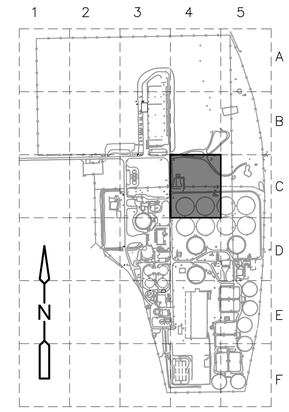
N

1" = 30'

15 0 30

LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL



KEYPLAN

DANA W. GIESY LICENSED 26999 12/20/2023 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: DECEMBER 2023

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN AREA C4

PROJECT NO. 2395–267343
FILE NAME: C005.C4STPL

SHEET NO.
C-5.C4

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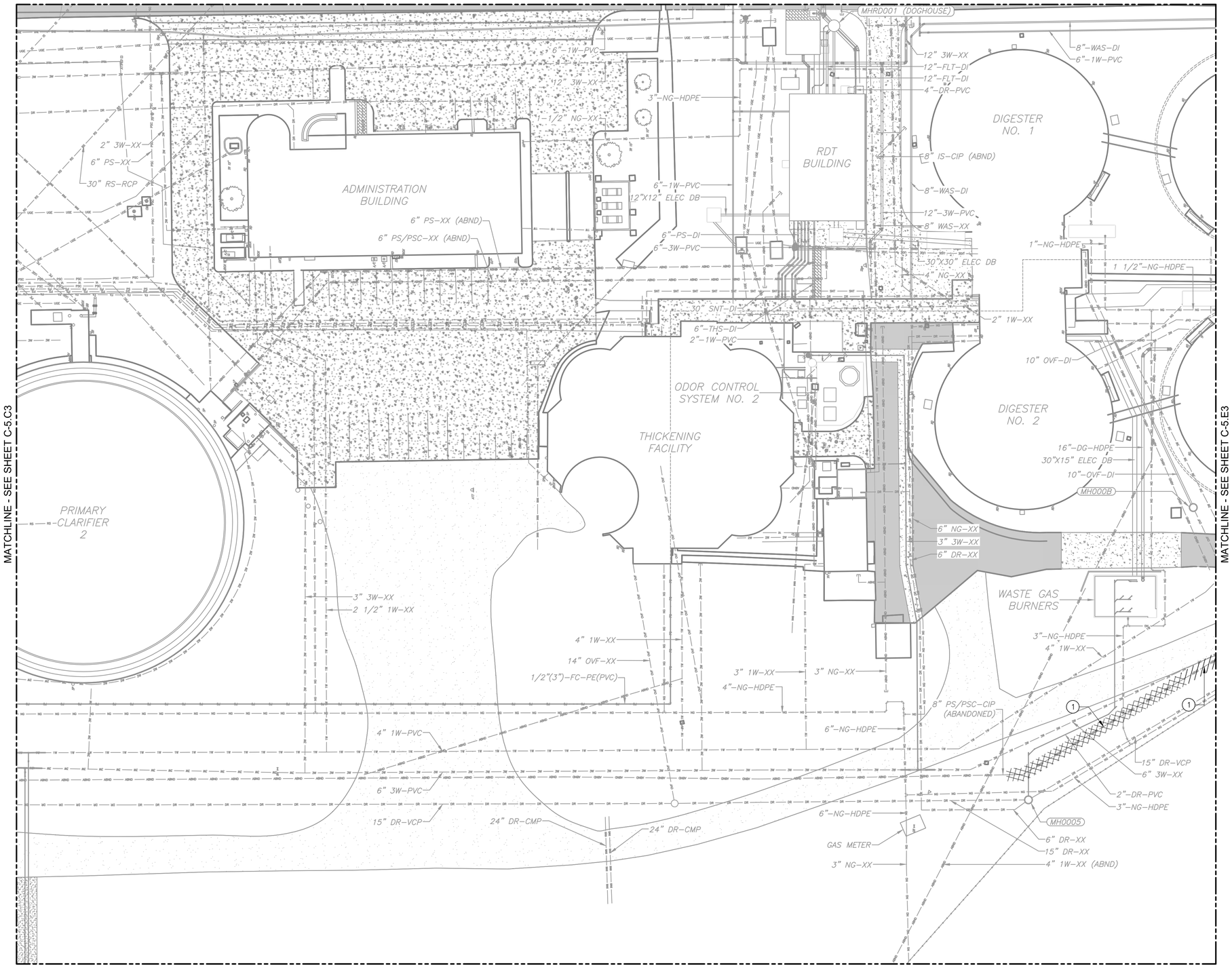
MATCHLINE - SEE SHEET C-5.C3

MATCHLINE - SEE SHEET C-5.E3



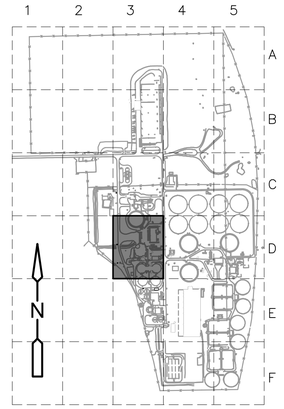
N

1" = 30'

15 0 30

LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL



KEYPLAN

KEYNOTES: (1)

1. CUT, CAP AND REMOVE (OR ABANDON) EXISTING PIPE AS NECESSARY. SEE ASSOCIATED NEW WORK ON C-11.D3 AND PROCESS MECHANICAL SHEETS TO DETERMINE EXTENT OF REMOVAL (OR ABANDONMENT).

DANA W. GIESY
LICENSED
26999
03|01|2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

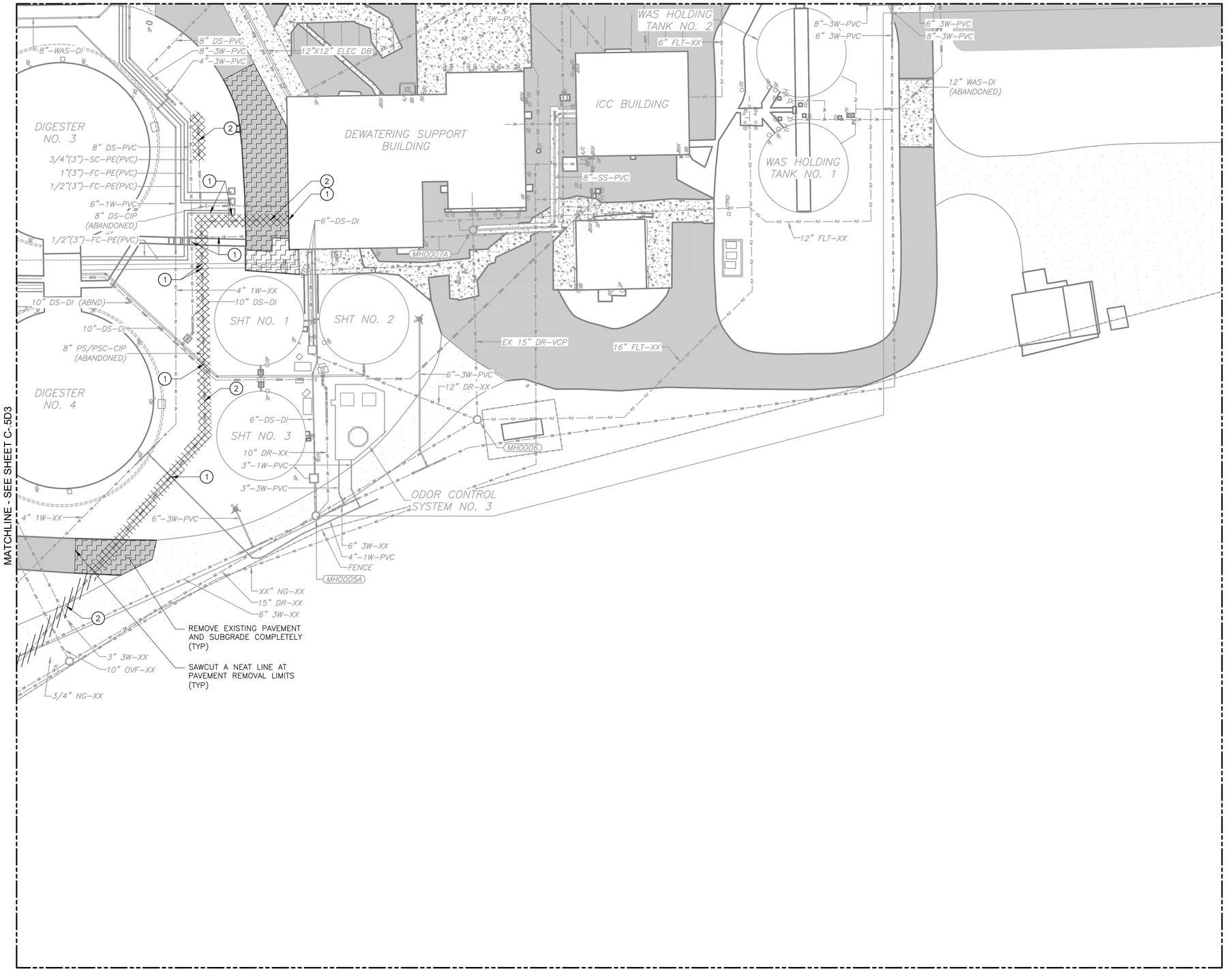
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN AREA D3

PROJECT NO. 2395-267343
FILE NAME: C005.D3STPL

SHEET NO.
C-5.D3



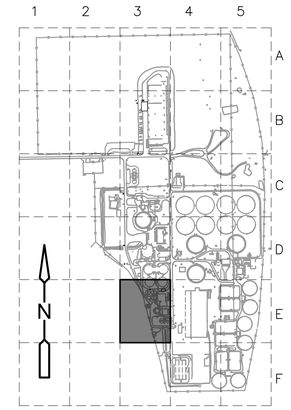
N

1" = 30'

15 0 30

LEGEND:

- ABANDON IN PLACE
- DEMOLISH/REMOVE
- PAVEMENT REMOVAL



KEYPLAN

KEYNOTES: (*)

1. PROTECT AND SUPPORT EXISTING UTILITY AND/OR STRUCTURE AS NECESSARY.
2. CUT, CAP AND REMOVE (OR ABANDON) EXISTING PIPE AS NECESSARY. SEE ASSOCIATED NEW WORK ON C–11.E3 AND PROCESS MECHANICAL SHEETS TO DETERMINE EXTENT OF REMOVAL (OR ABANDONMENT).

DANA W. GIESY
LICENSED
26999
03/01/2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CIVIL DEMOLITION PLAN AREA E3

PROJECT NO. 2395–267343
FILE NAME: C005.E3STPL

SHEET NO.
C-5.E3

XREFs: [GRID, CWP000SS, CWP000YP, grading BNR 2, CEP000SS, X-STMP.DWG, CWP004KP, 267343_CDMS_2234-P4] Images: []
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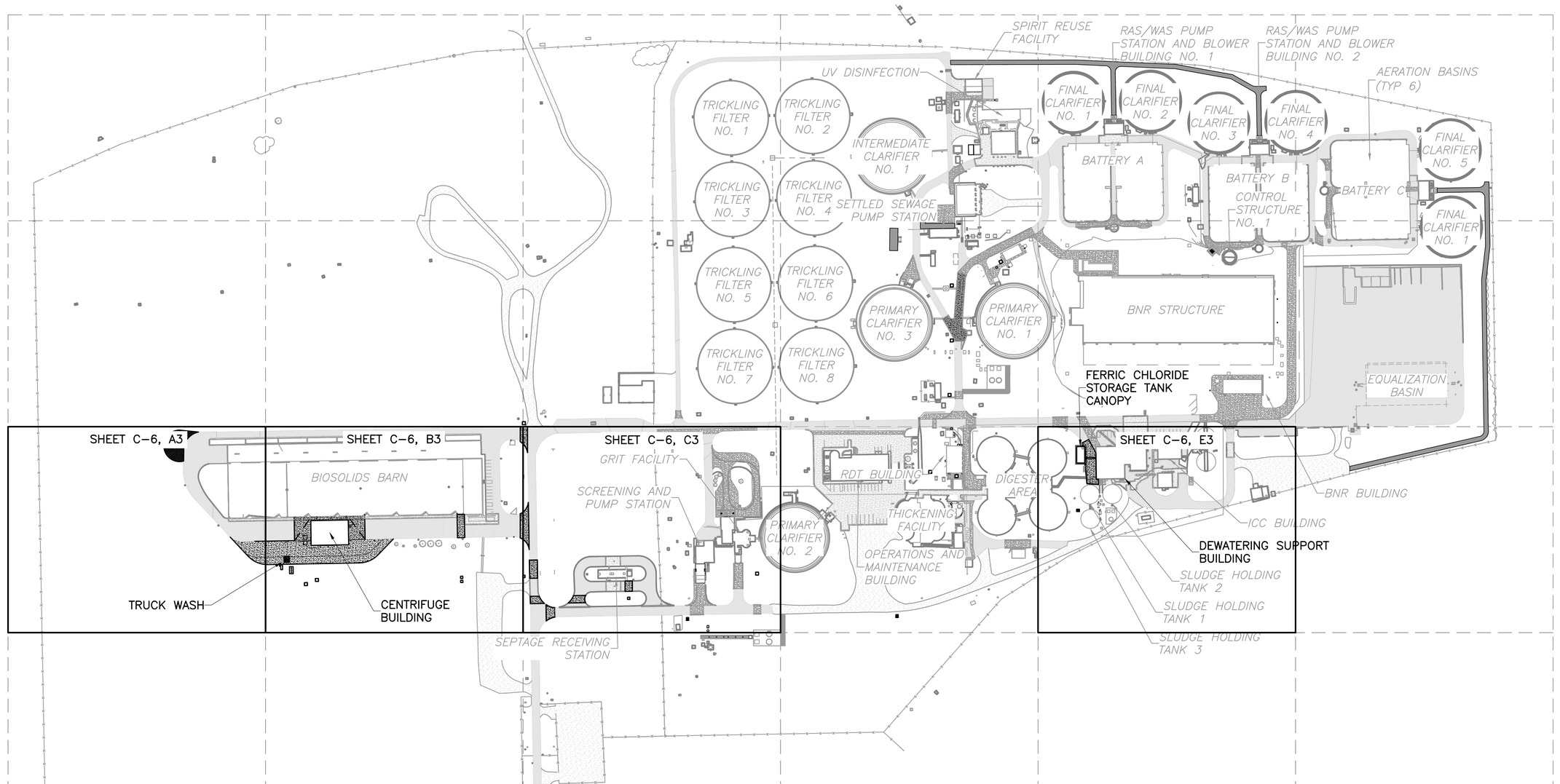
N

1" = 150'
75 0 150



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Elks, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

OVERALL SITE PLAN

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C006STPL

SHEET NO.
C-6

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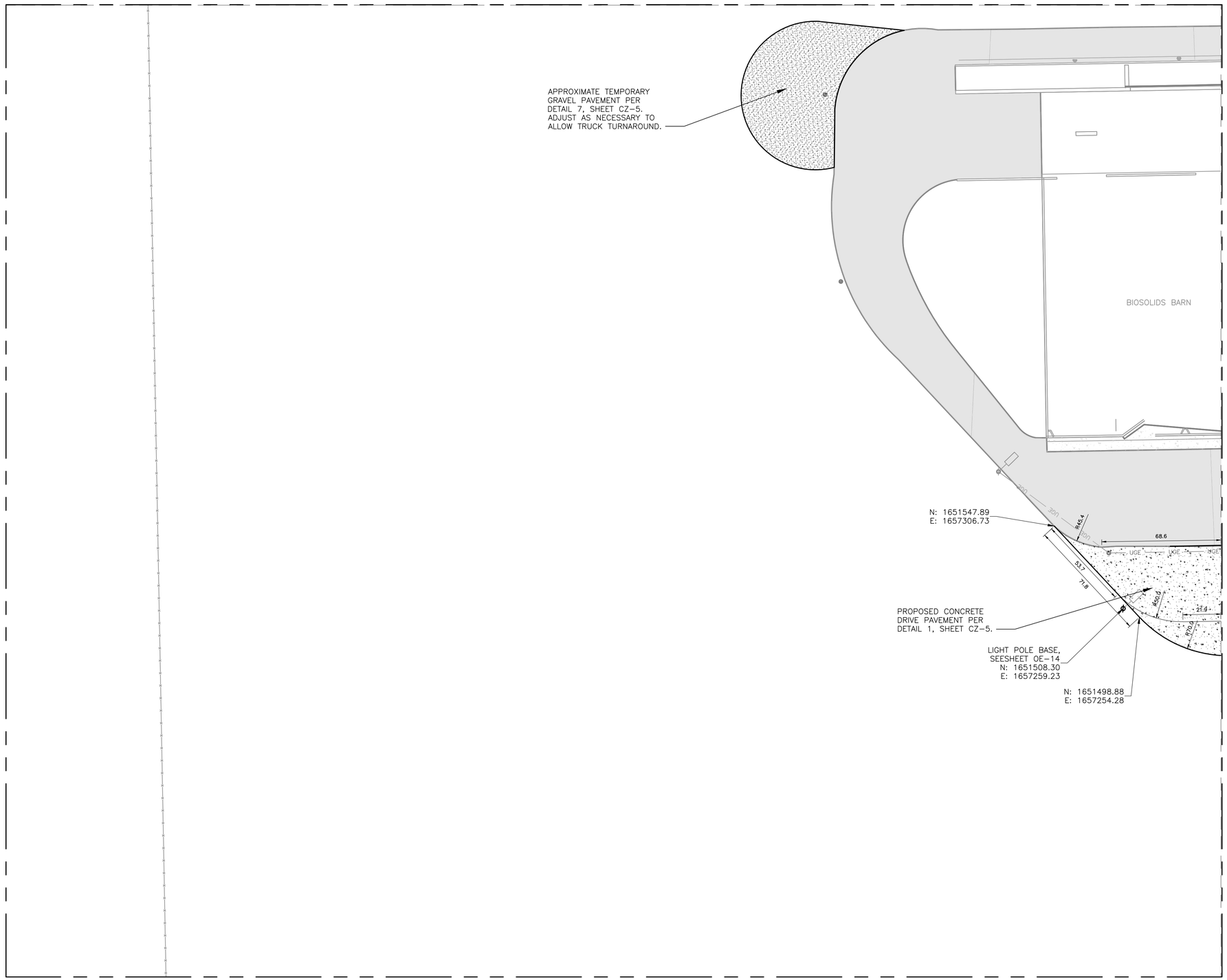

N

1" = 30'
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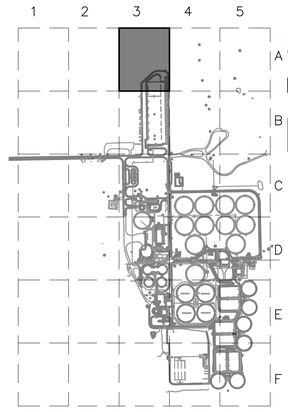

KEYPLAN

LEGEND:

= PROPOSED CONCRETE PAVEMENT

= PROPOSED SIDEWALK PAVEMENT

= PROPOSED GRAVEL PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SITE PLAN - AREA A3

PROJECT NO. 2395-267343
FILE NAME: C006.A3STPL

SHEET NO.
C-6.A3

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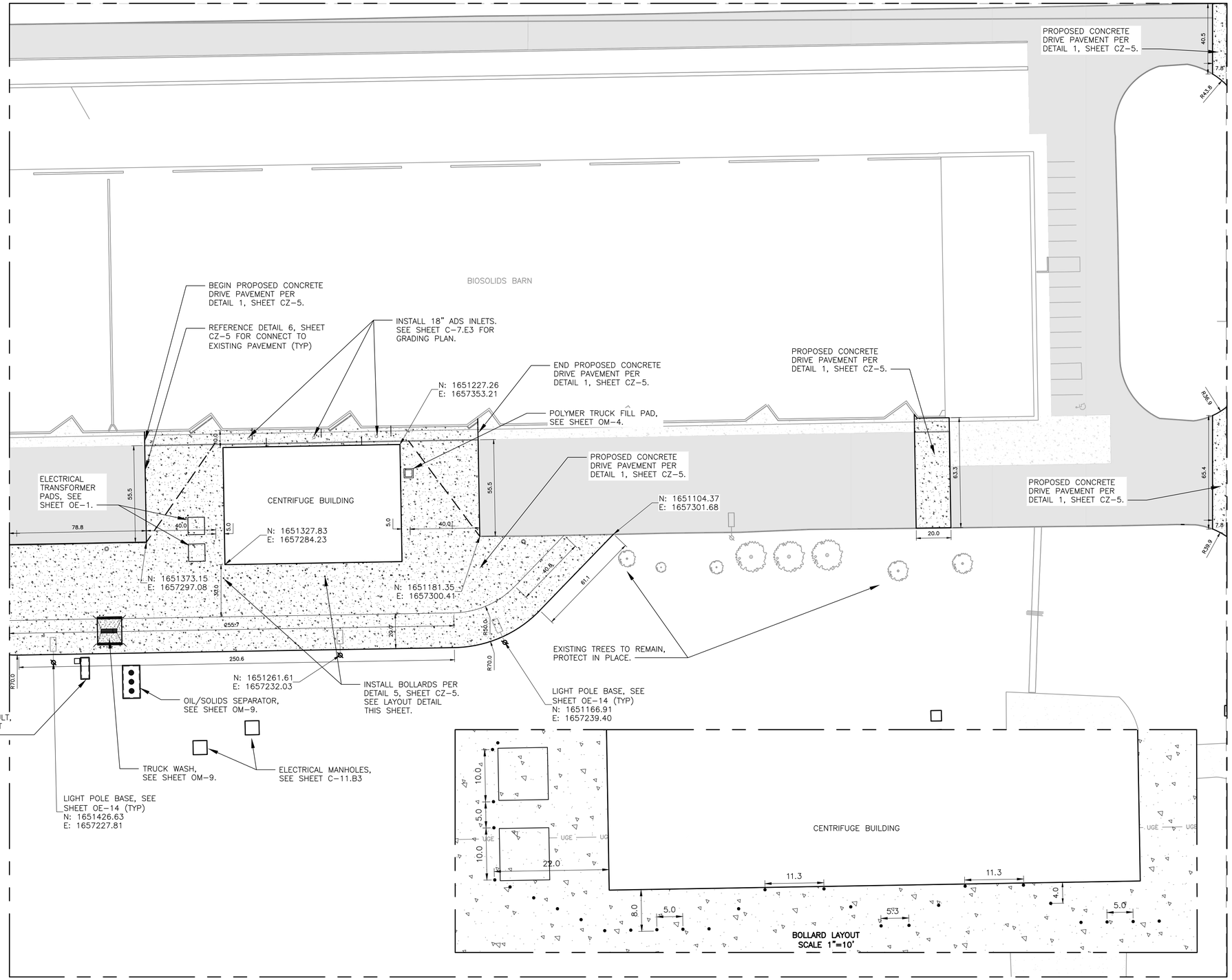
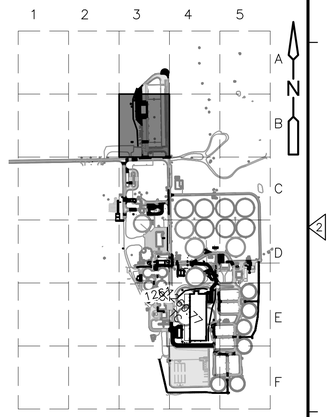


BOLLARD LAYOUT
SCALE 1"=10'

N

1" = 30'
15 0 30



KEYPLAN

LEGEND:

= PROPOSED CONCRETE PAVEMENT PER DETAILS

= PROPOSED SIDEWALK PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

JAMES WOOTEN
LICENSED
21190
3-1-24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
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BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SITE PLAN - AREA B3

PROJECT NO. 2395-267343
FILE NAME: C006.B3STPL

SHEET NO.
C-6.B3

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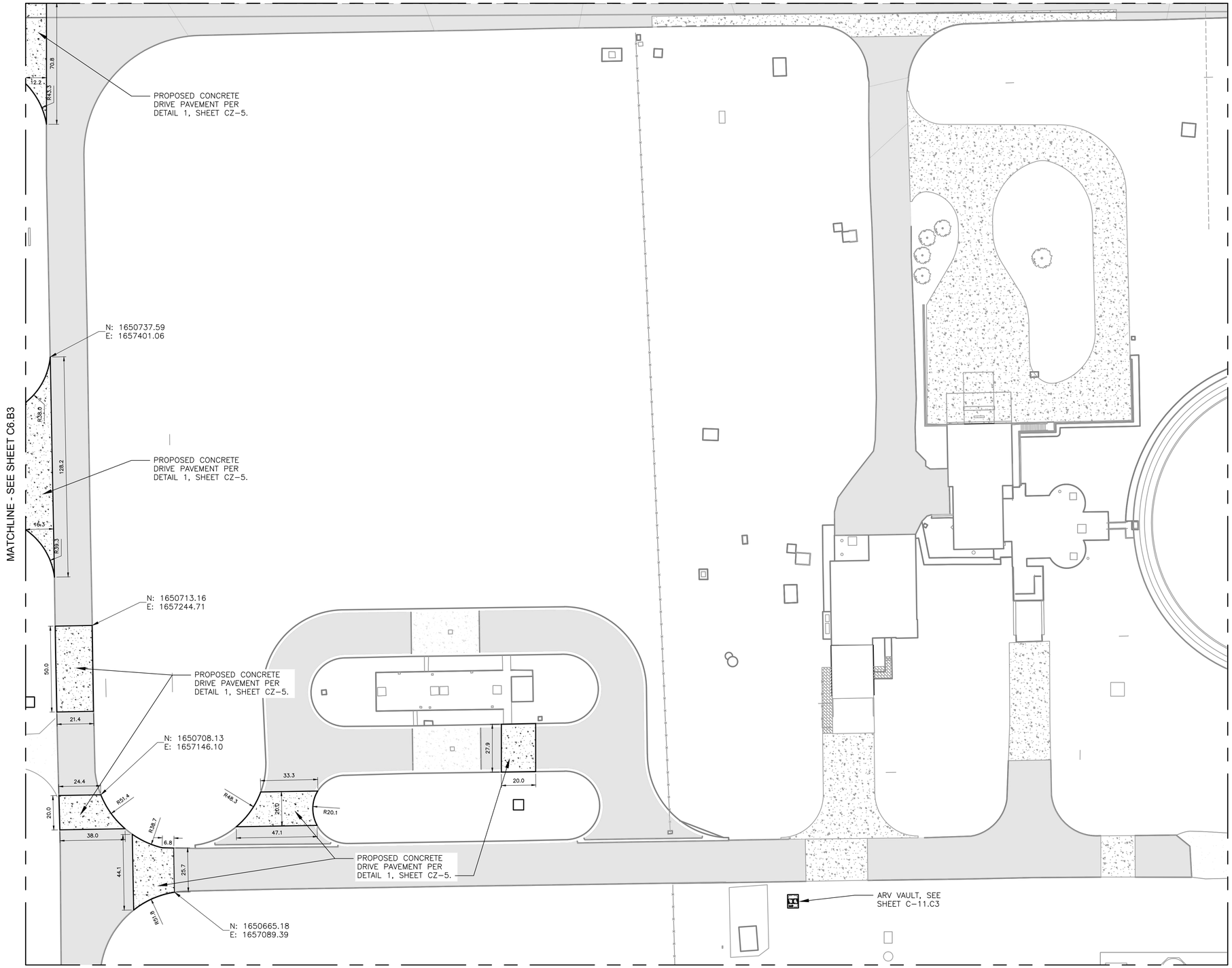

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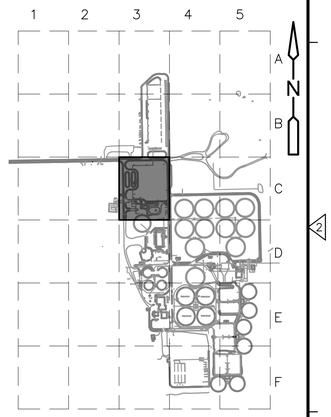
1" = 30'
15 0 30



KEYPLAN

LEGEND:

= PROPOSED CONCRETE PAVEMENT

= PROPOSED SIDEWALK PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

JAMES WOOTEN
LICENSED
PROFESSIONAL ENGINEER
21190
3-1-24
KANSAS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SITE PLAN - AREA C3

PROJECT NO. 2395-267343
FILE NAME: C006.C3STPL

SHEET NO.
C-6.C3

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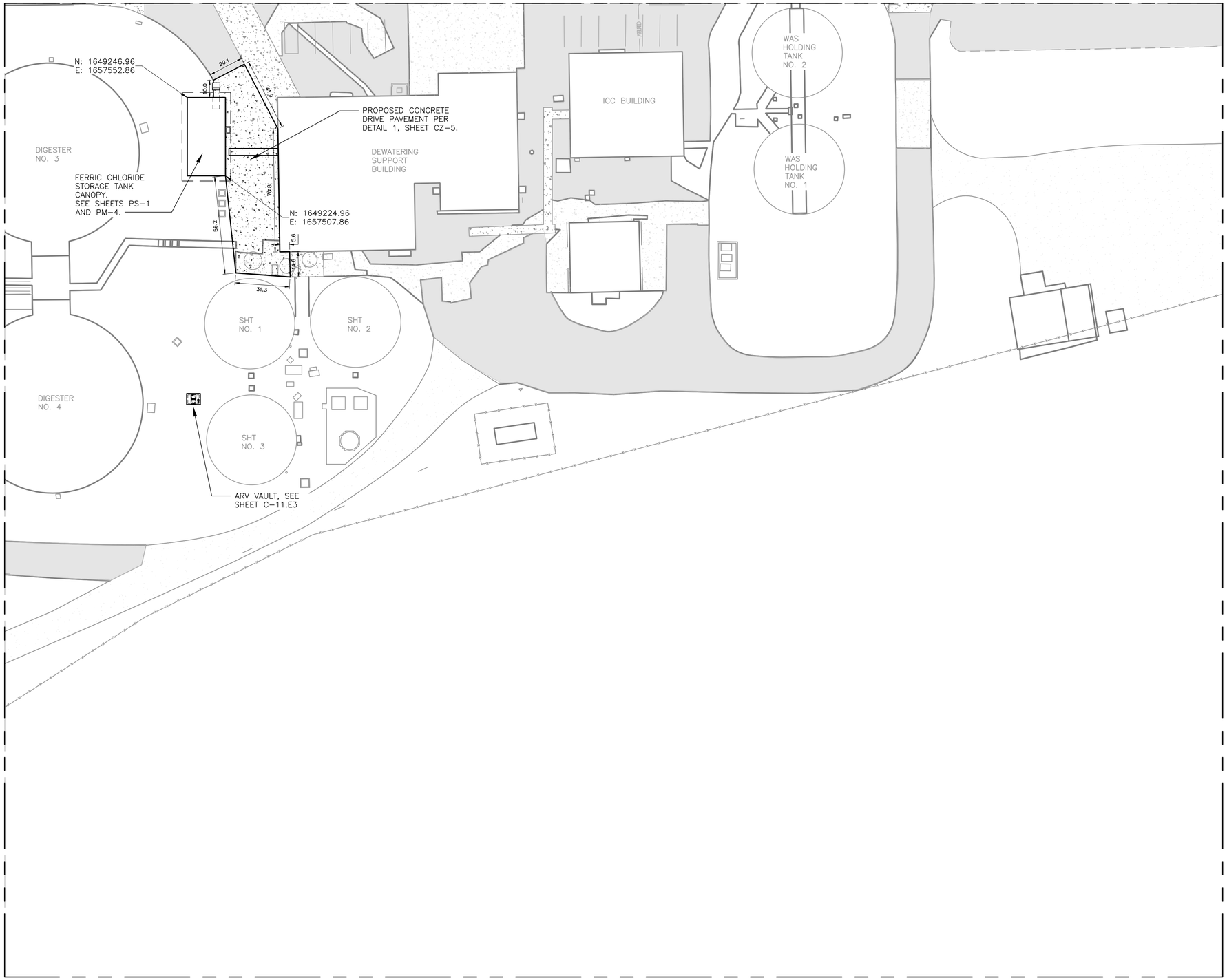

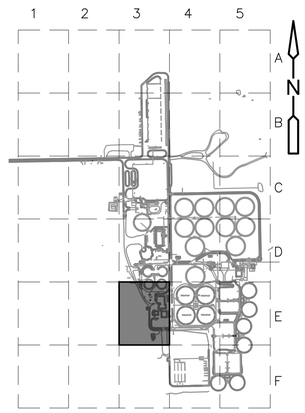

KEYPLAN

LEGEND:

= PROPOSED CONCRETE PAVEMENT

= PROPOSED SIDEWALK PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

TREVOR JAMES WOOTEN LICENSED 21190 3·1·24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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Tel: (816) 444-8270

BAUGHMAN
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BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SITE PLAN - AREA E3

PROJECT NO. 2395-267343
FILE NAME: C006.E3STPL

SHEET NO.
C-6.E3

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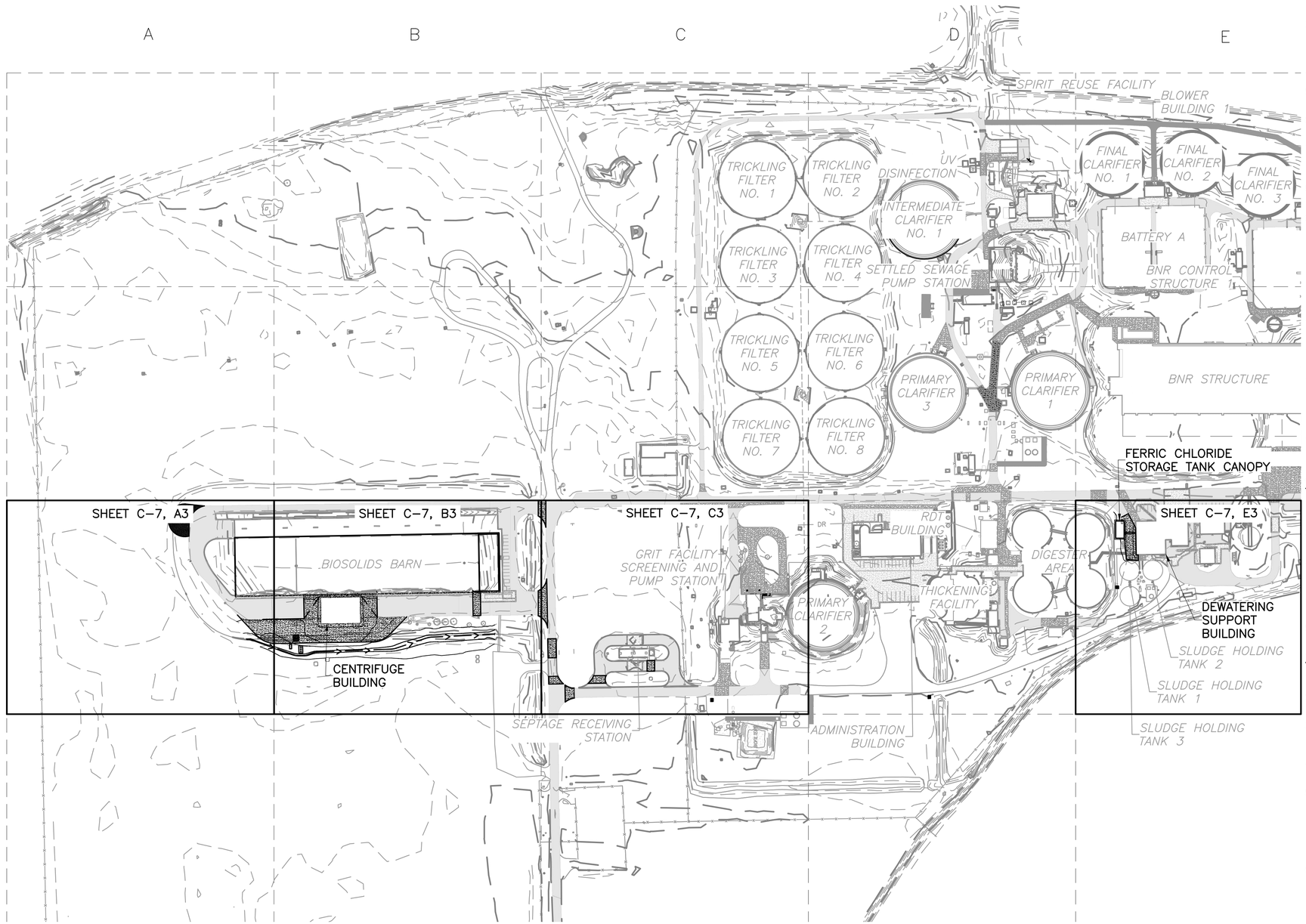

PAVING AND STRIPING NOTES:

1. PAVEMENT DESIGN AND SOIL PREPARATION RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT SHALL BE ADHERED TO FOR BOTH MATERIALS AND PRACTICE OF INSTALLATION.
2. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) AND CITY OF WICHITA STANDARDS.
3. CONTRACTOR SHALL FURNISH ALL PAVEMENT MARKINGS FOR FIRE LANES, ROADWAY LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, ACCESS AISLES, STOP BARS AND SIGNS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AS SHOWN ON THE PLANS.
4. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
5. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
6. ALL JOINTS, INCLUDING EXPANSION JOINTS WITH REMOVABLE TACK STRIPS, SHALL BE SEALED WITH HOT POURED JOINT SEALANT.
7. THE MATERIALS AND PROPERTIES OF ALL CONCRETE SHALL MEET THE APPLICABLE REQUIREMENTS IN THE A.C.I. (AMERICAN CONCRETE INSTITUTE) MANUAL OF CONCRETE PRACTICE.
8. CONTRACTOR SHALL APPLY A SECOND COATING OVER ALL PAVEMENT MARKINGS PRIOR TO ACCEPTANCE BY OWNER.
9. ANY EXISTING PAVEMENT, CURBS AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH THE CITY OF WICHITA STANDARDS AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER AND OWNER.
10. NO VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT IS ALLOWED ON NEW CONCRETE FOR AT LEAST 7 DAYS AFTER CONCRETE IS POURED.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK SUCH THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT BASE BEING INSTALLED.
12. ALL CONCRETE PAVING AND FLATWORK SHALL BE CURED IN CONFORMANCE WITH AMERICAN CONCRETE INSTITUTE GUIDELINES.
13. NO VEHICULAR TRAFFIC IS ALLOWED ON CONCRETE REINFORCEMENT UNTIL PAVEMENT IS POURED AND CURED.
14. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE TEMPORARY CLOSURE OF ANY PUBLIC ROADWAY TO FACILITATE CONSTRUCTION OF NEW PARCEL DRIVEWAY/CURBCUT, INCLUDING BUT NOT LIMITED TO: PERMITTING, TEMPORARY TRAFFIC SIGNS, TRAFFIC BLOCKAGE, COORDINATION/APPROVAL FROM LOCAL TRAFFIC ENGINEER, ETC.
15. ON ALL PAVEMENT TO BE REMOVED, INCLUDING CONCRETE DRIVEWAYS AND SIDEWALKS THE PAVEMENT SHALL BE SAWCUT TO FULL DEPTH PRIOR TO REMOVAL.

STORM SEWER LINE:

1. STORM SEWER CONSTRUCTION SHALL COMMENCE AT THE POINT OF CONNECTION TO THE PUBLIC STORM SEWER SYSTEM AND PROCEED UPSTREAM.
2. CONTRACTOR TO ALLOW A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE BETWEEN THE STORM SEWER AND OTHER EXISTING OR PROPOSED UTILITIES.
3. ALL STORM SEWERS SHALL BE BEDDED AND BACK FILLED IN ACCORDANCE WITH CITY OF WICHITA REQUIREMENTS AND THE DETAILS CONTAINED IN THESE PLANS.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION.
5. ALL INLETS AND JUNCTION BOXES SHALL HAVE A TRAFFIC DUTY GRATE OR COVER UNLESS OTHERWISE NOTED.

GRADING NOTES:

1. GRADING SHALL COMMENCE UPON COMPLETION OF FILL PLACEMENT.
2. CONTRACTOR SHALL REMOVE TOP EXISTING VEGETATION WITHIN DISTURBED AREA OF ROADWAYS, BUILDINGS, AND STRUCTURES.
3. STRIPPING STOCKPILE AND SOIL STOCKPILE ABOVE SHALL BE COMPRISED OF SOIL ONLY. NO CONCRETE, LIMBS, PAPER, WOOD, OR OTHER MISCELLANEOUS DEBRIS OR CONSTRUCTION WASTE MAY BE PLACED IN EITHER STOCKPILE.
4. AREAS INDICATED AS GRADE TO DRAIN SHALL HAVE A MINIMUM SLOPE OF 1% TOWARDS AN INLET OR SWALES, UNLESS OTHERWISE SHOWN.
5. THE CONTRACTOR SHALL VERIFY THAT SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES, MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE. IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER, PAVING INSTALLED SHALL "FLUSH OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
6. SIDEWALKS ADJACENT TO THE PROPOSED BUILDING SHALL HAVE A CROSS SLOPE OF 2% MAXIMUM AWAY FROM THE BUILDING UNLESS INDICATED OTHERWISE ON THE GRADING PLAN.
7. ALL FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
8. ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLAIN WITH CURLEX BLANKET AND SYSTEM ANCHORED PER MANUFACTURERS RECOMMENDATIONS, OR SHALL BE SODDED IF INDICATED ON GRADING PLAN OR SWPPP.
9. ALL AREAS DISTURBED SHALL BE RESTORED AND GRADED TO DRAIN.
10. PROVIDE UNIFORM SLOPE BETWEEN PROPOSED FINISHED GRADE ELEVATIONS.

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

OVERALL GRADING & DRAINAGE LAYOUT

PROJECT NO. 2395-267343
FILE NAME: C007STPL

SHEET NO.
C-7

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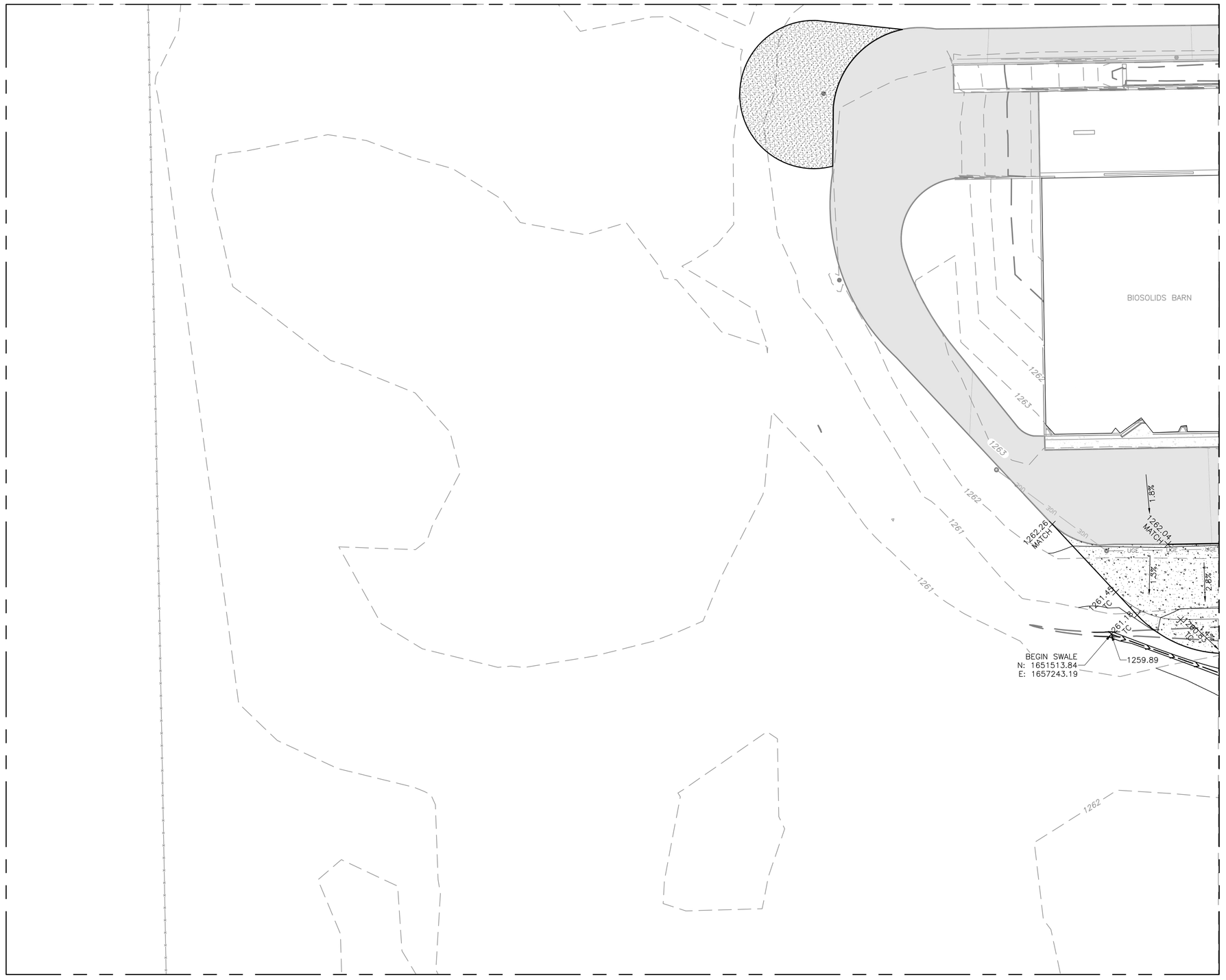

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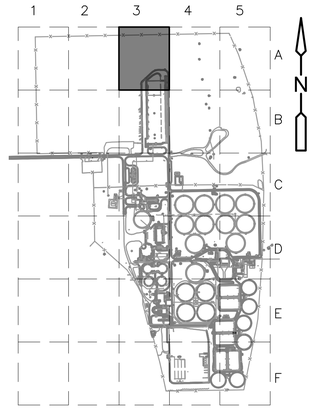

KEYPLAN

LEGEND:

EXISTING CONTOURS
1266
1265

PROPOSED CONTOURS
1265
1264

FF=1263.47 PROPOSED BUILDING FINISHED FLOOR ELEVATION

2.1% PROPOSED SLOPE

+1260.83 PROPOSED SPOT GRADE
+1260.83 MATCH MATCH EXISTING
+1260.83 TOC TOP OF CURB
+1260.83 TC TOP OF CONCRETE
+1260.83 FL FLOWLINE
+1260.83 FG FINISHED GRADE

= PROPOSED CONCRETE PAVEMENT

= PROPOSED SIDEWALK PAVEMENT

= PROPOSED GRAVEL PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

TREVOR JAMES WOOTEN LICENSED 21190 3·1·24 KANSAS PROFESSIONAL ENGINEER

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

GRADING & DRAINAGE PLAN - AREA A3

PROJECT NO. 2395-267343
FILE NAME: C007.A3STPL

SHEET NO.
C-7.A3

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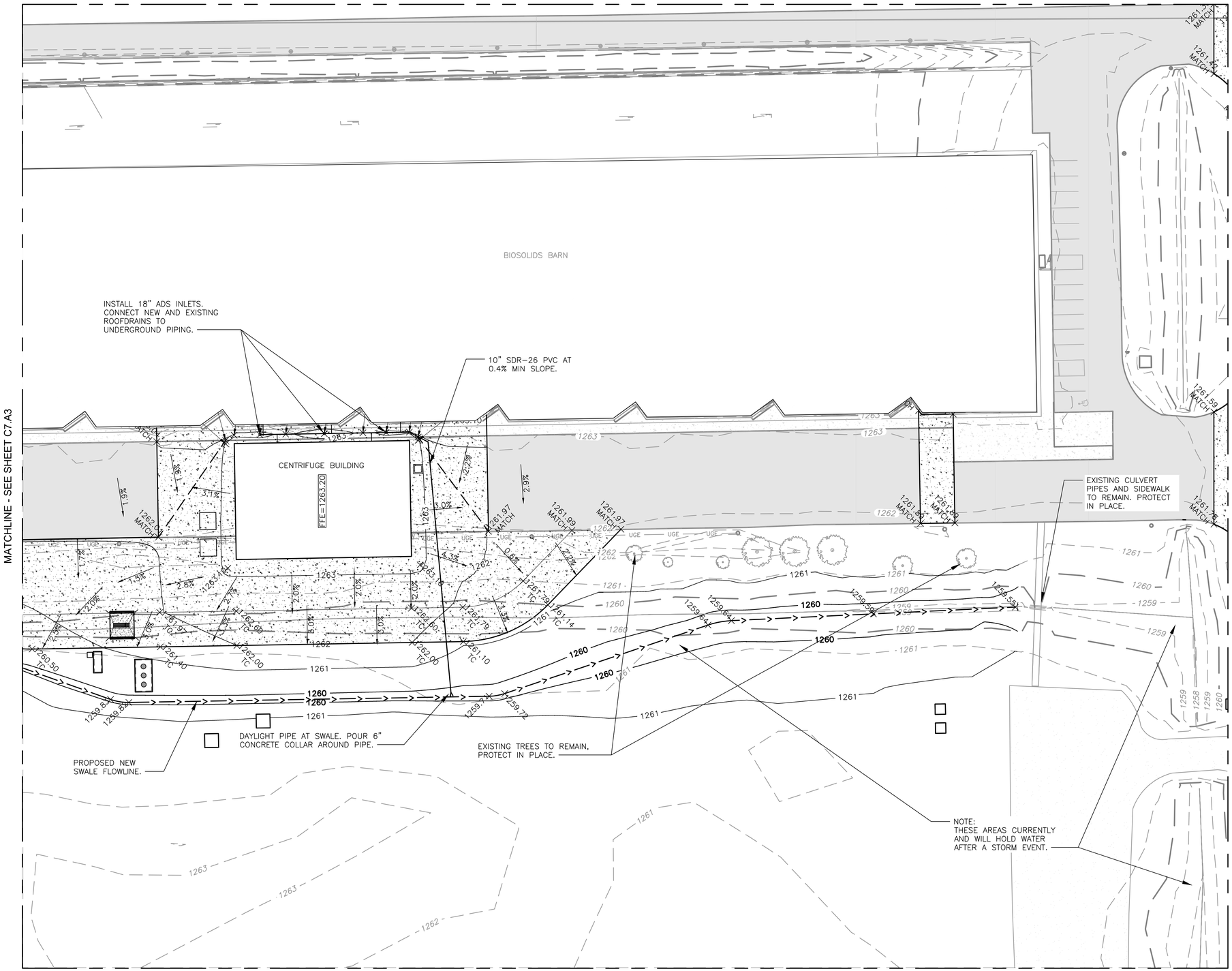

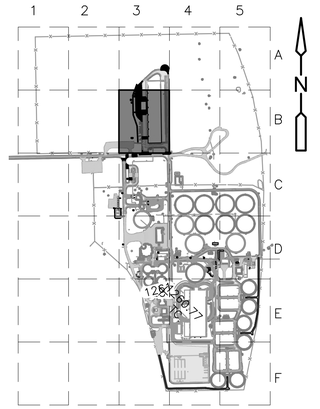

KEYPLAN

N

1" = 30'
15 0 30

LEGEND:

EXISTING CONTOURS
PROPOSED CONTOURS
PROPOSED BUILDING FINISHED FLOOR ELEVATION
PROPOSED SLOPE
PROPOSED SPOT GRADE
MATCH EXISTING
TOP OF CURB
TOP OF CONCRETE
FLOWLINE
FINISHED GRADE
= PROPOSED CONCRETE PAVEMENT
= PROPOSED SIDEWALK PAVEMENT
= EXISTING CONCRETE
= EXISTING ASPHALT
= EXISTING GRAVEL

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

GRADING & DRAINAGE PLAN - AREA B3

PROJECT NO. 2395-267343
FILE NAME: C007.B3STPL

SHEET NO.
C-7.B3

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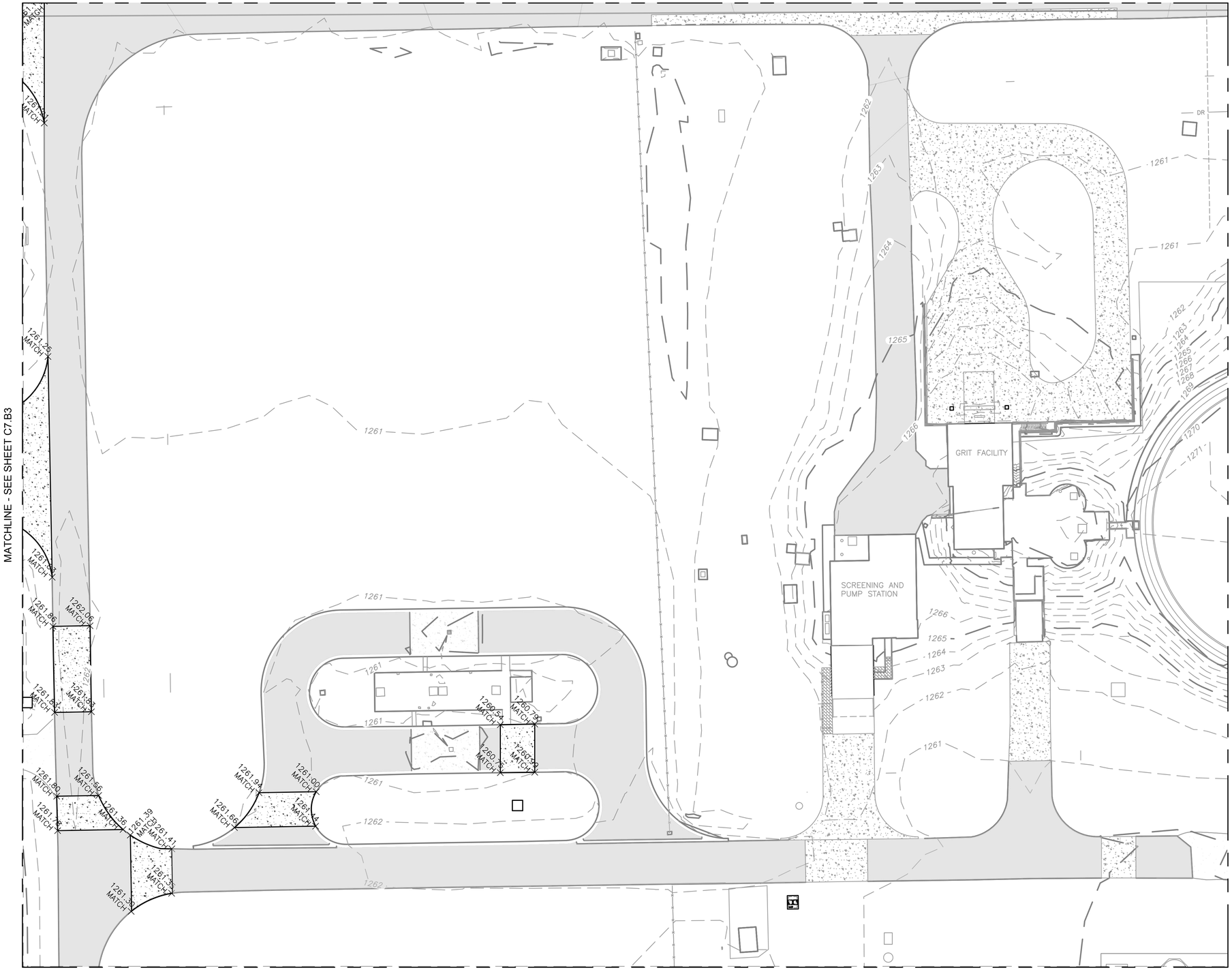

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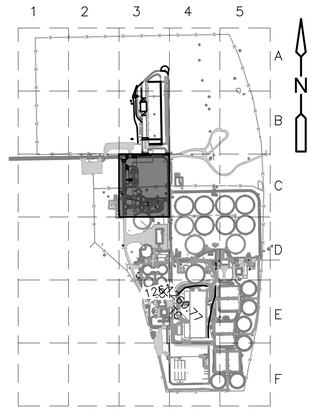

KEYPLAN

LEGEND:

EXISTING CONTOURS 1266 1265

PROPOSED CONTOURS 1265 1264

FFE=1263.47 PROPOSED BUILDING FINISHED FLOOR ELEVATION

2.1% PROPOSED SLOPE

+1260.93 PROPOSED SPOT GRADE

+1260.93 MATCH MATCH EXISTING

+1260.93 TOC TOP OF CURB

+1260.93 TC TOP OF CONCRETE

+1260.93 FL FLOWLINE

+1260.93 FG FINISHED GRADE

= PROPOSED CONCRETE PAVEMENT

= PROPOSED SIDEWALK PAVEMENT

= EXISTING CONCRETE

= EXISTING ASPHALT

= EXISTING GRAVEL

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

GRADING & DRAINAGE PLAN - AREA C3

PROJECT NO. 2395-267343
FILE NAME: C007.C3STPL

SHEET NO.
C-7.C3

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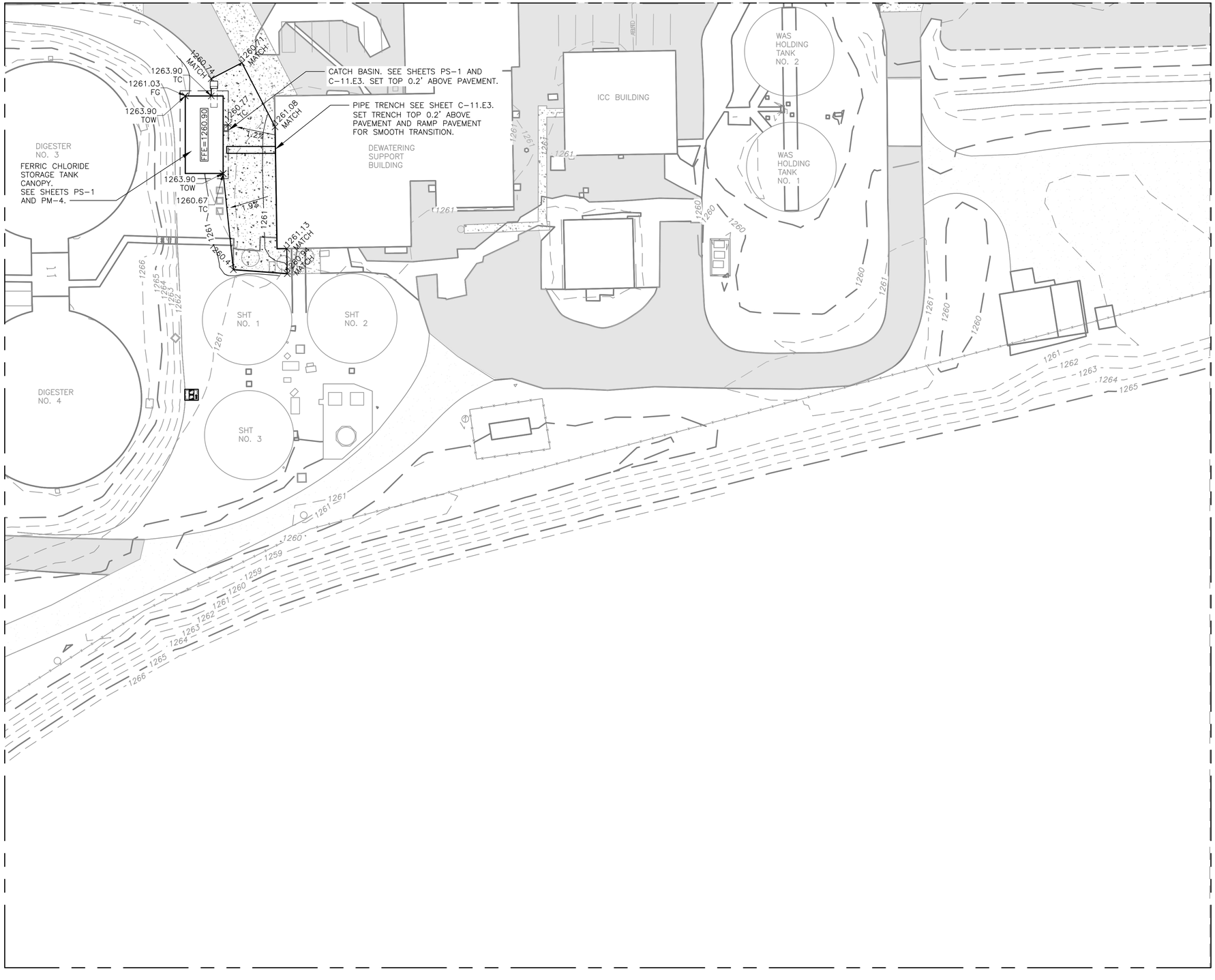

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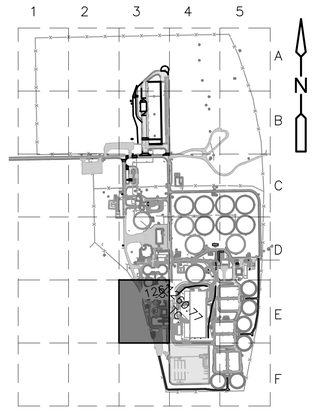

KEYPLAN

LEGEND:

EXISTING CONTOURS
1265
1264

PROPOSED CONTOURS
1265
1264

FFE=1263.47
PROPOSED BUILDING FINISHED FLOOR ELEVATION

2.1%
PROPOSED SLOPE

+1260.93
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= PROPOSED CONCRETE PAVEMENT
= PROPOSED SIDEWALK PAVEMENT
= EXISTING CONCRETE
= EXISTING ASPHALT
= EXISTING GRAVEL

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

GRADING & DRAINAGE PLAN - AREA E3

PROJECT NO. 2395-267343
FILE NAME: C007.E3STPL

SHEET NO.
C-7.E3

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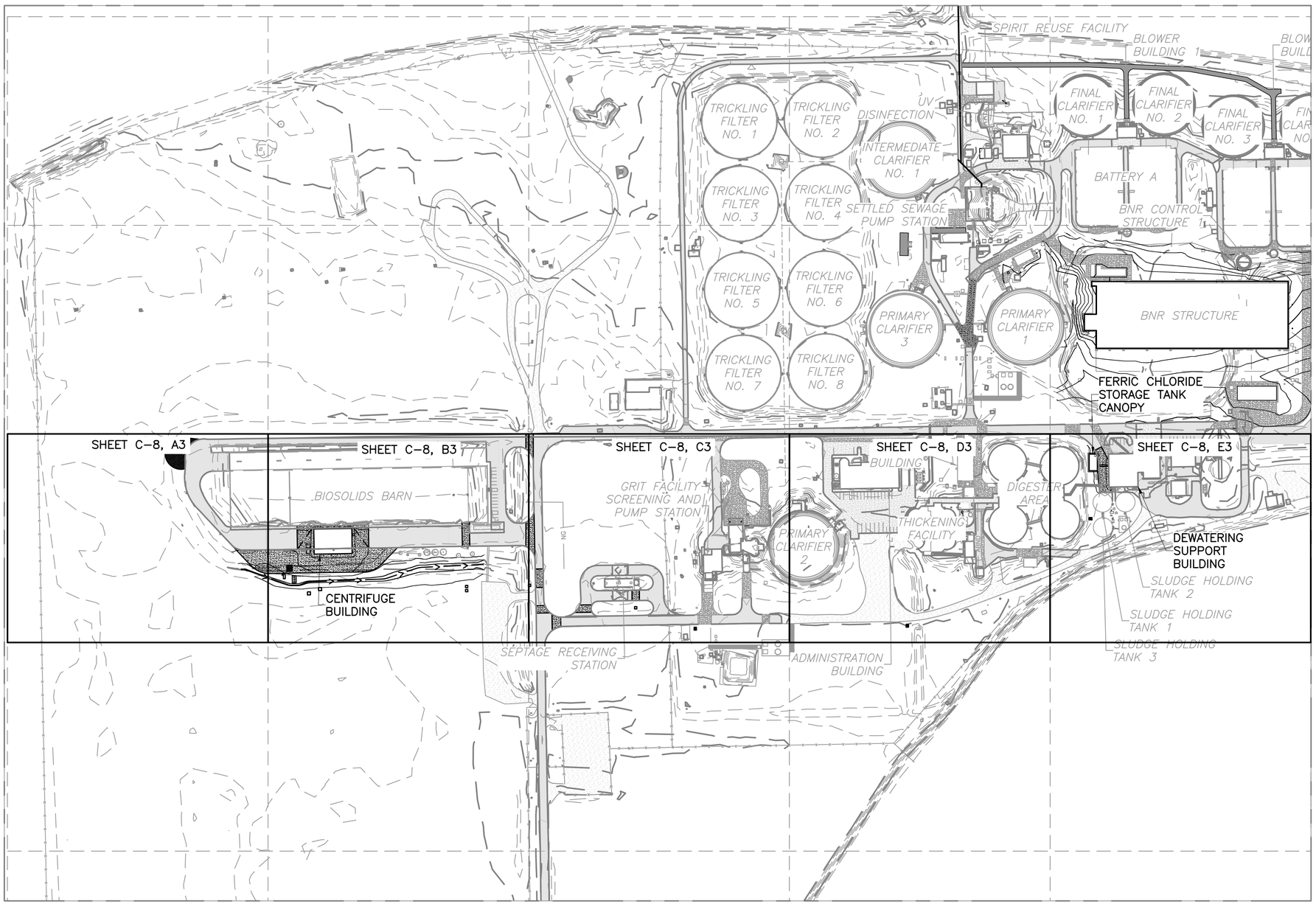

N

1" = 150'
75 0 150

EROSION CONTROL NOTES

1. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL APPLICABLE EROSION CONTROL MEASURES HAVE BEEN INSTALLED. THIS PROJECT IS SUBJECT TO THIS EROSION CONTROL AND SEDIMENT PLAN. THE CONTRACTOR SHALL COMPLY WITH ANY UNUSUAL REQUIREMENTS AS NECESSARY FOR THE SITE TO BE IN COMPLIANCE DURING CONSTRUCTION, PER THIS PLAN AND PER CITY AND STATE SPECIFICATIONS (SEE #10).
2. ALL EXPOSED AREAS SHALL BE SEEDED OR SODDED AS SPECIFIED IN SECTION 329200 WITHIN 14 DAYS OF FINAL GRADING. SEED IS TO INCLUDE STRAW MULCH, CRIMPED IN PLACE PER INDUSTRY STANDARDS.

   SEED – RYE GRASS; 5LBS./1000 SQ. FT
3. SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
4. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST ONCE A WEEK.
5. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
7. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
8. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.
9. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
10. THIS EROSION CONTROL PLAN SHOULD BE IN JOB TRAILER AND/OR ON SITE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR ANY NEEDED CHANGES, UPDATES OR MAINTENANCE TO BMP'S ON SITE. THIS PLAN MAY CHANGE AND UPDATES NEED TO BE RECORDED AND DOCUMENTED ON THE PLAN. THIS PLAN IS A FLEXIBLE PLAN, DUE TO CHANGING SITE CONDITIONS AND WEATHER. PLEASE INFORM OWNER AND/OR ENGINEER OF CHANGES TO PLAN.
11. ANY SUBSTITUTIONS FOR THE SEDIMENT CONTROL DEVICES SHOWN, MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND/OR ENGINEER PRIOR TO ANY USES ON SITE.
12. AN NPDES PERMIT APPLICATION HAS BEEN SUBMITTED FOR THIS PROPERTY AND A COPY OF THIS APPLICATION MUST BE KEPT AT THE JOB SITE FOR THE DURATION OF THE CONSTRUCTION PROCESS.
13. CONTRACTOR LAYDOWN AREA PERIMETER SHALL BE WRAPPED ENTIRELY WITH SILT FENCE. IF SEDIMENT WILL BE DISTURBED ON, OR IN AND OUT OF, CONTRACTOR LAYDOWN AREA, A CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR LAYDOWN AREA PER DETAILS.

TREVOR JAMES WOOTEN LICENSED 21190 3·1·24 KANSAS PROFESSIONAL ENGINEER

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL AND SEDIMENT PLAN

PROJECT NO. 2395-267343
FILE NAME: C008ECPL

SHEET NO.
C-8

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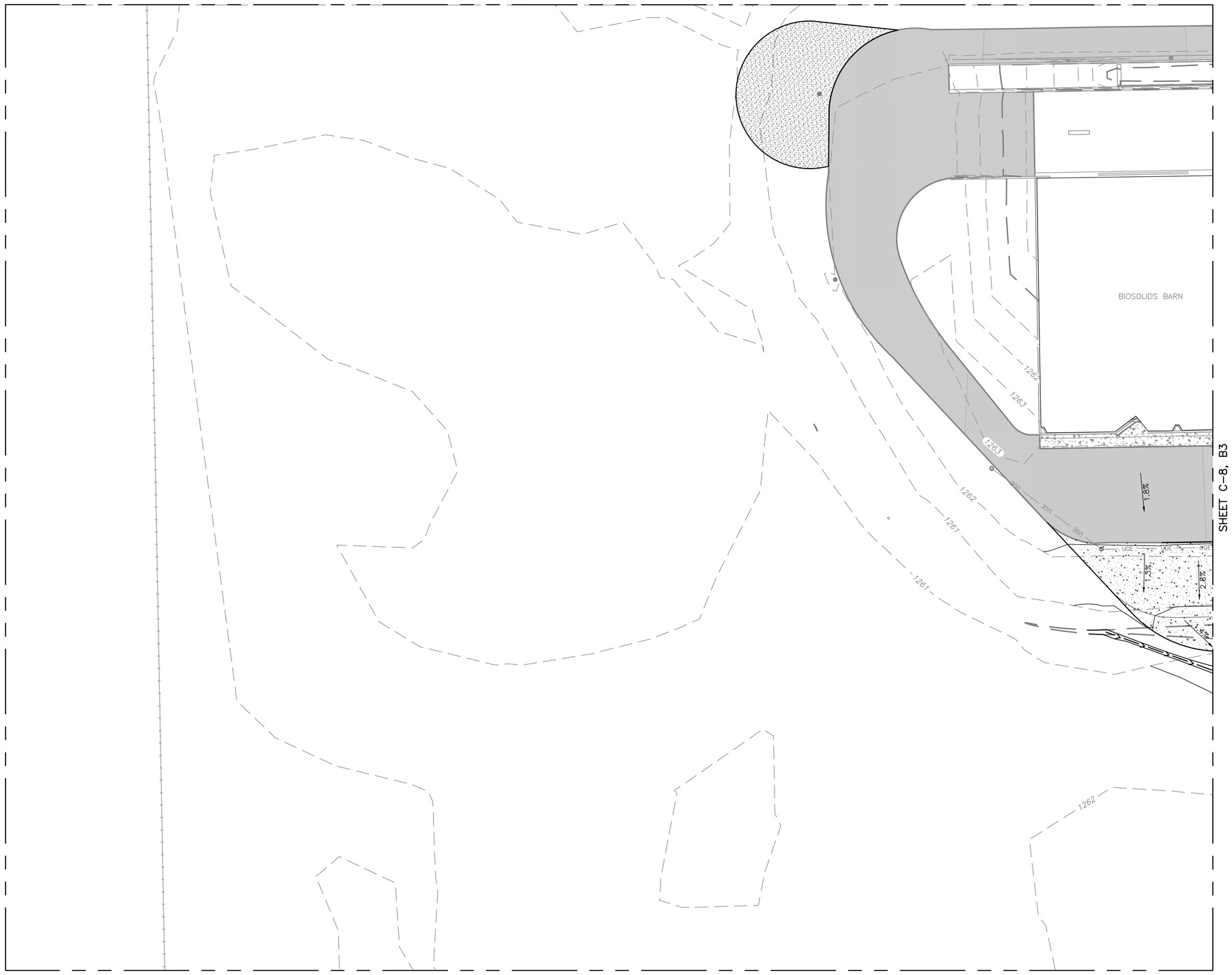

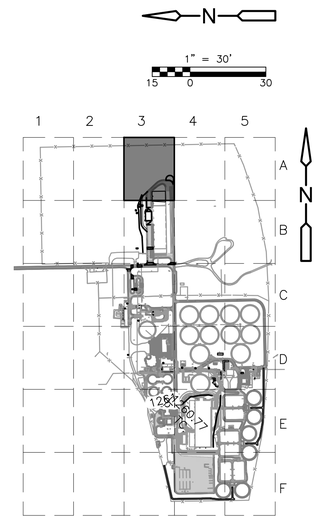

KEYPLAN

EROSION CONTROL LEGEND

= SILT FENCE

= CURB INLET SEDIMENT BARRIER

= AREA INLET SEDIMENT BARRIER

= EROSION CONTROL BLANKET

= CONSTRUCTION ENTRANCE

EXISTING CONTOURS

1266
1265

PROPOSED CONTOURS

1265
1264

PROPOSED SLOPE

T.1%

TREVOR JAMES WOOTEN LICENSED 21190 3·1·24 KANSAS PROFESSIONAL ENGINEER

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL PLAN - AREA A3

PROJECT NO. 2395-267343
FILE NAME: C008.A3ECPL

SHEET NO.
C-8.A3

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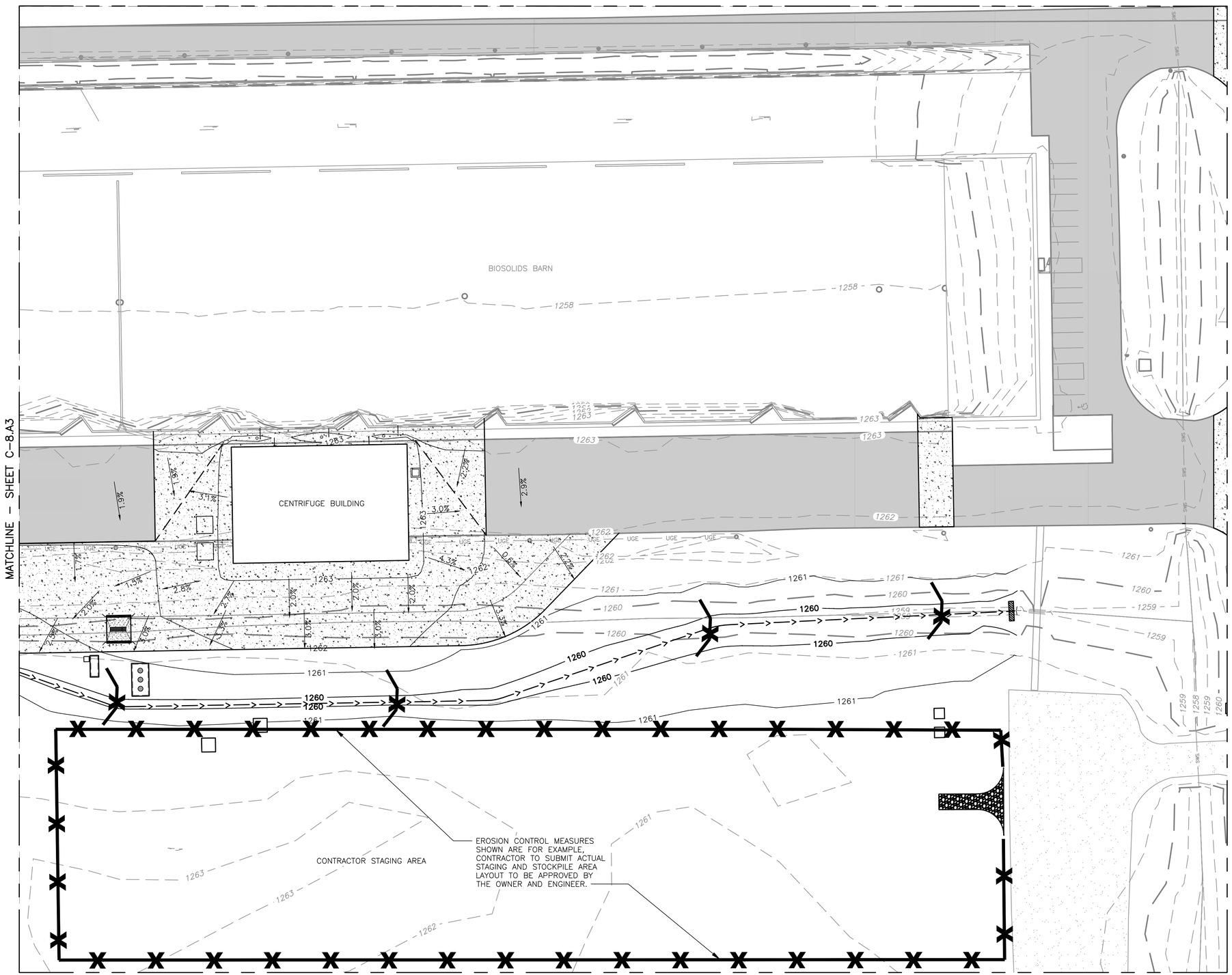

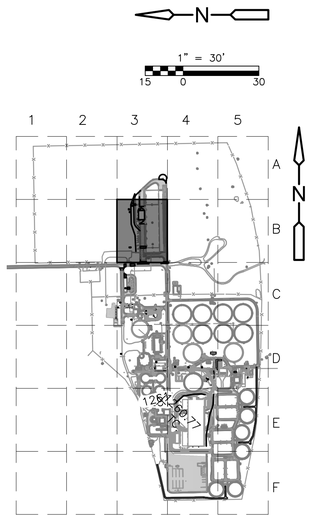

EROSION CONTROL LEGEND

- = SILT FENCE
- = CURB INLET SEDIMENT BARRIER
- = AREA INLET SEDIMENT BARRIER
- = EROSION CONTROL BLANKET
- = CONSTRUCTION ENTRANCE

EXISTING CONTOURS 1266 1265

PROPOSED CONTOURS 1265 1264

PROPOSED SLOPE 2.1%

JAMES WOOTEN LICENSED PROFESSIONAL ENGINEER 21190 3-1-24 KANSAS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL PLAN - AREA B3

PROJECT NO. 2395-267343
FILE NAME: C008.B3ECPL

SHEET NO.
C-8.B3

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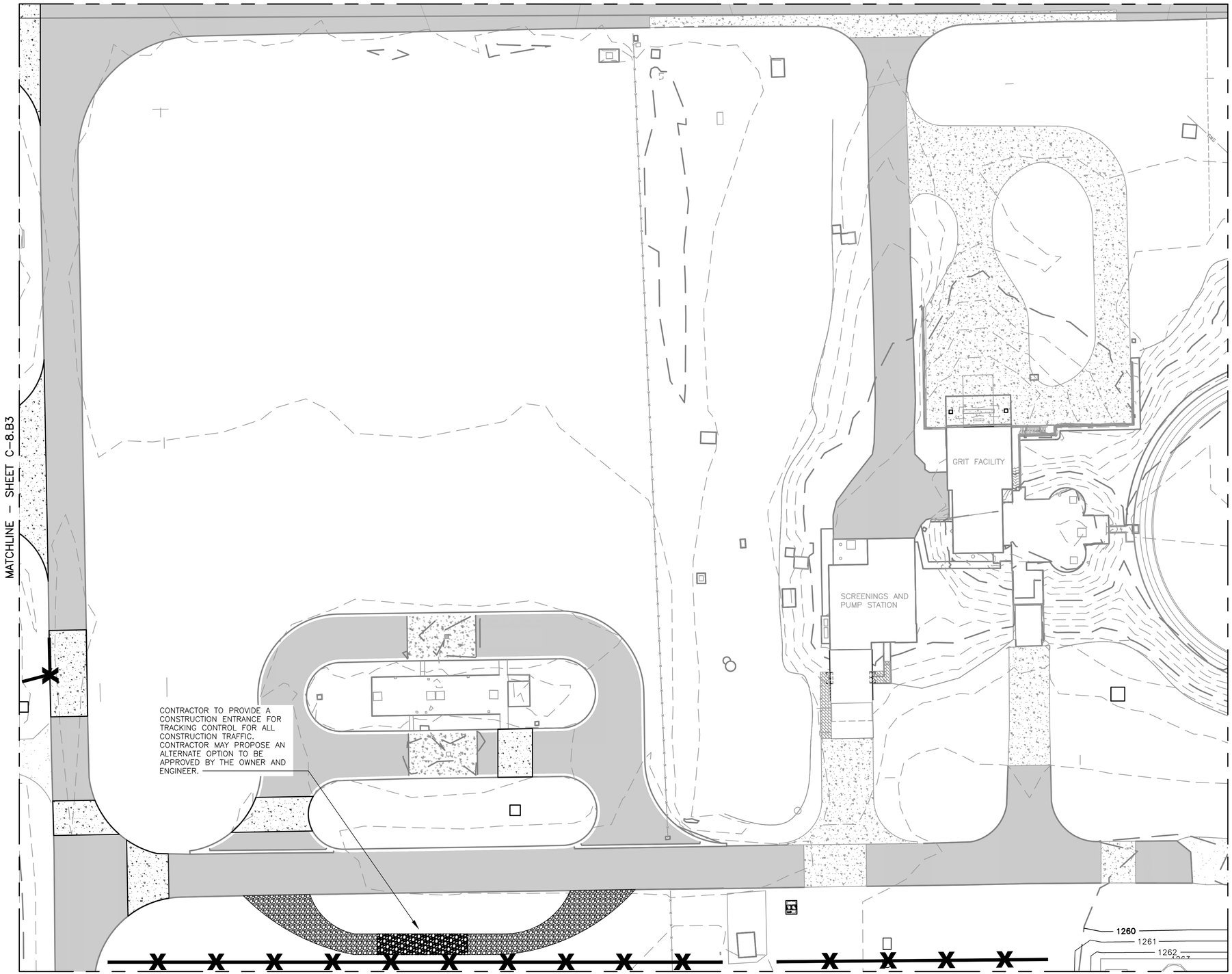

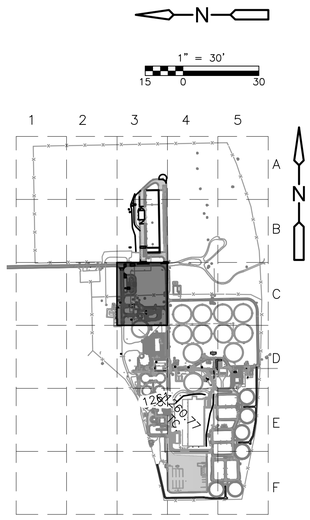

KEYPLAN

EROSION CONTROL LEGEND

= SILT FENCE

= CURB INLET SEDIMENT BARRIER

= AREA INLET SEDIMENT BARRIER

= EROSION CONTROL BLANKET

= CONSTRUCTION ENTRANCE

EXISTING CONTOURS 1266 1265

PROPOSED CONTOURS 1265 1264

PROPOSED SLOPE 2.1%

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL PLAN - AREA C3

PROJECT NO. 2395-267343
FILE NAME: C008.C3ECPL

SHEET NO.
C-8.C3

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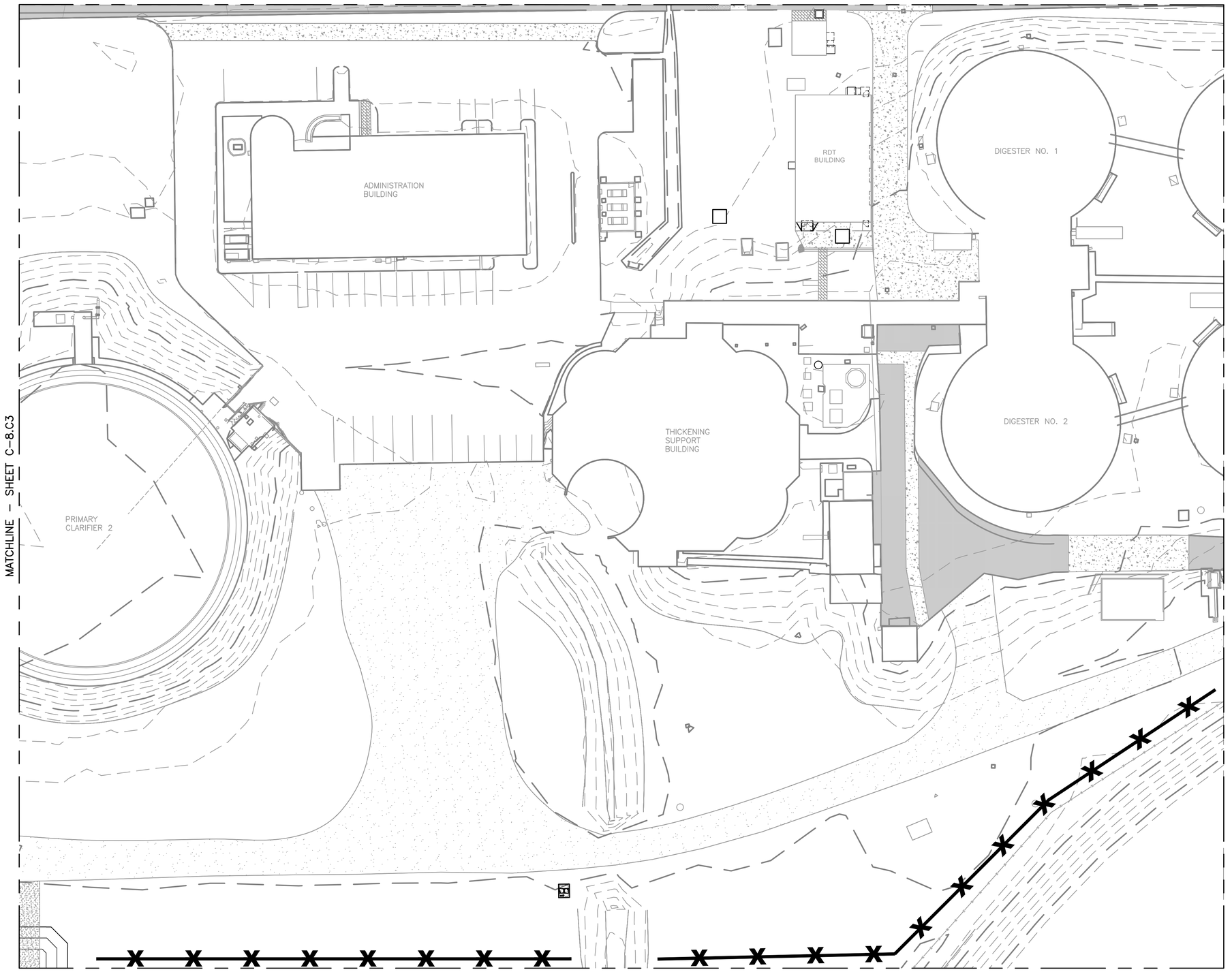

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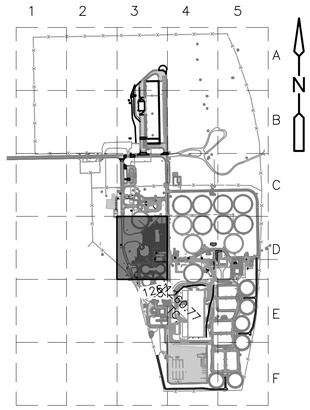

KEYPLAN

EROSION CONTROL LEGEND

= SILT FENCE

= CURB INLET SEDIMENT BARRIER

= AREA INLET SEDIMENT BARRIER

= EROSION CONTROL BLANKET

= CONSTRUCTION ENTRANCE

EXISTING CONTOURS 1266 1265

PROPOSED CONTOURS 1265 1264

PROPOSED SLOPE 2.5%

JAMES WOOTEN LICENSED PROFESSIONAL ENGINEER 21190 3-1-24 KANSAS

REV. NO.	DATE	DRWN	CHKD	REMARKS

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL PLAN - AREA D3

PROJECT NO. 2395-267343
FILE NAME: C008.D3ECPL

SHEET NO.
C-8.D3

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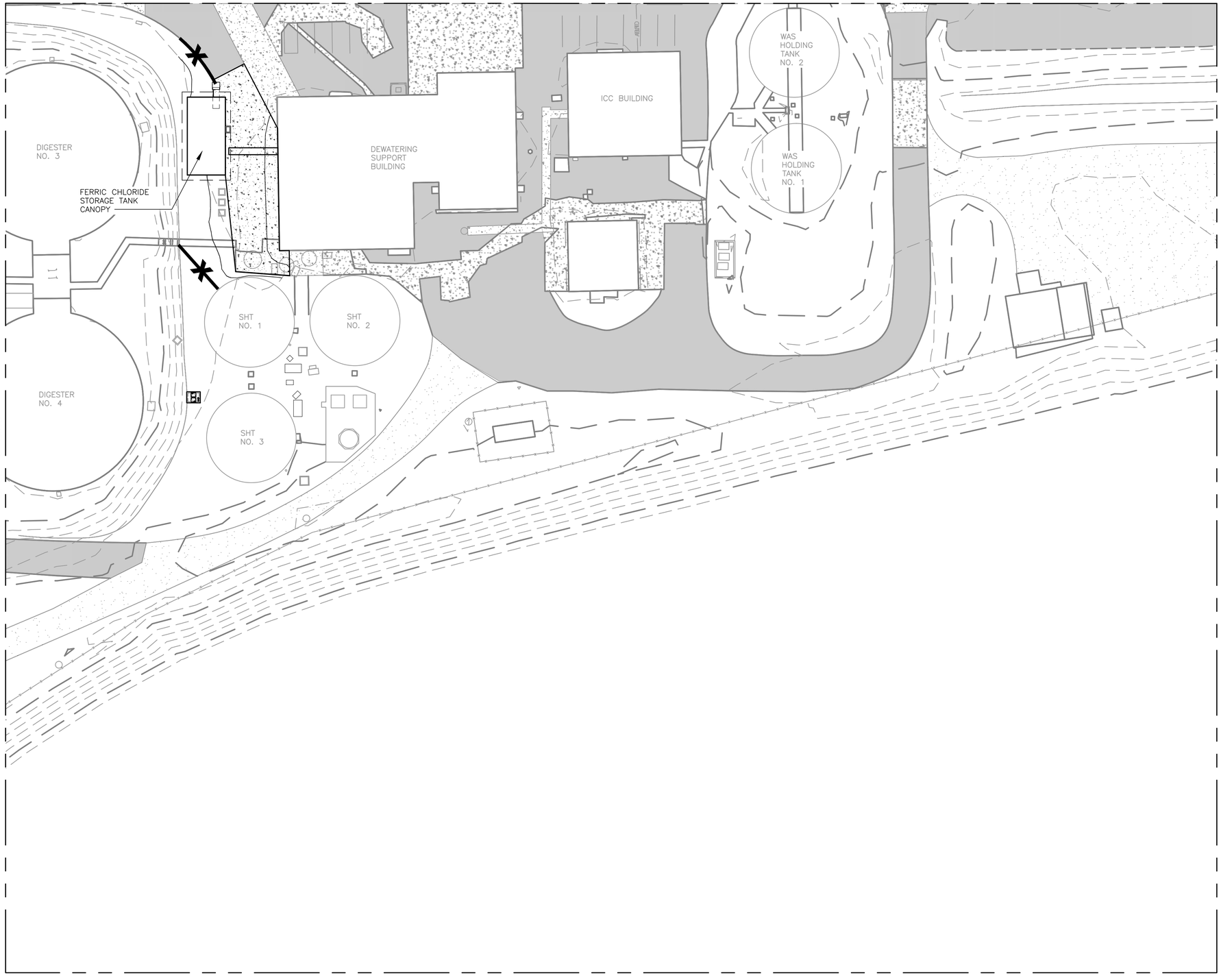

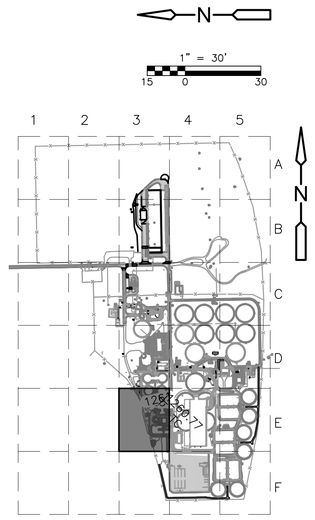

KEYPLAN

EROSION CONTROL LEGEND

= SILT FENCE

= CURB INLET SEDIMENT BARRIER

= AREA INLET SEDIMENT BARRIER

= EROSION CONTROL BLANKET

= CONSTRUCTION ENTRANCE

EXISTING CONTOURS 1266 1265

PROPOSED CONTOURS 1265 1264

PROPOSED SLOPE 3:1

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL PLAN - AREA E3

PROJECT NO. 2395-267343
FILE NAME: C008.E3ECPL

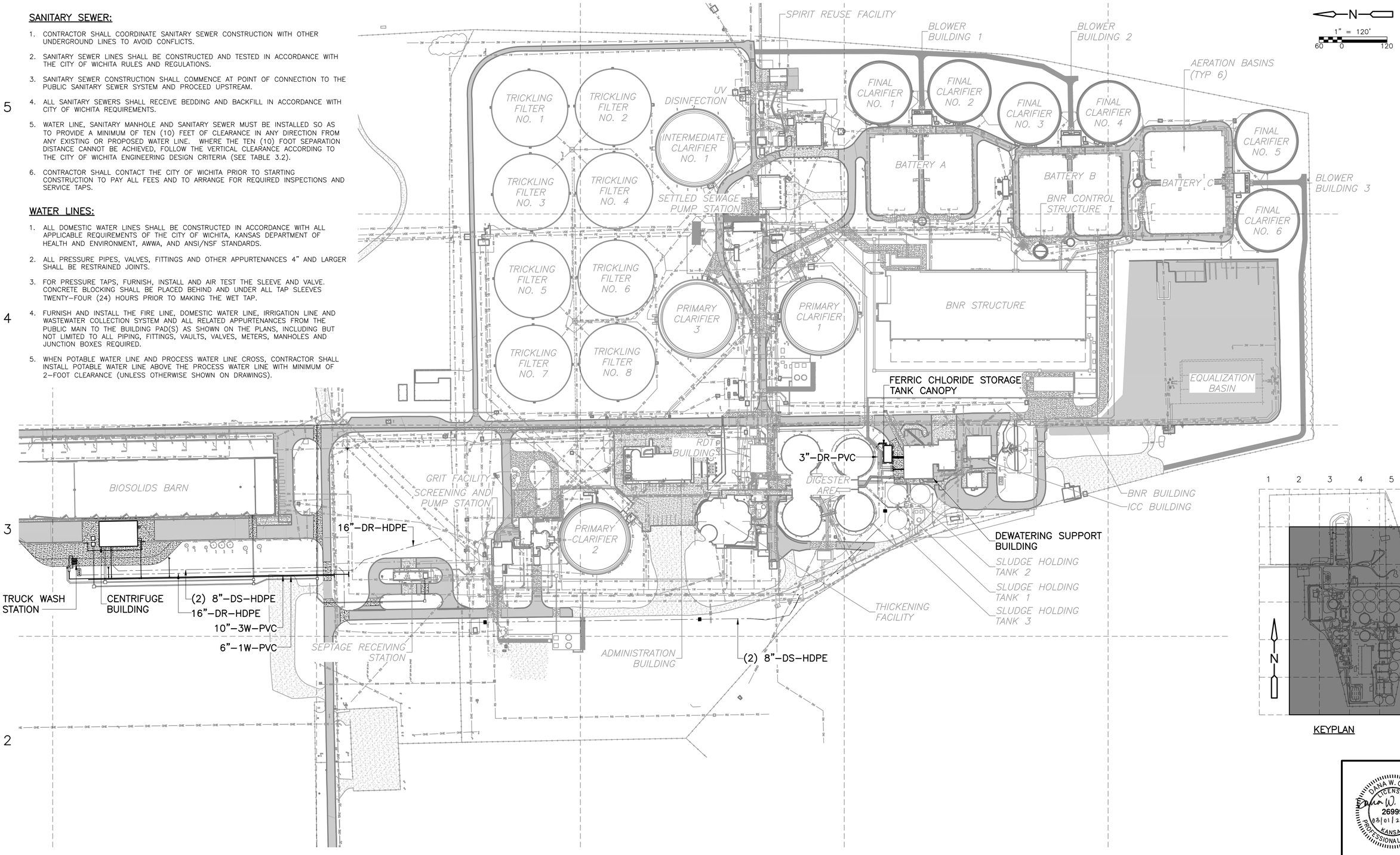
SHEET NO.
C-8.E3

SANITARY SEWER:

1. CONTRACTOR SHALL COORDINATE SANITARY SEWER CONSTRUCTION WITH OTHER UNDERGROUND LINES TO AVOID CONFLICTS.
2. SANITARY SEWER LINES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE CITY OF WICHITA RULES AND REGULATIONS.
3. SANITARY SEWER CONSTRUCTION SHALL COMMENCE AT POINT OF CONNECTION TO THE PUBLIC SANITARY SEWER SYSTEM AND PROCEED UPSTREAM.
4. ALL SANITARY SEWERS SHALL RECEIVE BEDDING AND BACKFILL IN ACCORDANCE WITH CITY OF WICHITA REQUIREMENTS.
5. WATER LINE, SANITARY MANHOLE AND SANITARY SEWER MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF TEN (10) FEET OF CLEARANCE IN ANY DIRECTION FROM ANY EXISTING OR PROPOSED WATER LINE. WHERE THE TEN (10) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, FOLLOW THE VERTICAL CLEARANCE ACCORDING TO THE CITY OF WICHITA ENGINEERING DESIGN CRITERIA (SEE TABLE 3.2).
6. CONTRACTOR SHALL CONTACT THE CITY OF WICHITA PRIOR TO STARTING CONSTRUCTION TO PAY ALL FEES AND TO ARRANGE FOR REQUIRED INSPECTIONS AND SERVICE TAPS.

WATER LINES:

1. ALL DOMESTIC WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF THE CITY OF WICHITA, KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT, AWWA, AND ANSI/NSF STANDARDS.
2. ALL PRESSURE PIPES, VALVES, FITTINGS AND OTHER APPURTENANCES 4" AND LARGER SHALL BE RESTRAINED JOINTS.
3. FOR PRESSURE TAPS, FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES TWENTY–FOUR (24) HOURS PRIOR TO MAKING THE WET TAP.
4. FURNISH AND INSTALL THE FIRE LINE, DOMESTIC WATER LINE, IRRIGATION LINE AND WASTEWATER COLLECTION SYSTEM AND ALL RELATED APPURTENANCES FROM THE PUBLIC MAIN TO THE BUILDING PAD(S) AS SHOWN ON THE PLANS, INCLUDING BUT NOT LIMITED TO ALL PIPING, FITTINGS, VAULTS, VALVES, METERS, MANHOLES AND JUNCTION BOXES REQUIRED.
5. WHEN POTABLE WATER LINE AND PROCESS WATER LINE CROSS, CONTRACTOR SHALL INSTALL POTABLE WATER LINE ABOVE THE PROCESS WATER LINE WITH MINIMUM OF 2–FOOT CLEARANCE (UNLESS OTHERWISE SHOWN ON DRAWINGS).



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

OVERALL YARD PIPING AND UTILITIES LAYOUT

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: C011STPL
SHEET NO. C-11

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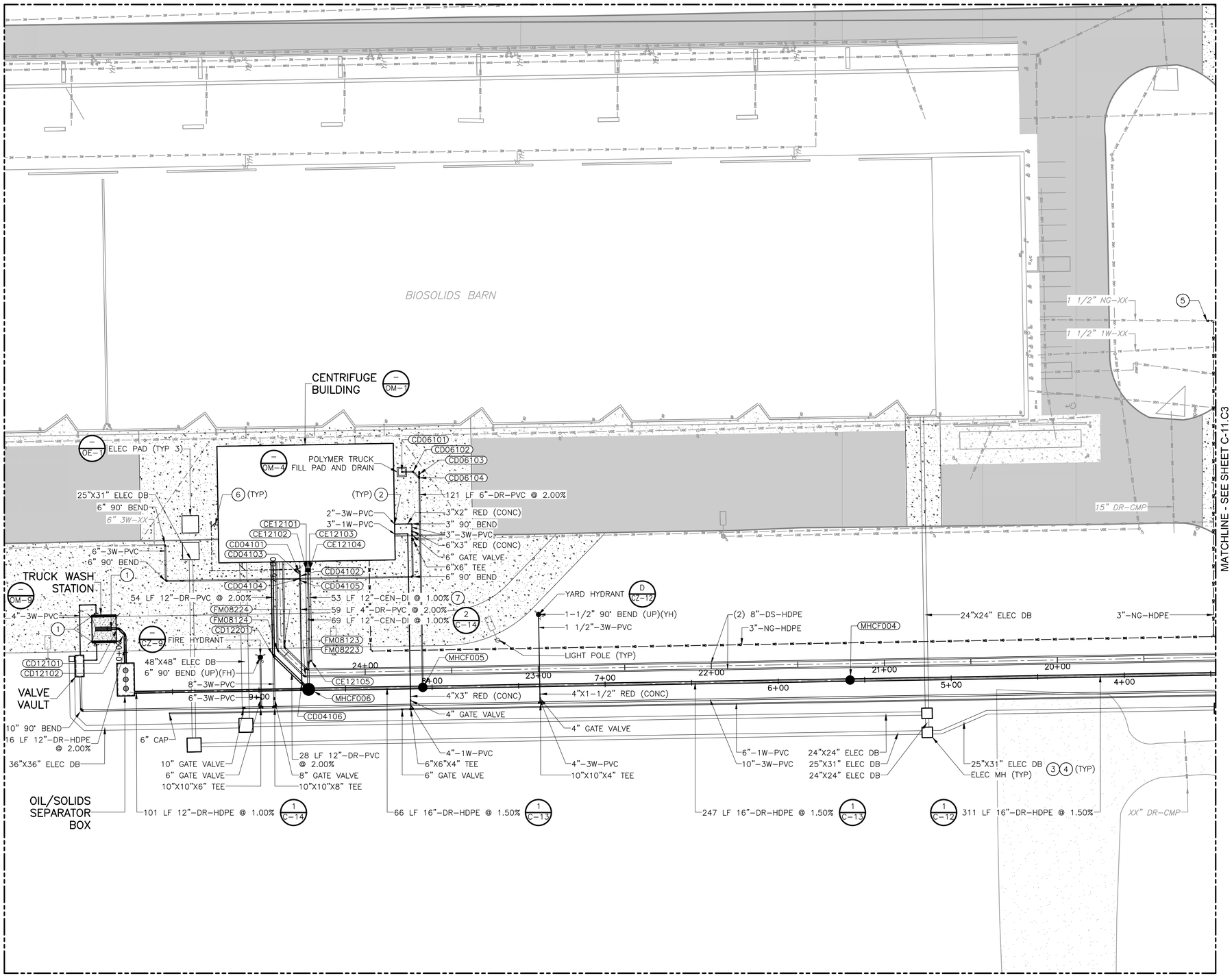

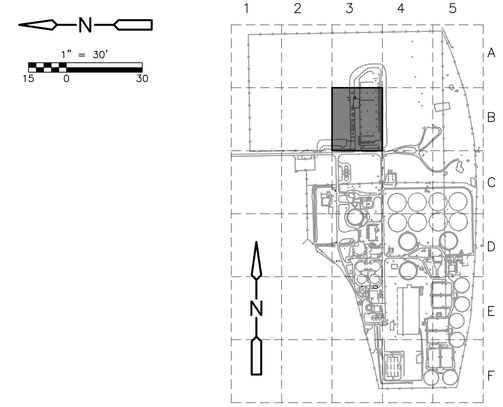

KEYPLAN

NOTES:

1. SEE CONTROL POINT TABLES ON SHEET C-11.B3Z FOR ADDITIONAL INFORMATION.
2. UNLESS NOTED OTHERWISE, SEE DETAIL C ON SHEET CZ-13 FOR ALL BURIED GATE VALVES.

KEYNOTES: (*)

1. SEE DRAWING OM-9 FOR CONTINUATION.
2. SEE DRAWING OM-1 FOR CONTINUATION.
3. LOCATION OF ELECTRICAL MANHOLES AND DUCTBANK IS IN COORDINATION WITH ELECTRICAL DESIGN. REFER TO ELECTRICAL CONTRACT DOCUMENTS FOR DETAILS RELATED TO ELECTRICAL DESIGN.
4. CONTRACTOR SHALL ADJUST DUCTBANK LOCATIONS AS REQUIRED TO AVOID EXISTING UTILITIES. REFER TO DETAILS AND SPECIFICATIONS FOR NECESSARY CLEARANCES WHEN CROSSING NEW AND EXISTING UTILITIES.
5. CONNECT 3"-NG-HDPE TO EXISTING NATURAL GAS LINES WITH FITTINGS AND ADAPTORS AS REQUIRED. DETERMINED BY THE CONTRACTOR DURING FIELD VERIFICATION OF PIPE MATERIAL AND UNDERGROUND ROUTING.
6. SEE DRAWING OP-1 FOR CONTINUATION OF DRAIN PIPING.
7. 12"-CEN-DI IS FOR FUTURE PLANT USE. CAP PIPE AS DESIGNED.

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING AND UTILITIES PLAN AREA B3

PROJECT NO. 2395-267343
FILE NAME: C011.B3STPL
SHEET NO. C-11.B3

4"-DR-PVC

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
CD04106	0+05.43	0.00	1651280.05	1657214.78	1257.19	4" 45° BEND
CD04105	0+64.69	0.00L	1651281.07	1657274.04	1259.46	CLEANOUT
CD04104	0+65.76	0.00	1651281.09	1657275.10	1258.40	4"X4" WYE
CD04102	0+67.04	0.00	1651281.11	1657276.38	1258.42	4"X4" WYE
CD04103	0+68.10	0.00L	1651281.13	1657277.44	1259.49	CLEANOUT
CD04101	0+69.31	0.00	1651281.15	1657278.66	1258.47	4"X4" WYE

6"-DR-PVC

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
CD06104	1+21.17	0.00	1651212.20	1657333.30	1256.19	6"X6" WYE
CD06103	1+22.70	1.54R	1651212.24	1657335.47	1256.19	CLEANOUT
CD06102	1+26.17	0.00	1651215.80	1657336.77	1256.29	6" 45° BEND
CD06101	1+32.63	0.00	1651222.26	1657336.66	1256.42	6" 90° BEND (UP)

8"-DS-HDPE

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FM08223	24+33.41	2.00R	1651276.84	1657222.50	1252.00	8" 45° BEND
FM08123	24+34.24	2.16L	1651278.42	1657218.47	1252.00	8" 45° BEND
FM08224	24+53.41	2.00R	1651290.03	1657235.24	1251.96	8" 45° BEND
FM08124	24+54.24	2.16L	1651294.00	1657233.52	1251.96	8" 45° BEND

12"-CEN-DI

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
CE12104	0+05.00	3.75R	1651275.67	1657280.03	1255.00	12" 90° BEND (UP)
CE12103	0+05.00	3.75R	1651275.67	1657280.03	1261.50	12" 90° BEND (DN)
CE12102	0+05.00	5.42R	1651277.34	1657280.00	1255.00	12" 90° BEND (UP)
CE12101	0+05.00	5.42R	1651277.34	1657280.00	1261.50	12" 90° BEND (DN)
CE12105	0+53.51	5.88R	1651274.77	1657227.54	1254.48	12" CAP

12"-DR-HDPE

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
CD12102	10+10.39	0.00	1651382.22	1657242.66	1257.34	12" 45° BEND
CD12101	10+15.39	0.00R	1651385.82	1657246.13	1257.44	12" 45° BEND

12"-DR-PVC

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
CD12201	0+28.09	0.00	1651296.35	1657230.53	1254.17	12" 45° BEND

STRUCTURE TABLE

NAME	STATION	OFFSET	NORTHING	EASTING	RIM	MH SIZE (INNER DIA)	PIPE INV IN	PIPE INV OUT	NOTES
MHCF004	5+58.49	0.000	1650963.27	1657216.40	1261.08	48"	1248.10 – 16"–DR–HDPE (N)	1248.00 – 16"–DR–HDPE (S)	
MHCF005	8+05.37	0.000	1651210.12	1657212.15	1260.58	48"	1251.90 – 16"–DR–HDPE (N) 1253.52 – 6"–DR–PVC (E)	1251.80 – 16"–DR–HDPE (S)	
MHCF006	8+71.41	0.000	1651276.15	1657211.01	1260.72	72"	1252.99 – 12"–DR–HDPE (N) 1253.81 – 12"–CEN–DI (E) 1256.92 – 4"–DR–PVC (NE) 1253.11 – 12"–DR–PVC (NE)	1252.89 – 16"–DR–HDPE (S)	

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HORIZONTAL CONTROL TABLES
AREA B3

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C011.B3ZSTPL

SHEET NO.
C-11.B3Z

MATCHLINE - SEE SHEET C-11.C4

MATCHLINE - SEE SHEET C-11.B3

MATCHLINE - SEE SHEET C-11.D3

12" GATE VALVE
12"X12" CROSS
12" GATE VALVE
12"-3W-PVC
12" GATE VALVE
12" 3W-XX
6" 1W-XX
12" 3W-XX
2" 1W-XX
60" PE-XX (ABND)
72" PE-PCCP
3" 3W-XX
2" 1W-XX
6" 3W-XX
12" IS-CIP
20" RS-XX
15" RS-XX
4" 1W-PVC
8" PS/PSC-PVC
OH ELEC
6" 1W-XX
12" 3W-XX
25"X31" ELEC DB
30" PS-RCP
6" PS-XX
2" 3W-XX
EX 36" RS-RCP
MHCF001 (DOGHOUSE)
30" RS-RCP
GRIT FACILITY
1 C-12 209 LF 16"-DR-HDPE @ 1.50%
0+00
1 C-12 39 LF 16"-DR-HDPE @ 1.50%
311 LF 16"-DR-HDPE @ 1.50% 1 C-12
10.0
1+00
MHCF002
12+00
SCREENING AND PUMP STATION
3/4"(3")-FC-PE(PVC)
1-1/2" 1W-XX
2" 3W-XX (ABND)
FM08122
FM08222
FM08121
FM08221
19+00
10"-3W-PVC
6"-1W-PVC
3+00
MHCF003
12" GATE VALVE
12"X12"X10" TEE
12"-3W-PVC
12" GATE VALVE
10" GATE VALVE
3"-NG-HDPE
SEPTAGE RECEIVING
24" FA-HDPE
2" 1W-XX
24"x24" ELEC DB
30" FA-XX
6" GATE VALVE
6" GATE VALVE
6" GATE VALVE
6"X6" TEE
18+00
12" 3W-PVC
24"X15" ELEC DB
6" 3W-XX
12" 3W-XX
36"-FA-HDPE
4"-DR-PVC
6" 3W-XX
4"-3W-PVC
2" 3W-XX
4" 1W-PVC
6"-3W-PVC
(2) 8"-DS-HDPE
24"X15" ELEC DB 1 2 (TYP)
ELEC MH (TYP) 1 2 (TYP)
42" FA-XX
24"x24" ELEC DB
6" DR-PVC (ABND)
42" RS-RCP (OVERFLOW)
15" DR-VCP
8" PS/PSC-PVC (ABND)
18"X14" ELEC DB
2" 3W-PVC (ABND)
OH ELEC
6"1W-XX
FM08220
FM08120
60" RS-RCP
18" DR-CMP
OH ELEC
FM08217
FM08218
FM08216
FM08215
17+00
16+00
15+00
14+00
13+00
12+00
11+00
A C2-14 ARV
FM08115
FM08116
FM08119
FM08219
FM08118
FM08117

N
1" = 30'
15 0 30

1 2 3 4 5
A B C D E F

N

KEYPLAN

NOTES:

1. SEE CONTROL POINT TABLES ON SHEET C-11.C3Z FOR ADDITIONAL INFORMATION.

KEYNOTES: (•)

1. LOCATION OF ELECTRICAL MANHOLES AND DUCTBANK IS IN COORDINATION WITH ELECTRICAL DESIGN. REFER TO ELECTRICAL CONTRACT DOCUMENTS FOR DETAILS RELATED TO ELECTRICAL DESIGN.
2. CONTRACTOR SHALL ADJUST DUCTBANK LOCATIONS AS REQUIRED TO AVOID EXISTING UTILITIES. REFER TO DETAILS AND SPECIFICATIONS FOR NECESSARY CLEARANCES WHEN CROSSING NEW AND EXISTING UTILITIES.
3. CONNECT 3"-NG-HDPE TO EXISTING NATURAL GAS LINES WITH FITTINGS AND ADAPTORS AS REQUIRED. DETERMINED BY THE CONTRACTOR DURING FIELD VERIFICATION OF PIPE MATERIAL AND UNDERGROUND ROUTING.

XREFs: [GRID_CWP000VP, CEP000SS, grading BNR 2, CWP000SS, 267343_CDMS_2234-P4, CWP004KP, X-STMP-DWG] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
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Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING AND UTILITIES PLAN AREA C3

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C011.C3STPL

SHEET NO.
C-11.C3

8"-DS-HDPE

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FM08215	12+82.91	2.00R	1650259.22	1657086.70	1253.87	8" 45° BEND (DN)
FM08115	12+82.91	2.01L	1650259.17	1657082.70	1253.87	8" 45° BEND (DN)
FM08216	12+89.61	2.00R	1650265.92	1657086.61	1247.16	8" 45° BEND (UP)
FM08116	12+89.61	2.01L	1650265.87	1657082.60	1247.16	8" 45° BEND (UP)
FM08217	13+10.73	1.94R	1650287.05	1657086.26	1247.12	8" 45° BEND (UP)
FM08117	13+10.73	1.94L	1650286.99	1657082.37	1247.12	8" 45° BEND (UP)
FM08218	13+20.30	1.89R	1650296.61	1657086.07	1256.68	8" 45° BEND (DN)
FM08118	13+20.30	1.89L	1650296.55	1657082.29	1256.68	8" 45° BEND (DN)
FM08219	16+85.78	2.00R	1650662.06	1657081.11	1256.00	8" 45° BEND
FM08119	16+86.61	2.16L	1650663.65	1657077.09	1256.00	8" 45° BEND
FM08220	17+05.78	2.00R	1650675.26	1657093.86	1255.96	8" 45° BEND
FM08120	17+06.61	2.16L	1650679.23	1657092.14	1255.95	8" 45° BEND
FM08221	18+30.28	2.16R	1650677.39	1657217.51	1253.21	8" 45° BEND
FM08121	18+31.11	2.00L	1650681.36	1657215.78	1253.21	8" 45° BEND
FM08122	18+49.45	2.00L	1650694.55	1657228.53	1253.17	8" 45° BEND
FM08222	18+50.28	2.16R	1650692.96	1657232.56	1253.17	8" 45° BEND

STRUCTURE TABLE									
NAME	STATION	OFFSET	NORTHING	EASTING	RIM	MH SIZE (INNER DIA)	PIPE INV IN	PIPE INV OUT	NOTES
MHCF001 (DOGHOUSE)	0+00.00	0.000	1650424.39	1657306.02	1261.58	84"	1239.32 – EX 36" RS–RCP (NE) 1239.42 – 16"–DR–HDPE (N)	1239.32 – EX 36" RS–RCP (SW)	
MHCF002	2+08.96	0.000	1650625.55	1657249.45	1261.98	48"	1242.65 – 16"–DR–HDPE (NW)	1242.55 – 16"–DR–HDPE (S)	
MHCF003	2+47.48	0.000	1650652.31	1657221.76	1262.00	48"	1243.33 – 16"–DR–HDPE (N)	1243.23 – 16"–DR–HDPE (SE)	

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HORIZONTAL CONTROL TABLES
AREA C3

DANA W. GIESY
LICENSED
26999
03/01/2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C011.C3ZSTPL

SHEET NO.
C-11.C3Z

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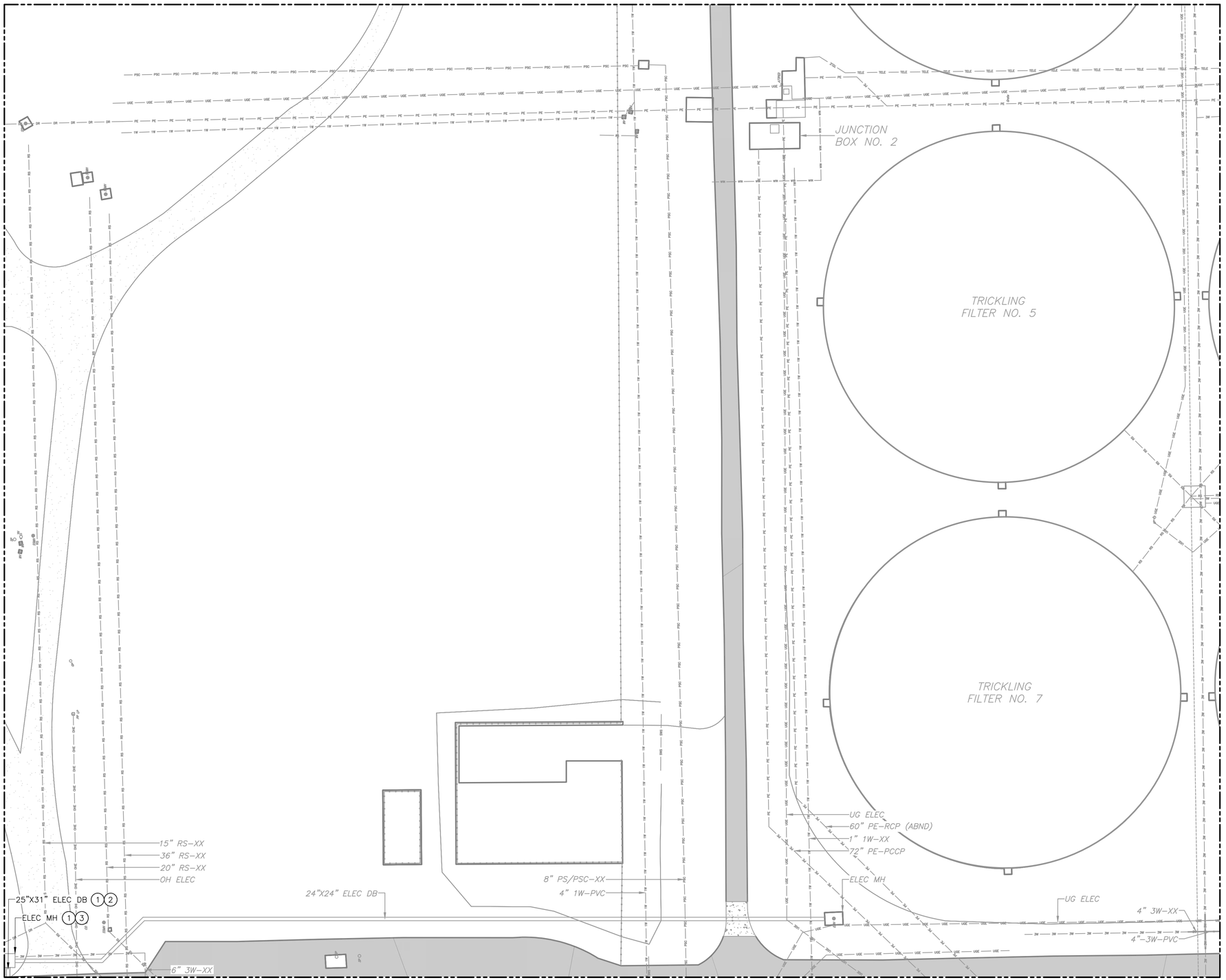
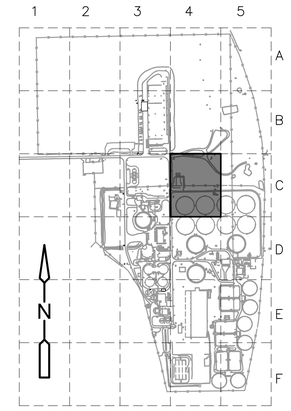


MATCHLINE - SEE SHEET C-11.C3

N

1" = 30'

15 0 30



KEYPLAN

KEYNOTES: (*)

1. LOCATION OF ELECTRICAL MANHOLES AND DUCTBANK IN COORDINATION WITH ELECTRICAL DESIGN. REFER TO ELECTRICAL CONTRACT DOCUMENTS FOR DETAILS RELATED TO ELECTRICAL DESIGN.
2. CONTRACTOR SHALL ADJUST DUCTBANK LOCATIONS AS REQUIRED TO AVOID EXISTING UTILITIES. REFER TO DETAILS AND SPECIFICATIONS FOR NECESSARY CLEARANCES WHEN CROSSING NEW AND EXISTING UTILITIES.
3. ELECTRICAL MANHOLE IS THE TERMINATION POINT OF PACKAGE 2 ELECTRICAL DUCTBANK. CONTINUATION OF DUCTBANK WEST OF MANHOLE SHALL BE INSTALLED DURING PACKAGE 4.

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING AND UTILITIES PLAN AREA C4

PROJECT NO. 2395-267343
FILE NAME: C011.C4STPL

SHEET NO.
C-11.C4

XREFs: [CEP000SS, GRID, CWP000SS, CWP000YP, grading BNR 2, X-STMP-DWG, CWP004KP, 267343_CDMS_2234-P4] Images: []
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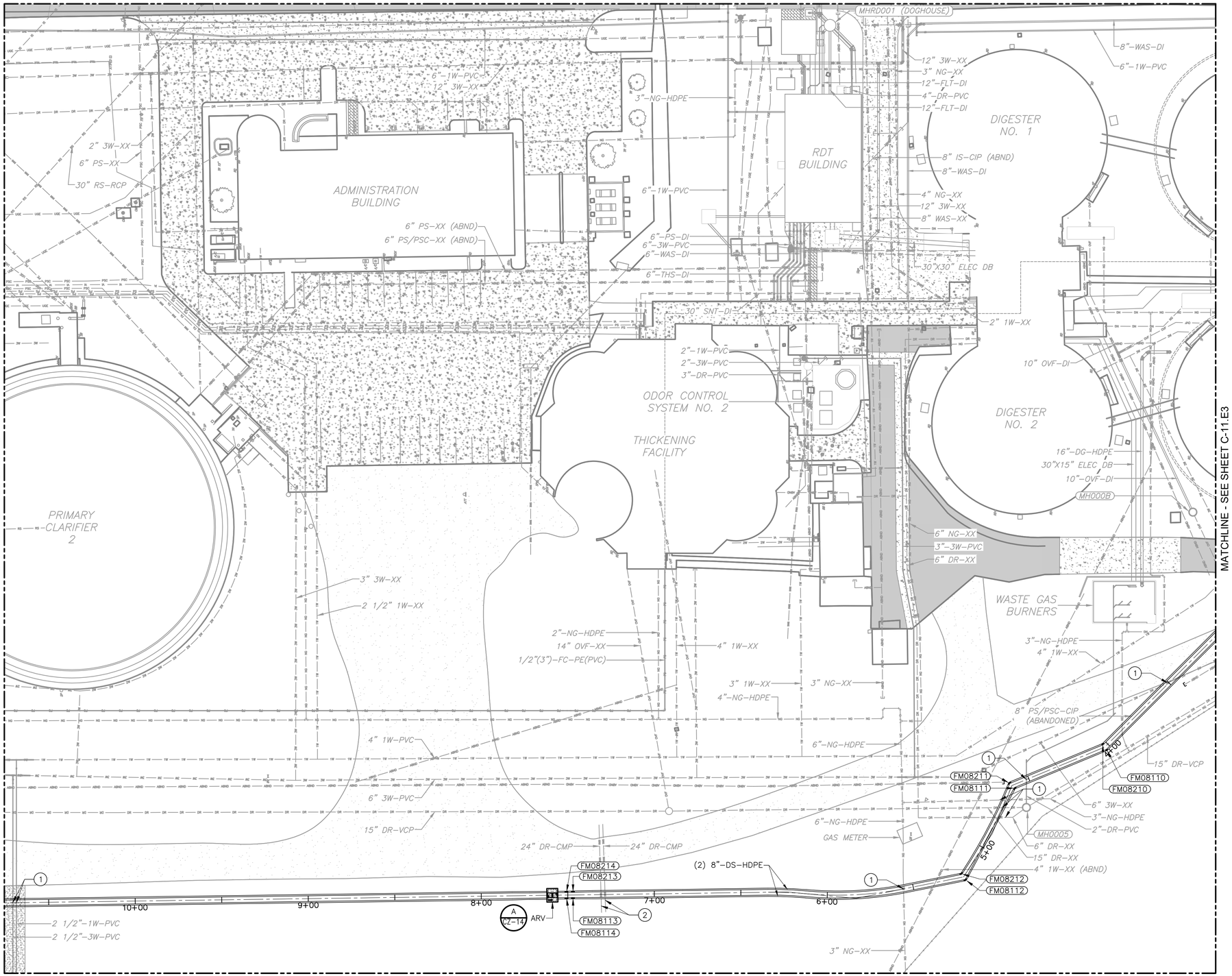

8"-DS-HDPE

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FM08210	4+02.09	2.00R	1649417.22	1657179.24	1252.16	8" 22.5° BEND
FM08110	4+02.49	2.04L	1649414.96	1657175.85	1252.16	8" 22.5° BEND
FM08211	4+60.54	2.16R	1649471.26	1657156.85	1251.87	8" 45° BEND
FM08111	4+61.37	2.00L	1649468.18	1657153.80	1251.87	8" 45° BEND
FM08212	5+19.57	2.00R	1649498.92	1657104.33	1251.68	8" 45° BEND
FM08112	5+20.40	2.16L	1649496.52	1657100.73	1251.68	8" 45° BEND
FM08213	7+47.10	1.89R	1649723.46	1657094.03	1251.22	8" 45° BEND (UP)
FM08113	7+47.10	1.89L	1649723.41	1657090.25	1251.22	8" 45° BEND (UP)
FM08214	7+50.76	1.89R	1649727.12	1657093.98	1254.89	8" 45° BEND (DN)
FM08114	7+50.76	1.89L	1649727.07	1657090.20	1254.89	8" 45° BEND (DN)

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

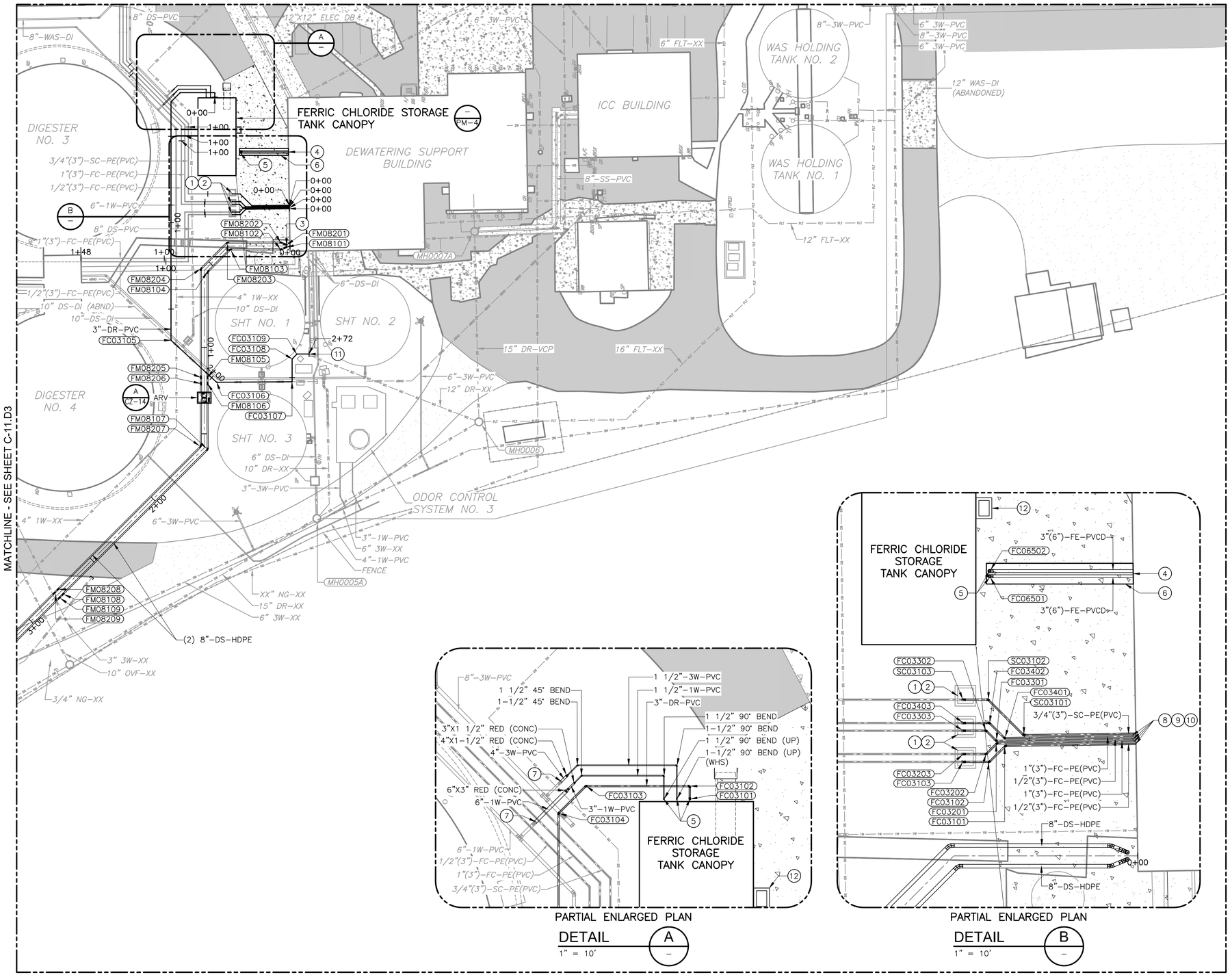
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HORIZONTAL CONTROL TABLES
AREA D3

DANA W. GIESY
LICENSED
26999
03/01/2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C011.D3ZSTPL

SHEET NO.
C-11.D3Z



PARTIAL ENLARGED PLAN

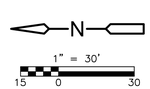
DETAIL A

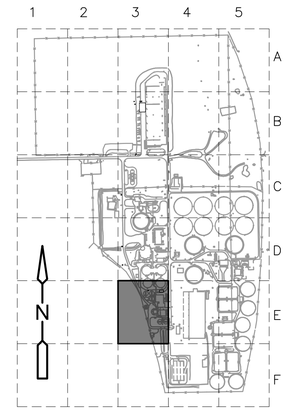
1" = 10'

PARTIAL ENLARGED PLAN

DETAIL B

1" = 10'





KEYPLAN

NOTES:

1. SEE CONTROL POINT TABLES ON SHEET C-11.E3Z FOR ADDITIONAL INFORMATION.
2. UNLESS NOTED OTHERWISE, SEE DETAIL C/CZ-13 FOR ALL BURIED GATE VALVES.

KEYNOTES: (*)

1. REMOVE EXISTING CAP AND CONNECT (2) 1/2"(3")-FC-PE(PVC), (2) 1"(3")-FC-PE(PVC) AND 3/4"(3")-SC-PE(PVC) TO EXISTING LINES IN TRANSITION VAULT.
2. PROTECT AND SUPPORT EXISTING PIPE AND VAULT AS NECESSARY.
3. SEE DRAWING PM-1 FOR CONTINUATION.
4. SEE DRAWING PM-2 FOR CONTINUATION.
5. SEE DRAWING PM-4 FOR CONTINUATION.
6. FERRIC CHLORIDE TANK DISCHARGE PIPES SHALL BE ENCASED IN CONCRETE TRENCH CONDUIT. CONTRACTOR SHALL USE TRENWA BHF2412-120 SOLID BOTTOM OR APPROVED EQUAL. SIKAFLEX TO BE USED TO SEAL JOINTS BETWEEN TRENCH SEGMENTS. TOP OF PRE-FABRICATED TRENCH TO BE 2" ABOVE GRADE AND SLOPED ON EITHER SIDE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. REMOVE EXISTING TEMPORARY PIPE AND CAP TO MAKE CONNECTION TO EXISTING VALVE WITH NEW PIPING AND FITTINGS AS SHOWN.
8. VISUAL/MANUAL CHEMICAL LEAK DETECTION TO BE INSTALLED AT LOCATIONS IDENTIFIED ON PLANS, AT ALL LOW POINTS AND PER THE SPECIFICATIONS. REFER TO DETAIL E/CZ-10.
9. CHEMICAL PIPING ELEVATIONS AND LEAK DETECTION LOCATIONS PROVIDED ARE APPROXIMATE, CONCEPTUAL AND ILLUSTRATE INTENT. FIELD VERIFY AND ADJUST ROUTE AND ELEVATIONS AS NECESSARY TO AVOID CONFLICTS WITH EXISTING UTILITIES PRIOR TO INSTALLATION. INSTALL CHEMICAL PIPING WITH POSITIVE SLOPE BETWEEN LEAK DETECTION LOCATIONS. MAINTAIN MINIMUM REQUIRED COVER AT ALL TIMES.
10. CHEMICAL TUBING PULL PORTS TO BE INSTALLED EVERY 100 FEET AND ADJACENT TO ALL BENDS IN CHEMICAL YARD PIPING. REFER TO DETAIL B/CZ-10.
11. TERMINATE 3"-DR-PVC AT JUNCTION BOX NO. 1. CORE DRILL EXISTING STRUCTURE PER DETAIL C/MZ-2. PIPE PENETRATION INVERT ELEVATION SHALL BE 1-INCH ABOVE EXISTING EFFLUENT PIPE INVERT ELEVATION.
12. CONTRACTOR SHALL INSTALL A 2'-0" X 3'-0" PRECAST CONCRETE BOX WITH REMOVABLE FRP GRATE THAT IS 2'-0" DEEP LOCATED JUST BELOW THE FERRIC FILL STATION TO CATCH ANY SPILLS. PRECAST CONCRETE BOX SHALL BE CHEMICALLY COATED PER SECTION 099676.43. NO PIPING REQUIRED.

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: D. KRAFT
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APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING AND UTILITIES PLAN
AREA E3

PROJECT NO. 2395-267343
FILE NAME: C011.E3STPL

SHEET NO.
C-11.E3

XREFs: [GRID, CWP000SS, CWP000YP, grading BNR 2, CEP000SS, X-STMP-DWG, CWP004KP, 267343_CDMS_2234-P4] Images: []
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1/2"(3")-FC-PE(PVC) (GRIT CHAMBER EFFLUENT BOX)

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03101	0+25.18	0.00R	1649219.25	1657488.36	1257.27	3" 45° BEND
FC03102	0+29.55	0.00	1649222.34	1657485.27	1257.26	3" 45° BEND

APPURTENANCE TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03103	0+34.52	0.00	1649227.31	1657485.27	1257.25	3" GATE VALVE

1/2"(3")-FC-PE(PVC) (CLARIFIER 1 & 3 INJ VLT)

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03301	0+26.94	0.00	1649221.02	1657489.33	1257.27	3" 45° BEND
FC03302	0+29.68	0.00	1649222.96	1657491.27	1257.26	3" 45° BEND

APPURTENANCE TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03303	0+34.03	0.00	1649227.31	1657491.27	1257.25	3" GATE VALVE

3/4"(3")-SC-PE(PVC) (CONTROL STRUCTURE NO. 1)

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
SC03101	0+21.63	0.00	1649215.74	1657490.41	1257.28	3" 45° BEND
SC03102	0+31.34	0.00	1649222.60	1657497.27	1257.26	3" 45° BEND

APPURTENANCE TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
SC03103	0+36.05	0.00	1649227.31	1657497.27	1257.26	3" GATE VALVE

1"(3")-FC-PE(PVC) (BNR STRUCTURE)

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03401	0+25.33	0.00L	1649219.42	1657489.85	1257.27	3" 45° BEND
FC03402	0+29.46	0.00	1649222.34	1657492.77	1257.26	3" 45° BEND

APPURTENANCE TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03403	0+34.43	0.00	1649227.31	1657492.77	1257.25	3" GATE VALVE

1"(3")-FC-PE(PVC) (THICKENED SLUDGE AREA)

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03201	0+26.83	0.00	1649220.90	1657488.83	1257.27	3" 45° BEND
FC03202	0+29.74	0.00	1649222.96	1657486.77	1257.26	3" 45° BEND

APPURTENANCE TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03203	0+34.09	0.00	1649227.31	1657486.77	1257.25	3" GATE VALVE

3"(6")-FE-PVCD

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC06501	N/A	N/A	1649222.35	1657521.06	1257.14	6" 90° BEND (UP)
FC06502	N/A	N/A	1649222.35	1657522.06	1257.14	6" 90° BEND (UP)

3"-DR-PVC

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FC03101	0+00.00	0.00	1649237.23	1657553.33	1257.64	3" 90° BEND (UP)
FC03102	0+02.52	0.00	1649237.23	1657555.86	1257.63	3" 90° BEND
FC03103	0+22.58	0.00	1649257.29	1657555.86	1258.25	3" 45° BEND
FC03104	0+30.03	0.00	1649262.55	1657550.59	1259.41	3" 45° BEND
FC03105	1+68.01	0.00	1649262.55	1657412.60	1262.29	3" 45° BEND
FC03106	2+03.88	0.00	1649236.17	1657388.30	1257.96	3" 45° BEND
FC03107	2+47.58	0.00	1649192.48	1657388.60	1257.28	3" 90° BEND
FC03108	2+60.78	0.00	1649192.48	1657401.80	1257.23	3" 45° BEND
FC03109	2+64.76	0.00	1649189.66	1657404.61	1257.72	3" 45° BEND

8"-DS-HDPE

CONTROL POINT TABLE						
POINT NO.	STATION	OFFSET	NORTHING	EASTING	CL EL	DESCRIPTION
FM08101	0+02.00	0.67L	1649195.73	1657466.47	1253.42	8" 90° BEND (UP)
FM08102	0+05.22	2.00L	1649198.95	1657465.14	1253.40	8" 22.5° BEND
FM08103	0+34.66	2.00L	1649228.38	1657465.14	1253.26	8" 45° BEND
FM08104	0+56.31	2.00L	1649241.35	1657452.17	1253.17	8" 45° BEND
FM08105	1+17.40	1.89L	1649241.46	1657391.08	1252.86	8" 45° BEND (UP)
FM08106	1+20.93	1.89L	1649241.46	1657387.56	1256.38	8" 45° BEND (DN)
FM08107	1+58.20	2.16L	1649241.35	1657349.45	1256.27	8" 45° BEND
FM08108	2+75.94	2.00L	1649325.19	1657265.61	1255.68	8' 45° BEND (DN)
FM08109	2+78.84	2.00L	1649327.24	1657263.57	1252.78	8' 45° BEND (UP)
FM08201	0+02.00	0.67R	1649195.73	1657467.81	1253.42	8" 90° BEND (UP)
FM08202	0+05.18	1.98R	1649198.91	1657469.13	1253.40	8" 22.5° BEND
FM08203	0+35.48	2.16R	1649230.04	1657469.14	1253.26	8" 45° BEND
FM08204	0+55.48	2.16R	1649245.35	1657453.83	1253.17	8" 45° BEND
FM08205	1+17.40	1.89R	1649245.24	1657391.08	1252.86	8" 45° BEND (UP)
FM08206	1+20.93	1.89R	1649245.24	1657387.56	1256.38	8" 45° BEND (DN)
FM08207	1+57.37	2.00R	1649245.35	1657351.11	1256.27	8" 45° BEND
FM08208	2+75.94	2.00R	1649328.02	1657268.44	1255.68	8" 45° BEND (DN)
FM08209	2+78.84	2.00R	1649330.07	1657266.39	1252.78	8" 45° BEND (UP)

XREFs: [GRID, CWP000SS, CWP000YP, grading BNR 2, CEP000SS, X-STMP-DWG, 267343_CDMS_2234-P4] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

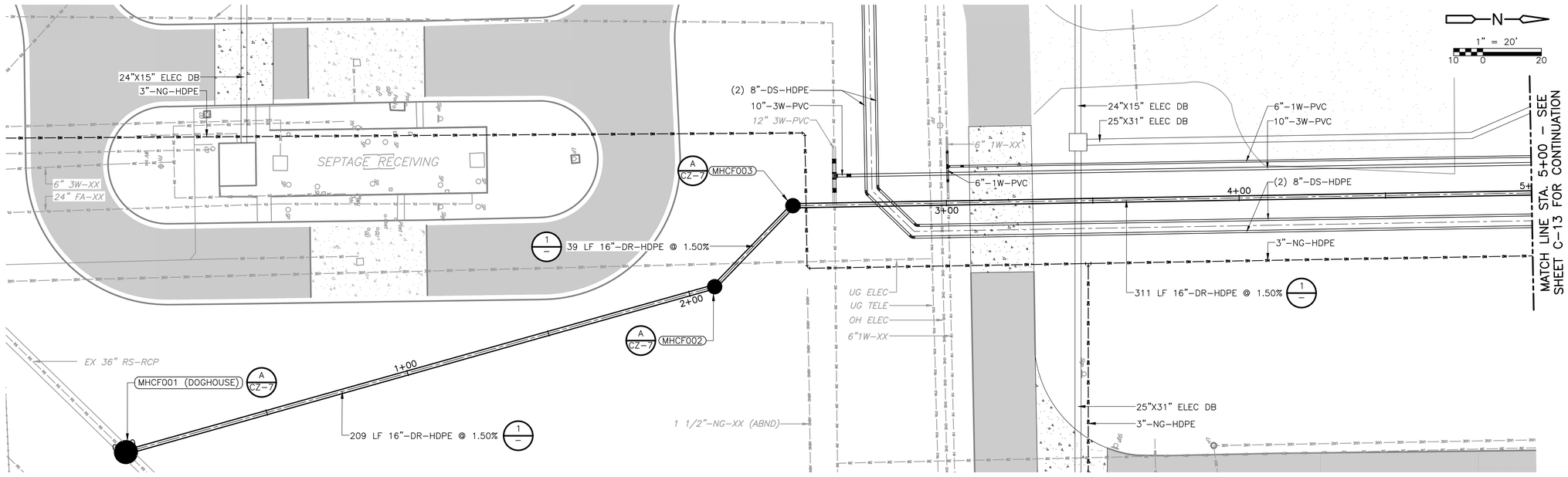
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

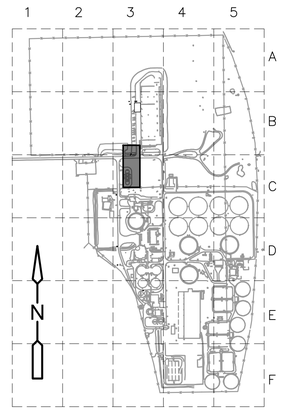
HORIZONTAL CONTROL TABLES
AREA E3

DANA W. GIESY
LICENSED
26999
12/01/2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: C011.E3ZSTPL
SHEET NO.
C-11.E3Z



PLAN
1" = 20'



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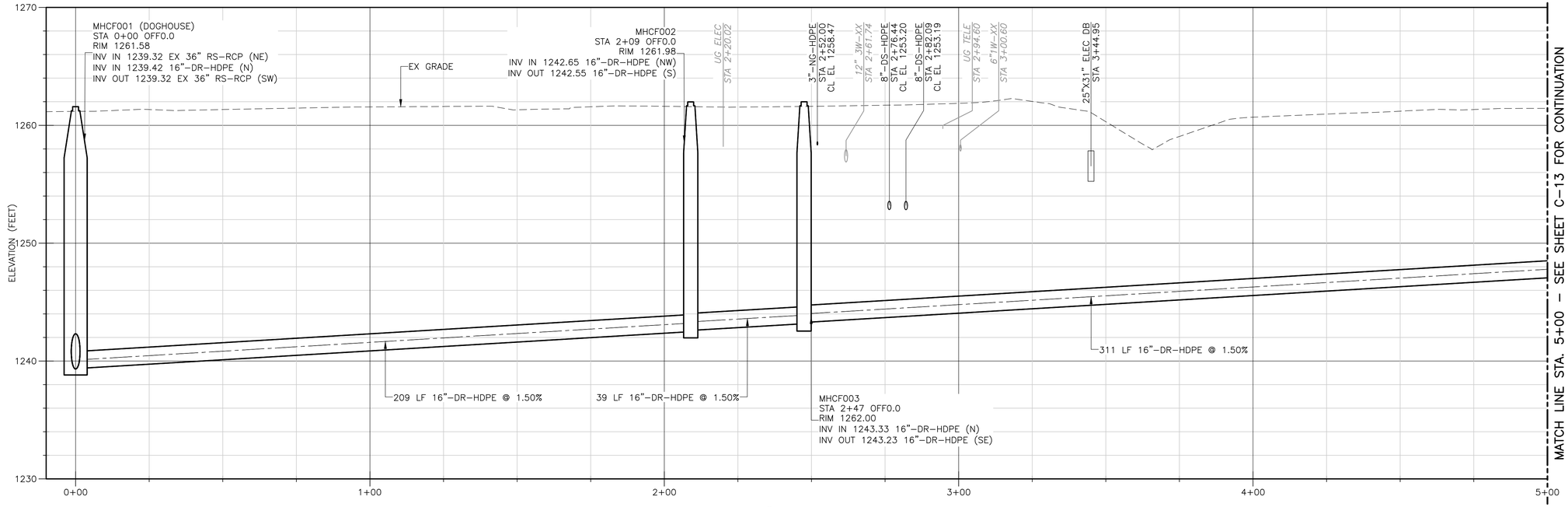

16"-DR-HDPE

PROFILE 1
HORZ: 1" = 20'
VERT: 1" = 5'

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING PLAN
AND PROFILES I

PROJECT NO. 2395-267343
FILE NAME: C012STPP

SHEET NO.
C-12

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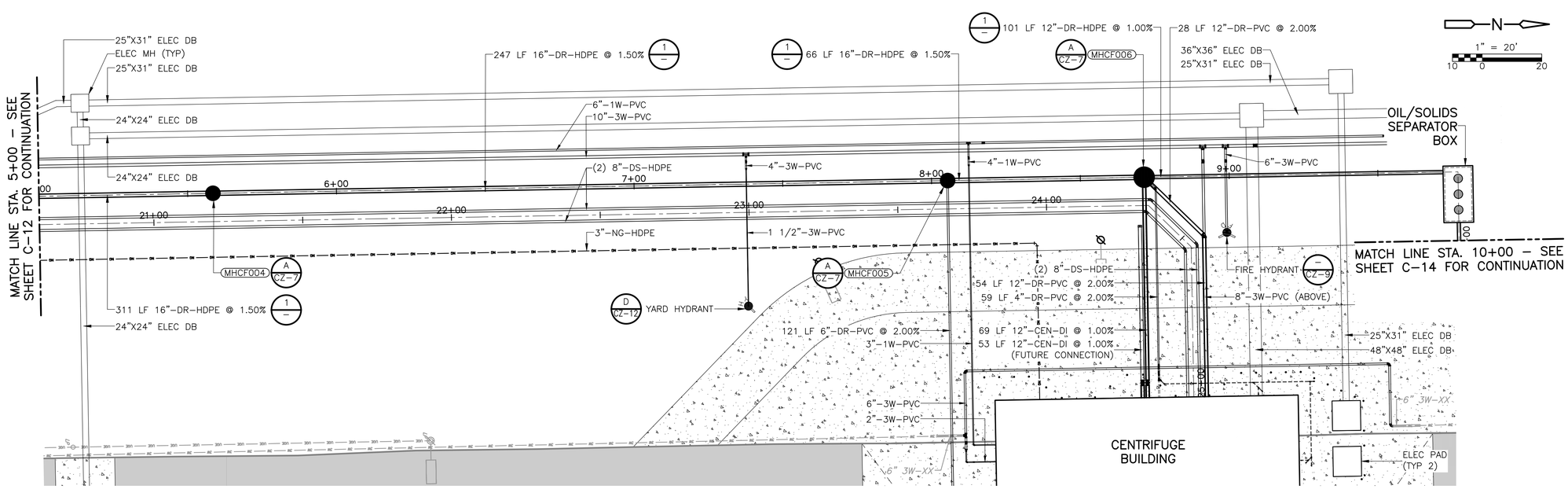

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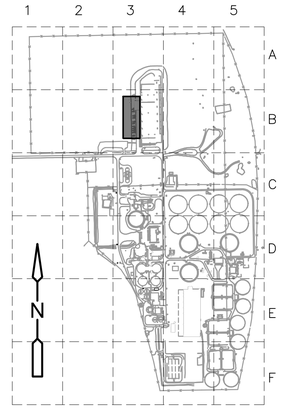

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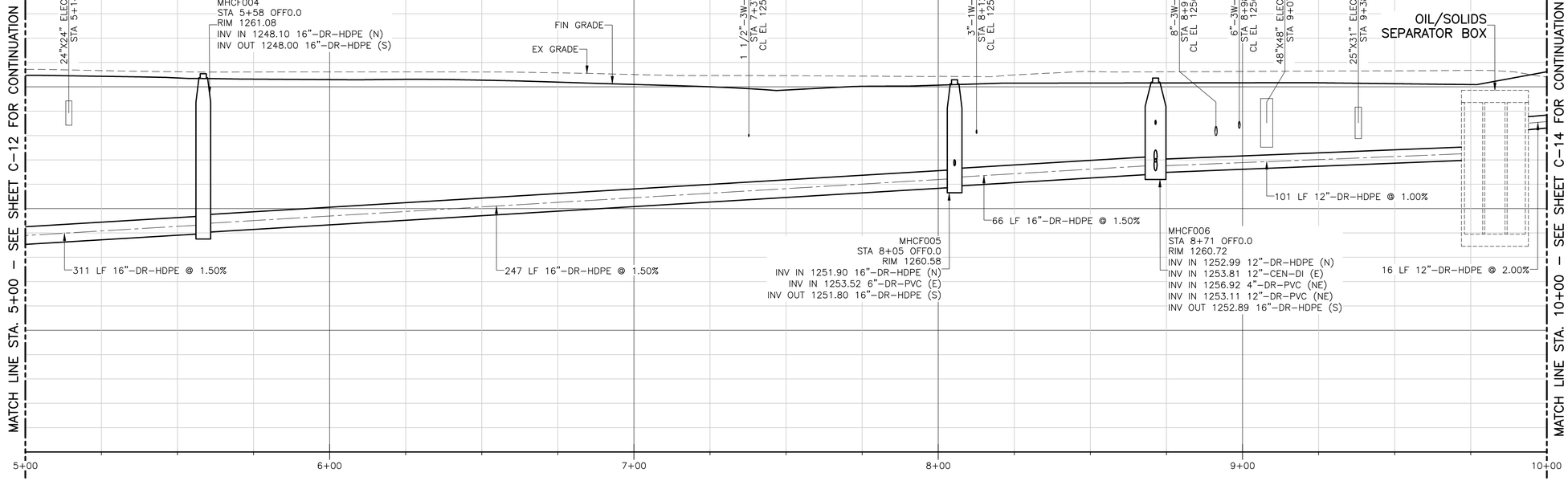

PROFILE 1
HORZ: 1" = 20'
VERT: 1" = 5'

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING PLAN AND PROFILES II

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: C013STPP

SHEET NO.
C-13

XREFs: IGRID, CWP000YP, CEP000SS, grading BNR 2, CWP000SS, 267343_CDMS_2234-P4, X-STMP-DWG, CWP004KP] Images: []
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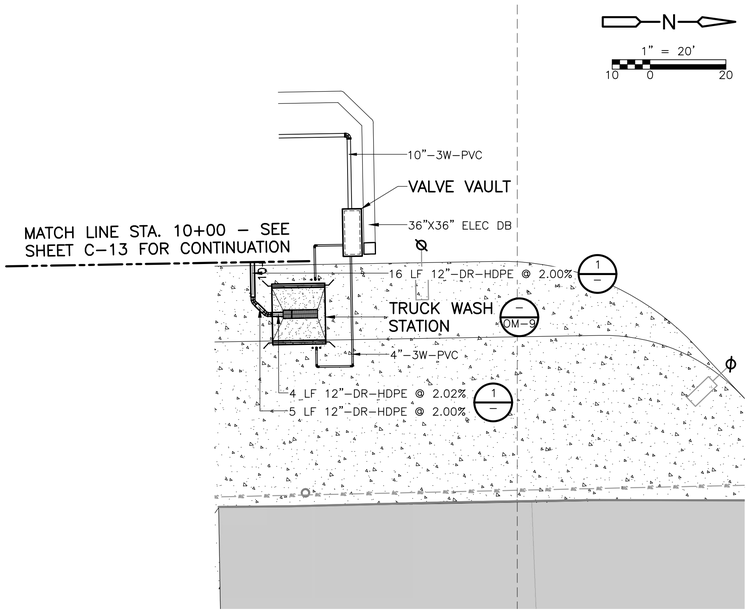

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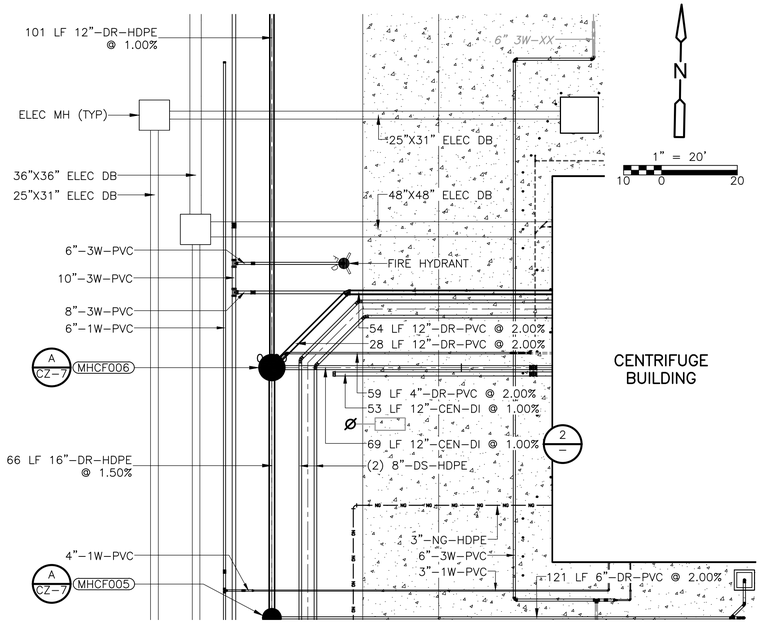

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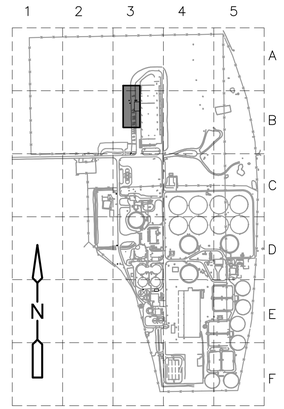
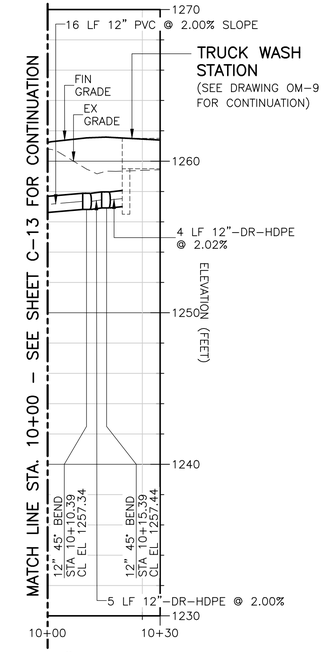
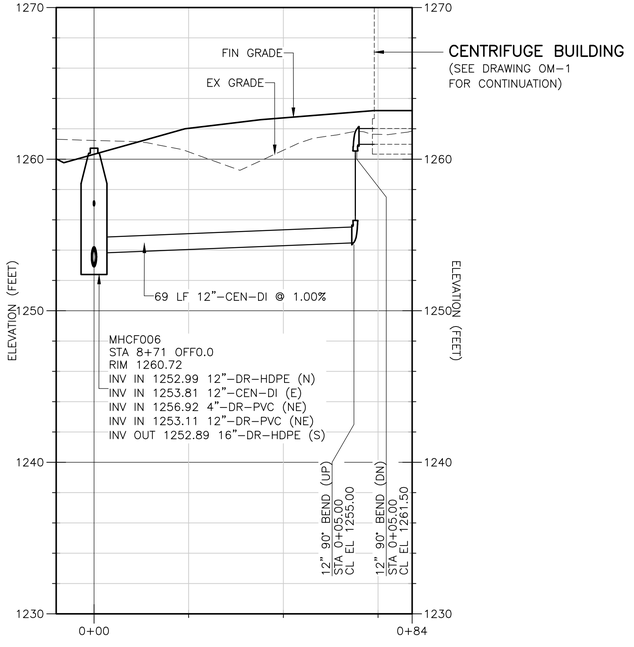


KEYPLAN



12"–DR–HDPE

PROFILE 1
HORZ: 1" = 20'
VERT: 1" = 5'



12"–CEN–DI

PROFILE 2
HORZ: 1" = 20'
VERT: 1" = 5'

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING PLAN AND PROFILES III

PROJECT NO. 2395–267343
FILE NAME: C014STPP
SHEET NO.
C-14

XREFs: (GRID_CWP000VP, CEP000SS, grading BNR 2, CWP000SS, CWP004KP, 267343_CDMS_2234-P4, X-STMP-DWG) Images: []
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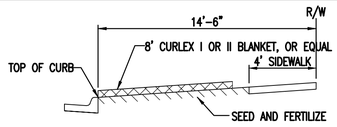
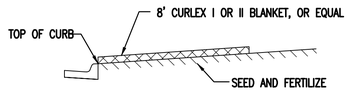
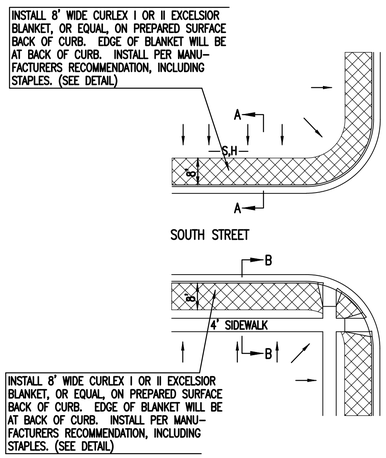


SECTION B–B



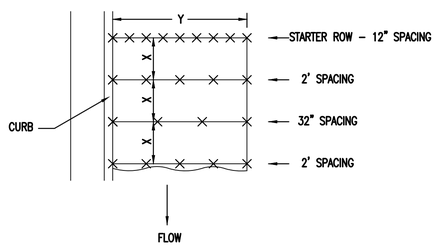
SECTION A–A



GENERAL NOTES

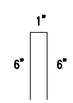
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

BACK OF CURB PROTECTION DETAIL



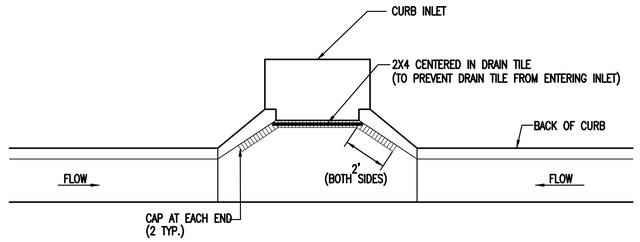
STAPLE PATTERN

NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)



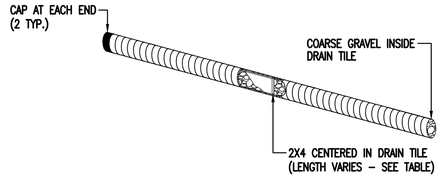
STAPLE

DETAILS FOR APPROVED EROSION CONTROL MAT



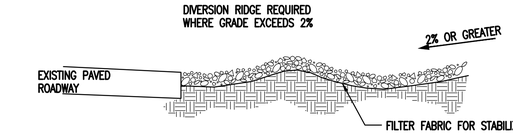
NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"–1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

2X4 LENGTH	INLET TYPE	INLET OPENING
5'–6"	1–A	5'–0"
10'–6"	1–A	10'–0"
15'–6"	1–A	15'–0"

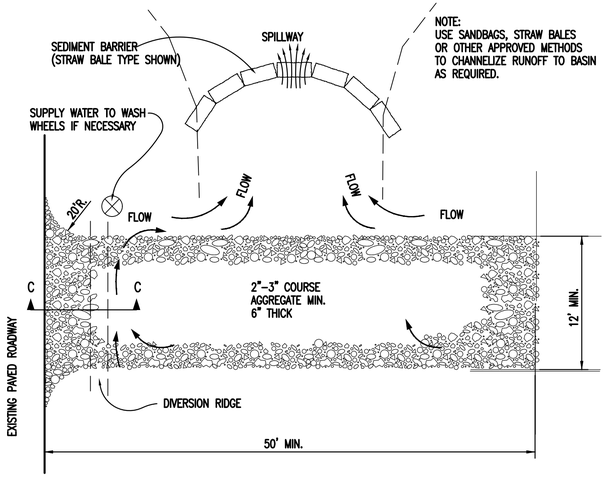


CURB INLET PROTECTION

4" PERFORATED PIPE W/ GRAVEL



SECTION C–C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

REVISION DATE: MAY 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
of

SW–501

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL DETAILS I

PROJECT NO. 2395-267343
FILE NAME: CZ001CVDT

SHEET NO.
CZ-1

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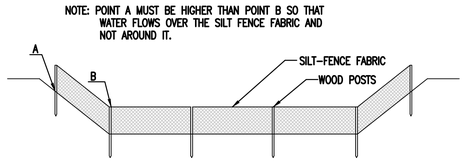
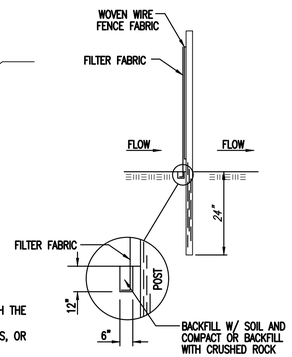


ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED.
WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED.
SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK.
SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD.
SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE.
EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK.
PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM EDGE OF THE TRENCH.
LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE ON THE UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

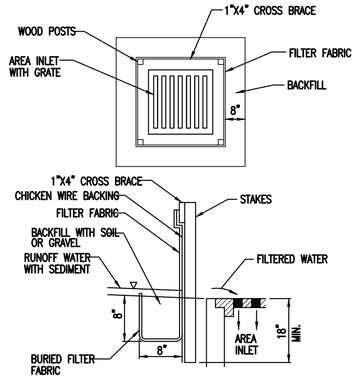
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK-NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM.
DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE.
DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
DOES WATER FLOW UNDER THE DITCH CHECK?
DOES THE SILT FENCE SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS.
SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED.
WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED.
WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME.
WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE.
DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET.
THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM.
CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING.
ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED.
ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

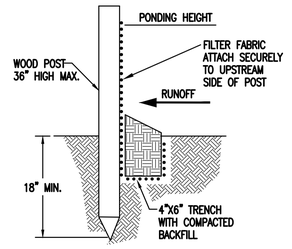
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET-NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED.
DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESISTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS.
THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE SILT FENCE?
DOES THE SILT FENCE SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.
WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW.
SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE.
MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES.
DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT.
SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND-SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
DOES WATER FLOW UNDER THE SLOPE BARRIER?
DO THE SILT FENCES SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
of

SW-502

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL DETAILS II

PROJECT NO. 2395-267343
FILE NAME: CZ002CVDT

SHEET NO.
CZ-2

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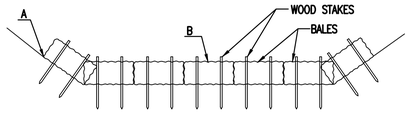
NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE BALES AND NOT AROUND THEM.



STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE.
OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK.
STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD.
BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.
THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH GRADE (%)	CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER.
OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

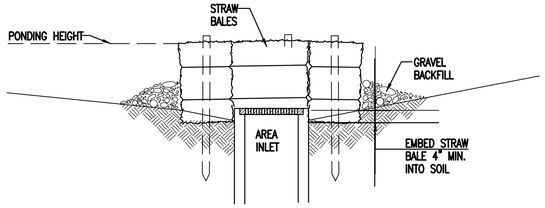
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE.
DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

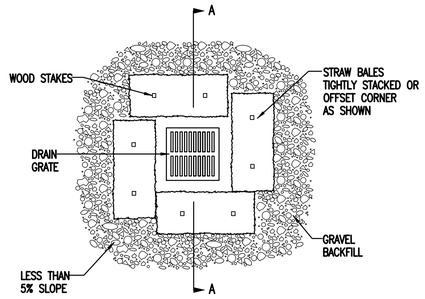
INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
DOES WATER FLOW UNDER THE DITCH CHECK?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS

(INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET.
WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS.
STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.
NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

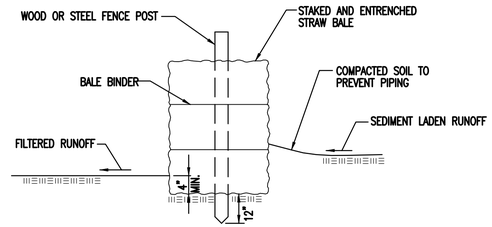
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR.
BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE AREA INLET BARRIER?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.
WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW.
BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS.
DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
DOES WATER FLOW UNDER THE SLOPE BARRIER?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER: GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET: of

SW-503

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Edw. Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

EROSION CONTROL DETAILS III

PROJECT NO. 2395-267343
FILE NAME: CZ003CVDT

SHEET NO.
CZ-3

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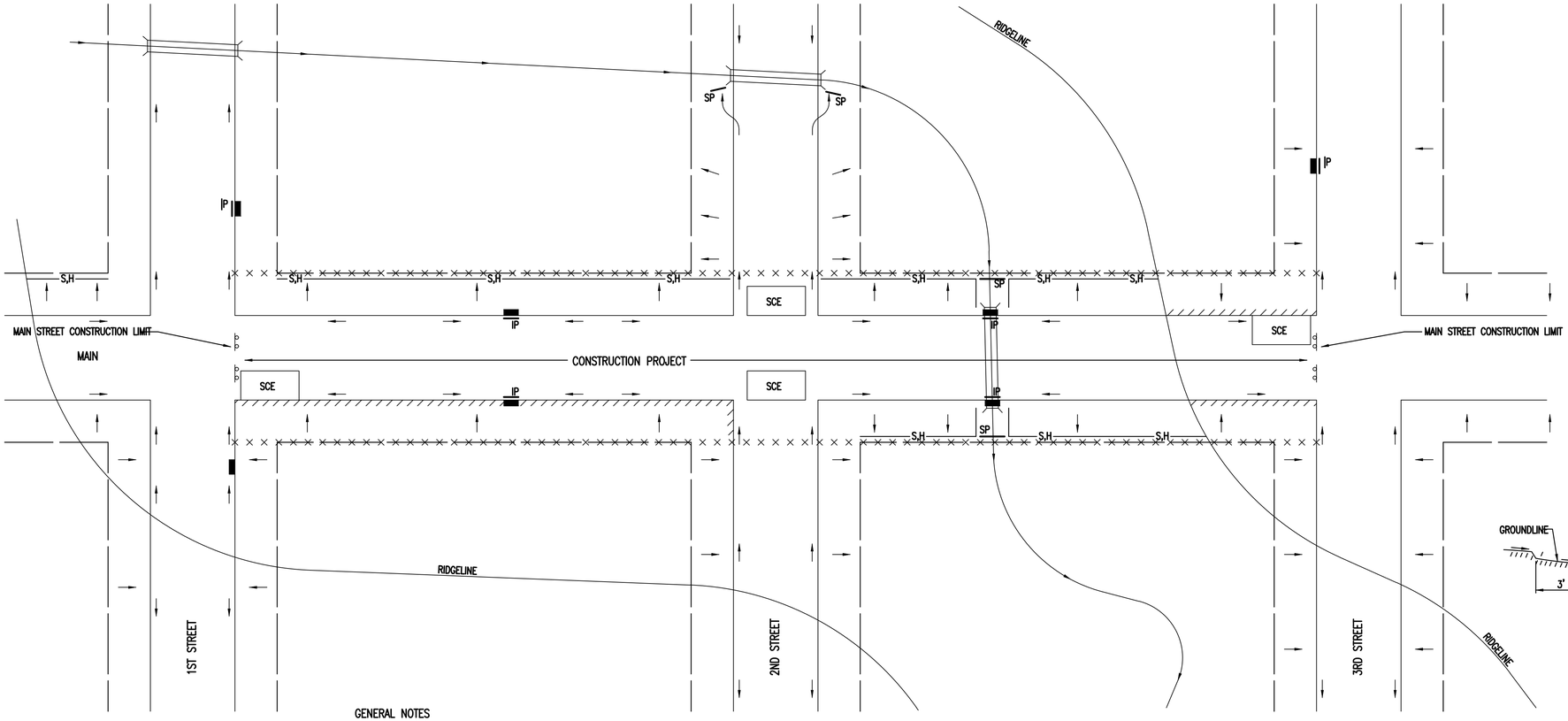
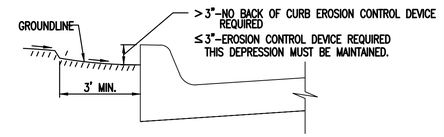
GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.





CURB BACKFILL DETAIL

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP — INLET PROTECTION
- S,H — SILT FENCE OR HAY BALE BARRIER
- SP — STREAM PROTECTION
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- BACK OF CURB PROTECTION

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
8. THE CONTACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
   A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs – BACK OF CURB SEDIMENT BARRIER DETAILS)
   B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
   C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
   D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

REVISION DATE: MAY 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STREET IMPROVEMENT PROJECTS

CITY ENGINEER: GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET: of

SW-504

TREVOR JAMES WOOTEN LICENSED 21190 3-1-24 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

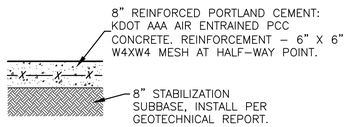
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

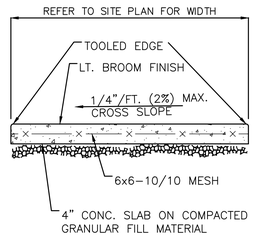
EROSION CONTROL DETAILS IV

PROJECT NO. 2395-267343
FILE NAME: CZ04CVDT

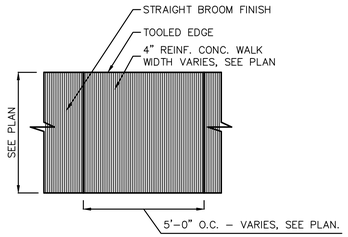
SHEET NO.
CZ-4



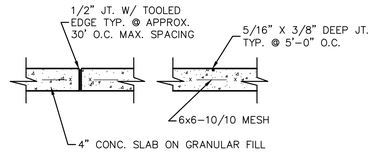
1 8" CONCRETE PAVEMENT
NOT TO SCALE



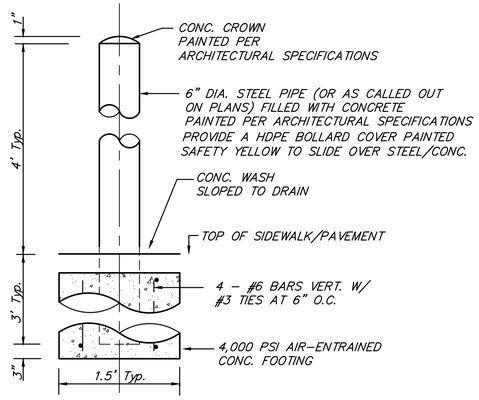
2 TYP. CONC. WALK SECTION
NOT TO SCALE



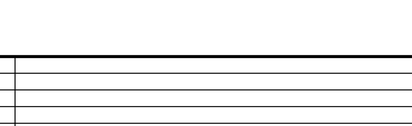
3 TYP. PATTERN IN WALK
NOT TO SCALE



4 SIDEWALK JOINTS
NOT TO SCALE



5 BOLLARD
NOT TO SCALE



6 CONNECTING TO EXISTING CONCRETE PAVEMENT
NOT TO SCALE

7 6" GRAVEL PAVEMENT
NOT TO SCALE

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. WOOTEN
DRAWN BY: P. MCDONALD
SHEET CHK'D BY: T. WOOTEN
CROSS CHK'D BY: B. HALL
APPROVED BY: T. WOOTEN
DATE: MARCH 2024

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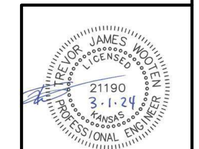
BAUGHMAN
315 S. Ellis, Wichita, KS 67211 (316) 262-7271
BaughmanCo.com

CITY OF WICHITA, KS

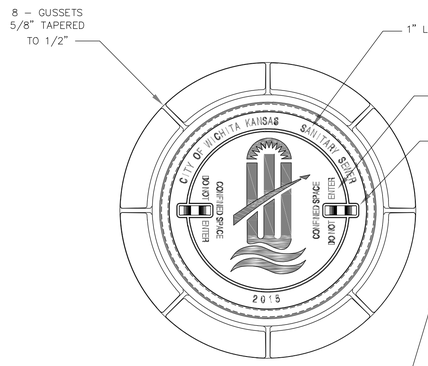
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

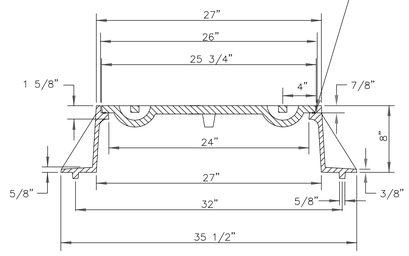
CIVIL DETAILS



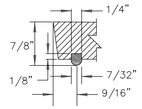
PROJECT NO. 2395–267343
FILE NAME: CZ005CVDT

SHEET NO.
CZ-5





ALL LIDS TO BE FURNISHED WITH O-RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.

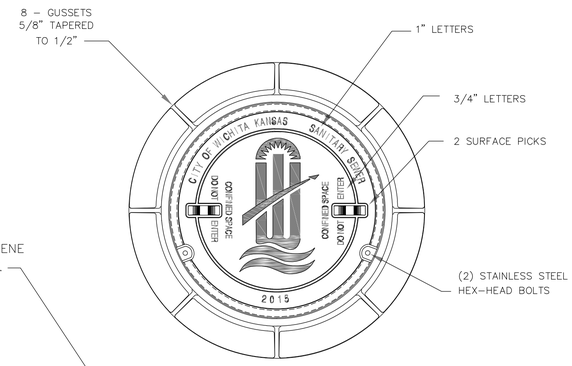


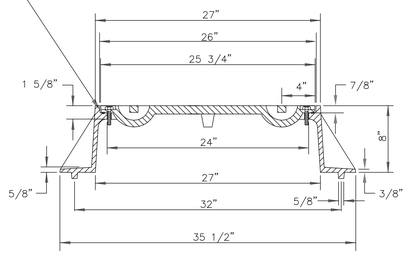
O-RING DETAIL

STANDARD MANHOLE FRAME & COVER

DEETER #1261 OR EJIW #1936-Z1

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

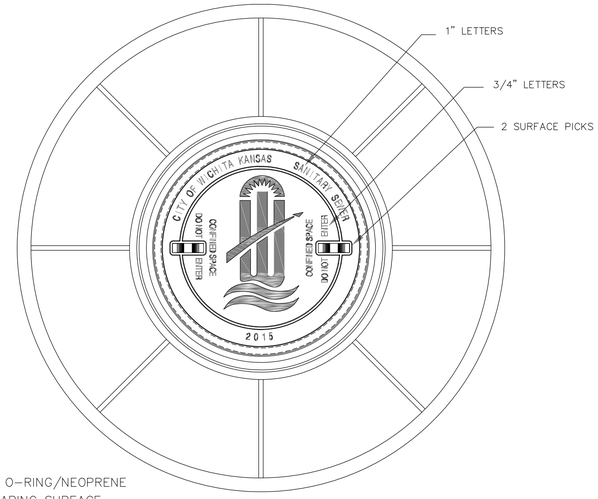




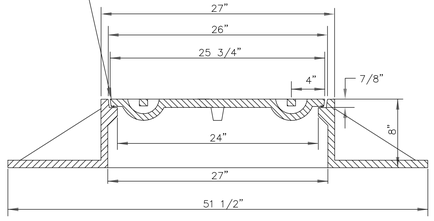
BOLT DOWN MANHOLE FRAME & COVER

DEETER #1261 OR EJIW #1936-Z1

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



ALL LIDS TO BE FURNISHED WITH O-RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.



WIDE FLANGED FRAME & COVER

DEETER #1261A

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDARY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUM-FERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1"IIN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SANITARY SEWER".
THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN WITH CITY OF WICHITA DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

REVISED: MARCH 2016

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MANHOLE FRAME AND COVER (SANITARY SEWER)

CITY ENGINEER
GARY JANZEN, P.E

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET

SS-102

SANITARY SEWER MANHOLE FRAME AND COVER

DETAIL A
NTS –

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS I

PROJECT NO. 2395-267343
FILE NAME: CZ06NFDT

SHEET NO.
CZ-6

XREFs: [267343_CDMS_2234-P4_X-STMP-DWG] Images: []
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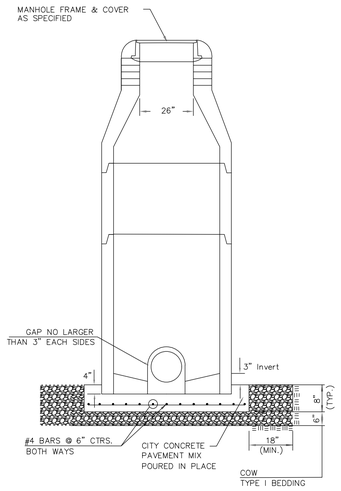
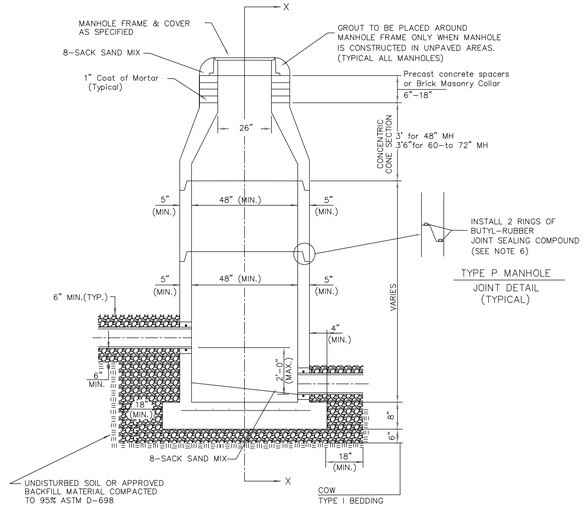
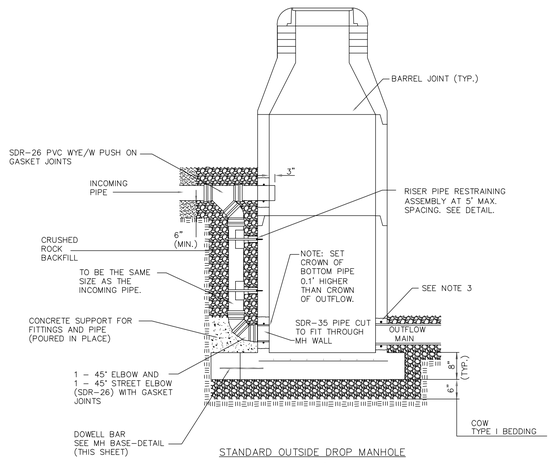


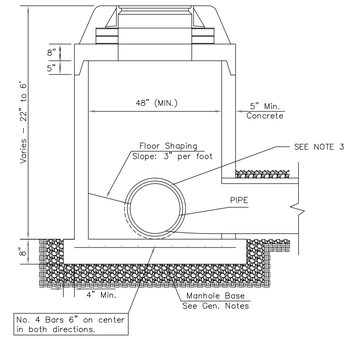
DOG HOUSE MANHOLE
(OVER EXISTING PIPE)
Not to Scale



STANDARD MANHOLE
Not to Scale

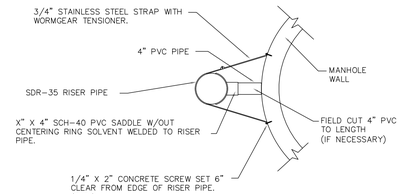


STANDARD OUTSIDE DROP MANHOLE
Not to Scale



SHALLOW MANHOLE
Not to Scale

= COW TYPE I BEDDING = UNDISTURBED SOIL



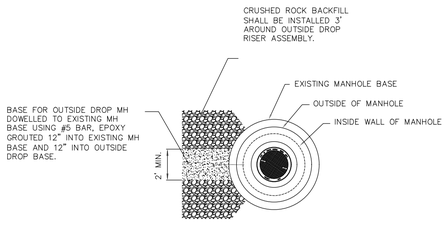
RISER PIPE RESTRAINING ASSEMBLY
Not to Scale

SANITARY SEWER MANHOLE DIAMETERS

DIAMETER	DEPTH	PIPE SIZE
4'	0'-15'	8"-18"
5'	>15'-30'	21"-30"
6'	>30'	36"-60"

PRECAST MANHOLE GENERAL NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP SHALL BE INSTALLED TO JOIN THE SEWER PIPE TO THE MANHOLE WALL. THE SEWER PIPE SHALL BE SUPPORTED WITH CRUSHED ROCK A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
5. EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
6. JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
7. ALL MANHOLE SECTION JOINTS THAT WILL BE IN GROUNDWATER OR GREATER THAN 12' DEEP SHALL BE WRAPPED WITH AN EXTERNAL JOINT SEAL PER SECTION 804.4 OF STANDARD SPECIFICATIONS. AS INDICATED BY THE PLANS.
8. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE FOR DOG HOUSE MANHOLES.
9. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
10. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
11. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACE AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
12. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO.4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
13. WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.
14. OPENINGS SHALL BE CORE DRILLED INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS DRILLED INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
15. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
16. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
17. THE VERTICAL DROP IN STANDARD MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
18. STANDARD MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
19. PRECAST CONCRETE SPACERS OR BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
20. THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.



MH BASE DETAIL
Not to Scale

TYPICAL PRECAST MANHOLE WITH CAST-IN-PLACE BASE

DETAIL A
NTS

REVISION NOVEMBER 2019	RISER PIPE RETAINING ASSEMBLY REVISED ON MANHOLE DRAWING

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PRECAST SANITARY SEWER MANHOLE

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET

SS-101

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS II

PROJECT NO. 2395-267343
FILE NAME: CZ07NFDT

SHEET NO.
CZ-7

XREFs: [267343_CDMS_2234-P4_X-STMP-DWG] Images: []
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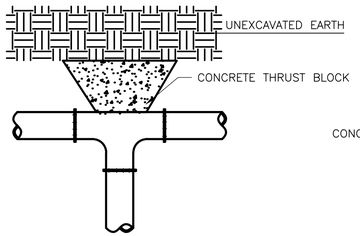
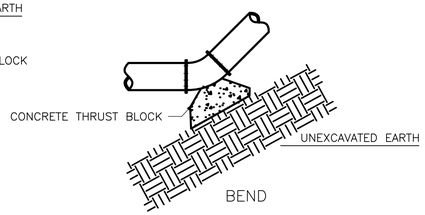
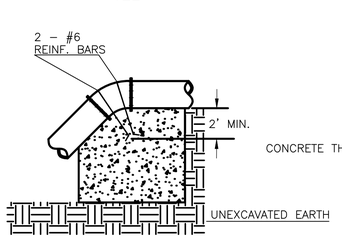


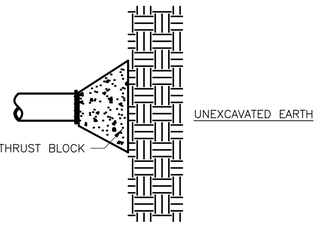
TEE



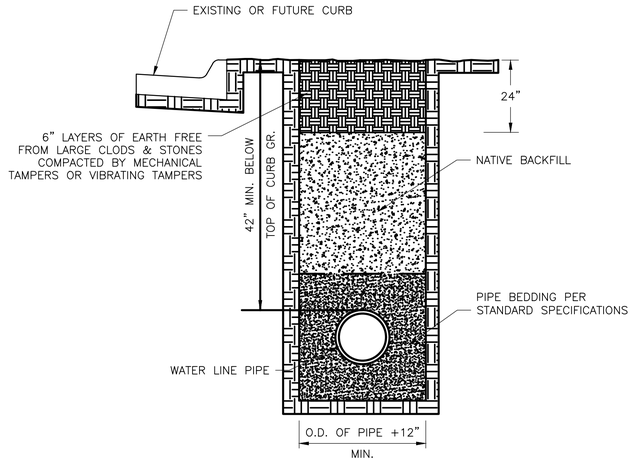
BEND



VERTICAL BEND

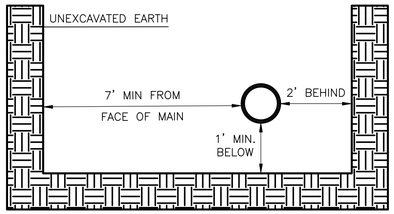


PLUG



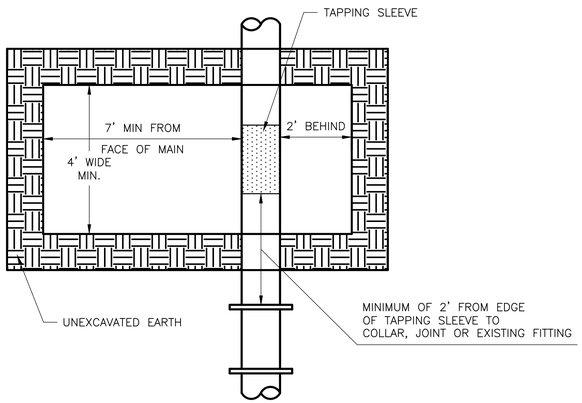
TRENCH COMPACTION IN ROAD RIGHT–OF–WAY

SIDE VIEW

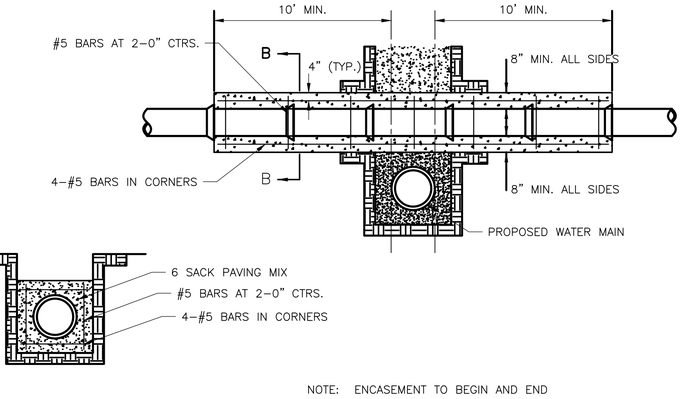


TOP VIEW

NOTE: WHEN SHORING IS REQUIRED IT IS TO BE PER THE CITY OF WICHITA STANDARD SPECIFICATIONS.



EXCAVATION FOR WET TAP



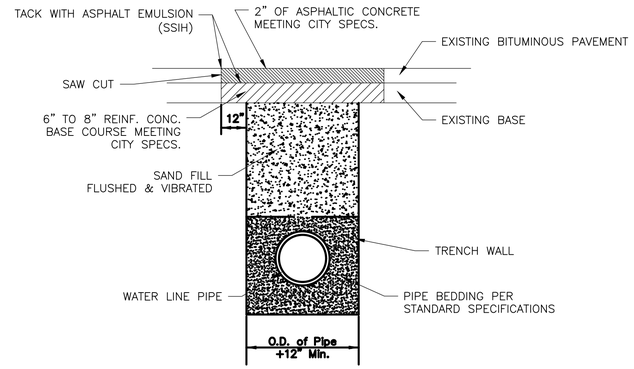
SECTION B–B

NOTE: ENCASEMENT TO BEGIN AND END AT A BELL ON SANITARY SEWER PIPE.

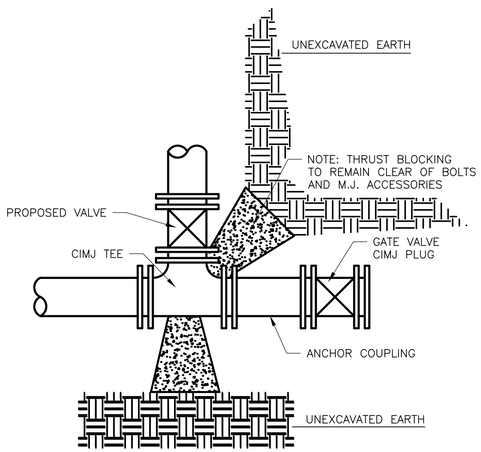
REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

PIPE SIZE	THRUST AT FITTINGS IN TONS–AT 150#/IN^{2}P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



KEY BLOCK DETAIL

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

REVISED: JULY 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E..

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET 8 OF 12

WL-104

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
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Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING DETAILS III

PROJECT NO. 2395–267343
FILE NAME: CZ08NFDT

SHEET NO.
CZ-8

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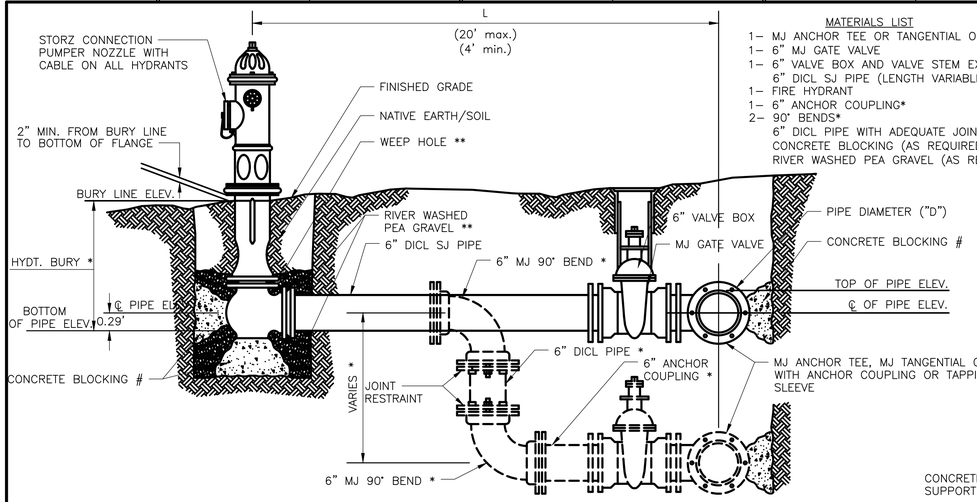


MATERIALS LIST
1– MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
1– 6" MJ GATE VALVE
1– 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
6" DICL SJ PIPE (LENGTH VARIABLE)
1– FIRE HYDRANT
1– 6" ANCHOR COUPLING*
2– 90° BENDS*
6" DICL PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

FIRE HYDRANTS REQUIRED				
DRAWING	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (FT)*
C–11.B3	1261.53	1255.53	6'–0"	N/A

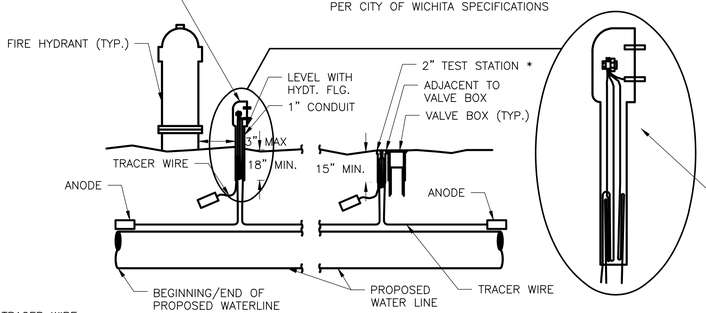
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2–MJ 90 BENDS, 6" ANCHOR COUPLING AND 6" DICL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

** CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS



* FLUSH STYLE TEST STATIONS SHALL ONLY BE USED IN PAVEMENT.

TRACER WIRE

CONDUCTIVE TYPE PIPE LOCATOR/TRACER WIRE SHALL BE INSTALLED TO LOCATE ALL WATERLINE PIPE REGARDLESS OF PIPE MATERIAL. THE WIRE SHALL EXTEND THE ENTIRE LENGTH OF THE PROPOSED PIPE. THE WIRE SHALL BE TAPED TO THE WATERLINE AND PULLED WITH THE PIPE. A WATERPROOF CONNECTOR SHALL BE USED AT SPLICE LOCATIONS. TEST STATIONS SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS ALONG THE WATERLINE AND AT BLOWOFFS OR VALVES NEAR THE ENDS OF WATERLINES. ANY EXECPTION TO THE LOCATION SHALL BE APPROVED BY THE ENGINEER. AT EACH TEST STATION, THE TRACER WIRE SHALL BE CONNECTED TO A 3 LB. ZINC OR MAGNESIUM ANODE. ANODES SHALL ALSO BE ATTACHED TO THE TRACER WIRE AT BOTH THE BEGINNING AND THE END OF THE PROPOSED WATERLINE. A TYPICAL LAYOUT OF THE TRACER WIRE AND TEST STATION IS PROVIDED IN THE ABOVE FIGURE.

WIRE

THE TRACER WIRE SHALL BE BLUE NO. 12 AWG CCS WITH 3045 MIL HDPE INSULATION. THE ISULATION SHALL BE HEAT, OIL, AND GASLOINE RESISTANT AS MANUFACTURED BY TEMPLE ELECTRIC OR APPROVED EQUAL. TO ALLOW FOR GRADE ADJUSTMENT, A MINIMUM OF 12" OF EXCESS WIRE SHALL BE COILED AT THE BOTTOM OF THE TEST STATION FOR ALL WIRES. THE INSULATION SHEATHING SHALL BE REMOVED SUCH THAT 1" BARE COPPER WIRE AT ALL POINTS OF CONNECTION. CONTRACTOR SHALL ATTACH WIRE BEING INSTALLED WITH PROPOSED WATER MAIN TO ANY TRACER WIRE INSTALLED WITH ADJACENT WATERLINE PROJECTS.

TEST STATIONS

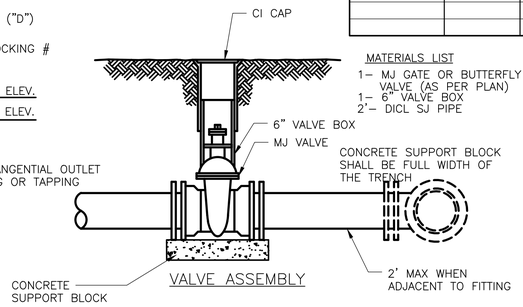
A COMPLETE LIST OF APPROVED TRACER WIRE CAN BE FOUND ON CITY OF WICHITA'S WEBSITE AT WWW.WICHITA.GOV THE TEST STATION FOR FIRE HYDRANT APPLICATIONS SHALL BE A 1 INCH GALVANIZED "CONDULET" STYLE TEST STATION AS MANUFACTURED BY AGRA INDUSTRIES WITH A REMOVABLE SOLID COVER HAVING TWO LEADS EXTENDING FROM THE FACE OR APPROVED EQUAL. THE TEST STATION FOR VALVE APPLICATIONS SHALL BE 2 INCH FLUSH STYLE TEST STATION T2PS3B AS MANUFACTURED BY HANDLEY INDUSTRIES OR APPROVED EQUAL. THE "CONDUIT" STYLE TEST STATION SHALL BE ATTACHED TO A 1 INCH RIGID GALVANIZED CONDUIT WITH A MINIMUM LENGTH OF 36" AND PLASTIC END BUSHING. THE FLUSH STYLE SHALL HAVE THE WORD "WATER" STAMPED OR MOLDED INTO THE LID. ALL TEST STATIONS SHALL BE MANUFACTURED USING MOLDED BLUE TOPS OR SUFFICIENTLY COATED WITH BLUE ENAMEL PAINT. THE TRACER WIRE AND THE ANODE WIRE SHALL BE INSTALLED TO ALLOW 10 INCHES OF WIRE WITHIN THE TEST STATION. IN CONCRETE ENVIRONMENTS SUCH AS SIDEWALKS OR IN THE DOWNTOWN AREA THE CONTRACTOR SHALL USE THE FLUSH STYLE TEST STATION. THE LOCATION OF ALL TEST STATIONS SHALL BE APPROVED BY THE ENGINEER, RECORDED, AND SHOWN IN THE AS–BUILT DRAWINGS.

ANODES

THE ANODES SHALL BE 3 LB. BARE ZINC OR MAGNESIUM. THE ANODES SHALL BE BURIED AT THE SAME ELEVATION AS THE WATERLINE AT EACH TEST STATION. THE ANODES SHALL BE CONNECTED TO 12 AWG CCS WHICH SHALL BE EXTENDED TO THE TEST STATION.

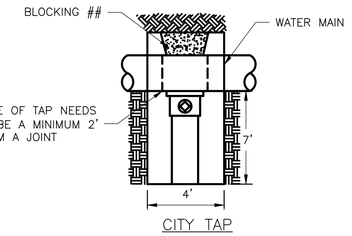
TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION



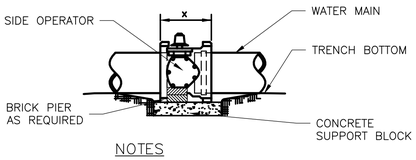
MATERIALS LIST
1– MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1– 6" VALVE BOX
2'– DICL SJ PIPE

VALVE ASSEMBLY



CITY TAP

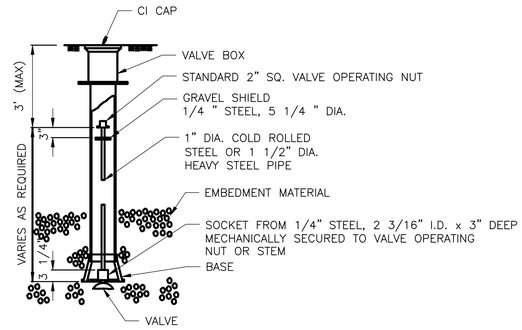
WHEN THE CITY OF WICHITA MAKES TAP, BLOCKING IS TO BE DONE BY CONTRACTOR



NOTES

1. THIS DETAIL COVERS BUTTERFLY VALVE INSTALLATION, INCLUSIVE, REGARDLESS OF TYPE OF PIPE OR JOINT USED. 24" AND LARGER LINES TO BE DETAILED ON PLANS.
2. 6" VALVE BOX AND COVER REQUIRED PER CITY OF WICHITA STD. SPECIFICATIONS.
3. CONC. SUPPORT BLOCK TO BE FULL WIDTH OF TRENCH.

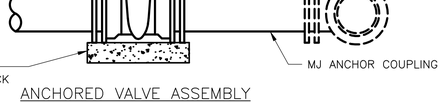
CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



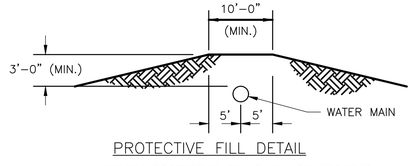
VALVE STEM EXTENSION DETAIL

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.

MATERIALS LIST
1–MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1–MJ ANCHOR COUPLING (12" OR SMALLER)
1–6" VALVE BOX
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

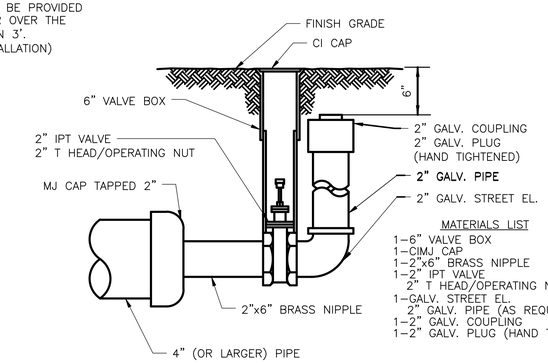


ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

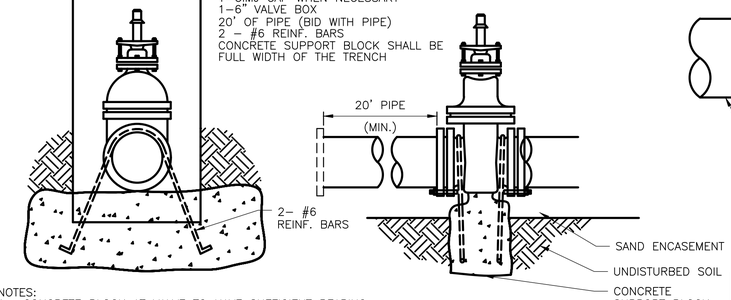
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



MATERIALS LIST
1–6" VALVE BOX
1–CIMJ CAP
1–2"x6" BRASS NIPPLE
1–2" IPT VALVE
2" T HEAD/OPERATING NUT
1–GALV. STREET EL.
2" GALV. PIPE (AS REQUIRED)
1–2" GALV. COUPLING
1–2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY

MATERIALS LIST
1–MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1–CIMJ CAP WHEN NECESSARY
1–6" VALVE BOX
20' OF PIPE (BID WITH PIPE)
2 – #6 REINF. BARS
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



NOTES:
1. CONCRETE BLOCK AT VALVE TO HAVE SUFFICIENT BEARING IN UNDISTURBED SOIL TO PREVENT THRUST MOVEMENT AS SHOWN IN TABLE AT RIGHT. FIELD ENGINEER TO DETERMINE THRUST LOADING OF UNDISTURBED SOIL AND FINAL SIZE OF THRUST BLOCK.
2. THE THRUST BLOCK SHALL BE CONSTRUCTED SUCH THAT BOLTS, NUTS, AND OTHER MJ ACCESSORIES ARE KEPT CLEAR OF CONCRETE.
3. ALL VALVES AT DEAD ENDS AND AT OTHER LOCATIONS AS CALLED OUT ON THE PLANS SHALL BE BLOCKED AS SHOWN HERE.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL

WATER ASSEMBLY DETAIL A
NTS

REVISED: JULY 2015

CITY OF WICHITA
PUBLIC WORKS UTILITIES
ENGINEERING DIVISION

STANDARD WATER ASSEMBLY DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET 6 of 12

WL-101

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING DETAILS IV

PROJECT NO. 2395–267343
FILE NAME: CZ09NFDT
SHEET NO. CZ-9

XREFs: [267343_CDMS_2234-P4_X-STMP-DWG] Images: []
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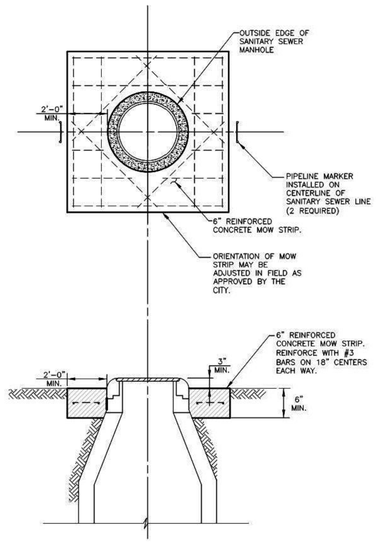
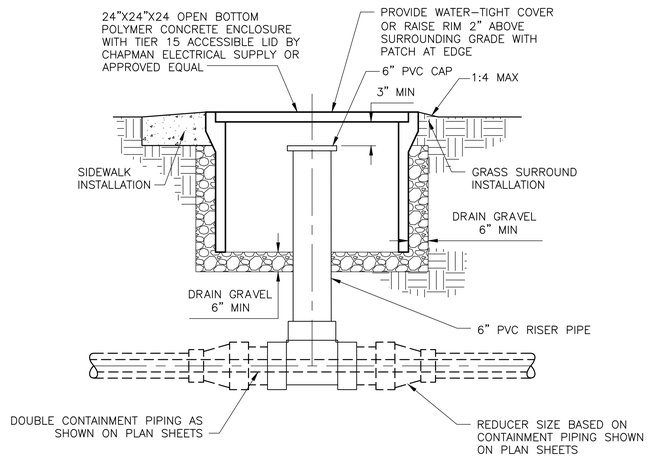


MANHOLE AT NON-PAVED AREA

DETAIL A
NTS

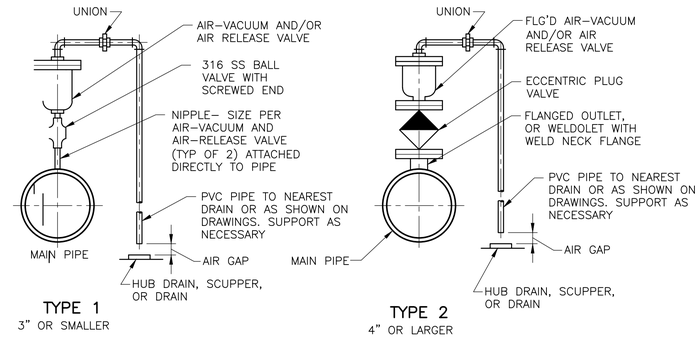


NOTES:

1. SEE C-11 DRAWINGS FOR LOCATION OF BOXES.
2. INSTALL ENCLOSURES SUCH THAT PIPES TO BE ACCESSED ARE CENTERED WITHIN THE HORIZONTAL PLANE OF THE ENCLOSURE.
3. DISTANCE MEASURED FROM OD OF CENTERED PIPES TO WALL OF BOX.

CHEMICAL TUBING PULL PORT

DETAIL B
NTS

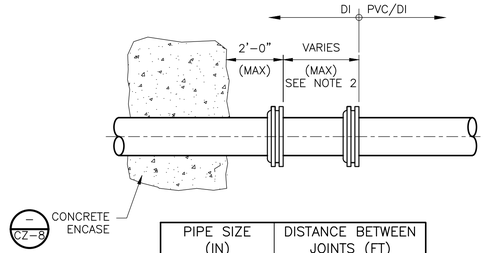


NOTES:

1. VALVE SHOWN FOR ILLUSTRATION ONLY. IT MAY NOT BE ONE PROVIDED.
2. USE FACTORY INSTALL STUBOUTS FOR DIRECTION INSTALLATION ON PIPE ONLY.
3. TYPE 1 AIR RELEASE VALVE SHALL BE ARI D025S WITH THREADED 2-IN CONNECTION. EACH AIR RELEASE VALVE SHALL BE PROVIDED WITH ONE-WAY CHECK VALVE FOR OPTIONAL PRESSURE RELIEF ONLY.

AIR RELEASE VALVE

DETAIL C
NTS



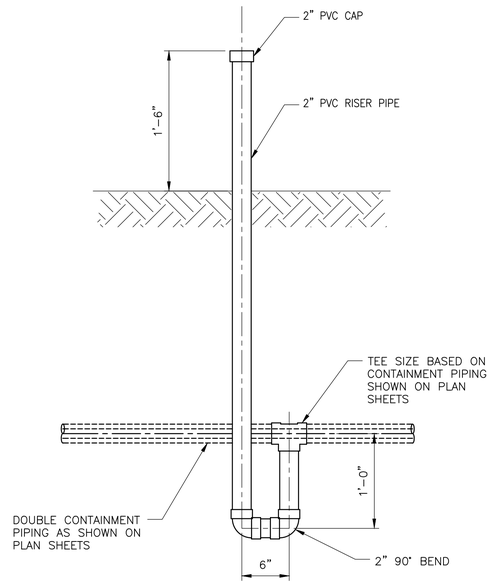
PIPE SIZE (IN)	DISTANCE BETWEEN JOINTS (FT)
2-6	1.5
8-12	2.5
14-16	3
18-24	3.5
30-64	5.5

NOTES:

1. ALL PIPES OUTSIDE OF A STRUCTURE OR CONCRETE ENCASEMENT SHALL HAVE TWO FLEXIBLE JOINTS WHETHER OR NOT INDICATED ON THE DRAWINGS. FLEXIBLE JOINTS MAY BE PROVIDED IN TERMS OF PUSH-ON GASKET OR MECHANICAL JOINTS.
2. THE FIRST FLEXIBLE JOINT MUST BE LOCATED WITHIN TWO FEET OF THE EDGE OF STRUCTURE/CONCRETE. THE SECOND FLEXIBLE JOINT IS TO BE LOCATED A SPECIFIED DISTANCE FROM THE FIRST JOINT, BASED ON DIAMETER, AS SHOWN IN THE TABLE ABOVE.
3. ALL FLEXIBLE JOINTS ON PRESSURE PIPELINES SHALL BE RESTRAINED AGAINST THE MAXIMUM TESTING PRESSURE INDICATED IN THE SPECIFICATIONS.
4. THE FIRST TWO JOINTS LEAVING A STRUCTURE OR CONCRETE ENCASEMENT SHALL BE INSTALLED WIN ZERO DEFLECTION (±0.1 DEGREE TOLERANCE) UNLESS OTHERWISE INDICATED ON DRAWINGS.

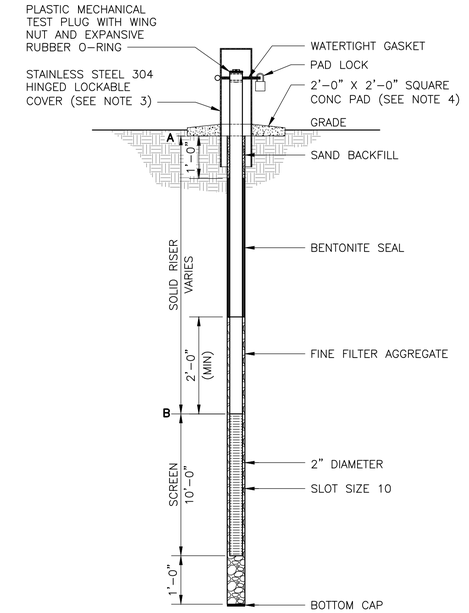
PIPE CONNECTION AFTER CONCRETE ENCASEMENT OR OUTSIDE STRUCTURE

DETAIL D
NTS



LEAK DETECTION WELL

DETAIL E
NTS



NOTES:

1. GROUNDWATER WELLS SHALL EXTEND TO A DEPTH OF 30 FEET WITH 10 FEET OF SCREEN.
2. WHEN ABANDONED, THE WELL SHALL BE FILLED WITH CEMENT GROUT.
3. CONTRACTOR SHALL DESIGN HINGED COVER WITH ENGINEER APPROVAL.
4. CONCRETE PAD SHALL BE CONSTRUCTED WITH #3 @ 3 EACH DIRECTION, f'c=3,000 PSI (MIN)

STANDPIPE OBSERVATION WELL

DETAIL F
NTS

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING DETAILS V

PROJECT NO. 2395-267343
FILE NAME: CZ10NFDT

SHEET NO.
CZ-10

XREFs: IX-STMP-DWG, 267343_CDMS_2234-P4] Images: [Manhole at Non Paved Areas]
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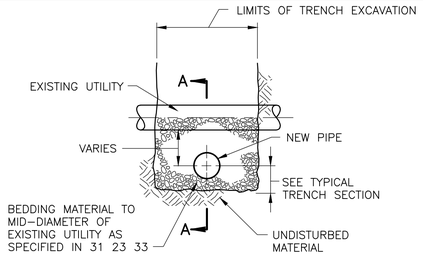
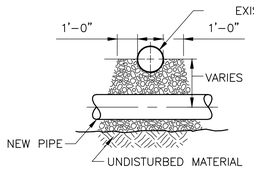


TYPICAL SECTION



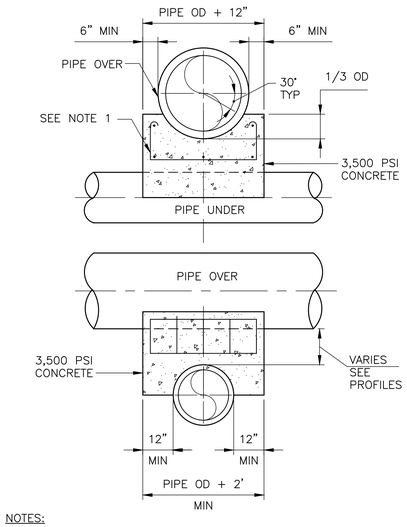
SECTION A-A

NOTES:

1. PROVIDE PIPE CRADLE FOR CROSSINGS INVOLVING PIPES THAT ARE 18" OR LARGER IN DIAMETER WHERE VERTICAL SEPARATION IS LESS THAN 24" INCHES. SEE DETAIL B/CZ-11.

PIPE CROSSING

DETAIL A
NTS

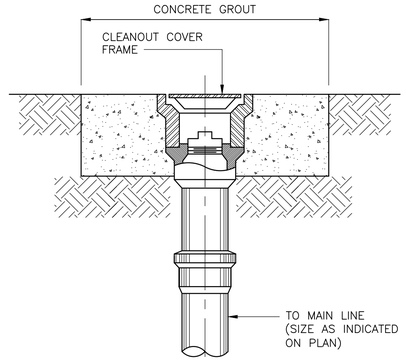


NOTES:

1. ALL REINFORCEMENT SHALL BE #4 STEEL REBAR PLACED AT A MAXIMUM 12" ON CENTER. MINIMUM CONCRETE COVER OF 2" SHALL BE MAINTAINED OVER ALL REINFORCEMENT.

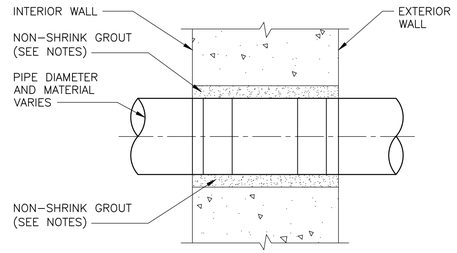
PIPE CROSSING CRADLE

DETAIL B
NTS



GROUND CLEANOUT

DETAIL C
NTS

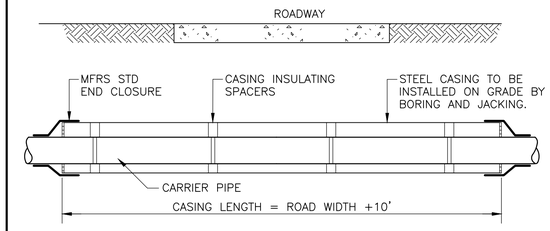


NOTES:

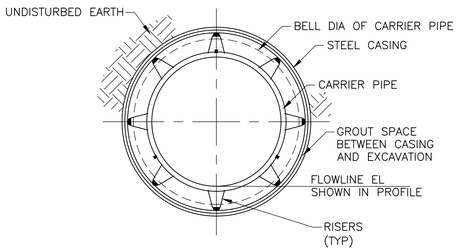
1. UNLESS OTHERWISE NOTED, THIS DETAIL SHALL APPLY TO PIPE PENETRATIONS TO ALL PRECAST STRUCTURES IN THIS PROJECT.
2. INSTALL PIPE IN A WAY SUCH THAT SEAL WILL NOT BE COMPRESSED BY WEIGHT OF PIPE. THE PIPE SHOULD REST ON THE NON-SHRINK GROUT.

PRECAST MANHOLE PIPE PENETRATION

DETAIL D
NTS



CENTERLINE PROFILE



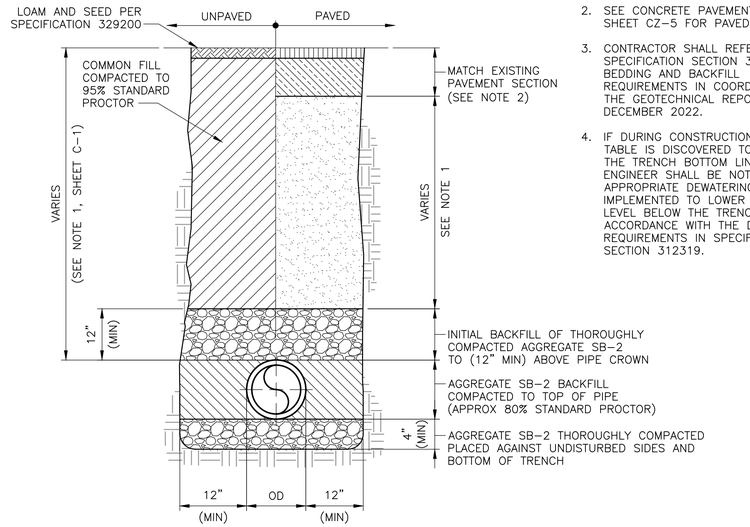
TYPICAL SECTION WITH CASING INSULATING SPACERS

NOTES:

1. CONTRACTOR MAY ELECT TO INSTALL YARD PIPING BY JACK AND BORE IN LIEU OF OPEN TRENCH CUT AT NO ADDITIONAL COST TO OWNER.
2. NUMBER, SPACING AND SIZE OF RISERS SHALL BE MANUFACTURER'S RECOMMENDATIONS WITH MAXIMUM SPACING OF 10 FEET, DESIGNED FOR THIS PARTICULAR APPLICATION. PROVIDE MANUFACTURER'S STANDARD END CLOSURE.
3. ALL STEEL CASINGS SHALL HAVE MINIMUM 1/2" THICK WALLS. CASING SHALL BE SMOOTH STEEL 35000 PSI YIELD STRENGTH.
4. CASING SPACER MANUFACTURER AND STEEL CASING SIZE SHALL BE APPROVED BY ENGINEER.

INSTALLATION OF CARRIER PIPE AND STEEL CASING BY BORING AND JACKING

DETAIL E
NTS

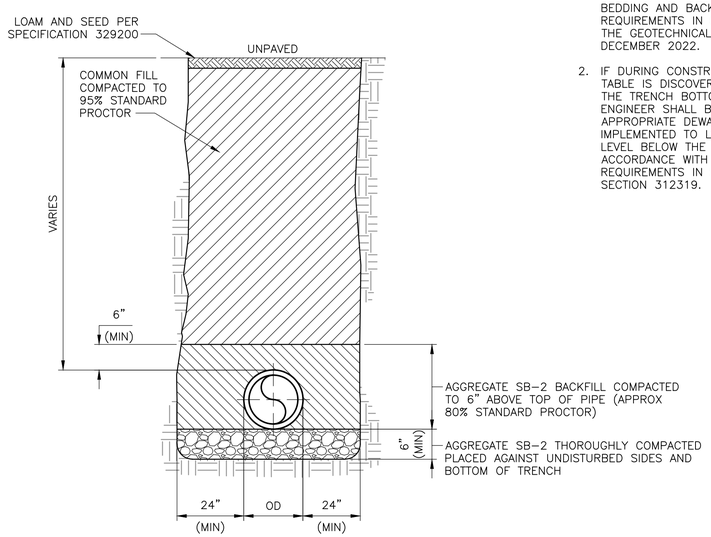


NOTES:

1. FLEXIBLE PIPE REFERS TO ALL STEEL, DUCTILE IRON, AND PLASTIC PIPES.
2. SEE CONCRETE PAVEMENT DETAILS ON SHEET CZ-5 FOR PAVED SURFACES.
3. CONTRACTOR SHALL REFERENCE SPECIFICATION SECTION 312333 FOR BEDDING AND BACKFILL REQUIREMENTS IN COORDINATION WITH THE GEOTECHNICAL REPORT DATED DECEMBER 2022.
4. IF DURING CONSTRUCTION, THE WATER TABLE IS DISCOVERED TO BE ABOVE THE TRENCH BOTTOM LINE, THE ENGINEER SHALL BE NOTIFIED, AND APPROPRIATE DEWATERING SHALL BE IMPLEMENTED TO LOWER THE WATER LEVEL BELOW THE TRENCH BOTTOM IN ACCORDANCE WITH THE DEWATERING REQUIREMENTS IN SPECIFICATION SECTION 312319.

TYPICAL TRENCH FOR FLEXIBLE PIPE

DETAIL F
NTS



NOTES:

1. CONTRACTOR SHALL REFERENCE SPECIFICATION SECTION 312333 FOR BEDDING AND BACKFILL REQUIREMENTS IN COORDINATION WITH THE GEOTECHNICAL REPORT DATED DECEMBER 2022.
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TYPICAL TRENCH FOR FRP PIPE

DETAIL G
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

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CITY OF WICHITA, KS

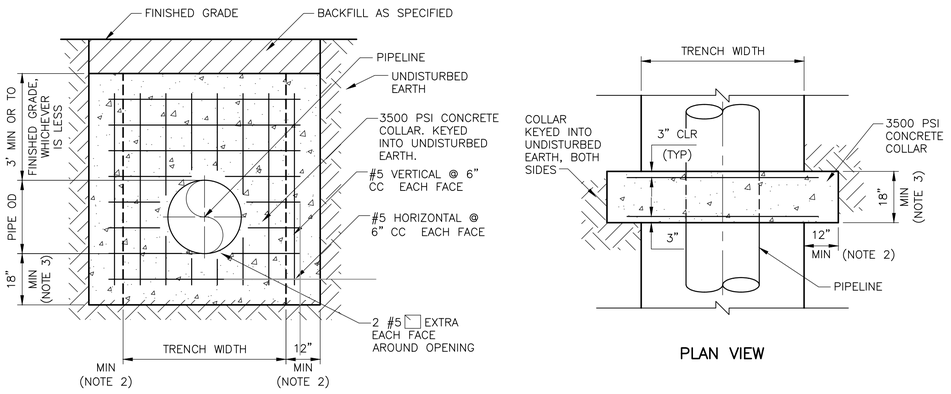
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS VI

PROJECT NO. 2395-267343
FILE NAME: CZ11NFDT

SHEET NO.
CZ-11

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER



ELEVATION

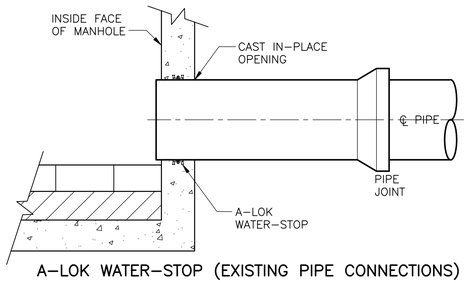
PLAN VIEW

NOTES:

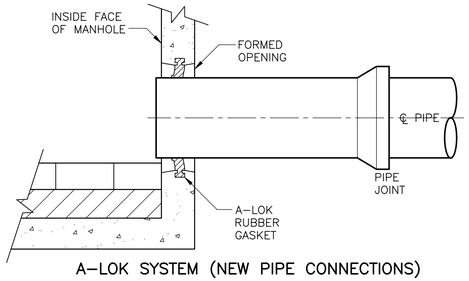
1. LOCATE CONCRETE PIPE AS REQUIRED FOR CONSTRUCTION.
2. DIMENSION SHALL BE GREATER OF ONE–THIRD OF PIPELINE DIAMETER, OR 12" MINIMUM.
3. DIMENSION SHALL BE GREATER OF ONE–THIRD OF PIPELINE DIAMETER, OR 18" MINIMUM.

CONCRETE PIPE THRUST COLLAR

DETAIL A
NTS



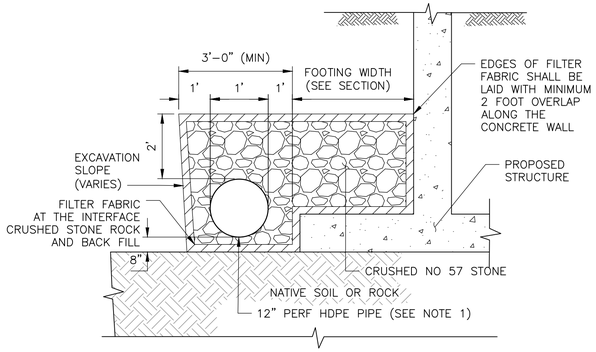
A–LOK WATER–STOP (EXISTING PIPE CONNECTIONS)



A–LOK SYSTEM (NEW PIPE CONNECTIONS)

PIPE CONNECTIONS

DETAIL B
NTS

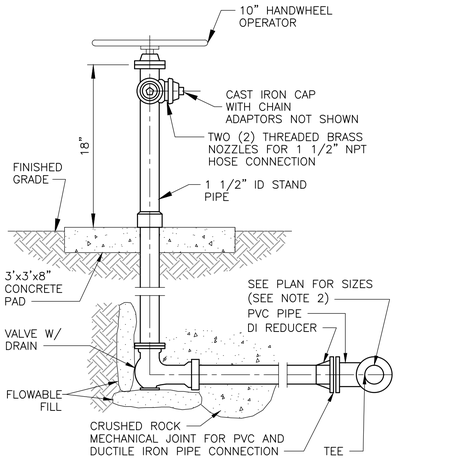


NOTES:

1. PERFORATED PIPE TO BE CONTINUOUS W/CLEANOUT SYSTEM AROUND STRUCTURE.

GROUNDWATER DRAIN

DETAIL C
NTS



1.5" YARD HYDRANT

DETAIL D
NTS

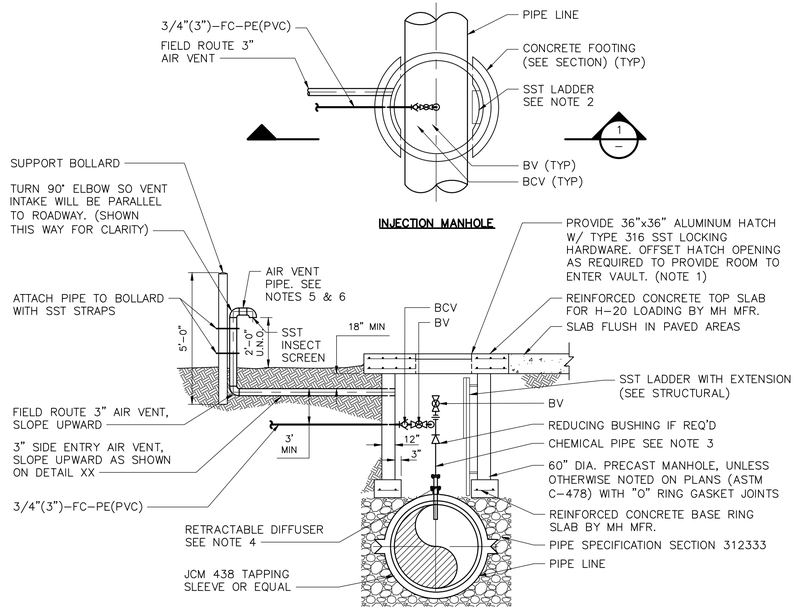
NOTES:

1. FOR 2W OR 3W PROVIDE NON–POTABLE WATER SIGN (STONEHOUSE SIGN 10x14 Lx SIGN OR APPROVED EQUAL) ATTACH SIGN TO BOLLARD OR AS DIRECTED BY OWNER.
2. USE TEE FOR PIPE SIZE 4" OR SMALLER. APPLY TAP–IN CONNECTION FOR PIPE SIZE 6" OR GREATER. TAPPING SADDLE SHALL BE ROMA 202S OR APPROVED EQUAL.

YARD HYDRANT NOTES:

YARD HYDRANTS SHALL HAVE 3' BURY WITH 4 CUBIC FEET OF CRUSHED STONE BENEATH HYDRANT TO ALLOW DRAINAGE. ALL WORKING PARTS SHALL BE BRASS WITH HYDRANT MAIN VALVE OPENING BEING 2 3/16". INLET CONNECTION SHALL BE 2" MJ WITH THE OUTLET BEING 1 1/2" NST. THE OPERATING ROD SHALL BE NON–TURNING, AND ALL OPERATING PARTS SHALL BE REMOVABLE FROM ABOVE GROUND WITH NO SPECIAL WRENCHES. THIS SELF–DRAINING, NON–FREEZE HYDRANT BARREL WILL BE MADE OF 3" DIP AND SHALL HAVE A CI TOP STOCK, AS MFR'D. BY KUPFERLE FOUNDRY OR APPROVED EQUAL.

- HAND–WHEEL SHALL FIT 1.5" PENT NUT AND BE FASTENED TO NUT WITH SET SCREW.
- TO ONE NOZZLE ATTACH A 1.5" MALE CAMLOCK "BANJO" STYLE QUICK CONNECT WITH A FULLY SEAL–ABLE CAP THAT IS ATTACHED TO THE HYDRANT OR CAMLOCK.
- TO OTHER NOZZLE CONNECT A THREADED CONNECTION FOR A 5/8" GARDEN HOSE WITH A FULLY SEAL–ABLE CAP THAT IS ATTACHED TO THE HYDRANT OR HOSE ADAPTER.
- HYDRANT SHALL BE PROTECTED ON ALL SIDES BY STRUCTURE OR BOLLARDS. IF NO STRUCTURE PRESENT, FOUR (4) BOLLARDS, ONE ON EACH SIDE, SHALL BE INSTALLED. BOLLARDS SHALL BE AS TALL AS HYDRANT AT A MINIMUM.
- CONCRETE PAD SHALL BE STAMPED WITH THE HYDRANTS PIPE SEGMENT NUMBER.
- HYDRANT SHALL BE PAINTED TO MATCH SYSTEM PAINT REQUIREMENTS



SECTION

CHEMICAL INJECTION VAULT

DETAIL E
NTS

NOTES:

1. PROVIDE HATCH RATED FOR H–20 LOADING.
2. INSTALL LADDER ON A SIDE OF THE VAULT WHERE IT DOES NOT CONFLICT WITH THE LAYOUT OF THE CHEMICAL PIPE.
3. PROVIDE PIPE SUPPORTS AS REQUIRED BY DIVISION 40.
4. INSTALL WITH SUFFICIENT CLEARANCE TO ALLOW WITHDRAWAL OF DIFFUSER FORM MAIN LINE.
5. AIR VENTS SHALL BE LOCATED CLEAR OF ROADWAYS. DIMENSIONS TO BE DETERMINED IN FIELD AS DIRECTED BY ENGINEER OR AS SHOWN ON DRAWINGS.
6. AIR VENT PIPING SHALL BE SCH 40 GALVANIZED STEEL PIPE WITH THREADED FITTINGS.

DANA W. GIESY LICENSED 26999 03/01/2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: D. KRAFT
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APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS VII

PROJECT NO. 2395–267343
FILE NAME: CZ12NFDT

SHEET NO.
CZ-12

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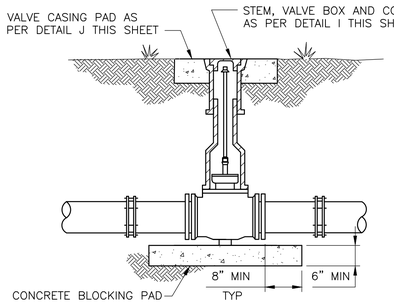
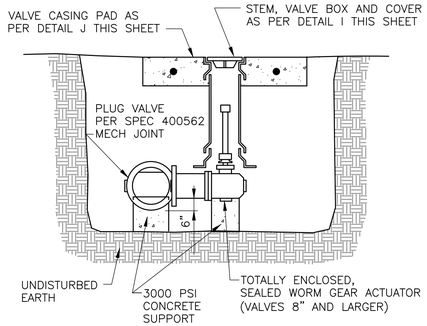


VERTICAL PLUG VALVE

DETAIL A

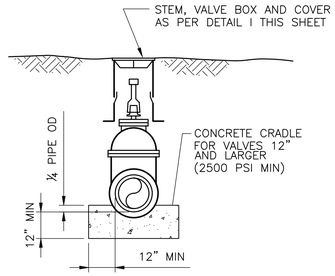
NTS



HORIZONTAL PLUG VALVE

DETAIL B

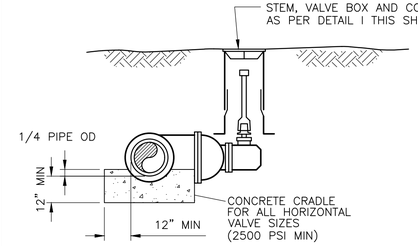
NTS



VERTICAL GATE VALVE INSTALLATION

DETAIL C

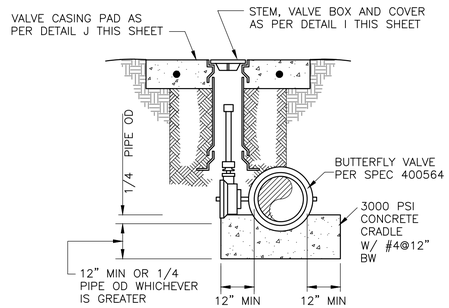
NTS



HORIZONTAL GATE VALVE INSTALLATION

DETAIL D

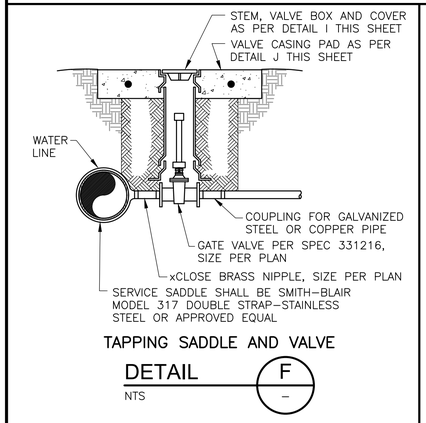
NTS



DIRECT BURIED BUTTERFLY VALVE FOR BFVS LESS THAN 60" SIZE

DETAIL E

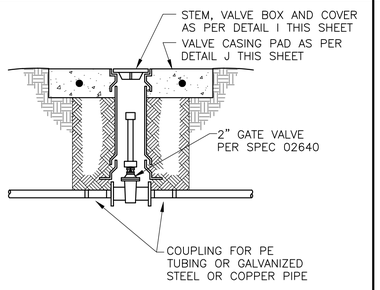
NTS



TAPPING SADDLE AND VALVE

DETAIL F

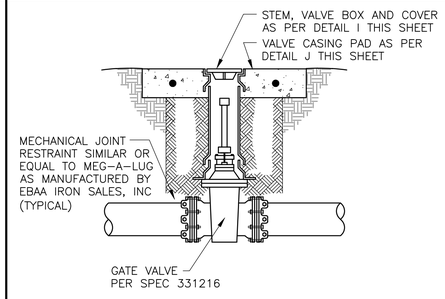
NTS



2" RESILIENT SEAT GATE VALVE

DETAIL G

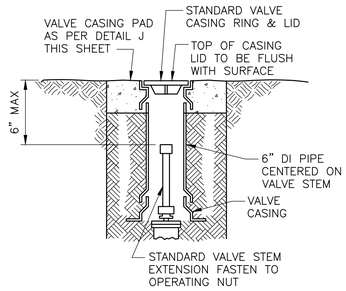
NTS



RESILIENT SEAT GATE VALVE

DETAIL H

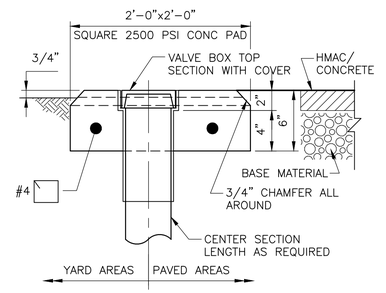
NTS



VALVE BOX

DETAIL I

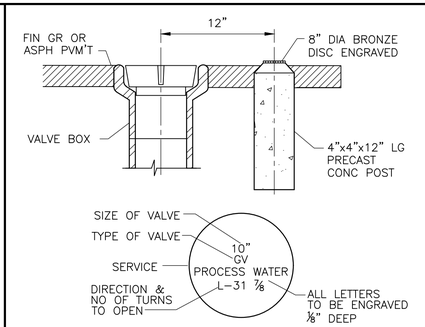
NTS



VALVE CASING PAD

DETAIL J

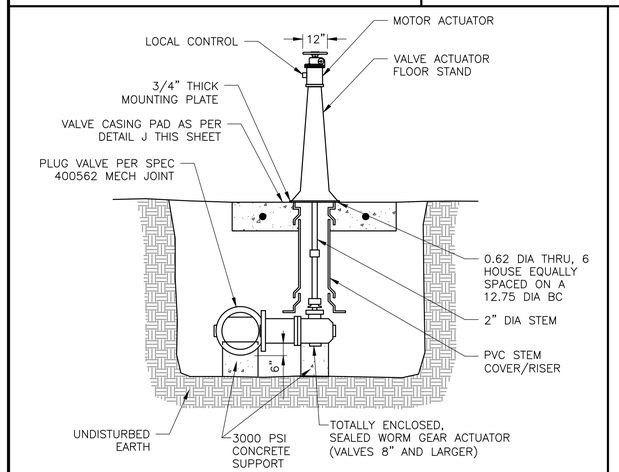
NTS



VALVE BOX IDENTIFICATION

DETAIL K

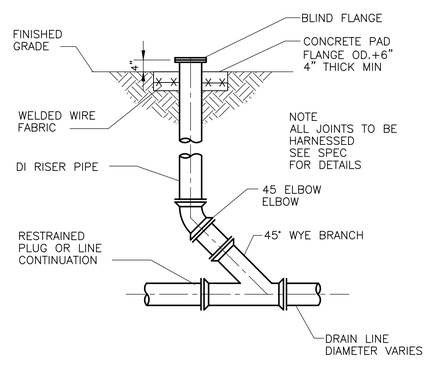
NTS



BURIED ACTUATOR

DETAIL L

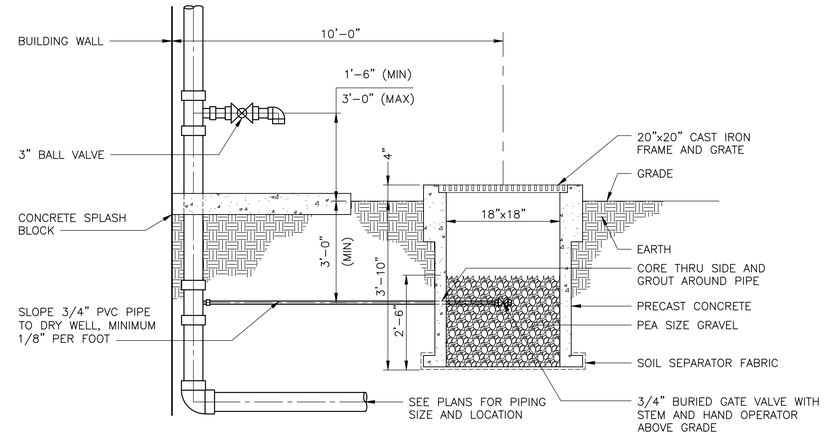
NTS



PIPE LINE CLEANOUT

DETAIL M

NTS



WINTERIZATION WELL

DETAIL N

NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS VIII

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: CZ13NFDT

SHEET NO.
CZ-13

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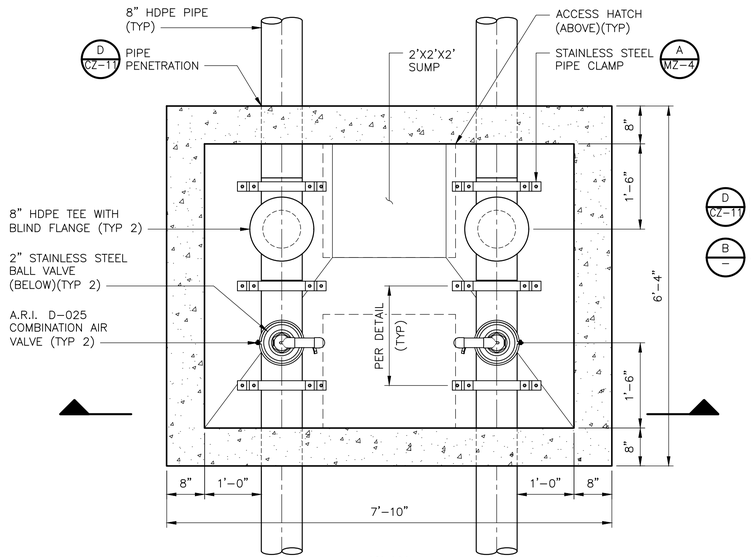
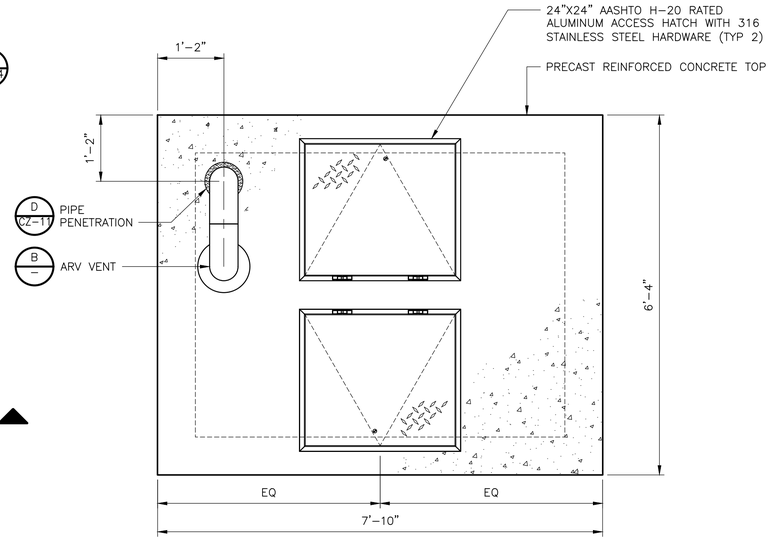
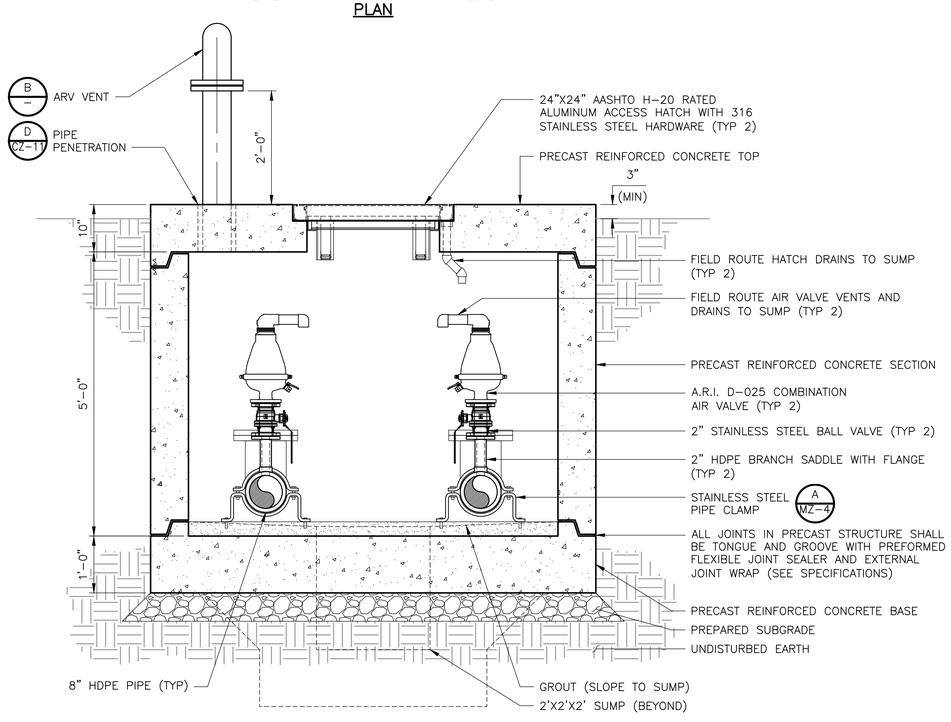


PLAN



TOP PLAN

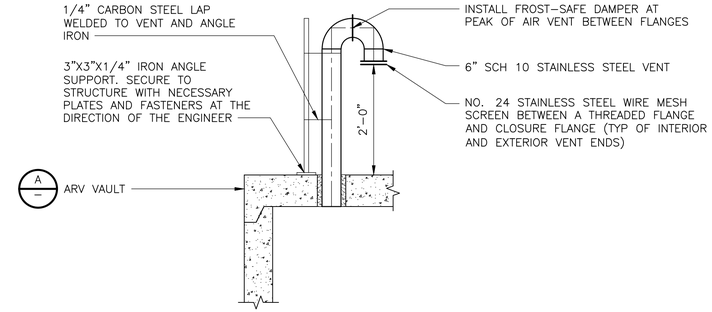


SECTION

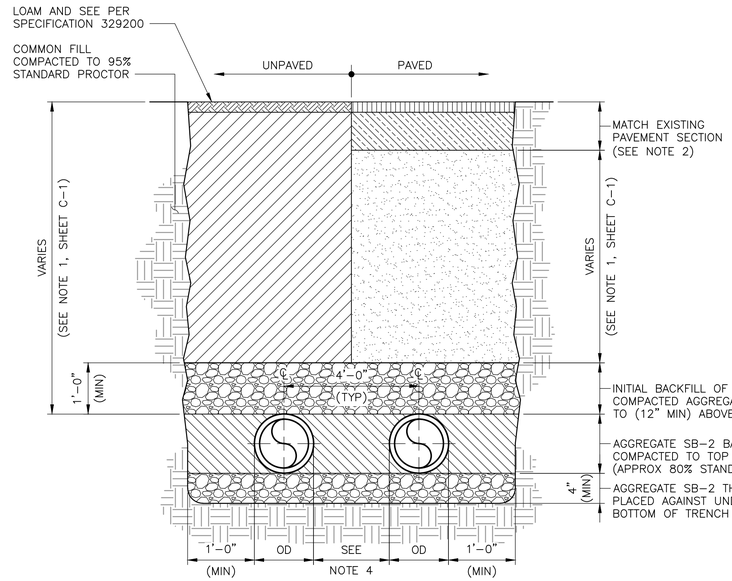
AIR RELEASE VALVE (ARV) VAULT
DETAIL A
NTS

NOTES:

1. WAX TAPE SHALL BE FIELD APPLIED TO MINIMUM 6" BEYOND ALL EXPOSED MATERIALS, SEE SPECIFICATION SECTION 09960.
2. ALL MATERIALS AND APPURTENANCE SHALL BE RATED TO A MINIMUM WORKING PRESSURE OF 350 PSIG WITH SURGE ALLOWANCE UP TO 525 PSI.
3. TEFLON TAPE TO BE USED ON ALL THREADED CONNECTIONS.
4. VENT SHALL BE LOCATED OUTSIDE PAVEMENT AND MINIMUM 3 FEET CLEAR OF BACK OF CURB.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THERE IS ADEQUATE SPACE TO INSTALL AND MAINTAIN ALL EQUIPMENT AND PIPING IN ARV VAULTS. BASED ON THE FINAL SELECTION OF MATERIALS AND PRODUCTS, THE VAULT SIZE OR DEPTH MAY NEED TO BE INCREASED, OR VENT PIPE LOCATION MODIFIED.
6. INSTALL COMPOSITE FLANGE ISOLATION KIT BETWEEN DI TEE AND GATE VALVE.
7. THIS DETAIL REPRESENTS THE AIR RELEASE, VACUUM RELIEF, AND COMBINATION VALVE VAULT. THE DETAIL DIFFERS BY WAY OF VALVE WITHIN EACH VAULT. REFERENCE THE PLAN AND PROFILE SHEETS TO DETERMINE WHICH VALVE SHOULD BE USED FOR EACH MANHOLE.



ARV VENT
DETAIL B
NTS



NOTES:

1. SEE CONCRETE PAVEMENT DETAILS ON SHEET CZ-5 FOR PAVED SURFACES.
2. CONTRACTOR SHALL REFERENCE SPECIFICATION SECTION 312333 FOR BEDDING AND BACKFILL REQUIREMENTS IN COORDINATION WITH THE GEOTECHNICAL REPORT DATED DECEMBER 2022.
3. IF DURING CONSTRUCTION, THE WATER TABLE IS DISCOVERED TO BE ABOVE THE TRENCH BOTTOM LINE, THE ENGINEER SHALL BE NOTIFIED, AND APPROPRIATE DEWATERING SHALL BE IMPLEMENTED TO LOWER THE WATER LEVEL BELOW THE TRENCH BOTTOM IN ACCORDANCE WITH THE DEWATERING REQUIREMENTS IN SPECIFICATION SECTION 312319.
4. MAINTAIN TRENCH SPACING AS SHOWN THROUGHOUT ENTIRETY OF THE FORCEMAIN ALIGNMENT. VERIFY FINAL INTERNAL PIPE CL SPACING AT AIR RELEASE VAULT AND ADJUST FORCEMAIN SPACING AS NECESSARY TO ALIGN. PIPE CL SPACING SHALL BE ADJUSTED NO MORE THAN 20'-0" BEFORE ENTERING THE VAULT AND 20'-0" AFTER LEAVING THE VAULT.

TYPICAL TRENCH FOR DUAL FORCEMAIN PIPE
DETAIL C
NTS

DANA W. GIESY LICENSED 26999 03|01|2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. GIESY
DRAWN BY: D. KRAFT
SHEET CHK'D BY: M. HANSEL
CROSS CHK'D BY: B. HALL
APPROVED BY: D. GIESY
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

YARD PIPING
DETAILS IX

PROJECT NO. 2395-267343
FILE NAME: CZ14NFDT

SHEET NO.
CZ-14

ABBREVIATIONS

&	AND	GB	GLASS BLOCK	REF	ROOF EXHAUST FAN
<	ANGLE	GRT	GRATING	REINF	REINFORCE (D, ING)
@	AT	GYP	GYPSUM	REQ'D	REQUIRED
AB	ANCHOR BOLT	GWB	GYPSUM WALL BOARD	REV	REVISED
ABV	ABOVE	HARD	HARDENER	RF	ROOF FAN
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT	HD	HEAVY DUTY	RFG	ROOFING
ADDT'L	ADDITIONAL	HDWD	HARDWOOD	RGH	ROUGH
AFF	ABOVE FINISHED FLOOR	HDWR	HARDWARE	RJ	REVEAL/RUSTICATION JOINT
AFG	ABOVE FINISHED GRADE	HGR	HANGER	RL	RAIN LEADER
AL, ALUM	ALUMINUM	HGT	HEIGHT	RLG	RAILING
AMP	ACOUSTICAL METAL PANELS	HM	HOLLOW METAL	RM	ROOM
ANOD	ANODIZE(D)	HOR	HORIZONTAL	RO	ROUGH OPENING
ASSY	ASSEMBLY	HP	HIGH POINT	RT	RUBBER TILE
BBT	BIOBASED TILE	HR	HANDRAIL	RWL	RAIN WATER LEADER
BD	BOARD	IN	INCH	S	STEEL S-SHAPED DESIGNATION
BEV	BEVEL(ED)	INST	INSTRUMENTATION	SAT	SUSPENDED ACOUSTICAL TILE
BLDG	BUILDING	INSUL	INSULATION	SB	SEAMLESS BASE
BLK	BLOCK	JC	JANITOR'S CLOSET	SCHD	SCHEDULE
BLKG	BLOCKING	JT	JOINT	SCRN	SCREEN(ED, ING)
BRG	BEARING	JT FLR	JOINT FILLER	SECT	SECTION
BRK	BRICK	L	LINE OF STRUCTURAL ANGLE DESIGNATION	SF	SEAMLESS FLOORING
BRS	BRASS	LAB	LABORATORY	SGFT	STRUCTURAL GLAZED FACING TILE
BRZ	BRONZE	LAD	LADDER	SHT	SHEET
BTM	BOTTOM	LAM	LAMINATED	SIM	SIMILAR
C TO C	CENTER TO CENTER	LAV	LAVATORY	SK	SINK
CAB	CABINET	LG	LAMINATED GLASS	SL	SLOPE
CEM	CEMENT	LINO	LINOLEUM	SLNT	SEALANT
CF	COMPRESSIBLE FILLER	LKR	LOCKER	SPEC	SPECIFICATION, SPECIFIED
CGFB	CEMENTITIOUS GLASS FIBER BOARD	LNTL	LINTEL	SST	STAINLESS STEEL
CH	CONCRETE HARDENER	LP	LOW POINT	STD	STANDARD
CHAM	CHAMFER	LT	LIGHT(S)	STL	STEEL
CHAN	CHANNEL	MAS	MASONRY	STOR	STORAGE
CIP	CAST IN PLACE	MATL	MATERIAL	STRU	STRUCTURE(S, URAL)
CJ	CONTROL JOINT	MAX	MAXIMUM	STWY	STAIRWAY
CL OR	CENTERLINE	MEMB	MEMBRANE	SUPT	SUPERINTENDENT
CLG	CEILING	MFR	MANUFACTURER	SUSP	SUSPENDED
CLKG	CAULKING	MIN	MINIMUM	T	TREAD(S)
CMU	CONCRETE MASONRY UNIT	MISC	MISCELLANEOUS	TBM	TRAFFIC BEARING MEMBRANE
COL	COLUMN	MO	MASONRY OPENING	T&G	TONGUE AND GROOVE
COMP	COMPRESSIBLE	MR	MOISTURE RESISTANT	TEMP	TEMPERATURE
CONC	CONCRETE	MRAT	MOISTURE RESISTANT ACOUSTICAL TILE	TEMP	TEMPERED
CONT	CONTINUOUS	MTD	MOUNTED	TEMP	TEMPORARY
CRPT	CARPET, CARPET TILE	MTG	MOUNTING	TER	TERRAZZO
CRS	COURSE(S)	MTL	METAL	TERB	TERRAZZO BASE
CT	CERAMIC TILE	NIC	NOT IN CONTRACT	THK	THICK(NESS)
DET	DETAIL	NOM	NOMINAL	THR	THRESHOLD
DF	DRINKING FOUNTAIN	NTS	NOT TO SCALE	TKBD	TACKBOARD
DIA	DIAMETER	OC	ON CENTER	TOB	TOP OF BRICK
DIAG	DIAGONAL	OH	OVERHANG	TOC	TOP OF CONCRETE
DIM	DIMENSION	OPNG	OPENING	TOIL	TOILET
DISP	DISPENSER	OPP HD	OPPOSITE HAND	TOM	TOP OF MASONRY
DN	DOWN	ORD	OVERFLOW ROOF DRAIN	TOPG	TOPPING
DP	DAMPPROOFING	OSB	ORIENTED STRAND BOARD	TOS	TOP OF STEEL
DR	DRAIN	OV	OVER	TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)
ELEC	ELECTRICAL	OVHD	OVERHEAD	TSL	TOP OF SLAB
ELEV(S)	ELEVATION(S)	PERIM	PERIMETER	TWF	THROUGH WALL FLASHING
EQ	EQUAL(LY)	PL	PLATE	TYP	TYPICAL
EQPT	EQUIPMENT	PL	PROPERTY LINE	UC	UNDERCUT
EWC	ELECTRICAL WATER COOLER	PLAS	PLASTER	UON	UNLESS OTHERWISE NOTED
EXP	EXPOSED	PLK	PLANK	UR	URINAL
EJ	EXPANSION JOINT	PLYWD	PLYWOOD	VB	VAPOR BARRIER
EXIST, (E)	EXISTING	PM	PRESSED METAL	VCT	VINYL COMPOSITE TILE
FD	FLOOR DRAIN	PR	PAIR	VERT	VERTICAL
FE	FIRE EXTINGUISHER	PRD	PROMENADE ROOF DRAIN	VEST	VESTIBULE
FF	FACTORY FINISH	PRCST	PRECAST	VTR	VENT THRU ROOF
FGL	FIBERGLASS	PREFAB	PRE-FABRICATED	W	WITH
FIN	FINISH(ED)	PT	PRESSURE TREATED	W/	WITH
FLG	FLASHING	PRMLD	PREMOLDED	W/A	WHERE APPLICABLE
FL	FLOOR(ING)	PSF	POUNDS PER SQUARE FOOT	W/O	WITHOUT
FLR	FILLER	PTD	PAINTED	WC	WATER CLOSET
FR	FRAME	QT	QUARRY TILE	WD	WOOD
FRP	FIBERGLASS REINFORCED PLASTIC	QTB	QUARRY TILE BASE	WDW	WINDOW
FO	FRAME OPENING	R	RISER(S)	WF	WIDE FLANGE
FV	FIELD VERIFY	R+S	BACKER ROD & SEALANT	WPG	WATERPROOFING
FXD	FIXED	RB	RUBBER BASE	WT	STEEL TEE-SHAPE DESIGNATION
GA	GAGE, GAUGE	RD	ROOF DRAIN	WWF	WELDED WIRE FABRIC
GALV	GALVANIZED	RECT	RECEPTACLE		
GL	GLASS				

GENERAL NOTES

HEIGHT OF INTERIOR STUD AND CMU PARTITIONS ARE FROM FLOOR TO THE UNDERSIDE OF ROOF DECK UNLESS OTHERWISE NOTED. PROVIDE DEFLECTION HEADS AT TOP OF WALL (TYPICAL).

NOT ALL EQUIPMENT IS SHOWN FOR CLARITY. REFER TO THE APPROPRIATE DISCIPLINE SHEETS FOR SPECIFIC EQUIPMENT LAYOUT AND OTHER REQUIREMENTS

SEE CIVIL SHEETS FOR SIDEWALK, ROAD PAVING AND FINISH GRADE ELEVATIONS.

SEE STRUCTURAL SHEETS FOR SIZE AND LOCATION OF CONCRETE PADS, TRENCHES, VAULTS, SUMPS, ETC

SEE STRUCTURAL SHEETS FOR CONCRETE AND MASONRY REINFORCEMENT

PATCH AND REPAIR ANY MATERIALS OR SURFACES DAMAGED DURING THE CONSTRUCTION PROCESS TO MATCH THE EXISTING ADJACENT SURFACES.

ALL ITEMS TO BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL JOINTS, VOIDS AND PENETRATIONS THROUGH FIRE-RATED WALL SYSTEMS ARE TO BE FILLED/SEALED WITH UL APPROVED FIRESAFING/FIRESTOPPING MATERIALS TO ACHIEVE THE REQUIRED FIRE-RATING (REFER TO CODE DRAWINGS FOR LOCATIONS).

DO NOT SCALE FROM THE DRAWINGS

NOTIFY ARCHITECT IF CONSTRUCTION DOCUMENTS DIFFER FROM ACTUAL FIELD CONDITIONS PRIOR TO FABRICATION OR NEW CONSTRUCTION

THIS DRAWING CONTAINS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS. NOT ALL ITEMS SHOWN HERE APPEAR ON THE CONTRACT DRAWINGS.

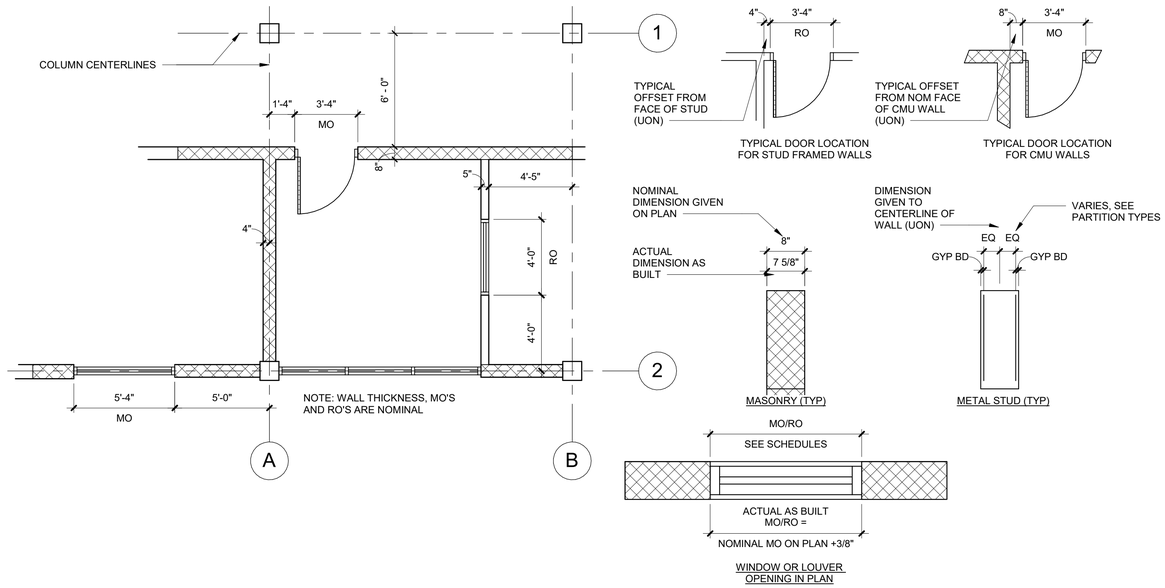
LINE TYPES (UNLESS OTHERWISE NOTED)

- CONTINUOUS - NEW CONSTRUCTION
- DASHED ON CONSTRUCTION PLAN/SHEETS - HIDDEN ELEMENTS BEYOND, ABOVE OR BELOW

MATERIAL SYMBOLS

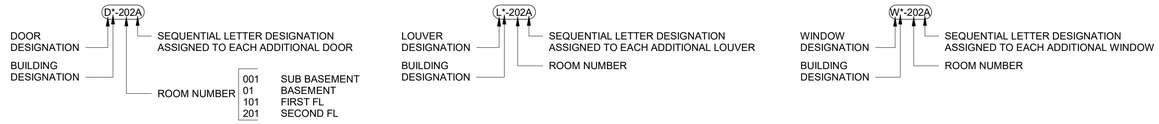
- EARTH
- GRAVEL
- BRICK
- CONCRETE MASONRY UNIT (CMU)
- PRECAST CONCRETE
- CAST-IN-PLACE CONCRETE
- WOOD BLOCKING
- WOOD FINISH
- PLYWOOD
- RIGID INSULATION
- BLANKET INSULATION
- STEEL
- ALUMINUM
- STUCCO / GROUT
- CAULK

DIMENSIONING SYSTEM

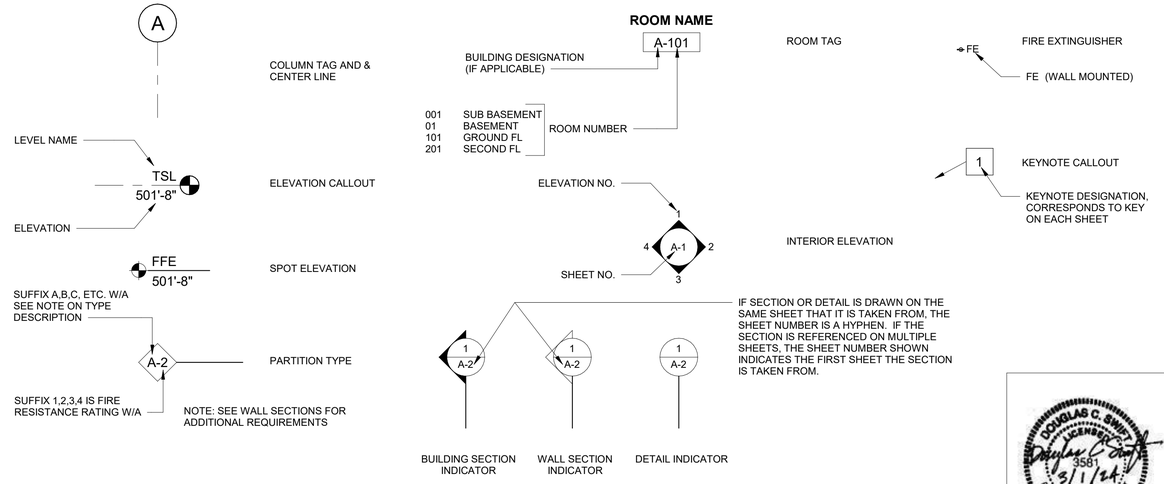


OPENINGS

USUALLY LABELED IN PLAN VIEW; HOWEVER, OPENINGS NOT SHOWN IN PLAN ARE LABELED ON ELEVATIONS



SYMBOLS



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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DE GUZMAN FM
DRAWN BY: DIBYENDU M
SHEET CHK'D BY: THROOP C
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH, 2024

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EAE
ENVIRONMENTAL ADVISORS AND ENGINEERS, INC.
19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ARCHITECTURAL ABBREVIATIONS, SYMBOLS, LEGENDS AND NOTES

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
A-1

DOUGLAS C. SWAN
LICENSED
3581
3/1/24
KANSAS
PROFESSIONAL ARCHITECT

DESIGN CRITERIA

1. APPLICABLE CODES: 2018 INTERNATIONAL BUILDING CODE (IBC), ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES.
2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.

3. RISK CATEGORY III

4. LIVE LOADS:

PROCESS FLOORS	= 200 PSF
ELECTRICAL ROOM FLOORS	= 300 PSF
STAIRWAYS, GRATING, COVER PATES AND PLATFORMS	= 100 PSF, UNO
UNRESTRICTED VEHICULAR AREAS	= 250 PSF
ALUMINUM COVER-TRUSS SUPPORTED SYSTEM (LARGE TANKS)	= 20 PSF OR 50 PSF WHERE NOTED ON DRAWINGS (400 LB POINT LOAD ON 12" SQ AREA, UNO)
ALUMINUM COVERS-EXTRUDED FLAT	= 100 PSF (400 LB POINT LOAD ON 12" SQ AREA, UNO)
TOP SLAB SUBJECTED TO TRAFFIC	= AASHTO HL 93+IMPACT

5. ROOF LOADS:

COLLATERAL LOAD	= 10 PSF
METAL ROOF SELF WEIGHT (MIN)	= 10 PSF (DECK, STANDING SEAM & INSULATION)
ROOF LIVE LOAD, UON	= 20 PSF

6. DEFLECTION CRITERIA FOR MEMBERS:

TOTAL LOAD	L / 240
LIVE, WIND, OR SNOW LOAD	L / 360
WHERE L IS THE MEMBERS SPAN LENGTH	

7. WIND LOAD:

BASIC WIND SPEED	= 118 MPH (ULTIMATE) = 92 MPH (ALLOWABLE)
EXPOSURE	= C
IMPORTANCE FACTOR I_w	= 1.0
DIRECTIONALITY FACTOR K_d	= 0.85
TOPOGRAPHIC FACTOR K_{zt}	= 1.0
INTERNAL PRESSURE COEFFICIENT	= ±0.18 = ±0.55 FOR CENTRIFUGE BUILDING AND ALL OTHER AREAS INCLUDING EXTERIOR STAIR TOWERS = 0.00 (OPEN BUILDINGS - FERRIC STORAGE CANOPY)

8. SNOW LOADS

GROUND SNOW LOAD P_g	= 15 PSF
RAIN ON SNOW SURCHARGE (PER SECTION 7.10)	= 5 PSF
IMPORTANCE FACTOR I_s	= 1.10

9. SEISMIC LOAD (PROJECT SITE SPECIFIC) :

S_S	= 0.094
$S_{MS} = F_a \times S_S = 1.6 \times 0.094$	= 0.150
$S_{DS} = 2/3 \times S_{MS}$	= 0.100
S_1	= 0.056
$S_{M1} = F_v \times S_1 = 2.4 \times 0.056$	= 0.134
$S_{D1} = 2/3 \times S_{M1}$	= 0.090
SITE CLASS	= D
SEISMIC DESIGN CATEGORY	= B
IMPORTANCE FACTOR I_e	= 1.25
COMPONENT IMPORTANCE FACTOR I_p	= 1.0

ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

10. RAIN LOADS

RAIN INTENSITY i	= 3.9 IN/HR

11. SOIL DESIGN PARAMETERS:

ALLOWABLE SOIL BEARING PRESSURES:
FOUNDATION ON SOIL AND PREPARED SUBGRADE = 2,000 PSF
BEARING PRESSURES MAY BE INCREASE BY 1/3 FOR TRANSIENT LOAD COMBINATIONS.
AREA O ONLY:
ISOLATED FOUNDATION (3-FT MIN) = 3,000 PSF
STRIP FOOTING FOUNDATIONS (18-INCH MIN W) = 2.500 PSF

MINIMUM BEARING DEPTH = 2'-0" BELOW ADJACENT FINISH GRADE.
EQUIVALENT FLUID PRESSURES (SOIL):

ACTIVE:	33 PSF (ABOVE GROUNDWATER) 50 PSF (BELOW GROUNDWATER)
AT-REST:	52 PCF (ABOVE GROUNDWATER) 78 PCF (BELOW GROUNDWATER)
PASSIVE:	150 PSF (ABOVE GROUNDWATER) 89 PSF (BELOW GROUNDWATER)
SURCHARGE:	0.33 x UNIFORM LOAD (ACTIVE) 0.4 x UNIFORM LOAD (AT-REST)

EQUIVALENT FLUID PRESSURE: VALUES SHOWN ARE FOR FLAT GROUND SURFACE. SEE GEOTECH REPORT.

FLOOD ELEVATIONS	= SEE CIVIL
DESIGN GROUNDWATER ELEVATION	= EL 1261.00 (100-YEAR)
COEFFICIENT OF FRICTION	= 0.35 (CONCRETE ON IMPORTED GRAVEL)
MODULUS OF VERTICAL SUBGRADE	= 144 PCI

MODIFICATION AND REPAIR TO CONCRETE NOTES

SEE SPECIFICATION SECTION 030130.71 FOR EXPLANATION OF CONCRETE REMOVAL METHODS, CONNECTION METHODS AND MATERIALS USED.

CONNECTION METHODS ARE DEFINED IN SPECIFICATION SECTION 030130.71.

METHOD A - CEMENT SLURRY BOND
METHOD B - ADHESIVE BOND
METHOD C - ADHESIVE ANCHOR SYSTEM
METHOD D - COMBINATION OF METHODS B & C

GENERAL INFORMATION

1. THE STRUCTURAL DRAWINGS SHOW THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, HVAC AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS.

2. SEE PROCESS MECHANICAL, BUILDING MECHANICAL AND ELECTRICAL DRAWINGS FOR PIPE SIZES, PIPE LOCATIONS, PIPE ENCASEMENT, PIPE SLEEVES, CONDUIT OR OTHER ITEMS TO BE EMBEDDED IN OR PASS THROUGH THE CONCRETE. IN GENERAL, EMBEDMENTS AND PENETRATION LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON STRUCTURAL DRAWINGS, WHERE PIPE PENETRATIONS ARE SHOWN THE CONTRACTOR IS TO VERIFY SIZE AND LOCATION WITH OTHER DISCIPLINES.

3. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS" PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

4. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

5. STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT. SEE STANDARD DETAIL SHEETS FOR ADDITIONAL MATERIAL SPECIFIC NOTES AS NEEDED.

6. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS, AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.

7. COORDINATE OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS.

8. FOR NUMBER, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING/CONDUIT OPENINGS WITH OTHER DISCIPLINE DRAWINGS.

9. DO NOT CUT STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

10. SPECIAL INSPECTION IS REQUIRED IN ACCORDANCE WITH IBC AND AS INDICATED ON THE SPECIAL INSPECTION DRAWINGS.

11. NO BACKFILL SHALL BE PLACED BEHIND TOP SUPPORTED WALLS UNTIL THE WALL CONCRETE AND TOP SUPPORTING SLAB CONCRETE HAVE ATTAINED 100-PERCENT OF THEIR SPECIFIED COMPRESSIVE STRENGTH, OR UNTIL TOP-OF-WALL SUPPORTING SYSTEMS, INCLUDING DIAPHRAGMS, HAVE BEEN COMPLETED, UNLESS APPROVED BY THE ENGINEER.

12. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100-PERCENT OF ITS SPECIFIED COMPRESSIVE STRENGTH.

13. NO BACKFILL SHALL BE PLACED BEHIND WATER CONTAINING WALLS UNTIL THE WATER TIGHTNESS TEST HAS BEEN PERFORMED AND REQUIRED REPAIRS COMPLETED.

FOUNDATIONS

1. REFER TO "GEOTECHNICAL REPORT FOR CITY OF WICHITA PLANT 2 BIOLOGICAL NUTRIENT REMOVAL (BNR) IMPROVEMENTS PROJECT", BY CDM SMITH, DATED DECEMBER 2022, STAMPED JANUARY 20, 2023.

2. EXCAVATION SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.

3. PREPARE SUBGRADE IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. ALL FOUNDATIONS SHALL BEAR BELOW A FROST DEPTH OF 24" BELOW LOWEST ADJACENT GRADE.

4. ALL FOUNDATION BEARING SURFACES SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL. SEE STANDARD DETAIL SHEET SZ-12 FOR SUBGRADE PREPARATION REQUIREMENTS.

FORMWORK, SHORING AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 70-PERCENT OF ITS SPECIFIED DESIGN COMPRESSIVE STRENGTH AS DETERMINED BY CYLINDER BREAKS.

CONCRETE

1. CAST-IN-PLACE CONCRETE MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:

CONCRETE FILL, CONCRETE FILL FOR BOLLARDS, ELECTRICAL RACEWAY ENCASEMENT AND PIPE ENCASEMENT. (CLASS A):	2,500 PSI
CONCRETE OVERLAY SLABS, SIDEWALK, AND WHERE SPECIFIED OR NOTED. (CLASS B) :	3,000 PSI
STRUCTURAL CONCRETE WALLS, SLABS ON GRADE, ELEVATED SLAB AND BEAM SYSTEMS, COLUMNS AND ALL OTHER STRUCTURAL CONCRETE (CLASS E):	4,500 PSI
PRECAST CONCRETE	(REF SPEC)

2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE", ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING" AND ACI 350.5 "SPECIFICATIONS FOR ENVIRONMENTAL CONCRETE STRUCTURES".

3. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN JOINTS IN SLABS AND WALLS OF WATER HOLDING BASINS AND BELOW GRADE STRUCTURES EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

4. MAKE ALL JOINTS AT LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER OF RECORD. ADDITIONAL OR RELOCATION OF JOINTS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER PRIOR TO REINFORCEMENT SHOP DRAWING SUBMITTALS.

5. ROUGHEN AND CLEAN CONSTRUCTION AND PARTIAL CONTRACTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE WITHOUT PROTECTIVE COATING.

6. PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS SHALL BE COORDINATED PRIOR TO PLACEMENT OF CONCRETE.

7. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

8. CONDUIT SHALL NOT BE PLACED PARALLEL WITH BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN THE DRAWINGS.

9. WHERE CONCRETE COLUMN ARE SCHEDULED SEE DRAWING SZ-15 FOR DETAILS.

CONCRETE REINFORCING

1. REINFORCING STEEL:

TYPICAL:	A706 OR ASTM A615, GRADE 60 W/ CONDITIONS
WELDED:	ASTM A706

2. REINFORCING STEEL, IN CAST-IN-PLACE CONCRETE (SEE SPECS FOR PRECAST), SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER, UNLESS OTHERWISE SHOWN:
   a. CONCRETE CAST AGANIST EARTH (i.e. BOTTOM OF SLABS, FOOTINGS, DRILLED PIERS, ETC.) - 3 INCHES
   b. CONCRETE SURFACE EXPOSED TO SOIL, WATER, SEWAGE, INCLUDE, CHEMICAL SPILLS, AND/OR WEATHER (INCLUDING BOTTOM OF SLABS OVER LIQUID - CONTAINING STRUCTURES) - 2 INCHES
   c. CONCRETE SURFACES NOT EXPOSED TO SOIL, WATER, SEWAGE, SLUDGE, CHEMICAL SPILLS AND/OR WEATHER - 1 1/2 INCHS

3. SLAB ON GRADE WITH SINGLE MAT REINFORCING SHALL BE POSITIONED WITH 2" TOP CLEAR COVER, UNLESS NOTED OTHERWISE.

4. PROVIDE (2)#4x5'-0" EF DIAGONAL BARS AT REENTRANT CORNERS OF FLOORS AND TOP SLABS.

5. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.

6. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE REQUIREMENTS SPECIFIED IN ACI 318.

7. AT LOCATIONS WHERE MULTIPLE ELECTRICAL CONDUIT OR SMALL PIPING (6" DIAMETER OR LESS) IN CLOSE PROXIMITY PENETRATE CONCRETE SLABS OR WALLS, SPACE PIPING/CONDUIT TO OCCUR BETWEEN TYPICAL REINFORCING WITHOUT CUTTING BARS, AND MAINTAINING MIN 2" CLEARANCE. IF REBAR MUST BE CUT, PROVIDE ADDITIONAL REBAR AROUND CONDUIT/PIPING GROUP PER TYPICAL EXTRA REINF @ OPENING DETAIL. DO NOT ROUTE LARGE NUMBERS OF CONDUIT/PIPING THROUGH LOAD BEARING FOUNDATIONS OR FOOTINGS WITHOUT WRITTEN APPROVAL FROM ENGINEER.

MASONRY

1. MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'_m) OF 2,000 PSI AT 28 DAYS.

2. MASONRY UNITS SHALL BE MEDIUM WEIGHT BLOCK IN ACCORDANCE WITH ASTM SPECIFICATION C90 WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2,000 PSI.

3. MORTAR SHALL CONFORM TO ASTM C270, TYPE S. MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.

4. GROUT SHALL CONFORM TO ASTM C476 AND CONTAIN A MIXTURE OF CEMENT, SAND, PEA GRAVEL AND WATER WHICH WILL COMPLETELY FILL ALL VOIDS IN THE WALL OF CELLS AND BOND BEAMS THAT CONTAIN REINFORCEMENT. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.

5. PROVIDE AGGREGATES FOR MORTAR AND GROUT OF NATURAL SAND AND ROCK COMPLYING WITH ASTM C144 AND C404.

6. MASONRY UNIT PATTERN SHALL BE RUNNING BOND AND UNLESS NOTED OTHERWISE.

7. VERTICAL WALL REINFORCEMENT SHALL BE DOWELED TO THE FOUNDATION WITH THE SAME SIZE, SPACING, AND NUMBER OF BARS AS SHOWN IN THE WALLS, UNLESS OTHERWISE NOTED.

8. HORIZONTAL REINFORCING SHALL CONSIST OF 9 GAUGE HOT-DIPPED GALVANIZED, HOHMANN & BARNARD 220 LADDER-MESH STANDARD WEIGHT REINFORCING OR EQUAL AT 16" ON CENTER, UNLESS OTHERWISE NOTED.

9. PROVIDE ONE INCH MINIMUM GROUT COVER ON BOLTS AND REINFORCEMENT.

10. HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM UNITS.

11. NO PIPES, CONDUITS, OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.

PRE-CAST WALL AND ROOF NOTES:

1. FOR ADDITIONAL PRECAST REQUIREMENTS SEE SPECIFICATION 034113 (PRECAST CONCRETE HOLLOW CORE PLANKS), 034100 (PRECAST STRUCTURAL CONCRETE) AND 034500 (PRECAST ARCHITECTURAL CONCRETE). SEE THIS DRAWING FOR DESIGN CRITERIA.

2. CONNECTION DETAILS SHOWN ARE INDICATIVE/ILLUSTRATION PURPOSES. PRECAST MFR SHALL DESIGN THE CONNECTIONS. THE GENERAL CONTRACTOR TO COORDINATE PRECAST ROOF AND WALL MFR COORDINATED CONNECTION LOADS AND THE ROOF MFR SHALL PROVIDE ALL LOADS TRANSFERRED TO THE WALL SYSTEM SUCH AS VERTICAL GRAVITY LOADS AND LATERAL INPLANE ROOF DIAPHRAGM LOADS. THE WALL MFR SHALL PROVIDE ALL LOADS TRANSFERRED TO THE ROOF SYSTEM, SUCH AS OUT-OF-PLANE WALL LOADS.

3. EACH WALL PANEL SHALL HAVE A MINIMUM OF TWO CONNECTIONS AT THE ROOF AND FOUNDATION.

4. DESIGN, FABRICATE, TRANSPORT AND ERECTION SHALL BE PER THE LATEST PCI AND ACI 318-14. PRECAST MFR SHALL SUPPLY ALL THE REQUIRED FASTENERS/ANCHORS FOR TEMPORARY AND PERMANENT PLACEMENT.

5. PRIOR TO CONSTRUCTING THE BUILDING FOUNDATIONS THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED BUILDING REACTION SHOP DRAWINGS AND CALCULATIONS FOR REVIEW AND ACCEPTANCE BY FOUNDATION ENGINEER. FOUNDATION DETAILS THAT REQUIRE ADJUSTMENTS AND CHANGES BASED ON SUBMITTED BUILDING REACTIONS SHALL NOT INCUR ADDITIONAL COST TO THE PROJECT OR OWNER.

6. CONTRACTOR SHALL COORDINATE EQUIPMENT AND NON-STRUCTURAL COMPONENTS THAT ARE BRACED OR ANCHORED TO THE PRECAST.

7. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS AND ROUGH OPENINGS WITH THE PRECAST CONTRACTOR. PENETRATIONS SHALL BE FORMED. CORING FOR PIPE PENETRATIONS SMALLER THAN 6" IN DIAMETER IS PERMISSIBLE. SEE PROCESS, PLUMBING AND MECHANICAL DRAWINGS FOR PIPE PENETRATION LOCATIONS AND DETAILS. COORDINATE ALL CORING THROUGH PRECAST WALLS WITH MANUFACTURER TO CONFIRM CLEARANCE FROM ANY PRESTRESSING COMPONENTS.

8. SEE ARCHITECTURAL DRAWINGS FOR BASIS OF DESIGN OF PRECAST PANEL JOINT LOCATIONS. WALL PANELS SHALL BE FULL, HEIGHT, UNLESS NOTED OTHERWISE.

9. WALL JOINT CONFIGURATIONS SHALL ACCOMMODATE THE BUILDING DEFLECTION LIMITS SPECIFIED IN IBC SECTION 1604.3.

10. ALL PRECAST CONNECTIONS SHALL BE GALVANIZED METALS. TOUCH UP GALVANIZING AFTER WELDING.

DELEGATED-DESIGN SUBMITTALS:

THE FOLLOWING PORTIONS OF THE PROJECT ARE DELEGATED-DESIGN SUBMITTAL ITEMS AND HAVE NOT BEEN DESIGNED BY THE ENGINEER OF RECORD:

1. ANCHORAGE OF EQUIPMENT AND TANKS, INCLUDING EMBEDMENT.
2. PRE-ENGINEERED METAL CANOPIES, ASSOCIATED CONNECTIONS, INCLUDING ANCHORAGE AND EMBEDMENT.
3. METAL GRATED STAIR AND PLATFORM SYSTEMS, INCLUDING ANCHORAGE AND EMBEDMENT.
4. METAL RAILING, INCLUDING CONNECTIONS AND ANCHORAGE.
5. BRIDGE CRANE &/OR MONORAIL, INCLUDING RAIL BEAMS, CONNECTIONS AND ANCHORAGE.
6. PRECAST CONCRETE HOLLOW CORE PLANKS, INCLUDING CONNECTIONS AND ANCHORAGE.
7. PRECAST CONCRETE BUILDING SYSTEMS, INCLUDING PRECAST WALLS, DOUBLE-TEES, CONNECTIONS AND ANCHORAGE.
8. FRP GRATING AND SUPPORT ELEMENTS.
9. STRUCTURAL STEEL CONNECTION

DELEGATED-DESIGN SUBMITTALS SHALL BE PREPARED AND STAMPED BY A LICENSED STRUCTURAL PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KANSAS.

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL GENERAL NOTES I

PROJECT NO. 2395-267343
FILE NAME: S001STNT.RVT

SHEET NO.
S-1

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MISCELLANEOUS METAL NOTES

1. MISCELLANEOUS METALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 055000.
2. GUARDRAIL, GRATING, COVER PLATES, AND LADDERS SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTED. FASTENERS FOR ALUMINUM CONSTRUCTION SHALL BE TYPE 316 STAINLESS STEEL.
3. ALL STRUCTURAL ALUMINUM SHAPES AND PLATES SHALL BE ALLOY 6061-T6, UNLESS OTHERWISE NOTED.
4. ALL ANGLE FRAMES ARE TO BE MITERED AND WELDED OR MOLDED AT CORNERS.
5. GRATING SEATS AND SUPPORTS SHALL BE OF THE SAME TYPE MATERIAL AS THE GRATING SUPPORTED THEREON UNLESS OTHERWISE NOTED.
6. GRATING PANEL LAYOUTS SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS. ALL METAL GRATINGS SHALL BE BANDED, AS SPECIFIED.
7. ALL GRATING SHALL BE SECURELY FASTENED TO SUPPORTS WITH GRATING CLIPS AND ANCHORS, UNLESS OTHERWISE NOTED.
8. ALL COVER PLATES SHALL BE SECURELY FASTENED TO SUPPORTS WITH 3/8" STAINLESS STEEL FLAT-HEAD MACHINE SCREWS AT 2'-0" ON CENTER, UNLESS OTHERWISE NOTED.
9. PROVIDE HANDRAIL AT ENCLOSED SIDES OF STAIRWAYS AND GUARDRAIL AT UNENCLOSED SIDES OF STAIRWAYS, UNLESS OTHERWISE NOTED. WHERE SIDE MOUNTED GUARDRAIL IS REQUIRED, SUBMIT MOUNTING DETAILS FOR APPROVAL.
10. HOT-DIP GALVANIZING, SHOP PAINTING, AND FIELD PAINTING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

STEEL ROOF DECKS

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL DECK SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND RECOMMENDED CODE OF STANDARD PRACTICE OF THE STEEL DECK INSTITUTE.
2. HOLES IN DECK MAY BE MADE ONLY AS SHOWN ON THE SHOP DRAWINGS.
3. DO NOT HANG LIGHTING, PLUMBING, ELECTRICAL, OR ANY OTHER UTILITY OR ARCHITECTURAL FINISHES FROM UNDERSIDE OF METAL DECK.
4. CLUSTERS OF OPENINGS FOR PIPES OR PIPE SLEEVES SHALL BE ACCOUNTED FOR AND COORDINATED WITH THOSE TRADES, PROVIDING REINFORCING WHERE REQUIRED.
5. STEEL DECK DESIGN IS BASED ON A 3-SPAN CONDITION. STEEL DECK INSTALLED WITH LESS THEN 3 SPANS SHALL BE EVALUATED FOR THE REQUIRED LOADING AND THE THICKNESS INCREASED AS REQUIRED.

GRATING AND COVER PLATE NOTES

1. GRATING, COVER PLATES, AND SUPPORTS SHALL BE ALL ALUMINUM CONSTRUCTION, UON. COVER PLATES SHALL BE ALUMINUM ALLOY 6061-T6. GRATING SHALL BE ALUMINUM ALLOY 6063-T6.
2. FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR GRATING, COVER PLATES AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL, UON.
3. BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR EQUAL TO BEARING BARS.
4. MITER AND WELD ALL ANGLE FRAMES FOR GRATING AND COVER PLATES AT CORNERS.
5. SECURELY FASTEN GRATING TO SUPPORTS WITH ALUMINUM OR STAINLESS STEEL GRATING CLIPS AND STAINLESS STEEL ANCHORS, UON.
6. SECURELY FASTEN COVER PLATES TO SUPPORTS WITH 1/4" STAINLESS STEEL FLAT-HEAD MACHINE SCREWS AT 2'-0" ON CENTER, UON.
7. ALL GRATING SHALL HAVE NO GREATER THAN 1-1/8" CLEAR BETWEEN BEARING BARS.
8. ALUMINUM GRATING AND STAIR TREAD SIZES SHALL MEET THE FOLLOWING MIN CRITERIA:
   (100 PSF UNIFORM LOAD OR 300 LB POINT LOAD CTRD W/ DEFLECTION < L/360)

STRUCTURAL LEGEND AND SYMBOLS

* INDICATES DIMENSION TO BE FIELD VERIFIED OR COORDINATED W/ EXISITING OPENING OR W/ APPROVED EQUIPMENT MANUFACTURER PRIOR TO FABRICATION OR CONSTRUCTION

(E) INDICATES EQUIPMENT PAD.
COORDINATE SIZE WITH EQUIPMENT REQUIREMENTS. SEE DETAIL B/SZ-2

(H) INDICATES HOUSEKEEPING PAD.
COORDINATE SIZE WITH EQUIPMENT REQUIREMENTS. SEE DETAIL L/SZ-4

WATERSTOP (SEE SPECS FOR TYPE AND MATERIALS)

GRATING SPAN DIRECTION

MOMENT CONNECTION

FLOOR DRAIN

VERTICAL BRACE UP FROM COLUMN (ON PLANS, COLUMN ORIENTATION VARIES)

VERTICAL BRACE DOWN FROM COLUMN (ON PLANS, COLUMN ORIENTATION VARIES)

EARTH FILL

UNDISTURBED EARTH

CONCRETE

CONCRETE MASONRY IN PLANS

STEEL

ALUMINUM

GRATING

CHECKERED PLATE

DRAINAGE AGGREGATE

CONCRETE FILL OR CONCRETE GROUT

STRUCTURAL FILL OR LEVELING COURSE

ROCK

ABBREVIATIONS:

⌀=	DIAMETER
#=	NUMBER
&=	AND
@=	AT
AB=	ANCHOR BOLT
ABV=	ABOVE
ADDL=	ADDITIONAL
AL=	ALUMINIUM
ALT=	ALTERNATE
APPROX=	APPROXIMATELY
ARCH =	ARCHITECTURAL
B/ =	BOTTOM OF
B/B =	BACK TO BACK
BEV=	BEVEL (ED)
BLK=	BLOCKING
BOD =	BOTTOM OF DECK
BOT =	BOTTOM
BRG=	BEARING
BOW=	BOTTOM OF WALL
CANT =	CANTILEVERED FRAMING
CB=	CORNER BAR
CIRC=	CIRCUMFERENTIAL
CJ =	CONSTRUCTION JOINT
CLJ=	CONTROL JOINT
CLR =	CLEAR
CMU=	CONCRETE MASONRY UNITS
COL =	COLUMN
CONC =	CONCRETE
CONN =	CONNECTION
CONT =	CONTINUOUS
CPLG=	COUPLING
CRS=	COURSE (S)
CSK=	COUNTERSINK
CTO =	CABLE TRAY OPENING
CTR=	CENTER (ED)
d=	PENNY
DET=	DETAIL
DIA=	DIAMETER
DIAG=	DIAGONAL
DIR=	DIRECTION
DL=	DEAD LOAD
DO.=	DITTO
DO =	DOOR OPENING
DWG=	DRAWING
DWL =	DOWEL
EA =	EACH
EB=	EXPANSION BOLT
EF=	EACH FACE
EL =	ELEVATION
EOB =	END OF BEAM
EOCP =	EDGE OF CHECKERED PLATE
EOD =	EDGE OF DECK
EOG =	EDGE OF GRATING
EOM =	END OF MONORAIL
EOR =	END OF RAIL
EOS =	EDGE OF SLAB
EQ =	EQUAL
EQUIP =	EQUIPMENT
ES=	EACH SIDE
EW =	EACH WAY
EXST=	EXISTING
EXP JT=	EXPANSION JOINT
EXT=	EXTERIOR
f'c=	CONCRETE COMPRESSION STRESS
f'm=	MASONRY PRISM STRESS
FAB=	FABRICATE (OR, ED)
FDN =	FOUNDATION
FF=	FAR FACE
FHMS=	FLATHEAD MACHINE SCREW
FHWS=	FLATHEAD WOOD SCREW
FL=	FLOOR
FRP=	FIBERGLASS REINFORCED PLASTIC
FTG =	FOOTING
FO =	FAN OPENING
FS =	FAR SIDE
GALV=	GALVANIZED
GL =	GIRT LINE
GLB=	GLASS BLOCK
GR=	GRADE
GRTG=	GRATING
H=	HIGH
HAS.=	HEADED ANCHOR STUD
HB =	HORIZONTAL BRACING
HDR=	HEADER
HORIZ =	HORIZONTAL
HP =	HIGH POINT
ID=	INSIDE DIAMETER
I.E.=	INVERT ELEVATION
IF.=	INSIDE FACE
IFOB =	INSIDE FACE OF BLOCK
IFOCW =	INSIDE FACE OF CONCRETE WALL
INT=	INTERIOR
INV=	INVERT
JT=	JOINT
KB =	KNEE BRACE
KO=	KNOCKOUT
LG =	LENGTH
LLH =	LONG LEG HORIZONTAL
LLV =	LONG LEG VERTICAL
LNTL=	LINTEL
LO =	LOUVER OPENING
LOC=	LOCATION/LOCATED
LONG.=	LONGITUDINAL
LP =	LOW POINT
LT=	LEFT
LW=	LIGHTWEIGHT
MAS=	MASONRY
MAX =	MAXIMUM
MB=	MACHINE BOLTS
MCJ=	MASONRY CONTROL JOINT
MECH =	MECHANICAL
MIN =	MINIMUM
MNF=	MANUFACTURER
MO=	MASONRY OPENING
NF=	NEAR FACE
NS =	NEAR SIDE
NSFC =	NOT SHOWN FOR CLARITY
NSG=	NON-SHRINK GROUT
NTS =	NOT TO SCALE
OC =	ON CENTER
OFOB =	OUTSIDE FACE OF BLOCK
OD=	OUTSIDE DIAMETER
OF=	OUTSIDE FACE
OFOCW=	OUTSIDE FACE OF CONCRETE WALL
OPNG =	OPENING
OPP=	OPPOSITE
OPT=	OPTIONAL
OSL =	OUTSTANDING LEG
PCJ=	PARTIAL CONTRACTION JOINT
PJF=	PREMOLDED JOINT FILLER
PLATF =	PLATFORM
PLYWD=	PLYWOOD
PO =	PIPE OPENING
PREFAB=	PREFABRICATED
PVMT=	PAVEMENT
R=	RISER(S)
RAD=	RADIUS
RC=	REINFORCED CONCRETE
REF=	REFERENCE/REFER
REINF =	REINFORCEMENT
REQD=	REQUIRED
REV=	REVISION
RLG=	RAILING
RO=	ROUGH OPENING
RT=	RIGHT
SCHED =	SCHEDULE
SCJ=	SAW CUT JOINT
SECT=	SECTION
SIM =	SIMILAR
SLRS =	SEISMIC LOAD RESISTING SYSTEM
SPA =	SPACES
SQ =	SQUARE
SS=	STAINLESS STEEL
STD =	STANDARD
STIFF =	STIFFENER
STIR=	STIRRUP
STL =	STEEL
SYM=	SYMMETRICAL
T=	TREAD(S)
T/ =	TOP OF
T&B =	TOP AND BOTTOM
TF=	TOP FACE
THD=	THREADED
TOC =	TOP OF CONCRETE
TOF=	TOP OF FOOTING
TOS =	TOP OF STEEL
TOW=	TOP OF WALL
TRNSV=	TRANSVERSE
TYP =	TYPICAL
UN =	UNLESS NOTED
UNO =	UNLESS NOTED OTHERWISE
VB =	VERTICAL BRACE
VERT =	VERTICAL
W=	WIDE
W/=	WITH
W/O=	WITHOUT
WO =	WINDOW OPENING
WP =	WORK POINT
WS=	WATERSTOP
WWF=	WELDED WIRE FABRIC

ABBREVIATION NOTES

1. ABBREVIATIONS AND DESIGNATIONS FOR STEEL MEMBERS MAY BE FOUND IN THE CURRENT MANUAL OF STEEL CONSTRUCTION BY AISC.
2. ABBREVIATIONS OF TECHNICAL SOCIETIES AND TRADE ASSOCIATIONS MAY BE FOUND IN THE SPECIFICATIONS.
3. WELDING SYMBOLS AND ABBREVIATIONS MAY BE FOUND IN AWS A2.4.

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL GENERAL NOTES II

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

PROJECT NO. 2395-267343
FILE NAME: S001STNT.RVT

SHEET NO.
S-2

SCHEDULE OF SPECIAL INSPECTIONS

1. THESE DRAWINGS ARE PROVIDED TO OUTLINE THE MINIMUM LEVEL OF SPECIAL INSPECTIONS DURING CONSTRUCTION TO ENSURE CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. A STATEMENT OF SPECIAL INSPECTIONS WILL BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL AND SUBMITTED BY THE OWNER TO THE AUTHORITY HAVING JURISDICTION.

2. SPECIAL INSPECTIONS WILL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC).

3. THE OWNER WILL PROVIDE A SPECIAL INSPECTOR (AN APPROVED AGENCY OR AGENCIES, INDEPENDENT FROM THE CONTRACTOR AND EMPLOYING QUALIFIED PERSONNEL) TO PERFORM SPECIAL INSPECTIONS IDENTIFIED IN THE STATEMENT OF SPECIAL INSPECTIONS. THE APPROVED AGENCY WILL FURNISH INSPECTION REPORTS TO THE ENGINEER.

4. SPECIAL INSPECTIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL OF THE WORK OR FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. DETECTION OF, OR FAILURE TO DETECT, DEFECTS IN THE WORK SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO CORRECT ALL DEFECTS IN THE WORK, WHETHER DETECTED OR NOT, AND OF RESPONSIBILITY FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

5. REMOVE AND REPLACE, OR REPAIR, DEFECTS IN THE WORK AND WORK NOT IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE DISTRICT. CONTRACTOR SHALL BEAR THE COSTS FOR THE INSPECTION OF ANY REPLACED OR REPAIRED PORTIONS OF THE WORK.

6. CONTRACTOR SHALL COOPERATE WITH SPECIAL INSPECTIONS BY PROVIDING SUFFICIENT NOTICE FOR THE SCHEDULING OF PERSONNEL AND BY ALLOWING FREE AND SAFE ACCESS TO THE WORK FOR OBSERVATION, VERIFICATION, SAMPLING AND INSPECTION. PROVIDE AND PERMIT THE USE OF LADDERS, SCAFFOLDING, INCIDENTAL EQUIPMENT, AND SAFETY EQUIPMENT AS MAY BE REQUIRED TO CONDUCT SPECIAL INSPECTIONS. ALL SUCH PROVISIONS FOR FREE AND SAFE ACCESS AND EQUIPMENT SHALL BE SAFE, IN GOOD WORKING CONDITION, AND ERECTED, MAINTAINED, AND HANDLED BY QUALIFIED PERSONNEL.

7. SPECIAL INSPECTIONS DO NOT APPLY TO CONTRACTOR'S EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION, OR SITE SAFETY. CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ADEQUACY AND SAFETY OF EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION AND SITE SAFETY.

INSPECTION DEFINITIONS

CONTINUOUS: CONSTANT MONITORING OF IDENTIFIED TASKS BY A SPECIAL INSPECTOR OVER THE DURATION OF PERFORMANCE OF SAID TASKS.

OBSERVE/PERIODIC: OBSERVE THESE ITEMS RANDOMLY DURING THE COURSE OF EACH WORKDAY TO ENSURE THAT APPLICABLE REQUIREMENTS ARE BEING MET. OPERATIONS NEED TO BE DELAYED PENDING THESE INSPECTIONS AT CONTRACTOR'S RISK.

PERFORM: PERFORM THESE TASKS FOR EACH WELD, FASTENER OR BOLTED CONNECTION, AND NOTED VERIFICATION.

DOCUMENT: DOCUMENT, WITH A REPORT, THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENT. THIS IS IN addition TO ANY OTHER REPORTS REQUIRE IN THE SPECIAL INSPECTIONS GUIDE SPECIFICATION.

TABLE 1 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS (IBC, TABLE 1705.6)

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6		X	CONTRACT DOCUMENTS AND GEOTECHNICAL REPORT
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	1705.6		X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	1705.6		X	
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	1705.6	X		
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	1705.6		X	

TABLE 2 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF DRIVEN DEEP FOUNDATION ELEMENTS (IBC, TABLE 1705.7)

TYPE	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	1705.7	X		CONTRACT DOCUMENTS AND GEOTECHNICAL REPORT
DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.		X		
INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.		X		
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHEIVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.		X		
FOR STEEL ELEMENTS, PERFORM ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2.		IN ACCORDANCE WITH 1705.2		
FOR CONCRETE ELEMENTS AND CONCRETE-FILLED ELEMENTS, PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.		IN ACCORDANCE WITH 1705.3		
FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE		IN ACCORDANCE WITH STATEMENT OF SPECIAL INSPECTIONS		

TABLE 3 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (IBC, TABLE 1705.3)

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
INSPECT REINFORCEMENT AND VERIFY PLACEMENT	1705.3 1908.4		X	ACI 318: CHAPTER 20, SECTION 25.2, 25.3, 26.5.1-26.5.3
REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706	1705.3		X	AWS D1.4 ACI 318: SECTION 26.5.4
b. INSPECT SINGLE PASS FILLET WELDS MAX 5/16"			X	
c. INSPECT ALL OTHER WELDS		X		
INSPECT ANCHORS CAST IN CONCRETE	1705.3		X	ACI 318: SECTION 17.8.2
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	1705.3	X		ACI 318: SECTION 17.8.2.4 ICC OR IAPMO TEST REPORT FOR SPECIFIC ANCHORS.
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a			X	ACI 318: SECTION 17.8.2 ICC OR IAPMO TEST REPORT FOR SPECIFIC ANCHORS.
VERIFYING USE OF REQUIRED DESIGN MIX	1705.3 1904.1 1904.2 1908.2 1908.3		X	ACI 318: CHAPTER 19, SECTIONS 26.4.3, 26.4.4
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3 1908.10	X		ACI 318: SECTIONS 26.4.5, 26.12 ASTM C172 ASTM C31
INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1705.3 1908.6 1908.7 1908.8	X		ACI 318: SECTIONS 26.4.5
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3 1908.9		X	ACI 318: SECTIONS 26.4.7-26.4.9
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3		X	ACI 318: SECTION 26.10.1(b)
INSPECTION OF FIELD WELDS OF WATERSTOP (MANUFACTURER SHALL PROVIDE FIELD TRAINING OF WATERSTOP WELDERS AND SPECIAL INSPECTORS)			X	
INSPECT ERECTION OF PRECAST CONCRETE ELEMENTS	1705.3		X	ACI 318: SECTION 26.8

TABLE 4 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS (IBC, TABLE 1705.8)

TYPE	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	1705.8	X		CONTRACT DOCUMENTS AND APPROVED GEOTECHNICAL REPORT
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES PLACED		X		
FOR CONCRETE ELEMENTS PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH IBC SECTION 1705.3 (TABLE 3 THIS SHEET)				

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SPECIAL INSPECTIONS I

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

PROJECT NO. 2395-267343
FILE NAME: S001STNT.RVT

SHEET NO.
S-3

TABLE 5A – STRUCTURAL STEEL - WELDING

STEEL INSPECTION PRIOR TO WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: TABLE C-N5.4-1, AISC 341-16: TABLES J6.1,2,3

TASK	INSPCECTION TYPE	DESCRIPTION
1. VERIFY THAT THE WELDING PROCEDURES SPECIFICATION (WPS) IS AVAILABLE	PERFORM	
2. VERIFY MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES ARE AVAILABLE	PERFORM	
3. VERIFY MATERIAL IDENTIFICATION	PERFORM	TYPE AND GRADE.
4. WELDER IDENTIFICATION SYSTEM	PERFORM	THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
5. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	PERFORM/OBSERVE PER AISC 341-16 TABLE J6.1	- JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION) - BACKING TYPE AND FIT (IF APPLICABLE)
6. CONFIGURATION AND FINISH OF ACCESS HOLES	OBSERVE	
7. FIT-UP OF FILLET WELDS	PERFORM/OBSERVE PER AISC 341-16 TABLE J6.1	- DIMENSIONS (ALIGNMENT, GAPS AT ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)
STEEL INSPECTION DURING WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: TABLE C-N5.4-2, AISC 341-16: TABLES J6.1,2,3		
8. USE OF QUALIFIED WELDERS	PERFORM	WELDING BY WELDERS, WELDING OPERATORS, AND TACK WELDERS WHO ARE QUALIFIED IN CONFORMANCE WITH REQUIREMENTS.
9. CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	- PACKAGING - ELECTRODE ATMOSPHERIC EXPOSURE CONTROL
10. NO WELDING OVER CRACKED TACK WELDS	OBSERVE	
11. ENVIRONMENTAL CONDITIONS	OBSERVE	- WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE
12. WELDING PROCEDURES SPECIFICATION FOLLOWED	OBSERVE	- SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDING MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) - PROPER POSITION (F, V, H, OH) - INTERMIX OF FILLER METALS AVOIDED
13. WELDING TECHNIQUES	OBSERVE	- INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS
STEEL INSPECTION AFTER WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: TABLE C-N5.4-3, AISC 341-16: TABLES J6.1,2,3		
14. WELDS CLEANED	OBSERVE	
15. SIZE, LENGTH, AND LOCATION OF ALL WELDS	PERFORM	SIZE, LENGTH, AND LOCATION OF ALL WELDS CONFORM TO THE REQUIREMENTS OF THE DETAIL DRAWINGS
16. WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM AND DOCUMENT	- CRACK PROHIBITION - WELD/BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY
17. ARC STRIKES	PERFORM	
18. K-AREA	PERFORM AND DOCUMENT	WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS.
19. BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED WHERE REQUIRED	PERFORM AND DOCUMENT	
20. PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS WHERE REQUIRED	PERFORM AND DOCUMENT	
21. REPAIR ACTIVITIES	PERFORM AND DOCUMENT	
22. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	PERFORM	

TABLE 5B – STRUCTURAL STEEL - BOLTING

STEEL INSPECTION TASKS PRIOR TO BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: TABLE C-N5.6-1

TASK	INSPCECTION TYPE	DESCRIPTION
1. MANUFACTURE'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	PERFORM	
2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	OBSERVE	
3. PROPER FASTENERS SELECTED FOR JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	OBSERVE	
4. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	OBSERVE	
5. CONNECTING ELEMENTS, INCLUDING APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	OBSERVE	
6. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS	OBSERVE	
STEEL INSPECTION TASKS DURING BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: TABLE C-N5.6-2		
7. FASTENER ASSEMBLIES OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	OBSERVE	
8. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION	OBSERVE	
9. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	OBSERVE	
10. BOLTS ARE PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	OBSERVE	
STEEL INSPECTION TASKS AFTER BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-10: TABLE C-N5.6-3		
11. DOCUMENT ACCEPTANCE OR REJECTION OF ALL BOLTED CONNECTIONS	DOCUMENT	

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03/01/2024

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SPECIAL INSPECTIONS II

PROJECT NO. 2395-267343
FILE NAME: S001STNT.RVT

SHEET NO.
S-4

TABLE 5C – STRUCTURAL STEEL – NONDESTRUCTIVE TESTING

NONDESTRUCTIVE TESTING OF WELDED JOINTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2018 IBC 1705.2.1, AISC 360-16: SECTION N5.5

TASK	INSPCECTION TYPE	DESCRIPTION
1. USE OF QUALIFIED NONDESTRUCTIVE TESTING PERSONNEL	PERFORM	VISUAL WELD INSPECTION AND NONDESTRUCTIVE TESTING (NDT) SHALL BE CONDUCTED BY PERSONNEL QUALIFIED IN ACCORDANCE WITH AWS D1.8 CLAUSE 7.2
2. WELDED JOINTS SUBJECT TO FATIGUE	OBSERVE	DYE PENETRANT TESTING (DT) AND ULTRASONIC TESTING (UT) SHALL BE PERFORMED ON 100% OF WELDED JOINTS IDENTIFIED ON CONTRACT DRAWINGS AS BEING SUBJECT TO FATIGUE.
3. WELD TAB REMOVAL SITES	OBSERVE	AT THE END OF WELDS WHERE WELD TABS HAVE BEEN REMOVED, MAGNETIC PARTICLE TESTING SHALL BE PERFORMED ON THE SAME BEAM-TO-COLUMN JOINTS RECEIVING UT.

TABLE 6 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (PER IBC 1705.2.2)

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK: a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS	1705.2.2			
			X	APPLICABLE ASTM MATERIAL STANDARDS
			X	
INSPECTION OF WELDING: a. COLD-FORMED STEEL DECK 1) ROOF DECK WELDS	1705.2.2			
			X	AWS D1.3

TABLE 7 - LEVEL 2 REQUIRED VERFICATION AND INSPECTIONS OF MASONRY CONSTRUCTION (TMS 602, TABLE 4, PER IBC SECTION 1705.4)

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
VERIFY COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS			X	TMS 602 ARTICLE 1.5
VERIFICATION OF f'm PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY CODE			X	TMS 602 ARTICLE 1.4B
VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATING GROUT		X		TMS 602 ARTICLE 1.5 AND 1.6.3
AS MASONRY CONSTRUCTION BEGINS, VERIFY THE FOLLOWING TO ENSURE COMPLIANCE : a. PROPORTIONS OF SITE-PREPARED MORTAR b. CONSTRUCTION OF MORTAR JOINTS c. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES				
			X	TMS 602 ARTICLE 2.1 AND 2.6A AND 2.6C
			X	TMS 602 ARTICLE 3.3B
			X	TMS 602 ARTICLE 3.2 AND 3.4
DURING CONSTRUCTION VERIFY: a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION c. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	1705.4			
			X	TMS 602 ARTICLE 3.3F
			X	TMS 602 SECTIONS 1.2.1.e, 6.2.1 AND 6.3.1
			X	TMS 602 ARTICLES 1.8C, 1.8D
PRIOR TO GROUTING, VERIFY THE FOLLOWING TO ENSURE COMPLIANCE: a. GROUT SPACE IS CLEAN PRIOR TO GROUTING b. PLACEMENT OF REINFORCEMENT AND CONNECTORS AND ANCHORAGES c. PROPORTIONS OF SITE-PREPARED GROUT d. CONSTRUCTION OF MORTAR JOINTS				
			X	TMS 602 ARTICLE 3.2D AND 3.2F
			X	TMS 602 SECTION 6.1, 6.3.1, 6.3.6 AND 6.3.7 TMS 602 ARTICLES 3.2, AND 3.4
			X	TMS 602 ARTICLE 2.6B AND 2.4.G.1.b
			X	TMS 602 ARTICLE 3.3B
VERIFY GROUT PLACEMENT TO ENSURE COMPLIANCE		X		TMS 602 ARTICLE 3.5 AND 3.6C
OBSERVE PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS			X	TMS 602 ARTICLE 1.4.B.2.a.3, 1.4.B.2.b.3, 1.4.B.2.c.3, 1.4.B.3, AND 1.4.B.4

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: K. RAJENDRAN
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

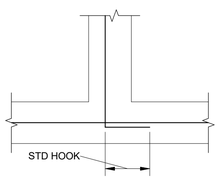
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SPECIAL INSPECTIONS III

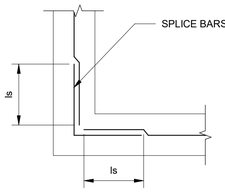
JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER
03/01/2024

PROJECT NO. 2395-267343
FILE NAME: S001STNT.RVT

SHEET NO.
S-5



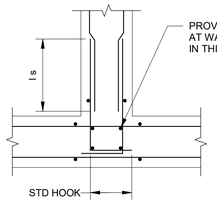
INTERSECTIONS



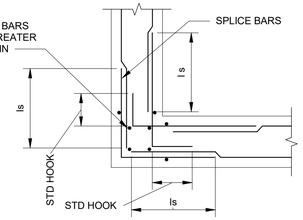
CORNERS OR SKEWED CORNERS

WALL REINFORCING PLANS SINGLE MAT

A DETAIL
NTS



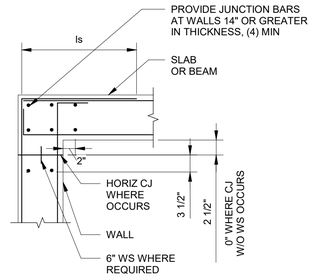
INTERSECTIONS



CORNERS OR SKEWED CORNERS

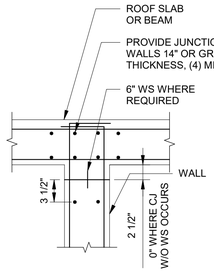
WALL REINFORCING PLANS DOUBLE MAT

B DETAIL
NTS



WALL TO TOP SLAB (EDGE) CONSTRUCTION JOINT

C DETAIL
NTS



WALL TO TOP SLAB CONSTRUCTION JOINT

D DETAIL
NTS

NOTES:

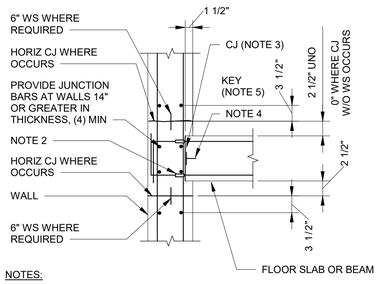
1. ——— DENOTES TYPICAL WALL REINFORCING
2. ls = LAP SPLICE LENGTH. SEE TABLE IN DETAIL F/SZ-2.
3. SPLICE BARS TO BE SAME SIZE & SPACING AS LARGER OF BARS BEING SPLICED, UNO. SPLICE BARS SHALL BE LAPPED WITH TYPICAL WALL REINFORCING.
4. EXTENDED BAR HOOKED ENDS TO FAR FACE OF WALL WHERE WALL THICKNESS DOES NOT ALLOW FOR FULL HOOK EXTENSION, ROTATE HOOK UP OR DOWN TO FIT INTO WALL .

CONSTRUCTION JOINT NOTES:

1. REINFORCING SHOWN IS FOR CLARITY ONLY. SEE PLANS AND SECTIONS FOR REINFORCING SIZES, SPACING, LOCATION AND DETAILS
2. ALL JOINT SURFACES SHALL BE ROUGHENED AND PREPARED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
3. JUNCTION BARS SHALL BE SAME SIZE OF THE LARGER OF WALL OR SLAB REINFORCING EXCEPT WHERE NOTED OTHERWISE ON THE DETAILS.
4. ALL LAP SPLICES SHALL BE CLASS B TENSION LAP. SEE TABLE ON DETAIL F/SZ-2 FOR ld and ls.
5. WATERSTOP SHALL BE PLACED AT CENTER OF WALL OR SLAB UNO.
6. UNLESS NOTED OTHERWISE, WATERSTOP SHALL BE PLACED AT ALL CONSTRUCTION JOINT FOR WATER RETAINING STRUCTURES.
7. CONTRACTOR TO COORDINATE ALL CONSTRUCTION JOINTS WITH POUR SEQUENCE AND REINFORCEMENT SHOP DRAWINGS.

PARTIAL CONTRACTION JOINT NOTES (CONSTRUCTION JOINT NOTES APPLY TO PCJS):

1. SECOND POUR SHALL BE MIN 24 HOURS AFTER INITIAL POUR.
2. ALL LAP SPLICES SHALL BE CLASS B TENSION LAP OR 2'-0", WHICHEVER IS GREATER. SEE TABLE ON DETAIL F/SZ-2 FOR ls

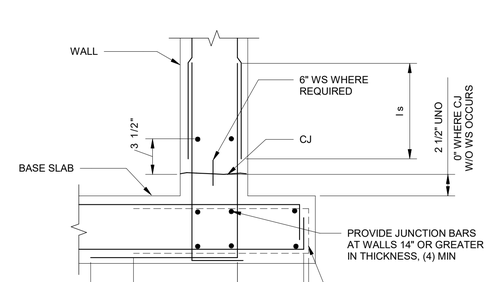


NOTES:

1. THE DETAIL SHOWS THE LOCATION OF THREE CONSTRUCTION JOINTS, ALL THREE MAY NOT OCCUR @ A WALL TO SLAB INTERSECTION AT THE SAME TIME.
2. FORM SAVER DOWELS MAY BE USED WERE INDICATED ON DRAWINGS OR AS ALLOWED IN WRITING BY THE ENGINEER .
3. VERTICAL CONSTRUCTION JOINT ALLOWED WHERE DETAILED ON DRAWINGS OR AS ALLOWED IN WRITING BY ENGINEER. THE SLAB IS REQUIRED TO INTERRUPT WALL PLACEMENTS WHERE SHOWN ON THE DRAWINGS.
4. USE T-SHAPED RETROFIT WATERSTOP, UNO. USE L-SHAPED RETROFIT WATERSTOP WITH SLAB OR FLOOR 1'-2" THICK OR LESS.
5. 1-1/2" KEY IS REQUIRED IF VERTICAL CONSTRUCTION IS PROVIDED.

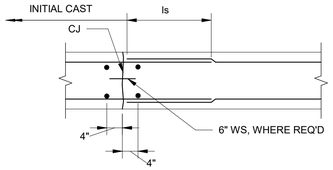
WALL TO INTERMEDIATE SLAB EDGE CONSTRUCTION JOINT

E DETAIL
NTS



WALL TO BASE SLAB CONSTRUCTION JOINT

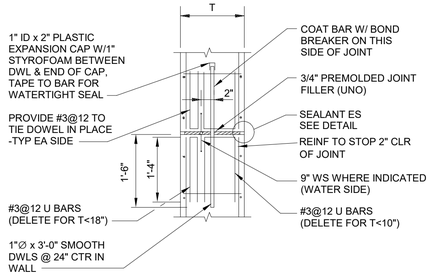
F DETAIL
NTS



NOTE: SECOND POUR SHALL BE MIN 24 HOURS AFTER INITIAL POUR.

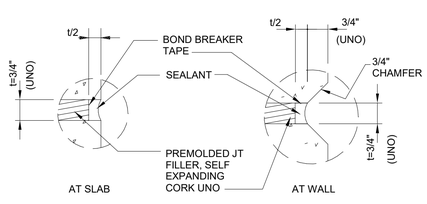
SLAB OR WALL CONSTRUCTION JOINT

G DETAIL
NTS



EXPANSION JOINT AND SEALANT NEW

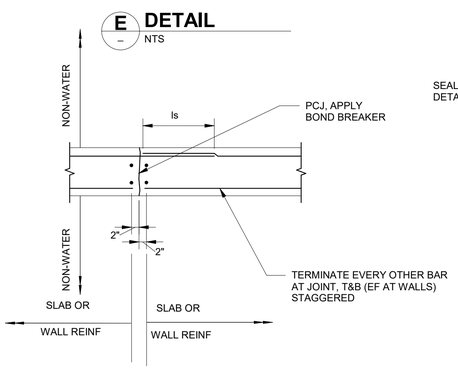
H DETAIL
NTS



SEALANT DETAIL

NOTE:

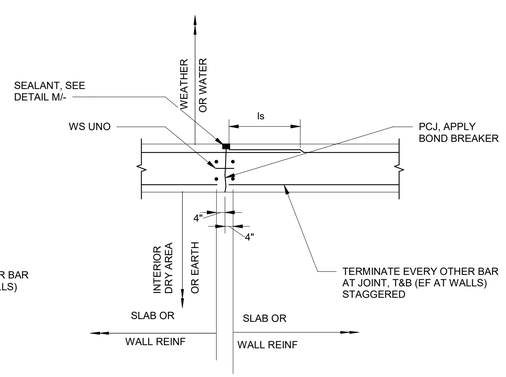
FOR LOCATIONS REQUIRING SEALANT AND WATERSTOPS, SEE CONCRETE JOINT NOTES AND DRAWINGS.



NON-WATER RETENTION SLAB OR WALL

PARTIAL CONTRACTION JOINT (PCJ)

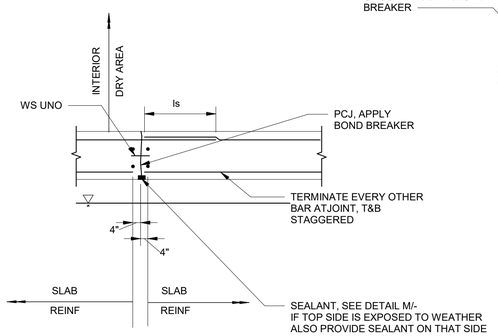
J DETAIL
NTS



WATER RETENTION SLAB OR WALL

PARTIAL CONTRACTION JOINT (PCJ)

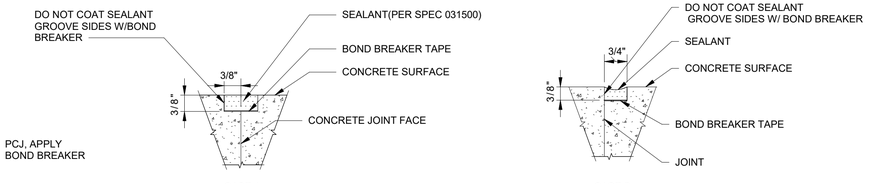
K DETAIL
NTS



WATER RETENTION ELEVATED SLAB

PARTIAL CONTRACTION JOINT (PCJ)

L DETAIL
NTS

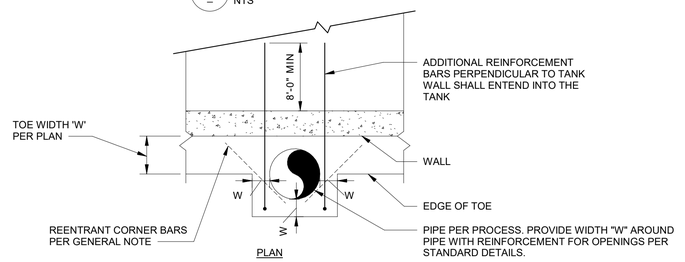


CASE A

CASE B

SEALANT GROOVE

M DETAIL
NTS



PLAN

PIPE PENETRATING WALL TOE

N DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS I

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-1

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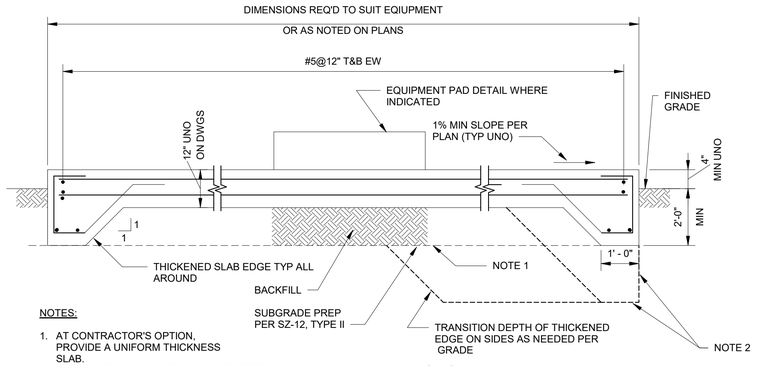
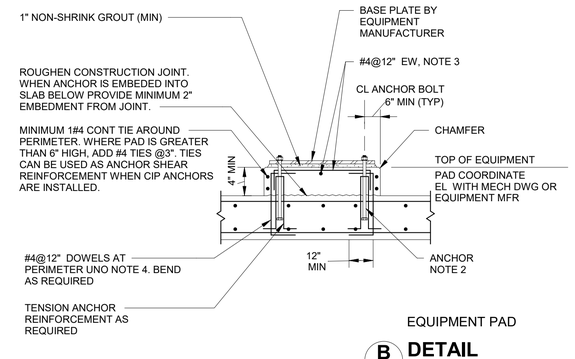


NOTES:

1. AT CONTRACTOR'S OPTION, PROVIDE A UNIFORM THICKNESS SLAB.
2. CONTRACTOR TO LOWER THE PERIMETER THICKENED SLAB EDGE AS REQUIRED TO MAINTAIN THE MINIMUM DEPTH NOTED BELOW GRADE.

EXTERIOR SLAB

A DETAIL
NTS



EQUIPMENT PAD

B DETAIL
NTS

EQUIPMENT PAD NOTES:

1. DIMENSIONS OF PAD AS REQUIRED TO SUIT EQUIPMENT (4" MINIMUM HEIGHT UNLESS PAD IS CAST INTEGRALLY WITH SLAB).
2. ANCHOR PER DEFERRED SUBMITTAL. COORDINATE WITH EQUIPMENT MANUFACTURER. DEFERRED SUBMITTAL TO PROVIDE ANCHOR SIZE, TYPE, EMBED, NUMBER, LOCATIONS, MINIMUM EDGE DISTANCE AND ANY REQUIRED ANCHOR REINFORCEMENT. EQUIPMENT PAD TO BE POURED AFTER APPROVAL OF ANCHORAGE SUBMITTAL. FOR THE EQUIPMENT PAD ON THE EXISTING CONCRETE SLAB/MEMBER, DELEGATED ENGINEER/ EQUIPMENT MANUFACTURER MUST DESIGN THE ANCHORS WITH THE EPOXY ADHESIVE ANCHORAGE SYSTEM, AND ENGINEER APPROVAL IS REQUIRED.
3. USE #5@12" EW FOR PAD IS 2'-0" HIGH OR GREATER.
4. USE #5@12" DOWELS WHEN PAD IS 2'-0" HIGH OR GREATER.

EXTRA REINFORCEMENT AT OPENING NOTES:

1. DETAIL IS TYPICAL FOR ALL OPENINGS GREATER THAN 10" AND LESS THAN OR EQUAL TO 6 FEET IN THE LARGER DIMENSION IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE DETAILED ON THE DRAWINGS. SPREAD REINFORCING AT SMALLER OPENINGS. FOR OPENINGS 10" AND LESS, SHIFT REINFORCEMENT AROUND OPENING MOVING CONFLICTING REINFORCEMENT NO MORE THAN 4" AND MAINTAINING 2" CLEAR TO OPENING EDGE. IF REINFORCEMENT CANNOT BE SHIFTED, CUT CONFLICTING REINFORCEMENT AND PROVIDE ADDITIONAL REINFORCEMENT IN ACCORDANCE WITH THE STANDARD DETAIL E ON THIS SHEET.
2. EXTRA BARS ARE NOT REQUIRED AT AN OPENING EDGE PARALLEL TO AND WITHIN 6 NCHES OF A SLAB, WALL OR BEAM.
3. ls = LAP SPLICE LENGTH. PROVIDE STD HOOK IF FULL LAP SPLICE LENGTH IS NOT POSSIBLE.
4. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
5. WHERE WALL OPENING IS WITHIN 4'-0" FROM BASE SLAB, PROVIDE MATCHING DOWELS FOR ADDITIONAL BARS.
6. PROVIDE 2" CLEARANCE FROM REINFORCING TO EDGE OF OPENING, TYP.
7. WHERE OPENING WIDTH OR DIAMETER IS GREATER THAN 6'-0", SEE PLAN FOR ADDITIONAL REINFORCEMENT AT OPENINGS. PROVIDE DIAGONAL BARS AT ALL OPENINGS AS SHOWN.
8. DO NOT USE HEADED BARS UNLESS APPROVED BY THE ENGINEER.

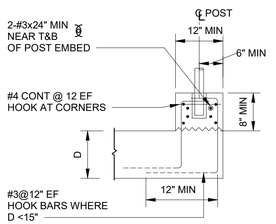
LAP SPLICE NOTES:

1. ld = DEVELOPMENT LENGTH, db = BAR DIAMETER, ls = LAP SPLICE LENGTH, ldh =DEVELOPMENT LENGTH FOR A BAR WITH STANDARD HOOK.
2. TOP BAR IS ANY HORIZONTAL BAR IN WALLS AND SLABS WITH MORE THAN 12" CONCRETE CAST IN ONE LIFT BENEATH IT. HORIZONTAL BARS IN WALLS SHALL BE CONSIDERED AS TOP BARS. VERTICAL BARS IN WALLS MAY BE CONSIDERED AS OTHER BARS.
3. SPLICES IN HORIZONTAL BARS SHALL BE STAGGERED, UNO.
4. WHEN LAPPING DIFFERENT SIZE BARS USE LENGTH BASED ON LARGER BAR DIAMETER, UNO.
5. TABLE IS BASED ON f' c = 4,500 PSI AND fy = 60,000 PSI. SPLICE AND DEVELOPMENT LENGTHS SHALL BE INCREASED FOR LOWER CONCRETE COMPRESSIVE STRENGTH AS FOLLOWS:

CONCRETE STRENGTH	MULTIPLIER
f' c = 2,500 PSI	1.34
f' c = 3,000 PSI	1.23

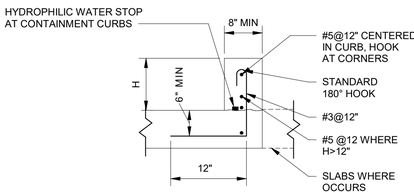
CONDUIT NOTES:

1. NO CONDUIT SHALL BE EMBEDDED IN STRUCTURAL BEAMS, COLUMNS, WALLS OR SLABS UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWING.
2. WHERE CONDUIT MUST PASS THROUGH OR EMBED IN A SLAB OR WALL, MINIMUM SIZE AND SPACING REQUIREMENT SHALL BE PER ACI 350-SECTION 6.3 AND THIS DETAIL.
3. CONDUIT SHALL BE PLACED IN MIDDLE THIRD OF CONCRETE SECTION AND 6" BELOW TOP OF SLAB.
4. ALUMINUM SHALL NOT BE EMBEDDED IN CONCRETE UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION.
5. SUBMIT SIZE, SPACING, LOCATION AND RELATIONSHIP TO REINFORCE FOR REVIEW.



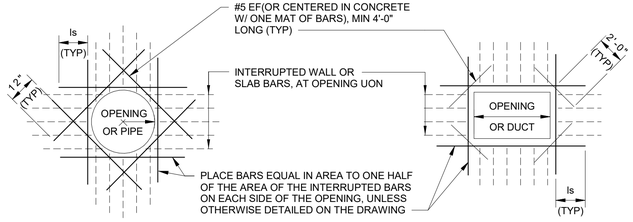
CURB WITH GUARDRAIL/FENCE

C DETAIL
NTS



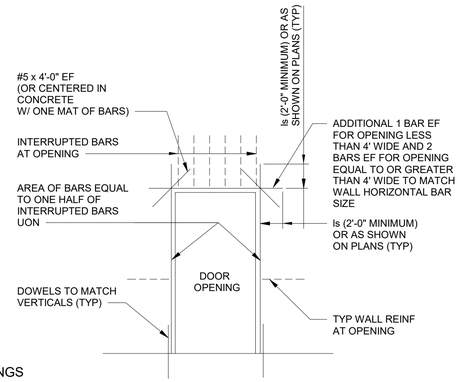
CURB WITHOUT GUARDRAIL

D DETAIL
NTS



EXTRA REINFORCING AT OPENINGS

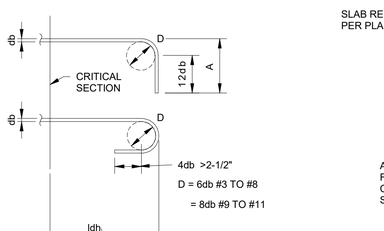
E DETAIL
NTS



REINF SIZE	DIA, db (INCHES)	WALLS AND SLABS BAR SPACING ≥ 6 INCHES				BEAMS, COLUMNS, AND FOOTINGS BAR SPACING ≥ 3 db				ldh (INCHES)	A (INCHES)
		ld (INCHES) FOR A STRAIGHT BAR		ls (INCHES)		ld (INCHES) FOR A STRAIGHT BAR		ls (INCHES)			
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
#3	0.375	12	12	14	12	18	14	23	18	6	6
#4	0.5	14	12	19	14	24	18	31	24	7	8
#5	0.625	18	14	23	18	30	23	38	30	8	10
#6	0.75	21	17	28	21	35	27	46	35	10	12
#7	0.875	35	27	45	35	51	40	67	51	11	14
#8	1.0	44	34	57	44	59	45	76	59	13	19
#9	1.125	54	42	70	54	66	51	86	66	15	22
#10	1.375	66	51	86	66	74	57	96	74	16	24

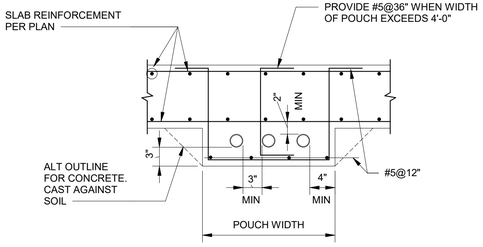
LAP SPLICE AND DEVELOPMENT LENGTHS

F DETAIL
NTS



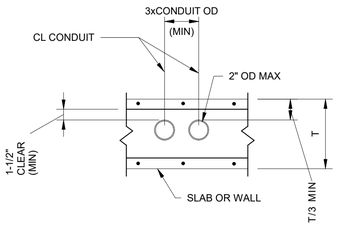
HOOKED BAR DETAILS FOR DEVELOPMENT OF STANDARD HOOKS

G DETAIL
NTS



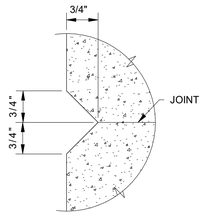
CONDUIT EMBEDDED BELOW SLAB

H DETAIL
NTS



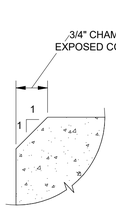
SINGLE ROW
EMBEDDED CONDUIT IN SLAB OR WALL

J DETAIL
NTS



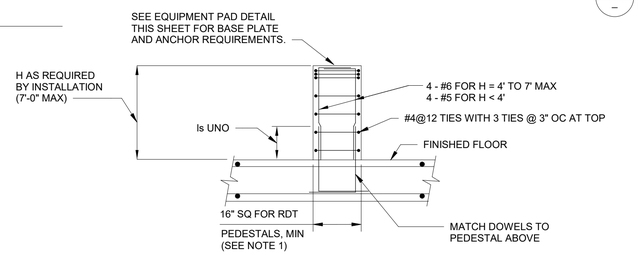
V-GROOVE JOINT

K DETAIL
NTS



CHAMFER

L DETAIL
NTS

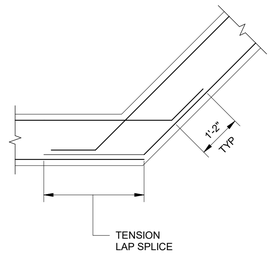


NOTE:

1. COORDINATE RDT PEDESTAL SIZE WITH APPROVED RDT SUBMITTAL. COORDINATED RDT ANCHORAGE WITH DELEGATED ANCHORAGE ENGINEER AND MANUFACTURER SUCH THAT REQUIRED EDGE DISTANCE AND EMBEDMENT ARE PROVIDED (MIN 4")

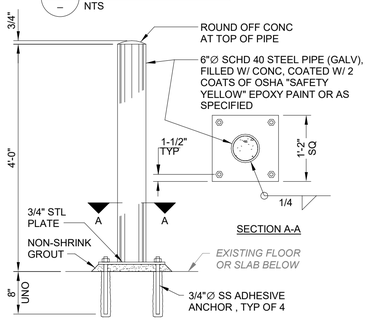
EQUIPMENT PEDESTAL SUPPORT

M DETAIL
NTS



SKEWED CORNER REINFORCEMENT

N DETAIL
NTS



POST INSTALLED PIPE BOLLARD

P DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS II

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-2

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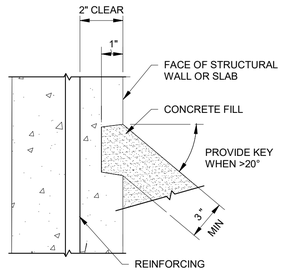
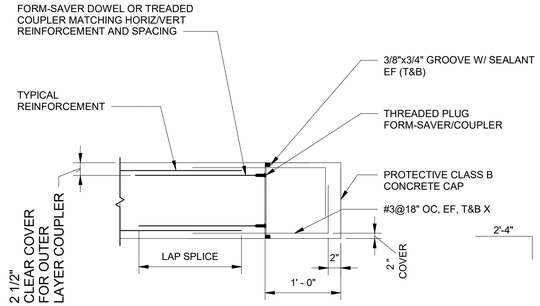


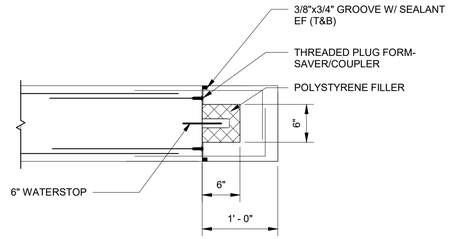
GROUT FILLET

A DETAIL
NTS



FUTURE CONNECTION WITHOUT WATERSTOP

B DETAIL
NTS



NOTES:

1. SEE DETAIL B/- FOR INFO NOT SHOWN.
2. USE RETROFIT WS, AS NEEDED, FOR FUTURE EXPANSION
3. INSURE PROTECTIVE CAP OF FORMSAVER OR COUPLER IS INSTALLED
4. FOR FUTURE CONNECTION SAWCUT ALONG GROOVE AND REMOVE PROTECTIVE CAP

FUTURE CONNECTION WITH WATERSTOP

C DETAIL
NTS

WATERSTOP NOTES:

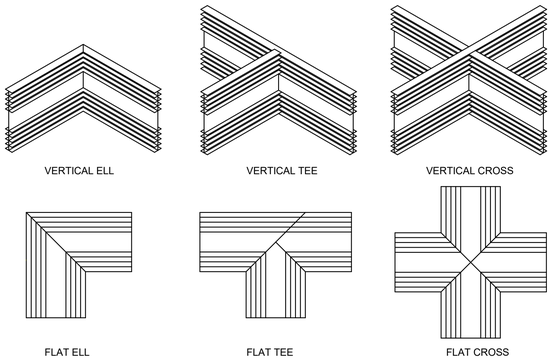
1. PVC WATERSTOPS SHOWN, SIMILAR FOR THERMOPLASTIC ELASTOMERIC RUBBER WATERSTOPS.
2. ALL FITTINGS SHALL BE FACTORY MADE OR SHOP WELDED IN ACCORDANCE WITH MFR'S RECOMMENDATIONS.
3. ONLY STRAIGHT BUTT SPLICES MAY BE MADE IN FIELD.

PIPE ENCASEMENT NOTES:

1. MINIMUM ENCASEMENT:

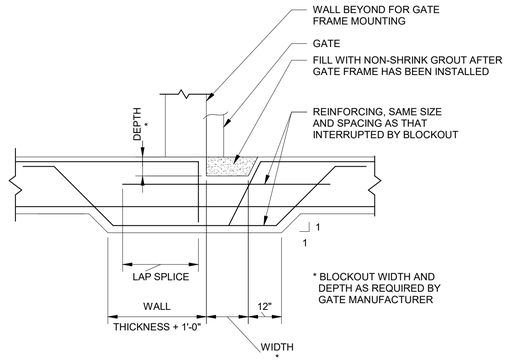
   PIPES LESS THAN 12" ø = 6"
   PIPES 12" ø AND GREATER = 12"

2. ALL PIPE SHALL BE PRESSURE TESTED BEFORE CONCRETE PLACEMENT.
3. ALL BELOW GRADE PIPES SHALL BE SUPPORTED ON CONCRETE BLOCKS PRIOR TO CASTING OF CONCRETE BEDDING. SIZE AND SPACING OF CONCRETE BLOCK SUPPORTS SHALL BE PER PIPE MANUFACTURER
4. FOR ALL PIPES 12"ø AND LARGER, ENCASEMENT SHALL BE CAST IN TWO POURS. INITIAL CAST SHALL BE CURED FOR 12 HOURS BEFORE CASTING THE SECOND POUR.
5. THE DEPTH OF THE INITIAL POUR SHALL BE SELECTED TO PREVENT FLOTATION OF THE PIPE. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT FLOTATION OF THE PIPE DURING CONCRETING.
6. ENCASE ALL PIPES AND RISERS BELOW SLABS AND FOOTINGS. EXTEND ENCASEMENT AS SHOWN IN DETAIL.
7. MAINTAIN MINIMUM COVER FOR LONGITUDINAL BAR LAPS FOR PIPES SMALLER THAN 6"ø.
8. FOR CASE "B", PROVIDE A JOINT IN THE PIPE AT EACH JOINT IN STRUCTURE. PROVIDE CONSTRUCTION JOINTS IN ENCASEMENT AT LOCATIONS OF CONSTRUCTION JOINTS IN STRUCTURE. PROVIDE PARTIAL CONTRACTION JOINTS IN ENCASEMENT AT LOCATIONS OF PARTIAL CONTRACTION JOINTS AND EXPANSION JOINTS IN STRUCTURE.
9. PIPES MAY BE COMMINGLED IN THE SAME REINFORCEMENT CAGE WHEN THEY ARE CLOSE ENOUGH TO BE CAST IN THE SAME PIPE ENCASEMENT.



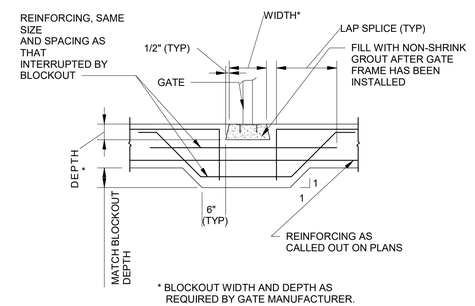
WATERSTOP FITTING DETAILS

D DETAIL
NTS



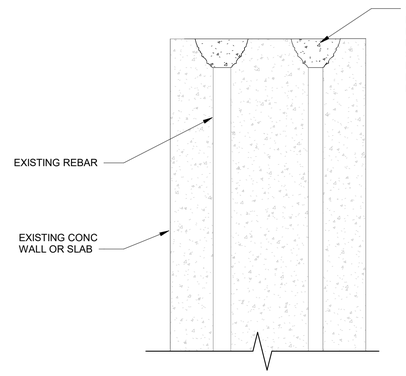
SLAB GATE BLOCKOUT
CASE A

E DETAIL
NTS



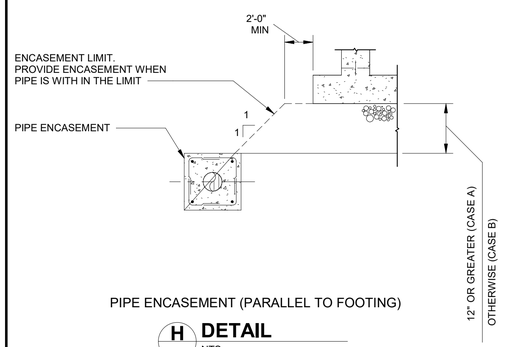
SLAB GATE BLOCKOUT
CASE B

F DETAIL
NTS



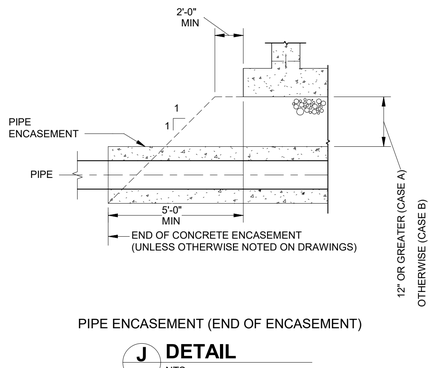
CONC DEMO/REPAIR DETAIL

G DETAIL
NTS



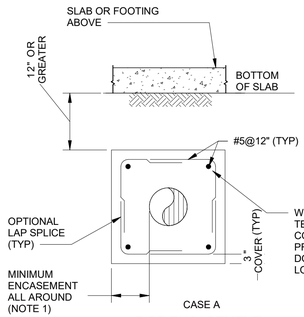
PIPE ENCASEMENT (PARALLEL TO FOOTING)

H DETAIL
NTS



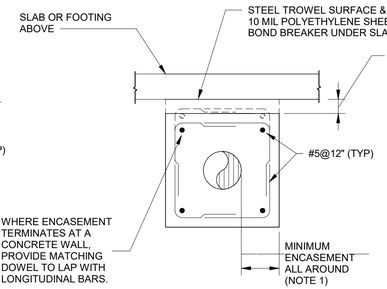
PIPE ENCASEMENT (END OF ENCASEMENT)

J DETAIL
NTS



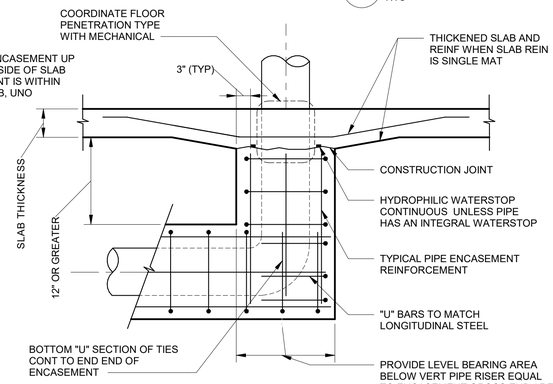
PIPE ENCASEMENT

K DETAIL
NTS



PIPE ENCASEMENT

L DETAIL
NTS



PIPE ENCASEMENT AT RISER

M DETAIL
NTS

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ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

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Tel: (816) 444-8270

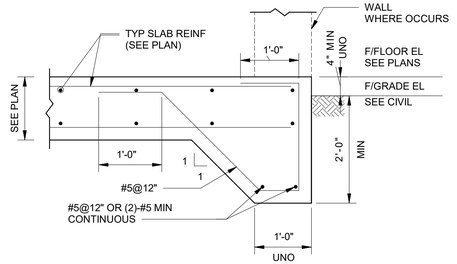
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS III

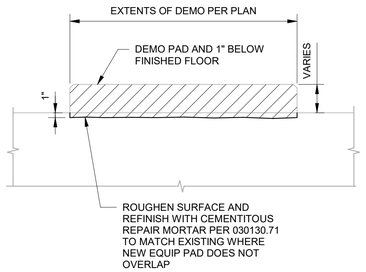
PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-3



THICKENED SLAB EDGE

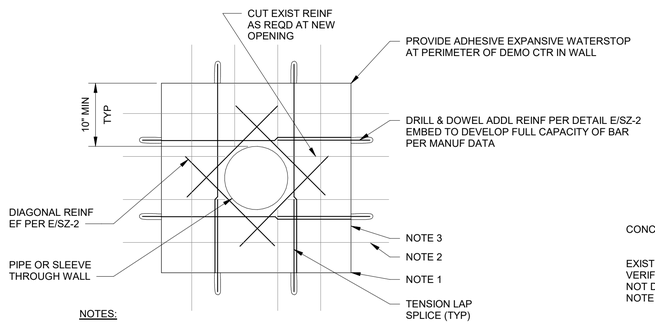
A DETAIL
NTS



EQUIPMENT PAD DEMO

(EXISTING WALL DEMO SIMILAR)

E DETAIL
NTS

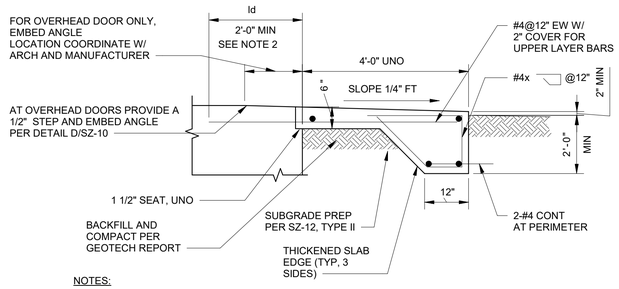


NOTES:

1. DO NOT OVERCUT CORNERS W/ 1" DEEP SAWCUT EF OF WALL.
2. MAINTAIN ALL EXISTING REINFORCING EXCEPT THAT WHICH INTERSECTS THE NEW OPENING.
3. ROUGHEN & CLEAN EXISTING SURFACE TO ACCEPT CEMENT SLURRY OR EPOXY ADHESIVE BONDING AGEND AS SPECIFIED IN 030130.71

NEW OPENING FOR 18" DIA AND SMALLER

H DETAIL
NTS

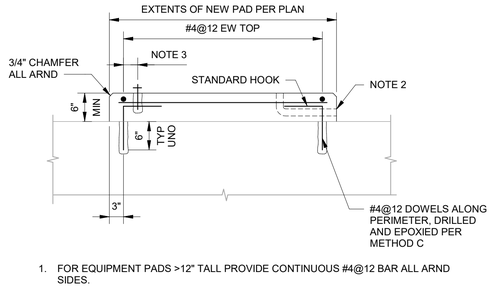


NOTES:

1. LANDING WIDTH = WIDTH OF DOOR OPENING + 6" HINGE SIDE AND + 18" ON LATCH SIDE UNLESS OTHERWISE NOTED.
2. WHERE DEVELOPMENT LENGTH IS NOT AVAILABLE PROVIDE STANDARD HOOK.
3. TRIPPING HAZARDS IN BOTH DIRECTIONS OF THE LANDING SHALL BE AVOIDED WITH A CONCRETE SURFACE (SIDEWALK AND/OR PAVEMENT), CONTRACTOR SHALL COORDINATE WITH THE FINAL GRADE ELEVATION (SEE CIVIL DWGS), AND SLIGHT ADJUSTMENT TO THE LANDING SLOPE AND LENGTH IN BOTH DIRECTIONS MAY BE ALLOWED WITH ENGINEER APPROVAL.

DOOR ENTRY LANDING

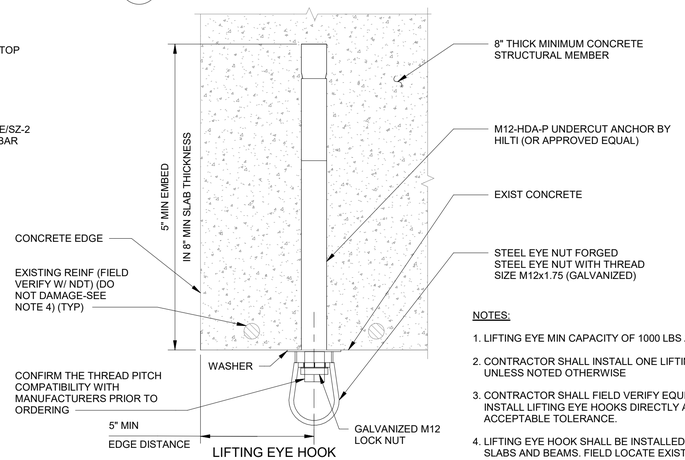
B DETAIL
NTS



1. FOR EQUIPMENT PADS >12" TALL PROVIDE CONTINUOUS #4@12 BAR ALL ARND SIDES.
2. PROVIDE SEAL WATER TUBE THRU NEW EQUIPMENT PAD SIMILAR TO EXISTING AS REQUIRED BY MECHANICAL OR MANUF DWGS.
3. SEE DETAIL B/SZ-2 FOR ANCHORAGE AND BASE PLATE REQUIREMENTS.

NEW EQUIP PAD TO EXISTING SLAB

F DETAIL
NTS

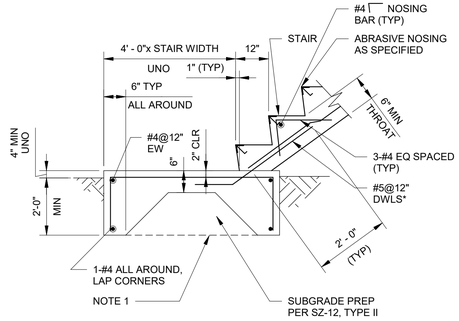


NOTES:

1. LIFTING EYE MIN CAPACITY OF 1000 LBS AND MAX OF 3000 LBS.
2. CONTRACTOR SHALL INSTALL ONE LIFTING EYE HOOK PER PLAN UNLESS NOTED OTHERWISE
3. CONTRACTOR SHALL FIELD VERIFY EQUIPMENT LOCATIONS AND INSTALL LIFTING EYE HOOKS DIRECTLY ABOVE EQUIPMENT WITH ACCEPTABLE TOLERANCE.
4. LIFTING EYE HOOK SHALL BE INSTALLED IN EXISTING CONCRETE SLABS AND BEAMS. FIELD LOCATE EXISTING REBAR PRIOR TO INSTALLATION TO AVOID CUTTING ANY REBAR. WHEN LOCATED WITHIN BEAMS, LIFTING EYE HOOK SHALL BE INSTALLED AT MIDDLE 1/3 OF THE BEAM WIDTH.

LIFTING EYE HOOK

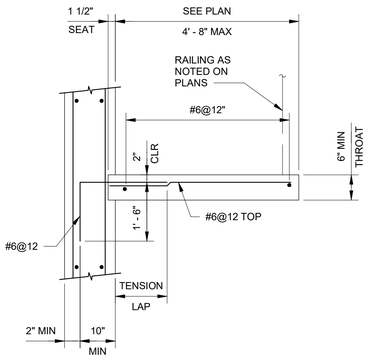
J DETAIL
NTS



- FOR METAL STAIRS:
  1. CONNECT WITH ANCHOR BOLTS
  2. LANDING WIDTH=STRINGER WIDTH+6"ES (UNO)

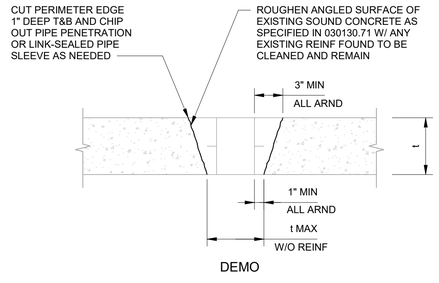
STAIR LANDING SLAB

C DETAIL
NTS

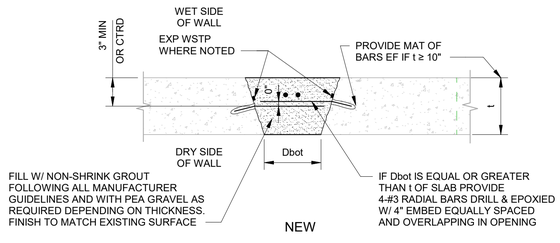


CANTILEVER STAIR

D DETAIL
NTS



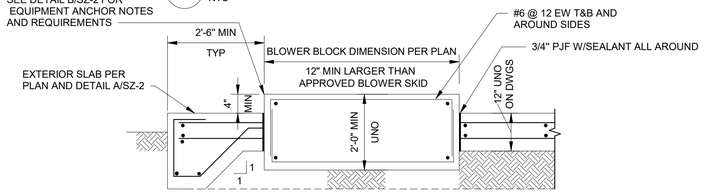
DEMO



NEW

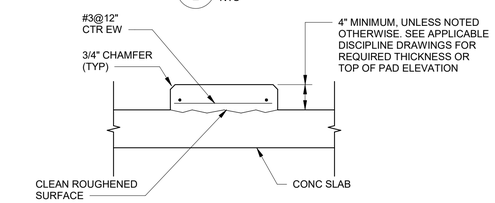
EXISTING PIPE PENETRATION INFILL (12" DIA MAX)

G DETAIL
NTS



EXTERIOR BLOWER BLOCK FOUNDATION

K DETAIL
NTS



NOTE: SIZE OF PAD TO SUIT APPROVED EQUIPMENT WITH 4 INCHES BEYOND ANCHORS (OR EDGE OF EQUIPMENT) (IF ANCHORS ARE REQUIRED)

HOUSEKEEPING PAD

L DETAIL
NTS

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JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS IV

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-4

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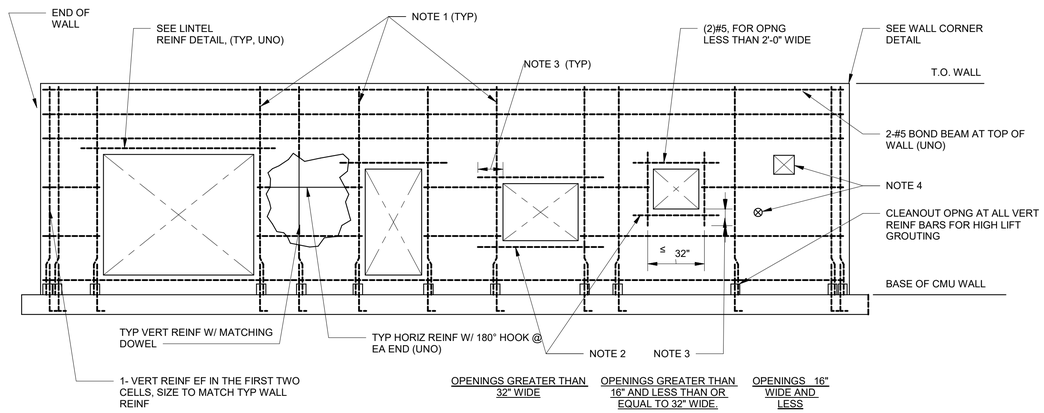
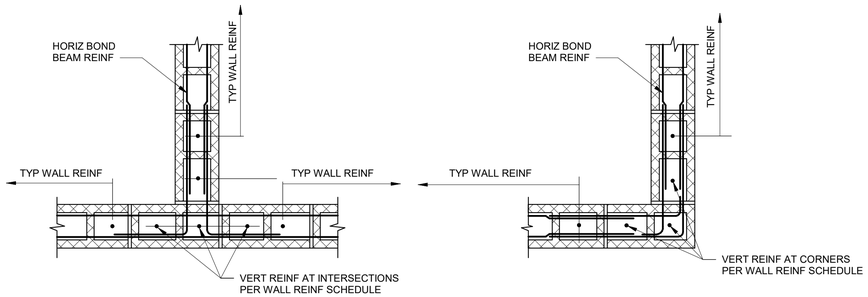


CMU WALL REINFORCING

A DETAIL
NTS



8" CMU WALL CORNERS

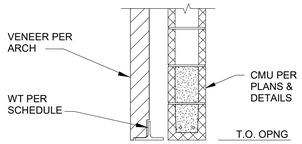
B DETAIL
NTS

CMU WALL REINFORCEMENT NOTES:

1. SEE JAMB REINF @ SIDE OF OPNG DETAIL FOR EXTRA REINF (TYP, UON)
2. SILL REINF 1-#5 EF FOR 12" WALLS, 1-#5 @ CENTER FOR 8" WALLS (TYP, UON).
3. PROVIDE 2'-0" MIN, BUT NOT LESS THAN 48 BAR DIAMETERS.
4. NO ADDL REINF REQ UNLESS OPNG INTERRUPTS TYP HORIZ OR VERT REINF. WHERE TYP REINF IS INTERRUPTED PROVIDE HORIZ AND/OR VERT REINF MATCHING HORIZ AND/OR VERT REINF ADJACENT TO PENETRATION.

CMU LINTEL NOTES:

1. PROVIDE 8" MINIMUM BEARING AT EACH SIDE OF CLEAR SPAN UNLESS OTHERWISE SHOWN ON DESIGN DRAWINGS.
2. PROVIDE REINFORCING AS INDICATED AT ALL OPENINGS, BOTH INTERIOR AND EXTERIOR WALLS.
3. REINFORCING TYPICAL UNLESS OTHERWISE NOTED.



CLEAR SPAN	MEMBER	MIN END BEARING
0 TO 8'-4"	WT6x15	8"
8'-5" TO 10'-8"	WT8x20	8"
10'-9" TO 16'-0"	WT8x28.5	8"

NOTE:
1. SEE SPECIAL DETAILS AS REQUIRED FOR MORE THAN TYPICAL SINGLE 4" WHYTE OF VENEER. HOT DIP GALVANIZE ALL STEEL LINTELS.

STEEL LINTEL SCHEDULE

C DETAIL
NTS

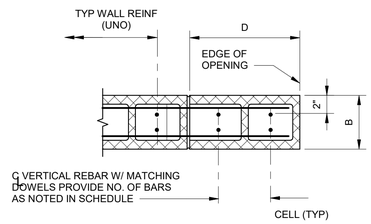
BAR SIZE	CMU LAP SPLICE LENGTH (INCHES) PER TMS 402			
	8" BLOCK		12" BLOCK	
	CENTER	EF	CENTER	EF
4	14	26	12	26
5	21	40	14	40
6	39	74	26	74
7	53	101	35	101
8	80	152	52	152

NOTES:

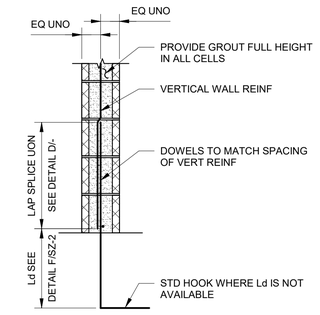
1. SEE DRAWINGS OR CONTACT ENGINEER FOR LAP SPLICE LENGTHS NOT SHOWN.

MASONRY LAP SPLICE SCHEDULE

D DETAIL
NTS



TYPE	OPNG WIDTH	CMU JAMB REINFORCING UNO		
		B	D	VERT REINF
J-A	0'-0" TO < 4'-0"	8"	16"	2-#5 PER CELL 1 EF
		12"	16"	2-#6 PER CELL 1 EF
J-B	4'-0" TO < 7'-0"	8"	16"	2-#5 PER CELL 1 EF
		12"	16"	2-#6 PER CELL 1 EF
J-C	7'-0" TO < 10'-0"	12"	24"	2-#6 PER CELL 1 EF
J-D	10'-0" TO < 14'-0"	12"	24"	2-#7 PER CELL 1 EF

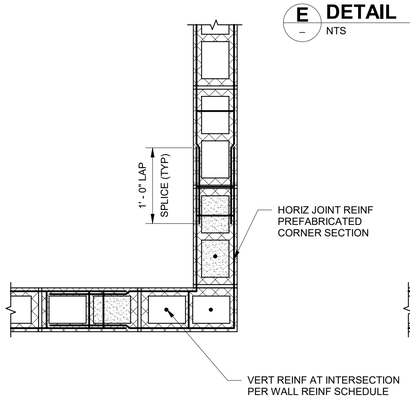


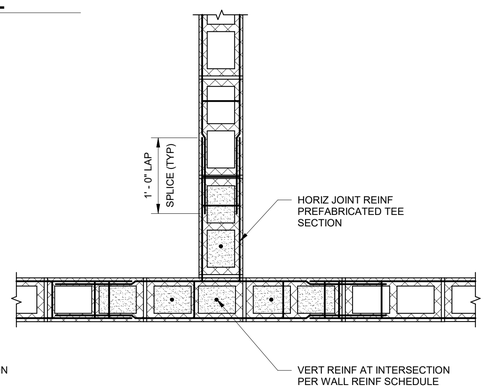
CMU DOWEL DETAIL

F DETAIL
NTS

CMU WALL OPENING JAMB REINFORCING

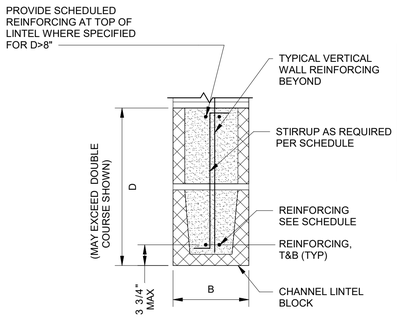
E DETAIL
NTS





CMU WALL CORNER

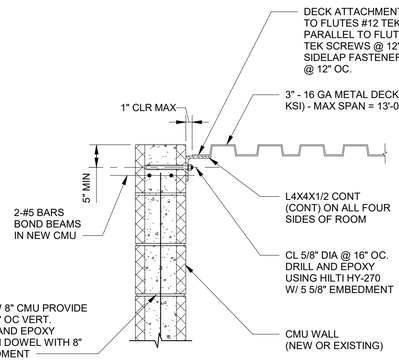
H DETAIL
NTS



TYPES	OPENING WIDTH	CMU LINTEL REINFORCING UNO			
		B	D	REINF	STIRRUPS
L-A	0'-0" - 4'-0"	8"	8"	2-#5	-
L-B	4'-1" TO 6'-8"	8"	16"	2-#5	-
L-C	6'-9" TO 14'-0"	12"	24"	2-#6	#3@16"

CMU WALL LINTEL

G DETAIL
NTS



STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

AREA P - PLC ROOM

J DETAIL
NTS

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS V

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-5

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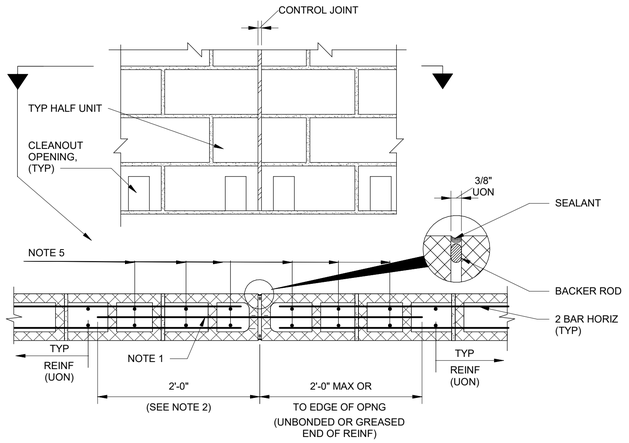
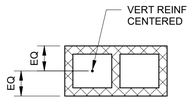


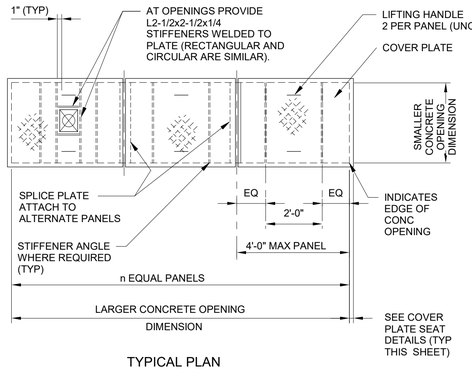
MASONRY CONTROL JOINT

A DETAIL
NTS

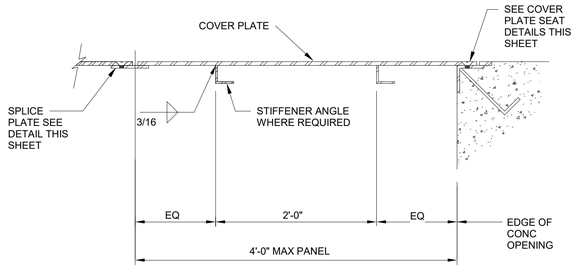


CMU CLEAR COVER

B DETAIL
NTS



TYPICAL PLAN



TYPICAL SECTION

COVER PLATE

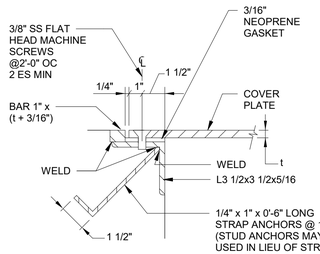
C DETAIL
NTS

MASONRY CONTROL JOINT NOTES:

1. PROVIDE 5/8" ϕ SMOOTH DOWELS ACROSS THE JOINT AT HORIZ BAR LOCATIONS. PREVENT BOND BETWEEN BAR AND GROUT ON ONE SIDE OF JOINT WITH GREASE OR A PLASTIC SLEEVE. CAP ALL DOWELS TO ALLOW ONE INCH OF MOVEMENT.
2. PROVIDE STD HOOK ON SIDE WITH BOND IF 2'-0" LENGTH IS NOT POSSIBLE.
3. CONTINUE HORIZ REINF THROUGH MCJ @ BEAM BEARING, DECK BEARING, T.O.W. BOND BEAMS AND LINTEL REINF.
4. DOUBLE MAT SHOWN. SIMILAR FOR SINGLE MAT.
5. FOR 8" CMU, 2 CELLS OF 2-#5 VERTICAL BARS W/ MATCHING DOWELS, EACH SIDE OF MCJ.

CMU WALL ANCHORAGE NOTES:

1. WHERE POSSIBLE, ANCHORAGE SHALL BE PROVIDED IN THE SAME CELLS AS THE CONTINUOUS VERTICAL WALL REINFORCING.
2. AT INSTALLATION, CENTERLINE OF ANCHOR BOLTS SHALL BE 5/8" DOWN FROM THE TOP OF THE VERTICAL SLOTTE HOLE.
3. THE NUTS ON THE ANCHOR BOLTS SHALL BE FINGER TIGHTENED AND TACK WELDED TO THE BOLTS. NUTS SHOULD NOT BE OVERTIGHTENED IN SLOTTED HOLES.
4. AT LOCATIONS WHERE BEAM FLANGE WIDTH IS NOT ADEQUATE TO PROVIDE 2 1/4" MINIMUM WELD, WELD PLATE TO BOTTOM SURFACE OF BEAM FLANGE. MAINTAIN 1" CLEAR BELOW PLATE TO CMU.
5. ANCHORAGE TO BE PROVIDED AT ALL PERPENDICULAR STEEL BEAMS.

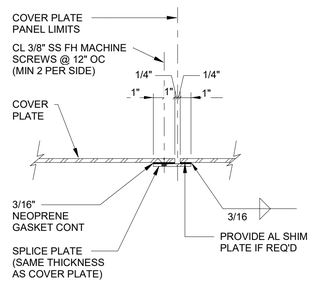


SIMILAR CONNECTION @ BEAM

t = 3/8" UNO ON DRAWINGS @ AL COVER PLATE

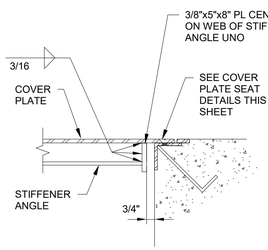
GASKETED COVER PLATE SEAT

D DETAIL
NTS



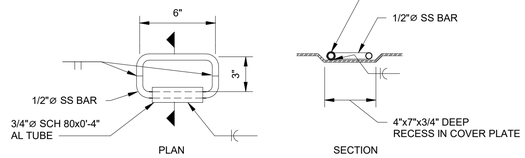
GASKETED SPLICE PLATE DETAIL

E DETAIL
NTS



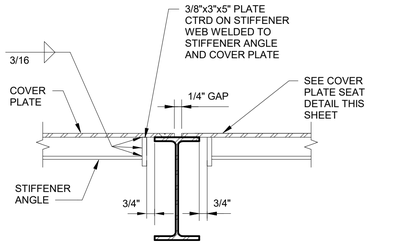
TYPICAL STIFFENER ANGLE END

F DETAIL
NTS



LIFTING HANDLE

G DETAIL
NTS



CONNECTION OVER SUPPORT BEAM

H DETAIL
1" = 1'-0"

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS VI

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-6

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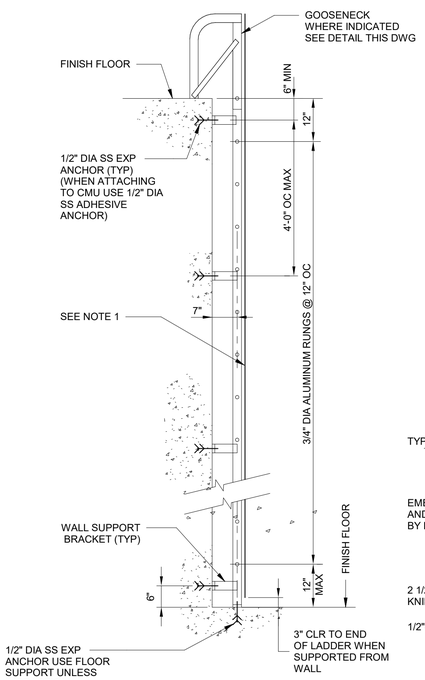
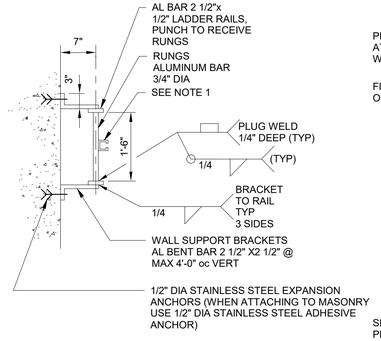


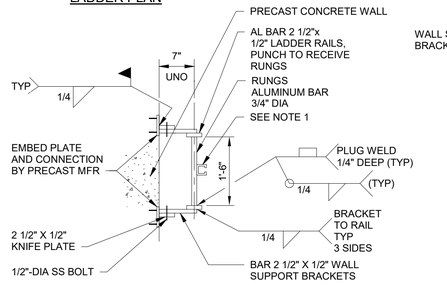
NOTE:
1. PROVIDE OSHA COMPLIANT LADDER SAFETY SYSTEM AT EACH LADDER MORE THAN 24'-0" IN HEIGHT.

LADDER, TYP UNO

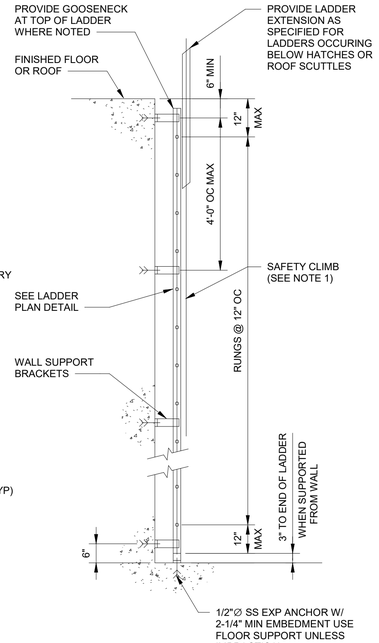
A DETAIL
NTS



LADDER PLAN



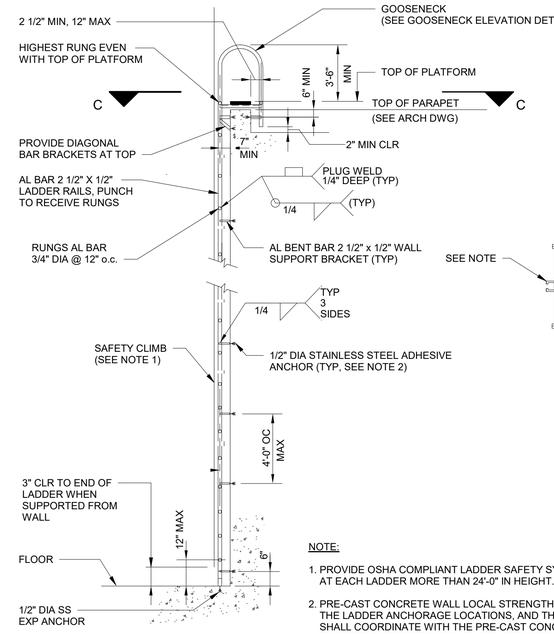
LADDER ON PRECAST WALL



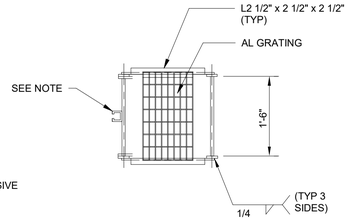
NOTE:
1. PROVIDE OSHA COMPLIANT LADDER SAFETY SYSTEM AT EACH LADDER MORE THAN 24'-0" IN HEIGHT.

LADDER

B DETAIL
NTS



ELEVATION

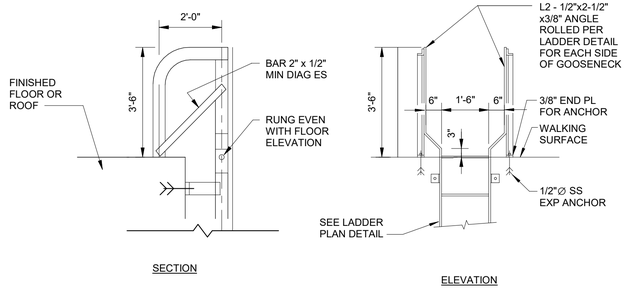


SECTION C-C

NOTE:
1. PROVIDE OSHA COMPLIANT LADDER SAFETY SYSTEM AT EACH LADDER MORE THAN 24'-0" IN HEIGHT.
2. PRE-CAST CONCRETE WALL LOCAL STRENGTHENING MAY BE REQUIRED AT THE LADDER ANCHORAGE LOCATIONS, AND THE LADDER DELEGATED ENGINEER SHALL COORDINATE WITH THE PRE-CAST CONCRETE WALL MANUFACTURER FOR THE ASSOCIATED REQUIREMENTS. APPROVED LADDER SHOP DRAWINGS SHALL BE REVIEWED BY THE PRE-CAST WALL MANUFACTURER PRIOR TO WALL FABRICATION.

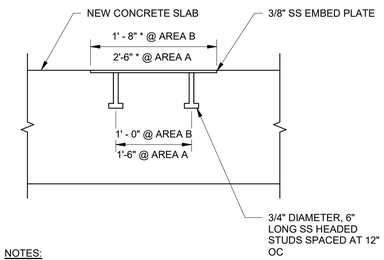
CROSSOVER LADDER

C DETAIL
NTS



GOOSENECK

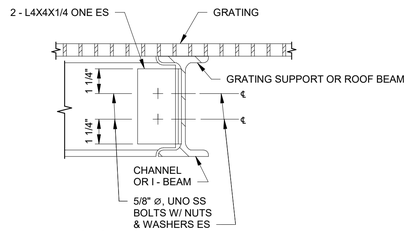
D DETAIL
NTS



NOTES:
1. * INDICATES DIMENSIONS SHALL BE FIELD VERIFIED AND / OR COORDINATION WITH THE MANUFACTURER IS REQUIRED PRIOR TO CONSTRUCTION.
2. STEEL ANGLE DUMPSTER GUIDES ARE NOT SHOWN FOR CLARITY. SEE AREA PLANS AND SECTIONS FOR ADDITIONAL INFORMATION.

STAINLESS STEEL PLATE DUMPSTER TRACK

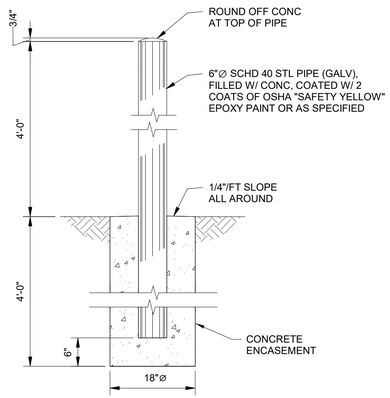
E DETAIL
NTS



NOTES:
1. ALL ALUMINIUM CONSTRUCTION UON W/CLIP ANGLES TO MATCH BEAM MATERIAL.
2. SIMILAR FOR BEAMS FRAMING IN ON EACH SIDE.
3. GRATING ONLY WHERE REQUIRED IN PLAN.

GRATING SUPPORT OR ROOF BEAM TO BEAM CONNECTION

F DETAIL
NTS



PIPE BOLLARD

G DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER
03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS VII

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-7

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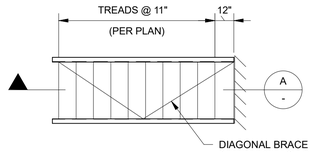
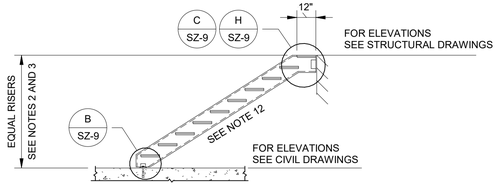
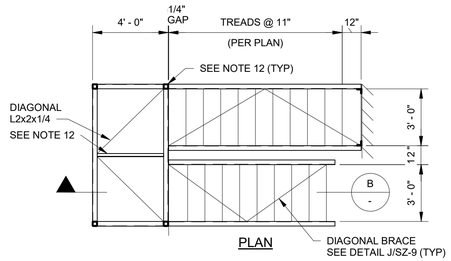


PLAN



TYPE T-1

A DETAIL
NTS



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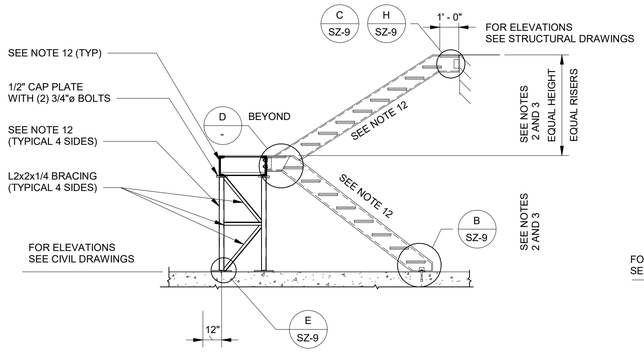

TYPE T-2

B DETAIL
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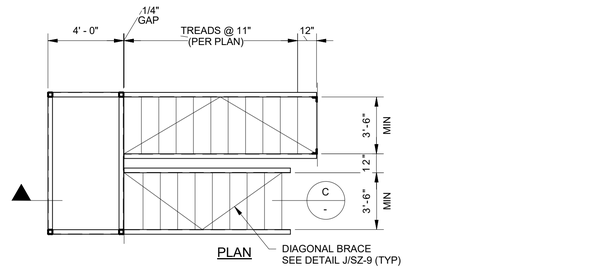
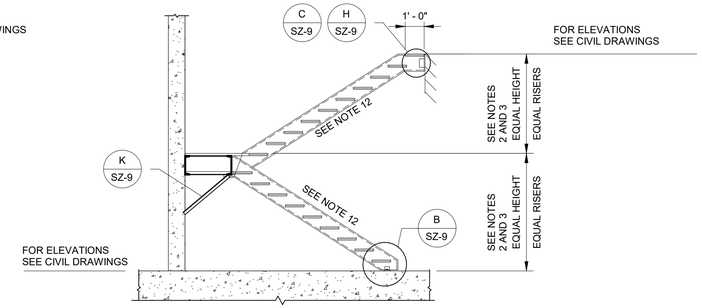


PLAN



TYPE T-3

C DETAIL
NTS

STAIR & PLATFORM NOTES:

1. ALL CONSTRUCTION IS ALUMINUM PER SPECIFICATIONS, UNLESS NOTED OTHERWISE.

2. RISERS: 7" MAXIMUM, UNLESS NOTED OTHERWISE. TREADS: 11" MAXIMUM, PLUS 1" NOSING UNLESS NOTED OTHERWISE.

3. MAXIMUM HEIGHT FOR INDIVIDUAL FLIGHT OF STAIRS = 12'-0".

4. TYPICAL STAIR WIDTH IS 3'-0" UNLESS NOTED OTHERWISE.

5. STAIR STRINGER DIAGONAL BRACING MAY BE OMITTED WHERE STRINGER LENGTH IS LESS THAN 10'-0".

6. TYPICAL PAD WIDTH IS STAIR WIDTH, PLUS 6" EACH SIDE.

7. ALUMINUM EMBEDDED IN CONCRETE MUST BE PAINTED WITH ONE SHOP COAT OF HEAVY BITUMASTIC.

8. ALUMINUM SHAPES IN CONTACT WITH CONCRETE MUST BE SEPARATED BY A 1/32" NEOPRENE GASKET OR ANYCASE WHERE TWO DIFFERENT METALS ARE TO BE IN CONTACT, A NEOPRENE GASKET MUST BE PROVIDED.

9. HANDRAILS, GUARDRAILS, POSTS, BRACKETS AND MOUNTINGS SHALL MEET THE IBC AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) LOADING REQUIREMENTS.

10. TOP OF ALL GUARDRAILS SHOULD BE 42" HIGH ABOVE THE FINISH FLOOR OR WALKWAY. THE CLEAR DISTANCE BETWEEN THE TOP AND INTERMEDIATE RAILS MEASURED AT RIGHT ANGLES TO THE RAILS SHALL NOT EXCEED 21".

11. ALL WALKWAYS SHALL USE GRATING UNLESS NOTED OTHERWISE.

12. MINIMUM MEMBERS SIZES ARE AS FOLLOWS. FOR ALUMINUM STAIRS, USE C12x8.64 STRINGERS AND 3" SQUARE x 1/4" ALUMINUM POST. FOR STEEL STAIRS, USE MC10x33.6 STRINGERS AND HSS 3x3x1/4" POST.

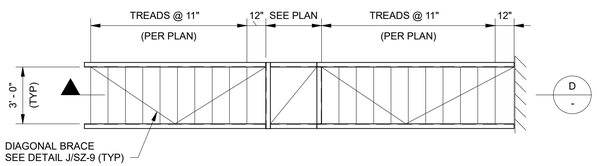
13. IF STAIR HEIGHT IS LESS THAN 6'-0", STAIR STRINGER SIZE MAY BE REDUCED TO C10x8.64 FOR AL STAIR AND MC10x22 FOR STEEL STAIR.

14. ASTM F593 SS BOLTS SHALL BE USED WHERE CONNECTING AL MEMBERS.

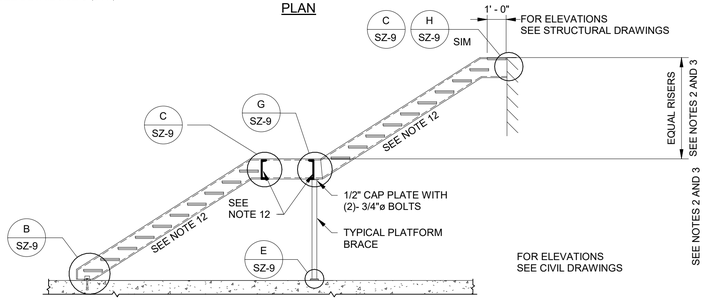
15. MEMBER SIZES INDICATED IN PLANS ARE MINIMUM. FINAL SIZES TO BE DETERMINED BY STAIR ENGINEER. ALL CLIP ANGLES SHALL BE 3 1/2" x 3 1/2" x 3/8" MINIMUM, UNO.

16. FRP STAIRS, PLATFORMS, GRATING, AND GUARDRAIL SYSTEMS AS SPECIFIED WHERE NOTED.

17. DETAILS ON THIS SHEET AND SZ-9 ARE INDICATIVE AND TO BE FINALIZED PER DEFERRED SUBMTTIAL AND DELEGATED PROFESSIONAL ENGINEER.

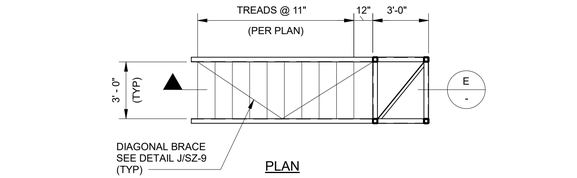


PLAN

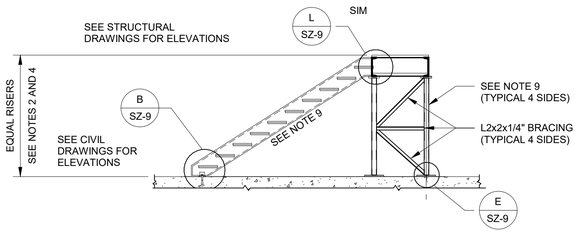


TYPE T-4

D DETAIL
NTS

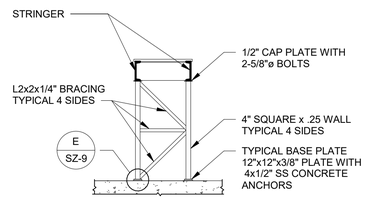


PLAN



TYPE T-5

E DETAIL
NTS



TYPICAL PLATFORM BRACING

F DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: K. RAJENDRAN
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

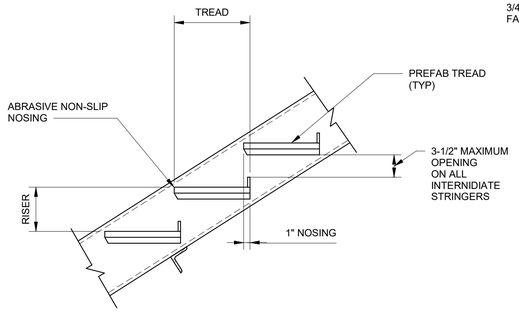
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS VIII

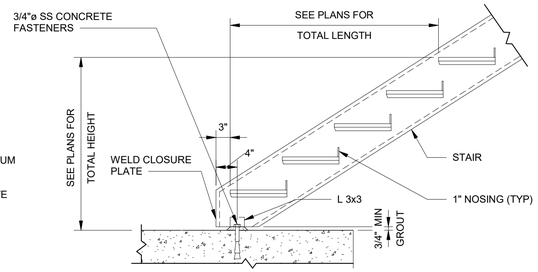
PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-8



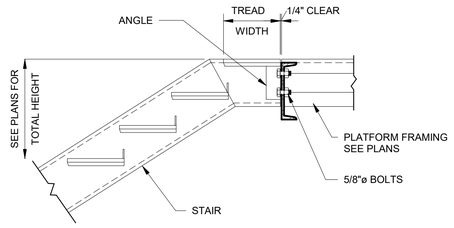
TYPICAL STAIR THREAD

A DETAIL NTS



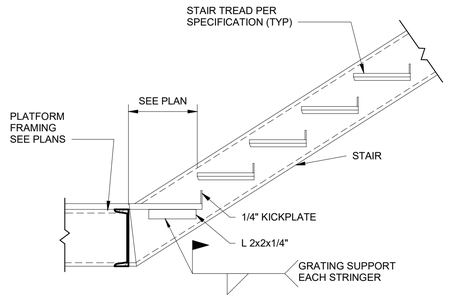
STAIR STRINGER TO CONCRETE BASE

B DETAIL NTS



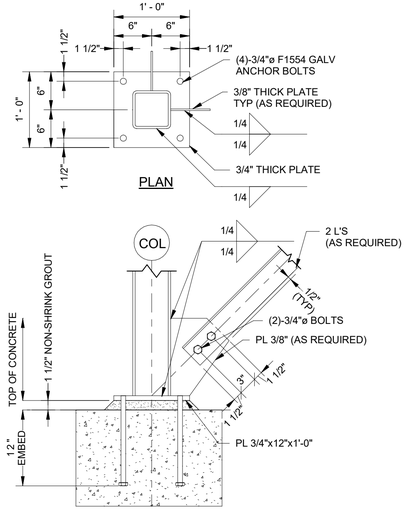
STAIR STRINGER TO PLATFORM TOP

C DETAIL NTS



STAIR STRINGER TO PLATFORM-WELDED

D DETAIL NTS



COLUMN BASE PLATE

E DETAIL NTS

STAIR STRINGER TO STEEL BEAM

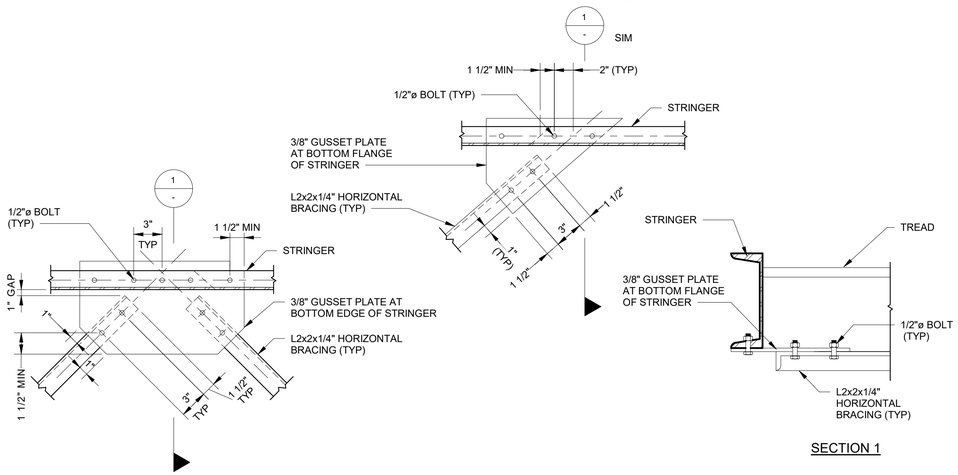
F DETAIL NTS

STAIR STRINGER TO PLATFORM-BOLTED

G DETAIL NTS

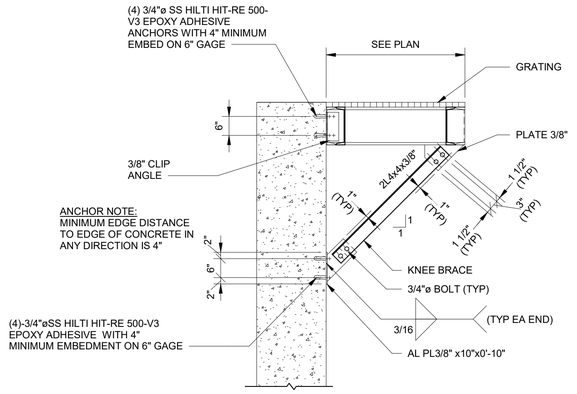
STAIR STRINGER TO CONCRETE PLATFORM TOP

H DETAIL NTS



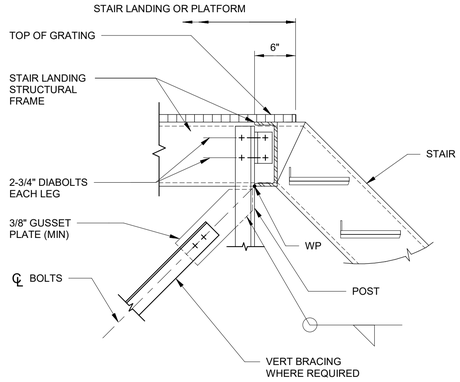
STAIR STRINGER HORIZONTAL BRACING

J DETAIL NTS



BRACKET AT LANDING PLATFORM

K DETAIL NTS



STRINGER CONNECTION AT INTERMEDIATE STAIR LANDING POST

L DETAIL NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: K. RAJENDRAN
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS IX

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-9

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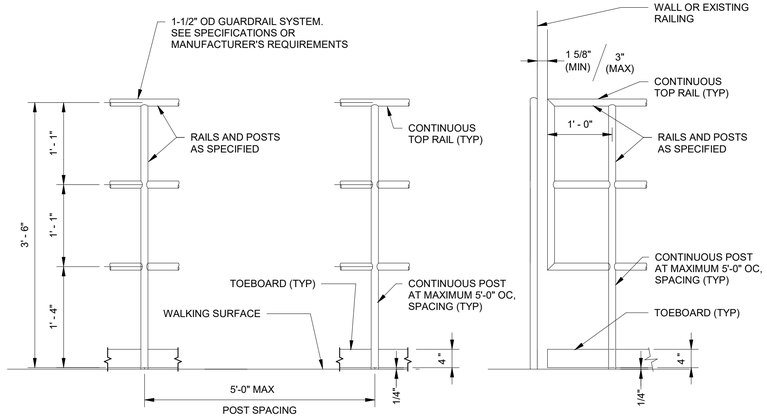


AT HORIZONTAL SURFACE

NOTE:
TOEBOARD SHALL BE PROVIDED UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN SPECIFICATIONS. TOEBOARD NOT REQUIRED WHEN CONCRETE CURBS 4" OR HIGHER ARE PROVIDED.

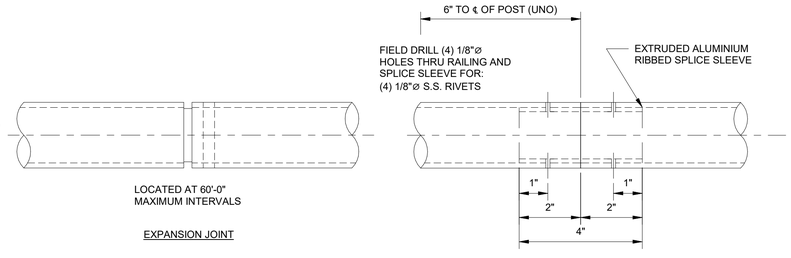
GUARDRAIL

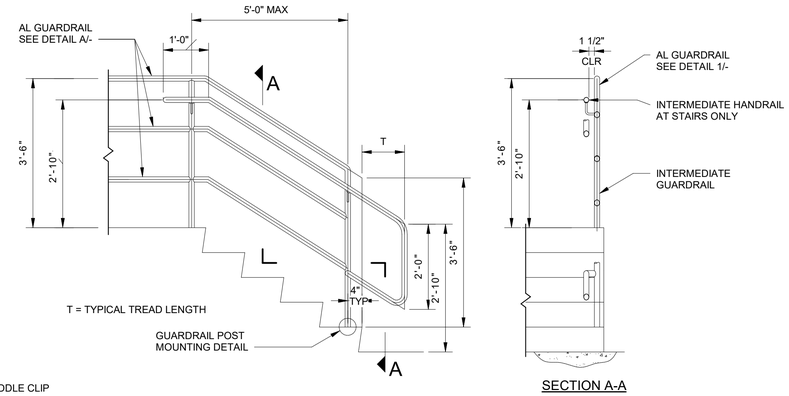
A DETAIL
1" = 1'-0"

END POST

GUARDRAIL/HANDRAIL NOTES:

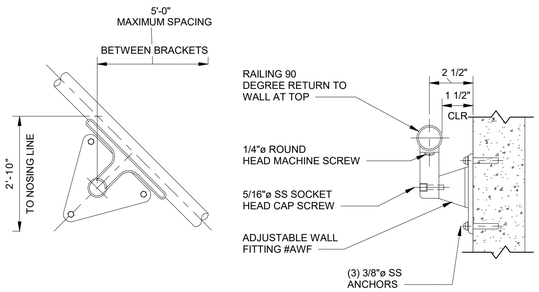
1. ALUMINUM EMBEDDED IN CONCRETE SHALL BE PAINTED WITH ONE SHOP COAT OF HEAVY BITUMASTIC.
2. ALUMINUM SHAPES IN CONTACT WITH CONCRETE SHALL BE SEPARATED BY A 1/32" NEOPRENE GASKET. ANY CASE WHERE TWO DIFFERENT METALS ARE TO BE IN CONTACT, A NEOPRENE GASKET SHALL BE PROVIDED.
3. HANDRAILS, GUARDRAILS, POSTS, BRACKETS AND MOUNTING SHALL MEET THE INTERNATIONAL BUILDING CODE AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) LOADING REQUIREMENTS.
4. CONNECT RAILING SYSTEM TO CONCRETE STRUCTURE WITH 1/2" 316 SS ADHESIVE ANCHORS WITH 6" MINIMUM EMBEDMENT.





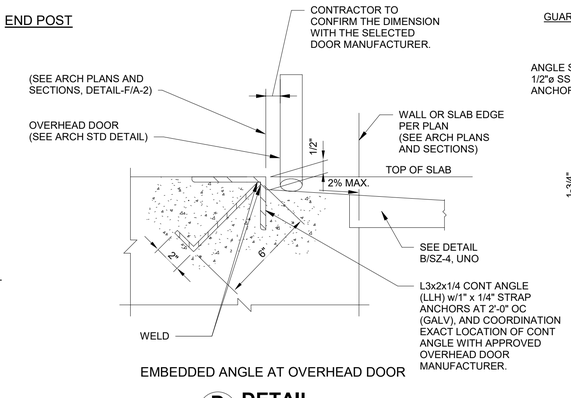
TYPICAL GUARDRAIL/HANDRAIL AT STAIRS

B DETAIL
NTS



WALL HANDRAIL

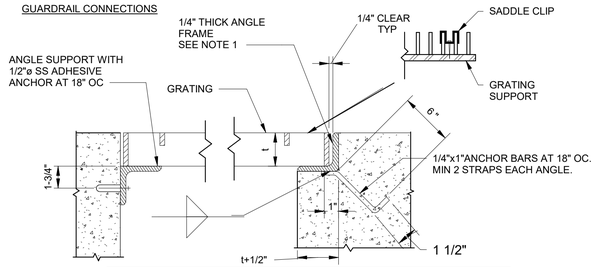
C DETAIL
NTS



EMBEDDED ANGLE AT OVERHEAD DOOR

D DETAIL
NTS

GUARDRAIL CONNECTIONS

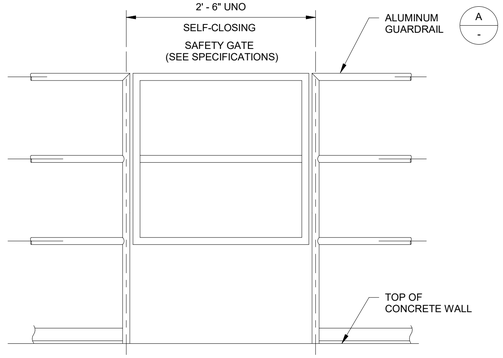


MAXIMUM SPAN	GRTG DEPTH	BEARING BAR		ANGLE SUPPORT	ANCHOR EMBED
		THICKNESS	SPACING		
3'-0"	1-1/4"	3/16"	1-3/16"	L3x3x3/8	4.5"
4'-0"	1-1/2"	3/16"	1-3/16"	L3x3x3/8	4.5"
5'-0"	2"	3/16"	1-3/16"	L3x3x3/8	4.5"
6'-0"	2-1/4"	3/16"	1-3/16"	L3x3x3/8	4.5"

NOTE :
1. BENT PLATE OR PROPRIETARY MANUFACTURED GRATING SEAT MAY BE USED IN PLACE OF ROLLED / PROTRUDED ANGLES.
2. PROVIDE AL ANGLE FOR AL GRATING AND GALVANIZED ANGLE FOR GALVANIZED GRATING

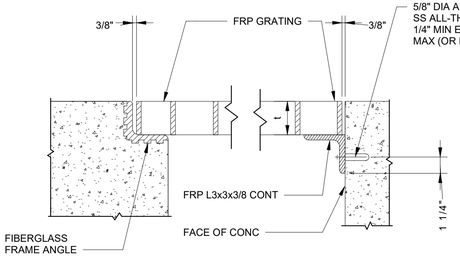
METAL GRATING AND SUPPORTS

E DETAIL
NTS



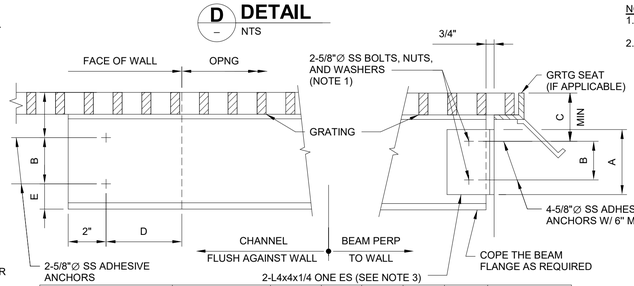
SELF-CLOSING SAFETY GATE

F DETAIL
NTS



FRP GRATING AND SUPPORTS

G DETAIL
NTS

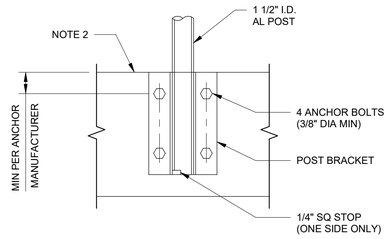


TYPE	BEAM	A	B	C	D	E	NOTES
AL ASSOC. BEAM	I 10 x 10.3	8"	5"	4"	-	-	-
AL ASSOC. BEAM	I 12 x 11.7	10"	7"	4"	-	-	-
AL ASSOC. CHANNEL	CS 10 x 6.14	8"	5"	4"	10"	-	-
AL ASSOC. BEAM	I 8 x 7.02	6"	4"	4"	-	-	-
AL ASSOC. BEAM	I 10 x 8.65	8"	5"	4"	-	-	-
AL ASSOC. BEAM	I 14 x 16.0	11"	8"	5"	-	-	-
SST BEAM	W8X31	6"	4"	4"	-	-	-

NOTES:
1. PROVIDE GALVANIZED STEEL ANCHOR BOLTS AT GALVANIZED STEEL BEAM CONNECTIONS.
2. USE STANDARD MANUFACTURER EMBED FOR ANCHORS, UNO.
3. PROVIDE SST ANGLES AT SST BEAM CONNECTIONS.

GRATING/ COVER PLATE SUPPORT BEAM CONNECTION

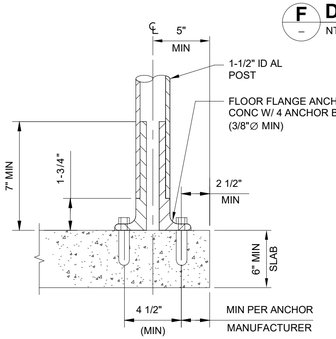
H DETAIL
NTS



NOTES:
1. 8" MIN SLAB OR BEAM WITH BRACKET CTRD ON BEAM WEB BELOW.
2. TOP OF SLAB WHERE THERE IS A CURB OR TOP OF GRATING.

SIDE MOUNTED GUARDRAIL POST

J DETAIL
NTS



TOP MOUNTED GUARDRAIL POST

K DETAIL
NTS

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ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

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Tel: (816) 444-8270

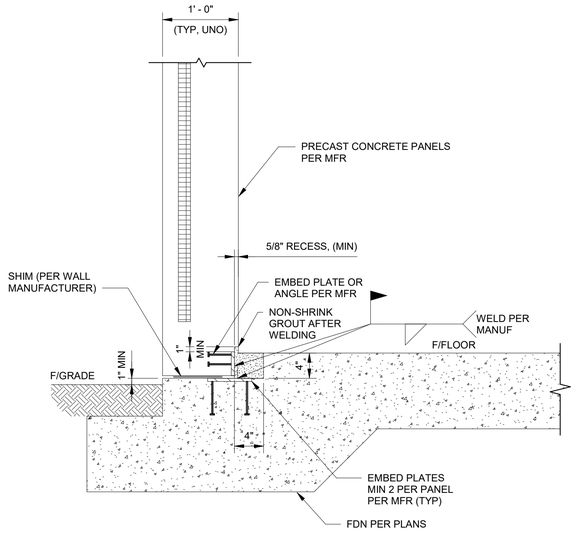
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS X

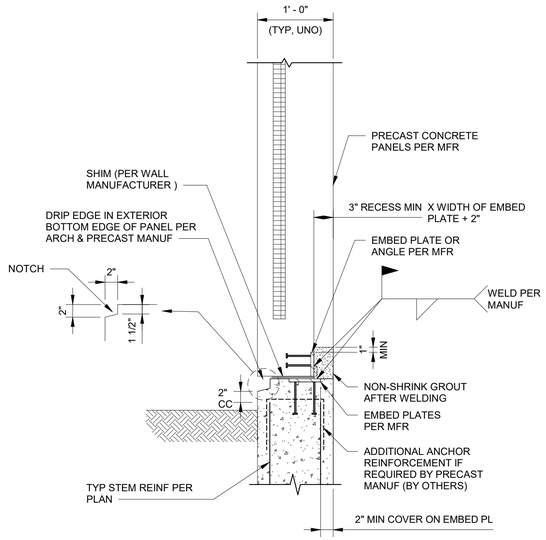
PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-10



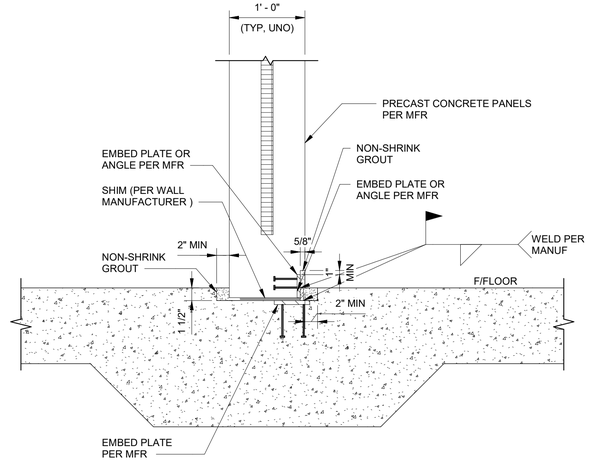
PRECAST PANEL TO EXTERIOR FDN (UNO)

A DETAIL
NTS



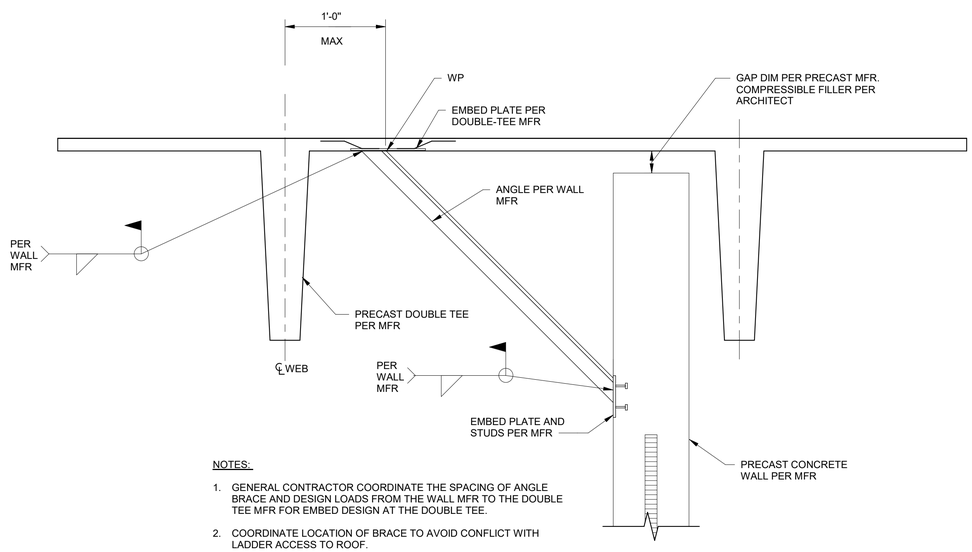
PRECAST PANEL TO STEM WALL

B DETAIL
NTS



PRECAST PANEL TO INTERIOR FDN

C DETAIL
NTS



NOTES:

1. GENERAL CONTRACTOR COORDINATE THE SPACING OF ANGLE BRACE AND DESIGN LOADS FROM THE WALL MFR TO THE DOUBLE TEE MFR FOR EMBED DESIGN AT THE DOUBLE TEE.
2. COORDINATE LOCATION OF BRACE TO AVOID CONFLICT WITH LADDER ACCESS TO ROOF.
3. ALTERNATE DETAILS ARE ACCEPTABLE AS APPROVED BY ENGINEER.

INTERIOR PRECAST WALL CONNECTION (NON BEARING)

D DETAIL
NTS

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ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: G. GANESH
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APPROVED BY: J. MORRIS
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS XI

PROJECT NO. 2395-267343
FILE NAME: S001STDT.RVT

SHEET NO.
SZ-11

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TABLE 1: STRUCTURE FOUNDATIONS		
AREA DESIGNATION	STRUCTURE	FOUNDATION TYPE
	PACKAGE NO. 2	
A	SCREENINGS AND INFLUENT PUMP STATION	II
	DUMPSTER CANOPY	II
B	GRIT FACILITY	II
C	PRIMARY CLARIFIERS	III
D	ODOR CONTROL	II
M	THICKENING FACILITY	III
N	DIGESTER FACILITY	II
	SLUDGE HOLDING TANKS	II
	WASTE GAS BURNER FOUNDATION PAD	II
	PACKAGE NO. 3	
E	SETTLED SEWAGE PUMP STATION - (CONCRETE PIPE SUPPORT FOUNDATION)	I
	SETTLED SEWAGE PUMP STATION ELECTRICAL BUILDING	II
F	BIOLOGICAL NUTRIENT REMOVAL STRUCTURE	IV
	BIOLOGICAL NUTRIENT REMOVAL STRUCTURE HYDROCYCLONE AND WAS PS	VI
G	BIOLOGICAL NUTRIENT REMOVAL BUILDING	II
H	MLSS JUNCTION BOX	V
J	UV DISINFECTION BASIN IMPROVEMENTS - (RE-AERATION BYPASS BASIN)	V
	UV DISINFECTION BASIN IMPROVEMENTS - (BYPASS JUNCTION BOX)	V
K	BLADDER TANK FOUNDATION	II
	PACKAGE NO. 4	
O	CENTRIFUGE BUILDING	II
P	FERRIC CHLORIDE STORAGE CANOPY	II

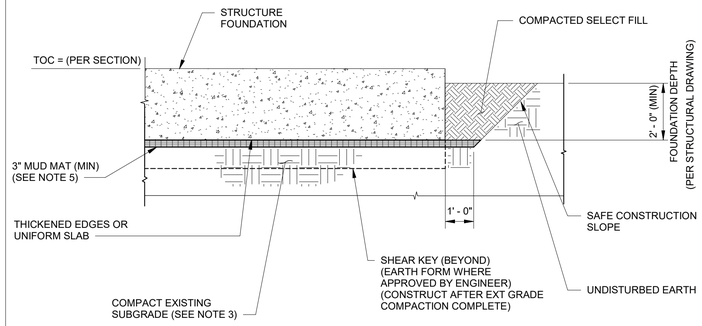
FOUNDATION DETAIL NOTES:

1. THE STRUCTURAL FOUNDATION DETAILS SHOWN ARE BASED ON GEOTECHNICAL RECOMMENDATIONS.
2. GEOTECHNICAL REPORT IS INCLUDED IN SPECIFICATION APPENDIX AS A REFERENCE.
3. COMPACT EXISTING SUBGRADE (UNIFORMLY, ENTIRE HORIZONTAL PLANE) WITH A VIBRATORY ROLLER OR PLATE COMPACTOR UNTIL SUBSEQUENT PASSES RESULT IN NO DOWNWARD DISPLACEMENT. SEE SPECIFICATION 312000 FOR COMPACTION REQUIREMENTS.
4. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL CONSTRUCTION RECOMMENDATIONS.
5. MUD MAT/SLAB MAY BE REQUIRED FOR FOUNDATION CONSTRUCTION, SEE GEOTECHNICAL REPORT SECTION 4.6 FOR THE ASSOCIATED REQUIREMENT. THE REPORT WILL BE PROVIDED AS REFERENCE, BUT WILL NOT INCLUDE REQUIREMENTS. IT IS JUST A RECOMMENDATIONS REPORT. INCLUDE SLAB REQUIREMENTS HERE.
6. GEOTECHNICAL FEATURES AND CONDITIONS MAY VARY AT DIFFERENT LOCATIONS. CONTRACTOR SHALL COORDINATE AND CONFIRM WITH THE ENGINEER UPON DIFFERING SITE CONDITIONS DURING EXCAVATION.
7. TOP OF FOUNDATION SHALL BE 6" MIN ABOVE THE FINISH GRADE UNLESS NOTED OTHERWISE.
8. ALL FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION UNO. SEE CIVIL DRAWING FOR GRADING SLOPE REQUIREMENT.
9. THE MAXIMUM PLACEMENT LIFT HEIGHT OF FLOWABLE FILL SHALL BE 3'-0" WITH 48 HOURS CURING FOR EACH PLACEMENT.
10. TYPE II FOUNDATION REQUIREMENT SHALL BE APPLY TO INDEPENDENT STAIRWAY FOUNDATION SLABS.
11. FLOWABLE FILL SHALL BE PER SPECIFICATION 312324.
12. FLOWABLE FILL (PER SPEC. 312324) IS ALLOWED TO USE AS MUD MAT & COARSE AGGREGATE SIZE ADJUSTMENT ALLOWED WITH ENGINEER APPROVAL. OTHER TYPE OF CONCRETE (FLOWABLE) MAY BE ALLOWED TO USE AS MUD MAT, CONTRACTOR SHALL SUBMIT THE MIX DESIGN AND TESTING DATA FOR ENGINEER APPROVAL.
13. FOR FOUNDATION ON COMPACTED EXISTING GRADE OR STRUCTURAL BACKFILL, ALL PIPING UNDER SLAB SHALL REQUIRE CONCRETE PIPE ENCASEMENT (SEE STRUCTURAL STANDARD DETAILS), AND INSTALL A FLEXIBLE PIPE COUPLING/JOINT (CAPABLE OF 1° DEFLECTION MINIMUM) BEFORE PIPING ENTERS TO THE ENCASEMENT. ALL ELECTRICAL CABLES SHALL REQUIRE DUCT BACK (UNDER THE SLAB), PROVIDE A CONSTRUCTION JOINT (WITH V-GROOVE AT PERIMETER AND CONTINUOUS PVC WATERSTOP AROUND DUCT BANK) AT 5'-0" OUTSIDE OF THE FOUNDATION PERIMETER.
14. THE FOUNDATION CONSTRUCTION MAY REQUIRE DEWATERING. THE GROUNDWATER LEVEL IS ANTICIPATED TO VARY BASED ON RIVER LEVELS AND SEASONAL RAINFALL. THE CONTRACTOR SHOULD ANTICIPATE THAT INCREASES IN THE GROUNDWATER LEVEL MAY RESULT IN HEAVING AND LOSS OF STABILITY WITHIN OPEN EXCAVATIONS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION, AND REMOVAL OF THE DEWATERING MATERIALS AND EQUIPMENT FOR THE CONSTRUCTION SITE AND FOR MONITORING OF THE GROUNDWATER LEVELS. PRODUCTS, EQUIPMENT, AND "MEANS AND METHODS" SELECTED SHALL BE ADEQUATE FOR THE INTENDED USE/APPLICATION AND ALL ASSOCIATED COSTS SHALL BE INCLUDED IN THE BID.

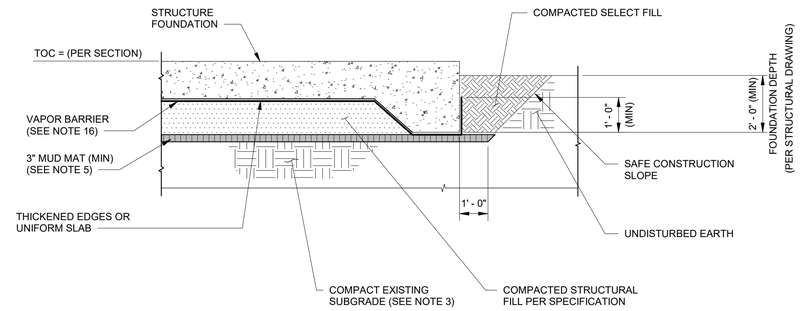
MUD MAT | FLOWABLE FILL | UNDISTURBED EARH

COMPACTED SELECT FILL | COMPACTED SCREENED GRAVEL | COMPACTED STRUCTURAL FILL

16. A VAPOR BARRIER MUST BE INSTALLED BENEATH THE CONCRETE FOUNDATION FOR ALL ENCLOSED STRUCTURES OR BUILDINGS SITUATED ABOVE THE FOUNDATION WITH OCCUPANCY. IF THERE IS ANY UNCERTAINTY REGARDING THE NEED FOR THE VAPOR BARRIER, THE CONTRACTOR IS REQUIRED TO OBTAIN CONFIRMATION FROM THE ENGINEER BEFORE COMMENCING CONSTRUCTION.



TYPE I



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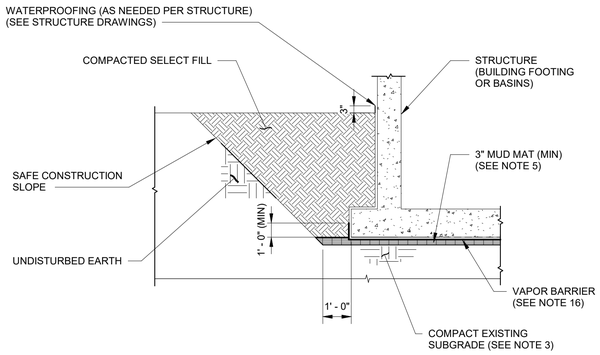

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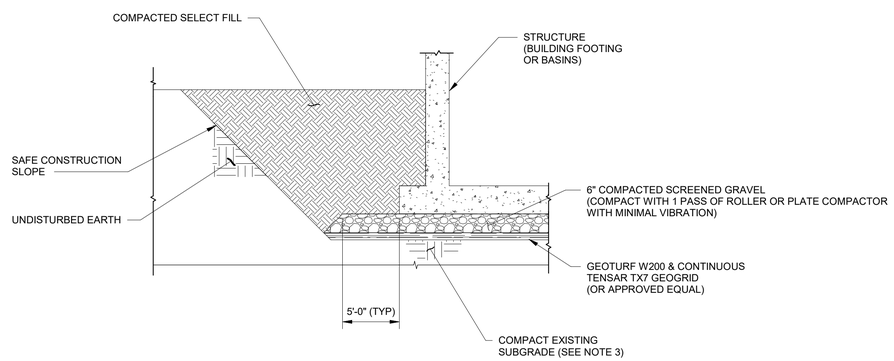

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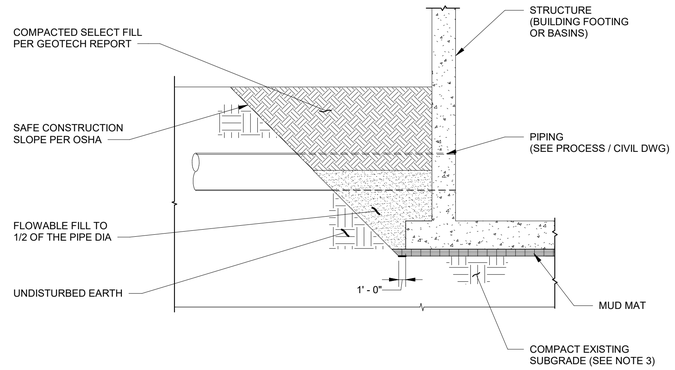

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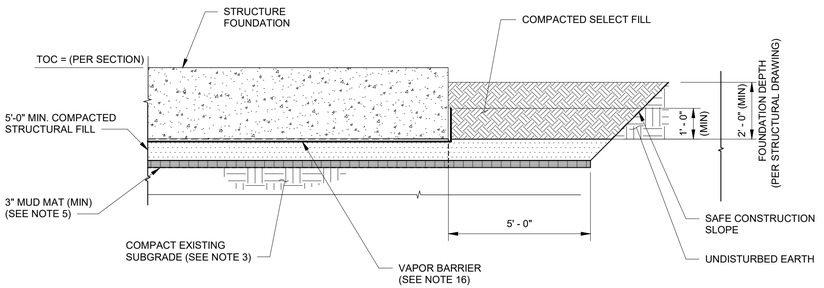

TYPE VI

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

STRUCTURAL FOUNDATION

A DETAIL
NTS

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: B. ADITYA
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS XII

PROJECT NO. 2395-267343
FILE NAME: S001STDT.rvt

SHEET NO.
SZ-12

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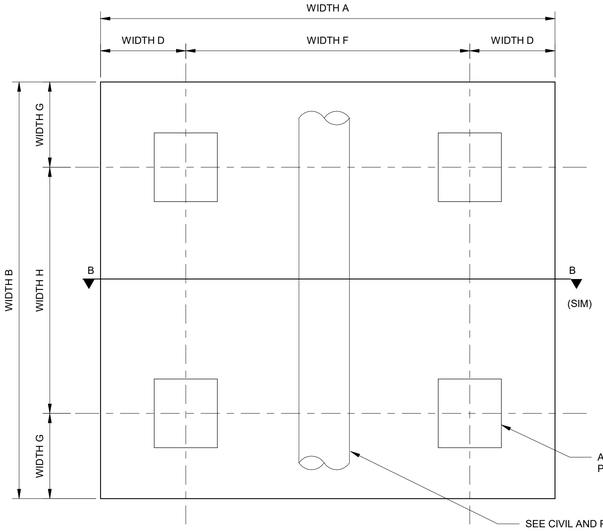
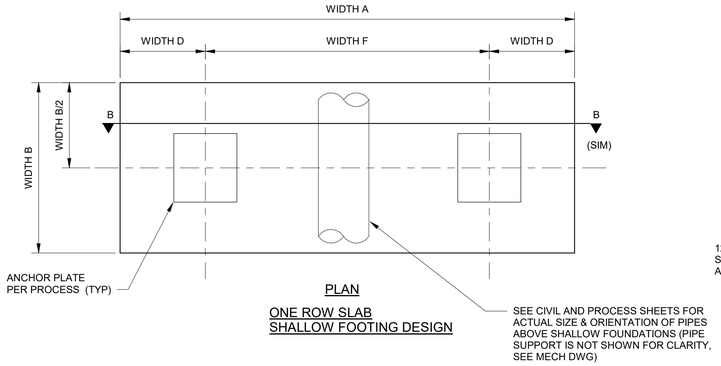
SHALLOW FOOTING SCHEDULE								
SHALLOW FOOTING TYPE	WIDTH A	WIDTH B	WIDTH D	WIDTH F	WIDTH G	WIDTH H	ONE OR TWO ROWS	HEIGHT Z
A	9'-0"	6'-0"	1'-6"	6'-0"	N/A	N/A	ONE	2'-0"
B	9'-0"	13'-0"	1'-6"	6'-0"	1'-6"	10'-0"	TWO	2'-0"
C	8'-0"	8'-0"	1'-3"	5'-6"	1'-3"	5'-6"	TWO	3'-0"
D	9'-0"	7'-0"	1'-6"	6'-0"	1'-6"	4'-0"	TWO	2'-0"
E	7'-0"	8'-0"	1'-6"	4'-0"	N/A	N/A	ONE	2'-0"
F	7'-0"	12'-0"	1'-6"	4'-0"	N/A	N/A	ONE	3'-0"
G	7'-0"	6'-0"	1'-6"	4'-0"	N/A	N/A	ONE	2'-0"
H	6'-0"	6'-0"	1'-3"	3'-6"	1'-3"	3'-6"	TWO	3'-0"



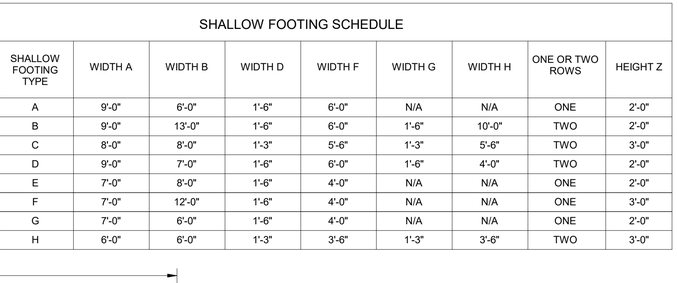
PLAN

TWO ROW SLAB
SHALLOW FOOTING DESIGN



PLAN

ONE ROW SLAB
SHALLOW FOOTING DESIGN

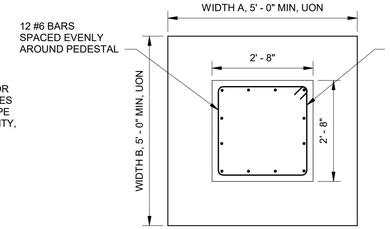


SECTION B-B (SIM)

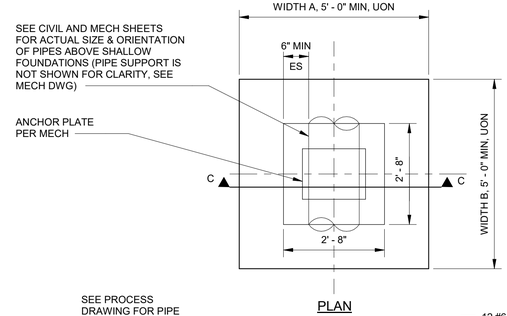
SLAB SHALLOW FOOTING DESIGN

A DETAIL
NTS

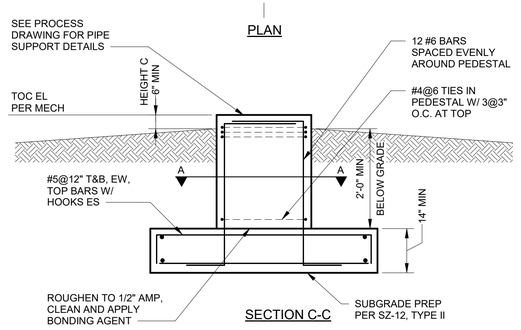
SHALLOW FOOTING SCHEDULE			
SHALLOW FOOTING TYPE	WIDTH A	WIDTH B	HEIGHT C
A	5'-0"	5'-0"	8"
B	5'-6"	5'-6"	8"
C	4'-6"	4'-6"	8"
D	6'-0"	6'-0"	8"
E	4'-0"	4'-0"	8"



SECTION-AA THROUGH PIER



PLAN



SECTION C-C

PEDESTAL SHALLOW FOOTING DESIGN

B DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: G. GANESH
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS XIII

PROJECT NO. 2395-267343
FILE NAME: S001STDT.rvt

SHEET NO.
SZ-13

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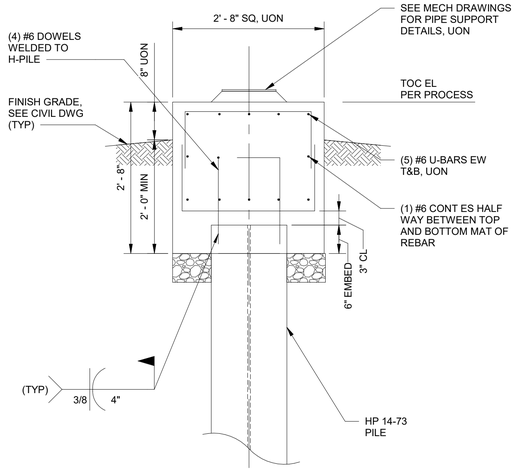
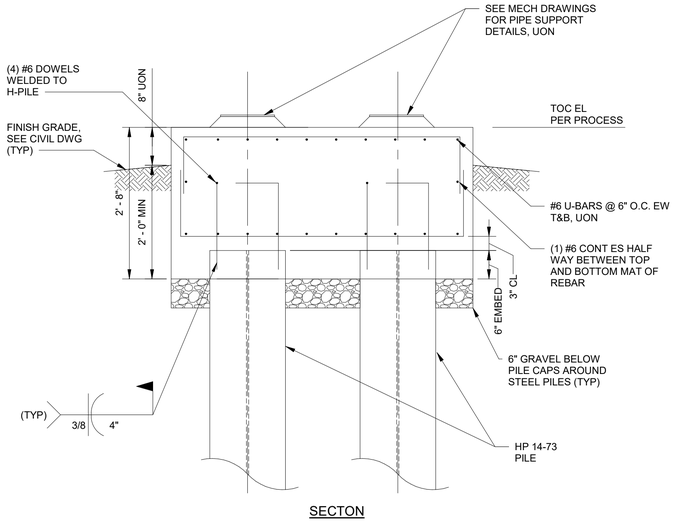


SECTON



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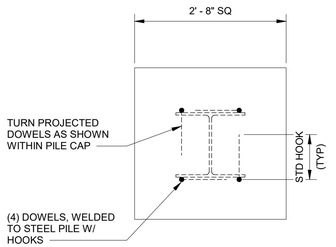


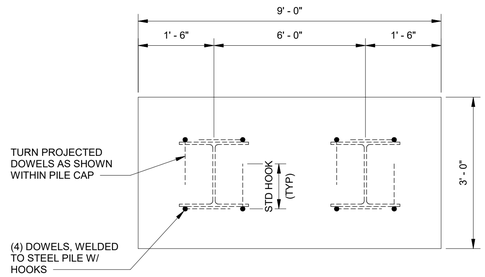
PLAN

NOTE:

1. ORIENT PILE CAP W/ SIDES PARALLEL WITH PIPE ABOVE, SO BASE PLATE OF PIPE SUPPORT ABOVE AND ANCHORS ARE CENTERED ON PILE CAP
2. MINIMUM CENTER TO CENTER PILE SPACING IS THE GREATER OF 2'-6" OR 2.5 PILE DIAMETERS
3. THE MINIMUM ALLOWABLE DISTANCE BETWEEN CENTER OF PILE AND THE EDGE OF ANY ACTIVE UNDERGROUND UTILITY IS 4'.
4. PILES SHOULD BE DRIVEN TO A DEPTH SUCH THAT THE PILE ACHIEVES A MINIMUM AXIAL CAPACITY OF 30 K WITH A MAXIMUM DEFLECTION OF 1 INCH BASED ON PDA TESTING
5. IN LOCATIONS WHERE CL OF STEEL PILE IS CLOSER THAN 4-FT TO NEW PIPE OR DUCT BANK CONTRACTOR SHALL INSTALL STEEL PILE PRIOR TO PIPE OR DUCT BANK CONSTRUCTION.

STEEL PILE AND PILECAP DETAIL

A DETAIL
NTS



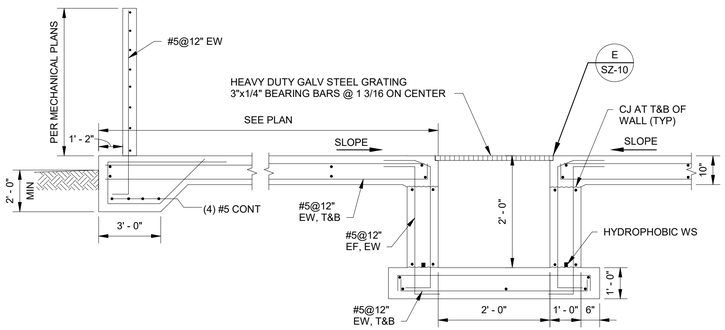
PLAN

NOTE:

1. ORIENT PILE CAP W/ SIDES PARALLEL WITH PIPE ABOVE, SO BASE PLATE OF PIPE SUPPORT ABOVE AND ANCHORS ARE CENTERED ON PILE CAP
2. MINIMUM CENTER TO CENTER PILE SPACING IS THE GREATER OF 2'-6" OR 2.5 PILE DIAMETERS
3. THE MINIMUM ALLOWABLE DISTANCE BETWEEN CENTER OF PILE AND THE EDGE OF ANY ACTIVE UNDERGROUND UTILITY IS 4'.
4. PILES SHOULD BE DRIVEN TO A DEPTH SUCH THAT THE PILE ACHIEVES A MINIMUM AXIAL CAPACITY OF 30 K WITH A MAXIMUM DEFLECTION OF 1 INCH BASED ON PDA TESTING.
5. IN LOCATIONS WHERE CL OF STEEL PILE IS CLOSER THAN 4-FT TO NEW PIPE OR DUCT BANK CONTRACTOR SHALL INSTALL STEEL PILE PRIOR TO PIPE OR DUCT BANK CONSTRUCTION.

STEEL PILE DOUBLE SUPPORT PILECAP DETAIL

B DETAIL
NTS



NOTE:

1. COORDINATE CONTAINMENT PAD SIZE AND LOCATIONS WITH PROCESS DRAWINGS.

CONCRETE CONTAINMENT PAD DETAIL

C DETAIL
NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: G. GANESH
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

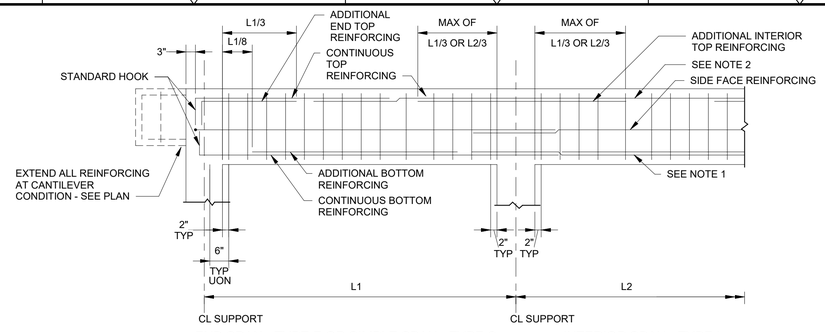
STRUCTURAL
STANDARD DETAILS XIV

PROJECT NO. 2395-267343
FILE NAME: S001STDT.rvt

SHEET NO.
SZ-14

BEAM NOTES:

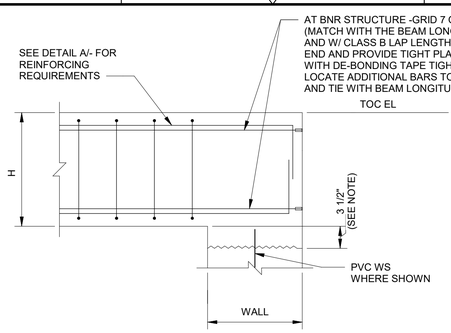
1. UNLESS INDICATED OTHERWISE IN BEAM SCHEDULE, CONTINUOUS BOTTOM REINFORCING SHALL HAVE LAP SPLICES CENTERED ON THE CENTERLINE OF THE SUPPORT USING THE LAP SPLICE LENGTH INDICATED ON THE STANDARD CONCRETE DETAILS SHEET SZ-2. USE THE LAP SPLICE REQUIREMENT OF THE LARGER BOTTOM BAR IF BAR SIZES IN ADJACENT SPANS DIFFER. AT THE CONTRACTOR'S OPTION, BOTTOM REINFORCING MAYBE MADE CONTINUOUS, WITHOUT SPLICING, ACROSS THE SUPPORT IF BARS IN THE ADJACENT SPAN ARE EQUAL IN SIZE AND QUANTITY.
2. UNLESS INDICATED OTHERWISE IN BEAM SCHEDULE, CONTINUOUS TOP REINFORCING SHALL BE LAPPED AT MIDSPAN BETWEEN SUPPORTS USING THE LAP SPLICE LENGTH INDICATED ON THE STANDARD CONCRETE DETAILS SHEET SZ-2. USE THE LAP SPLICE REQUIREMENT OF THE SMALLER TOP BAR. IF THE BAR SIZES EACH SIDE OF MIDSPAN DIFFER. AT THE CONTRACTOR'S OPTION, TOP REINFORCING MAY BE MADE CONTINUOUS, WITHOUT SPLICING, IF THE TOP BARS EACH SIDE OF MIDSPAN ARE EQUAL IN SIZE AND QUANTITY.
3. CONTINUOUS REINFORCING SHALL NOT BE SPLICED WHERE THE CLEAR SPAN OF THE BEAM IS LESS THAN 4"'H' PLUS THE SPLICE LENGTH.
4. CONTINUOUS TOP AND BOTTOM BARS SHALL BE PLACED IN THE BEAM SECTION SUCH THAT ONE OF THE CONTINUOUS BARS IS LOCATED IN EACH CORNER OF THE BEAM STIRRUPS.
5. ALL TOP AND BOTTOM BARS SHALL BE PLACED IN ONE LAYER UNLESS INDICATED OTHERWISE. WHERE MORE THAN ONE LAYER IS NOTED, PROVIDE GREATER OF 1 INCH OR 1 BAR DIAMETER CLEAR BETWEEN LAYERS.
6. SIDE FACE REINFORCING SHALL BE CONTINUOUS WITH LAP SPLICES CENTERED AT THE CENTERLINE OF THE SUPPORT. A 90° STANDARD HOOK SHALL BE PROVIDED AT THE EXTERIOR ENDS OF END SPANS WHERE INDICATED IN SCHEDULE. SCHEDULED SIDE FACE REINFORCING SHALL BE SPACED EQUALLY ON EACH FACE.
7. WHERE TWO-PIECE STIRRUPS ARE SHOWN OR APPROVED, CONSECUTIVE STIRRUP CROSSTIES SHALL HAVE THEIR 90° HOOK PLACED ON OPPOSITE SIDES. IN THE EVENT THAT A SLAB FRAMES INTO ONLY ONE SIDE OF A BEAM, THEN 90° HOOK SHALL BE PLACED ON THE SLAB SIDE CONSISTENTLY. IN THE EVENT A BEAM IS NOT CONFINED BY A SLAB ON EITHER SIDE, THE STIRRUP CROSSTIE SHALL HAVE TWO 135° HOOKS AND NO 90° HOOK.
8. SEE THIS SHEET FOR BEAM ELEVATION AND SECTION TYPES.
9. BEAM DEPTHS ARE MEASURED FROM THE CONCRETE SLAB LP ELEVATION.
10. WHERE BEAMS TERMINATE AT A PARALLEL WALL, OMIT HOOKS IN BARS AND PROVIDE TENSION DEVELOPMENT LENGTH BEYOND THE FACE OF WALL.
11. STANDARD HOOK MAY BE OMITTED WHERE BAR DEVELOPMENT LENGTH IS PROVIDED BEYOND THE INSIDE FACE OF SUPPORT.



END SPAN - TYPE E OR SIMPLE SPAN - TYPE S INTERIOR SPAN - TYPE I

BEAM SCHEDULE DIAGRAM

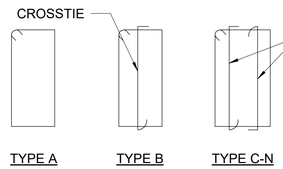
A DETAIL NTS



NOTE: PROVIDE 3 1/2" OFFSET WHERE PVC WS ARE SHOWN

BEAM SEAT

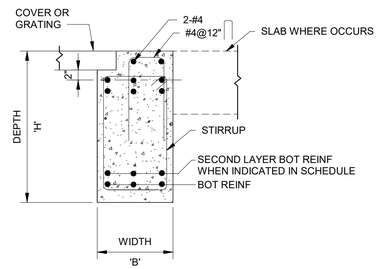
B DETAIL NTS



"N" INDICATES THE NUMBER OF CROSSTIES

BEAM STIRRUP TYPE

C DETAIL NTS

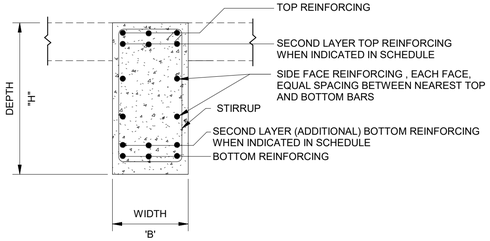


NOTE:

1. BEAM DEPTH INDICATED IS MINIMUM REQUIRED BEAM DEPTH AT LOW POINT OF FLOOR (WHERE FLOOR SLOPES)

TYPICAL BEAM SECTION AT COVER OR GRATING

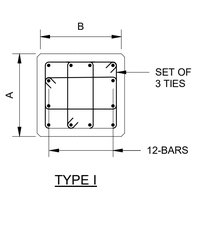
D DETAIL NTS



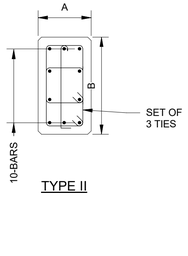
NOTE: BEAM DEPTH INDICATED IS MINIMUM REQUIRED BEAM DEPTH AT LOW POINT OF FLOOR (WHERE FLOOR SLOPES)

TYPICAL BEAM SECTION

E DETAIL NTS



TYPE I



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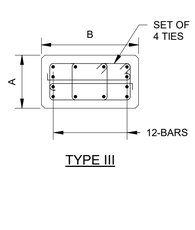
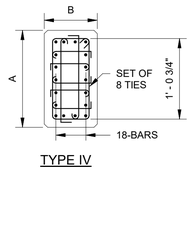


TYPE III

TYPE IV



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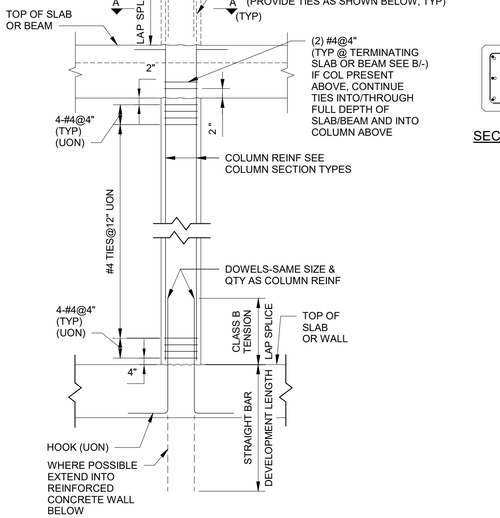
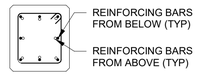




SECTION - A-A

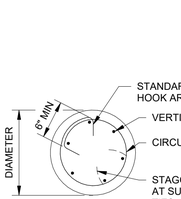
NOTES:

1.FOR DIMENSIONS AND REINFORCING SEE COLUMN SCHEDULE ON STRUCTURAL DRAWINGS.

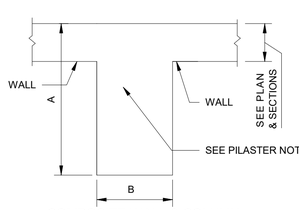
2. COLUMN ELEVATION IS SIMILAR FOR CIRCULAR CROSS SECTION.

TYPICAL COLUMN ELEVATION

G DETAIL NTS



TYPE V



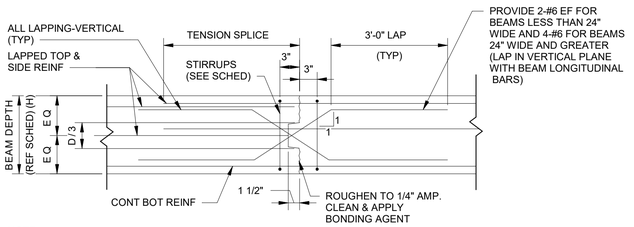
COMPOSITE WALL & COLUMN (PILASTER) SIMILAR FOR ALL TYPES AND SIZES)

PILASTER NOTE:

1. WHEN CONFIGURATION IS PRESENT, WALL AND COLUMN SHALL BE MONOLITHICALLY CONSTRCUTED AND FORMED AS A PILASTER. COLUMN REINFORCEMENT SHALL BE COMPOSITE WITH WALL REINFORCEMENT AND DISTRIBUTED SIMILAR TO TYPICAL COLUMNS DETAILS. WALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMN.

COLUMN SECTION TYPES

F DETAIL NTS



NOTE:

1. REINFORCING PERPENDICULAR TO THE LONGITUDINAL BARS ARE NOT SHOWN FOR CLARITY.

BEAM CONSTRUCTION JOINT

H DETAIL NTS

STANDARD DETAILS SHOWN ON THIS DRAWING SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ALL STANDARD DETAILS APPLY TO ALL PACKAGES OF PLANT 2 BNR IMPROVEMENTS

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. McKEE
DRAWN BY: G. GANESH
SHEET CHK'D BY: D. CURET
CROSS CHK'D BY: B. BECKER
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

STRUCTURAL
STANDARD DETAILS XV

PROJECT NO. 2395-267343
FILE NAME: S001STDT.rvt

SHEET NO.
SZ-15

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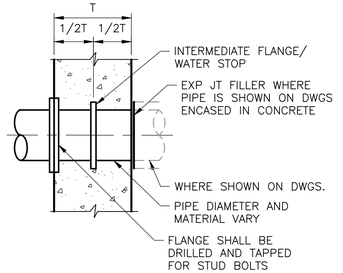
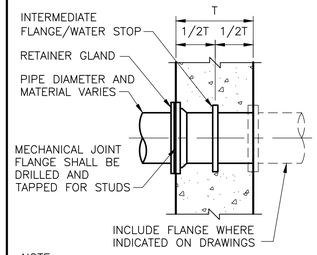


D.I. FLANGE X PLAIN END WALL PIPE

DETAIL A
NTS

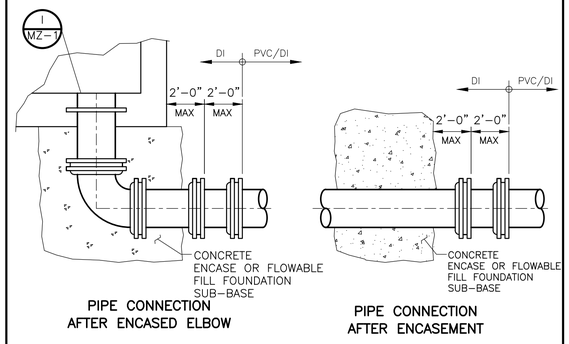


NOTE:

FURNISH RESTRAINED MECHANICAL JOINT WHERE INDICATED ON THE DRAWINGS OR SPECIFICATIONS.

MECHANICAL JOINT X PLAIN END (OR FLANGE) WALL PIPE

DETAIL B
NTS



PIPE CONNECTION AFTER ENCASEMENT OR FLOWABLE FILL FOUNDATION SUB-BASE

DETAIL C
NTS

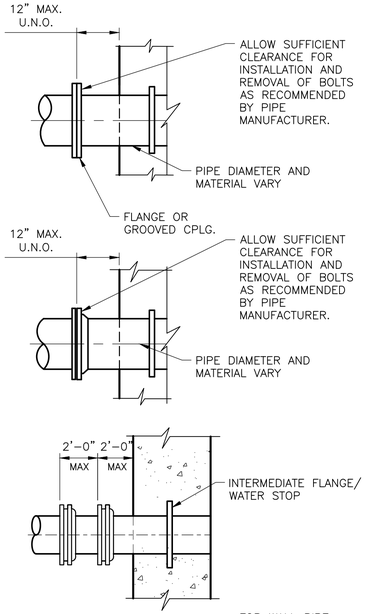
PLASTIC PIPE SIZE	OUTSIDE DIAMETER	WALL SLEEVE SIZE	FLANGE DIAMETER
3/4"	1.050"	2"	6"
1"	1.315"	2"	6"
1 1/4"	1.660"	3"	7 1/2"
1 1/2"	1.900"	3"	7 1/2"
2"	2.375"	4"	9"
3"	3.500"	4"	9"
4"	4.500"	6"	11"
6"	6.625"	8"	13 1/2"
8"	8.625"	10"	16"

NOTES:

1. WALL SLEEVE WITH FIRE RATED MECHANICAL SEALS SHALL BE USED FOR ALL PIPING PENETRATIONS OF FIRE RATED WALLS.
2. WALL SLEEVES INSTALLED IN BRICK, CMU OR CAVITY WALLS SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. APPLY BONDING AGENT TO CLEAN DRY SURFACES BEFORE PLACING GROUT.
3. FOR INSULATED PIPING; INTERRUPT INSULATION ON BOTH SIDES OF SLEEVE, SEAL VAPOR BARRIER TO SLEEVE.

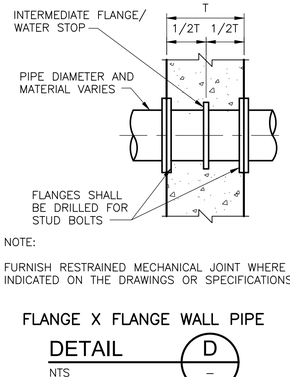
PIPE PENETRATION OF RATED WALL

DETAIL G
NTS



D.I. CASTING WITH NON-FLUSH JOINTS

DETAIL H
NTS

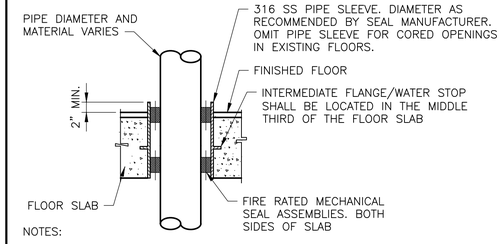


NOTE:

FURNISH RESTRAINED MECHANICAL JOINT WHERE INDICATED ON THE DRAWINGS OR SPECIFICATIONS.

FLANGE X FLANGE WALL PIPE

DETAIL D
NTS

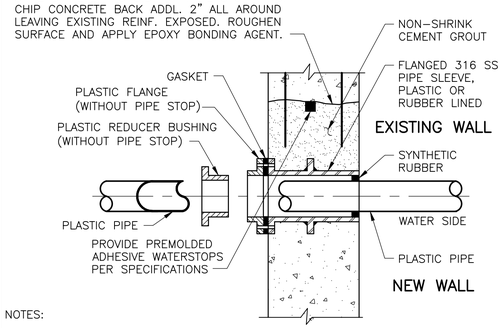


NOTES:

1. FLOOR SLEEVE WITH FIRE RATED MECHANICAL SEALS SHALL BE USED FOR ALL PIPING PENETRATIONS OF FIRE RATED FLOORS.
2. FOR INSULATED PIPING; INTERRUPT INSULATION ON BOTH SIDES OF SLEEVE, SEAL VAPOR BARRIER TO SLEEVE.

PIPE PENETRATION OF RATED FLOOR

DETAIL E
NTS

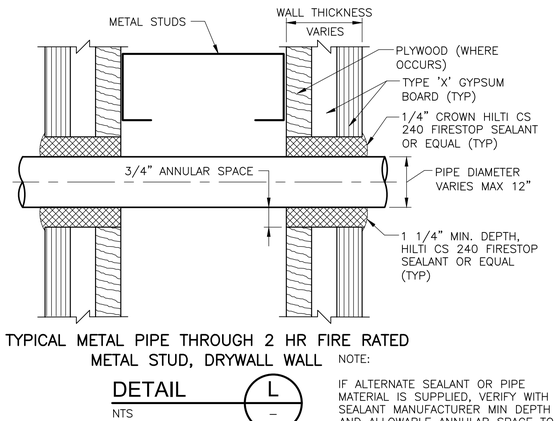


NOTES:

1. IF WALL OR SLAB IS LINED W/PVC LINER, PVC PIPE SHALL BE BONDED TO PVC LINER.
2. SOLVENT WELD BUSHING TO PIPE AND PLASTIC FLANGE TO BUSHING AND MAKE WATER TIGHT.
3. WALL SLEEVES INSTALLED IN BRICK, CMU OR CAVITY WALLS SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. APPLY BONDING AGENT TO CLEAN DRY SURFACES BEFORE PLACING GROUT.

PLASTIC WALL PIPE PENETRATION

DETAIL F
NTS

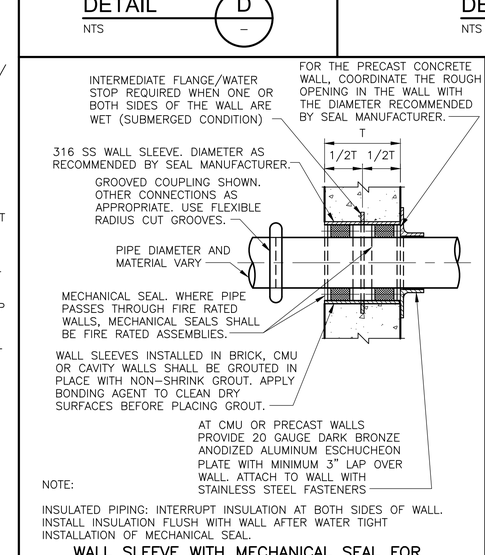


TYPICAL METAL PIPE THROUGH 2 HR FIRE RATED METAL STUD, DRYWALL WALL

DETAIL L
NTS

NOTE:

IF ALTERNATE SEALANT OR PIPE MATERIAL IS SUPPLIED, VERIFY WITH SEALANT MANUFACTURER MIN DEPTH AND ALLOWABLE ANNULAR SPACE TO ACHIEVE NECESSARY FIRE RATING

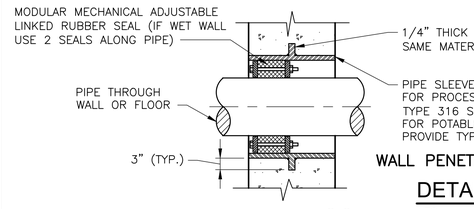


NOTE:

INSULATED PIPING: INTERRUPT INSULATION AT BOTH SIDES OF WALL. INSTALL INSULATION FLUSH WITH WALL AFTER WATER TIGHT INSTALLATION OF MECHANICAL SEAL.

WALL SLEEVE WITH MECHANICAL SEAL FOR CONCRETE, BRICK, CMU OR CAVITY WALLS

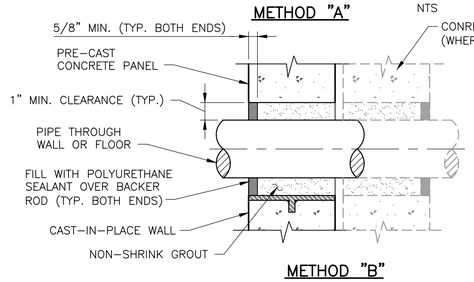
DETAIL I
NTS



METHOD "A"

WALL PENETRATION IN NEW WALL

DETAIL J
NTS



METHOD "B"

WALL PENETRATION IN NEW WALL

DETAIL K
NTS

NOTES:

1. THESE SLEEVED PIPE DETAILS ARE TO BE USED IN DRY WALLS ONLY, EXCEPT AS NOTED.
2. PROVIDE SEALANT ON EXTERNAL FACES ONLY IN TWO WALL CONSTRUCTION.
3. CORE THE PRE-CAST CONCRETE WALL.

NOTES:

1. THE DETAILS ILLUSTRATED ON M-Z-1 TO M-Z-12 ARE PART OF THE PROJECT STANDARD DETAILS.
2. THESE DETAILS ARE TO BE USED WHEN REFERRED TO OR WHEN NO OTHER MORE RESTRICTIVE OR DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.
3. DETAILS SHOWN ARE INTENDED TO COVER A WIDE RANGE OF PROJECT SITUATIONS. ALL DETAILS MAY NOT APPLY TO THIS PROJECT.
4. STAINLESS STEEL ADHESIVE CAPSULE ANCHORS SHALL BE A TWO-PART STUD AND CAPSULE RESIN ANCHORING SYSTEM. CAPSULES SHALL BE SELF-CONTAINED, SEALED GLASS UNITS CONTAINING PREMEASURED AMOUNTS OF RESIN, AGGREGATES, AND HARDENER, STUD ASSEMBLIES SHALL BE ALL-THREAD ANCHOR ROD WITH NUT AND WASHER. INSTALL WASHER IN FALL COMPLIANCE WITH THE MFR's RECOMMENDATIONS. ANCHORS SHALL BE HILTI "HVA ADHESIVE ANCHOR", MOLLY "PARABOUND CAPSULE ANCHOR", OR EQUAL. PROVIDE MINIMUM EMBEDMENT OF 10 BOLT DIAMETERS IN CONC.
5. PIPE TO WALL PENETRATION CLOSURES SHALL BE OF THE MODULAR MECHANICAL TYPE CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO FILL THE ANNULAR SPACE BETWEEN THE PIPE AND WALL OPENING. A PRESSURE PLATE SHALL BE PROVIDED UNDER EACH BOLT HEAD AND NUT WITH THE SEAL CONSTRUCTED TO PROVIDE ELECTRICAL INSULATION BETWEEN WALL AND PIPE. WALL SEAL ASSEMBLY SHALL BE LINK SEAL AS MFR. BY THUNDERLINE CORP., WAYNE MICHIGAN, OR EQUAL. PROVIDE ESCUTCHEONS IN FINISHED SPACES.
6. STANDARD MECHANICAL DETAILS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL DETAILS AND NOTES MARKED "TYPICAL" APPLY TO SIMILAR CONDITIONS THROUGHOUT THE PROJECT WHETHER SPECIFICALLY NOTED OR NOT.
7. THE ABSENCE OF PIPE SUPPORTS AND DETAILS ON THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR PROVIDING THEM. PIPE SUPPORTS INDICATED ON THE DRAWING ARE SHOWN ONLY TO CONVEY THE INTENT OF THE DESIGN FOR A PARTICULAR LOCATION AND ARE NOT INTENDED TO REPRESENT A COMPLETE SYSTEM.
8. ALL PIPE HANGERS, SUPPORTS AND MODEL NUMBERS ILLUSTRATED ON THE MECHANICAL DETAIL SHEETS ARE DEPICTED FOR GUIDANCE PURPOSES ONLY.
9. AS SPECIFIED IN SPECIFICATION 400507, THE SUPPORT SYSTEM ENGINEER SHALL ANALYZE SYSTEM PIPING AND SERVICES CONDITIONS AND DEVELOP A DETAILED PIPING SUPPORT SYSTEM WHICH WILL INCLUDE THE APPROPRIATE SIZE, SPACING AND MODEL NUMBER, SPECIFIC TO THE PIPING MATERIAL, PIPE JOINTS, VALVES AND PIPING APPURTENANCES PROPOSED FOR USE.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS I

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-1

ISSUED FOR BID

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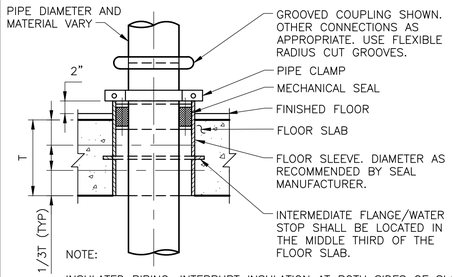


NOTE:

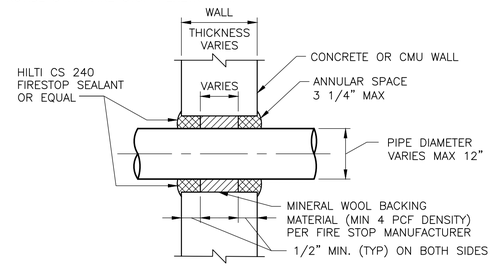
INSULATED PIPING: INTERRUPT INSULATION AT BOTH SIDES OF SLAB. INSTALL INSULATION FLUSH WITH SLAB AFTER WATER TIGHT INSTALLATION OF MECHANICAL SEAL.

FLOOR SLEEVE WITH MECHANICAL SEAL

DETAIL A
NTS

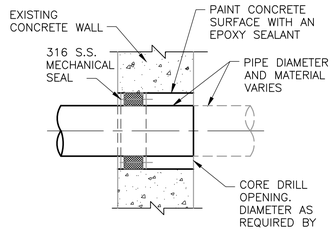
NOTE:

IF ALTERNATE SEALANT OR PIPE MATERIAL IS SUPPLIED, VERIFY WITH SEALANT MANUFACTURER MIN DEPTH AND ALLOWABLE ANNULAR SPACE TO ACHIEVE NECESSARY FIRE RATING. IF FIRE RATING IS NOT NOTED ON DRAWINGS, PROVIDE 3 HR FIRE STOP PENETRATION.



WALL SLEEVE WITH MECHANICAL SEAL FOR WALL PENETRATION (UP TO 3 HR)

DETAIL B
NTS

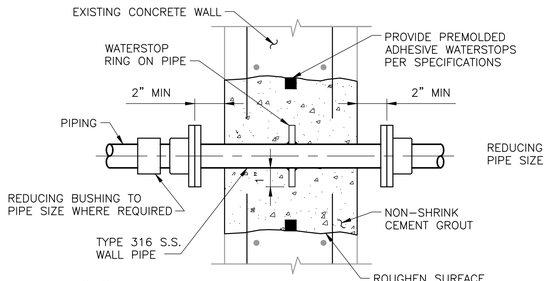


NOTE:

INSIDE DIA. OF EACH WALL OPENING SHALL BE OF THE SIZE RECOMMENDED BY MANUFACTURER TO FIT THE PIPE OR CONDUIT AND THE WALL SEAL ASSEMBLY TO ENSURE A WATER-TIGHT JOINT.

WALL PENETRATION THROUGH EXISTING CONCRETE

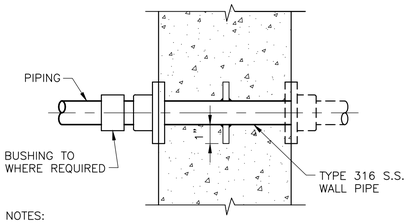
DETAIL C
NTS



NOTES:

1. CORE HOLE THROUGH WALL APPROX. SAME DIAMETER AS O.D. OF WATERSTOP RING. CHIP CONCRETE BACK ADDITIONAL 2" ALL AROUND LEAVING EXISTING REINF. EXPOSED.
2. ALL PIPE WALL PENETRATIONS SHALL BE 2" MINIMUM DIAMETER IF PIPE IS LARGER THAN 2", THE WALL PIPE SHALL BE THE SAME SIZE AS THE PIPE.

EXISTING WALL OR FLOOR



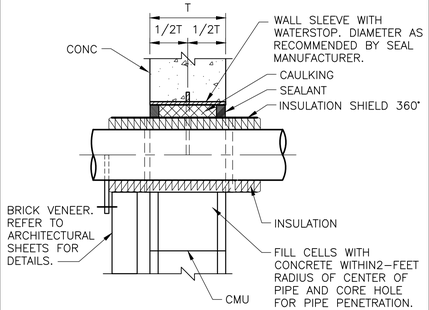
NOTES:

1. ALL PIPE WALL PENETRATIONS SHALL BE 2" MINIMUM DIAMETER. (UND) IF PIPE IS LARGER THAN 2", THE WALL PIPE SHALL BE THE SAME SIZE AS THE PIPE.
2. FLANGES OF CAST-IN SS PIPE MAY BE FLUSH WITH FACE OF WALL. DRILL AND TAP FLANGE FOR STUD BOLTS.

NEW WALL OR FLOOR

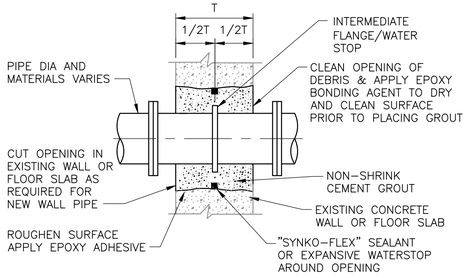
PIPE PENETRATION

DETAIL D
NTS



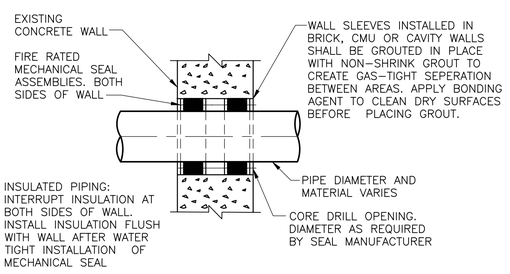
CAULKED SLEEVE FOR INSULATED PIPING

DETAIL E
NTS



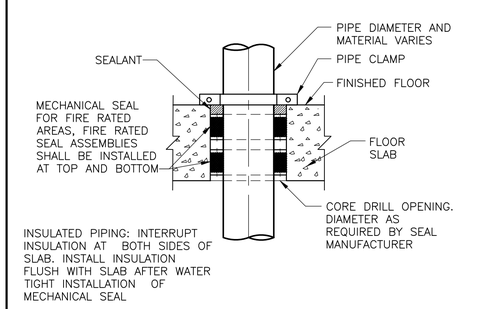
WALL PIPE IN EXISTING WALL/FLOOR

DETAIL F
NTS



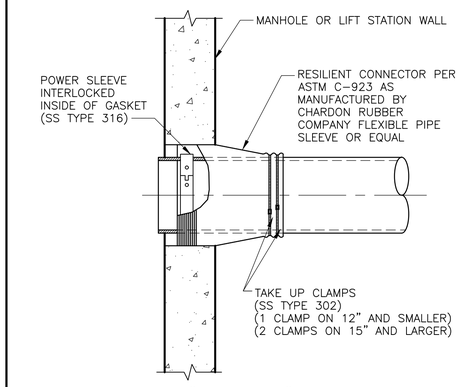
CORE DRILLED OPENING AND DUAL FIRE RATED MECHANICAL SEALS PENETRATION THROUGH EXISTING CONCRETE

DETAIL G
NTS



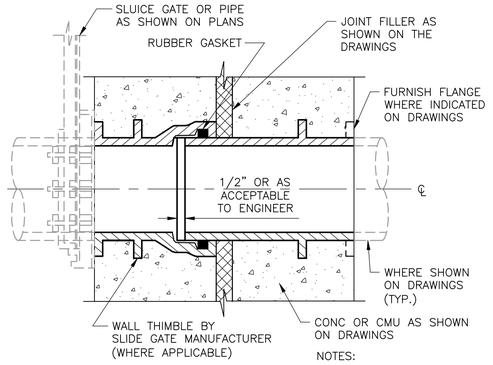
CORE DRILLED OPENING AND DUAL MECHANICAL SEAL PENETRATION THROUGH EXISTING FLOOR SLAB

DETAIL H
NTS



FLEXIBLE "BOOT TYPE" CONNECTOR

DETAIL I
NTS

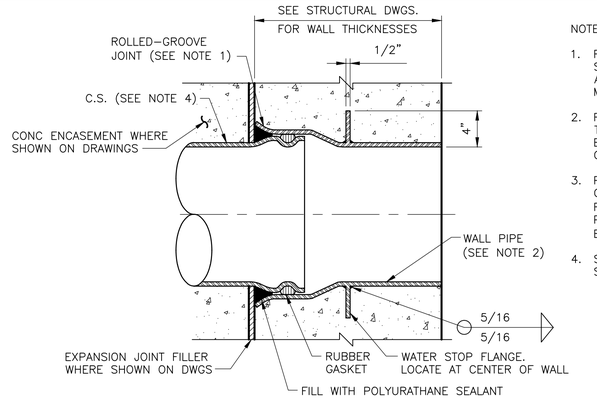


NOTES:

1. FLANGES SHALL BE DRILLED AND TAPPED FOR STUD BOLTS.
2. SEE STRUCTURAL DRAWINGS FOR WALL THICKNESSES.

PENETRATION AT STRUCTURAL EXPANSION

DETAIL J
NTS

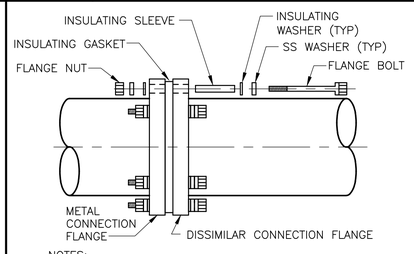


NOTES:

1. ROLLED-GROOVED JOINT SHOWN, OTHER JOINTS APPROVED BY THE ENGINEER MAY BE USED.
2. FABRICATE WALL PIPE JOINT TO MATCH PIPE SOCKET. EPOXY COAT ALL SURFACES OF WALL PIPE.
3. PROVIDE FLEXIBLE PIPE COUPLING WITHIN MAX. OF 4 FT. FROM WALL (WHEN PIPING IS NOT CONCRETE ENCASED).
4. SEE DWGS. FOR C.S. PIPE SIZE.

FABRICATED WALL PIPE

DETAIL K
NTS



NOTES:

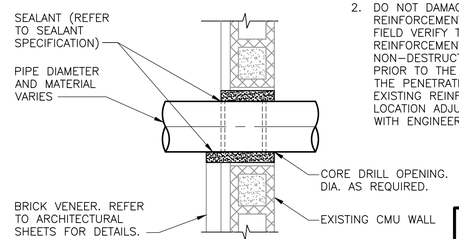
1. ALL NUTS, BOLTS, AND WASHERS SHALL BE TYPE 316 SS MATERIALS.
2. INSULATING GASKET, INSULATING SLEEVE AND INSULATING WASHERS SHALL BE VITON MATERIAL AND RATED FOR 300°F.
3. THIS DETAIL SHALL BE UTILIZED WHEN CONNECTING ANY DISSIMILAR METAL PIPE TYPES.

INSULATING FLANGE ASSEMBLY
(FOR DISSIMILAR PIPE MATERIALS)

DETAIL L
NTS

NOTES:

1. INSIDE DIA. OF EACH WALL OPENING SHALL BE OF THE SIZE RECOMMENDED BY MANUFACTURER TO FIT THE PIPE OR CONDUIT. FILL VOIDS WITH SEALANT TO ENSURE A WATER-TIGHT JOINT.
2. DO NOT DAMAGE THE EXISTING CMU REINFORCEMENT. CONTRACTOR SHALL FIELD VERIFY THE EXISTING CMU REINFORCEMENT (WITH THE NON-DESTRUCTIVE METHOD/SCANNING) PRIOR TO THE CORE DRILLING. WHERE THE PENETRATION CONFLICTS WITH EXISTING REINFORCEMENT, SLIGHT LOCATION ADJUSTMENT MAY BE ALLOWED WITH ENGINEER APPROVAL.



WALL PIPE IN EXISTING WALL

DETAIL M
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS II

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-2

ISSUED FOR BID

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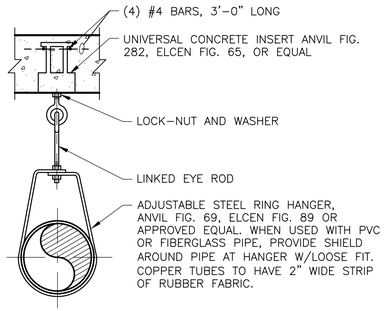
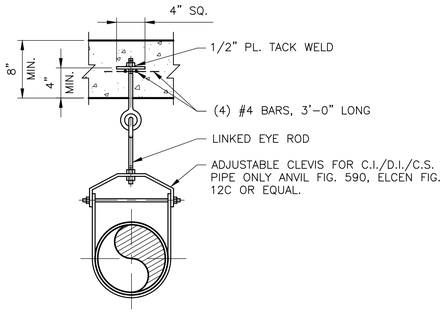
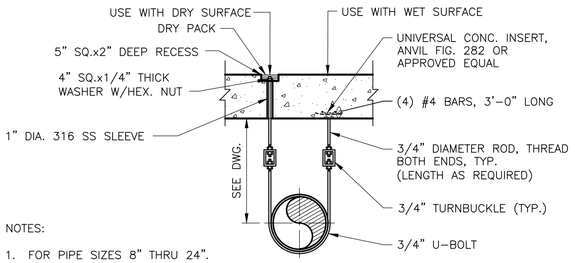


TYPE 'A' FOR HANGER RODS
1/2" – 3 3/4" DIAMETER



TYPE 'B' FOR HANGER RODS
4"–12" DIAMETER, AND
MIN. 8" THICK CONCRETE

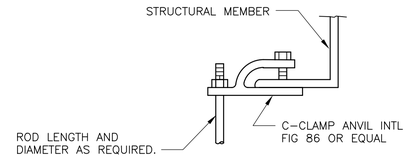
PIPE HANGER
DETAIL A
NTS



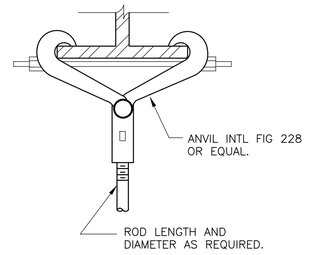
NOTES:

1. FOR PIPE SIZES 8" THRU 24".
2. THIS DETAIL NOT TO BE USED FOR SUPPORT UNDER CONCRETE TEES.

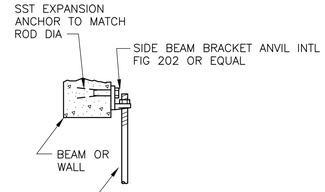
DUAL ROD PIPE HANGER
DETAIL B
NTS



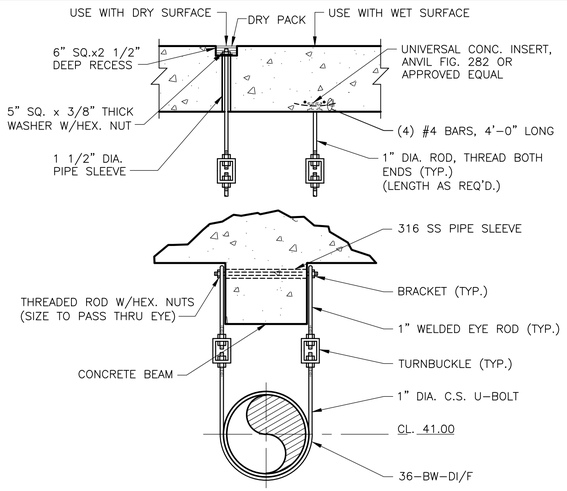
BEAM CLAMP
DETAIL D
NTS



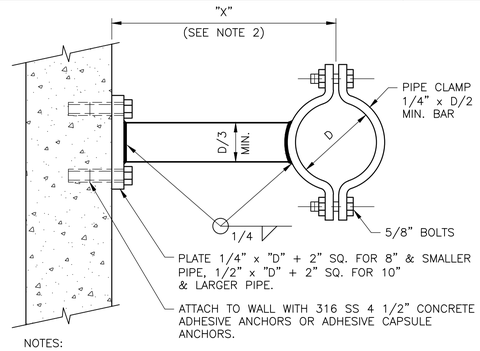
BEAM CLAMP
DETAIL E
NTS



SIDE MOUNT
DETAIL F
NTS



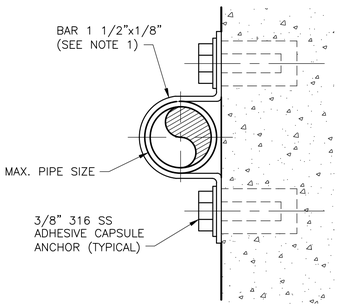
B.W. HEADER HANGER ALT. B
DETAIL C
NTS



NOTES:

1. SWAY BRACE SHALL NOT SUPPORT VERTICAL LOADS.
2. FOR USE WHEN "X" IS GREATER THAN 12".

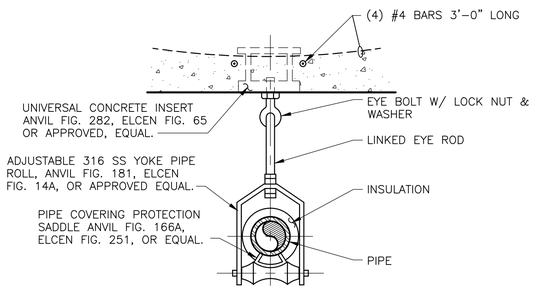
PLAN
PIPE SWAY BRACE
DETAIL G
NTS



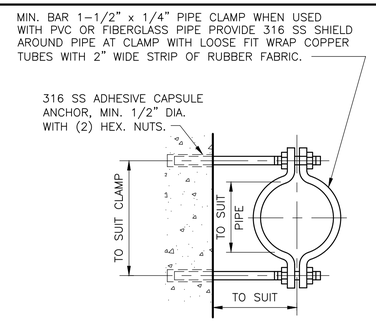
NOTES:

1. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE 316 SS SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.

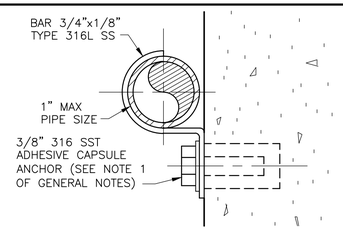
PIPE CLAMP FOR INDIVIDUAL PIPES
DETAIL H
NTS



HANGER FOR INSULATED PIPE
DETAIL I
NTS



PIPE CLAMP
DETAIL J
NTS



NOTES

1. PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL AS NOTED IN SECTION 400575.
2. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE 316 SS SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.
3. STRAP, EXPANSION BOLT, NUT & WASHER SHALL BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP FOR INDIVIDUAL PIPES
DETAIL K
NTS

NOTES

1. ALL MATERIAL USED IN THE SUPPORT SYSTEMS SHOWN ON THIS SHEET SHALL BE PER THE MATERIAL SCHEDULE PROVIDED ON G SHEETS.
2. SEE SPECIFICATIONS FOR ADDITIONAL PIPE SUPPORT DESIGN REQUIREMENTS.
3. ALL METAL PIPE SUPPORT DETAILS AND THE ASSOCIATED COMPONENTS SHOWN ON THIS DRAWING SERVE AS A MINIMUM DESIGN GUIDE WITH MINIMUM REQUIREMENTS. THE FINAL DESIGN SHALL BE PER DELEGATED PIPE SUPPORT ENGINEER AND/OR MANUFACTURER (SEE SPECIFICATION 400507 "HANGERS AND SUPPORTS FOR PROCESS PIPING" SHALL NOT BE LESS THAN THE MINIMUM AS REQUIRED IN THIS DRAWING AND SPECIFICATION.
4. REBAR SIZE AND SPACING TO BE DETERMINED BY PIPE SUPPORT DESIGN ENGINEER.
5. FOR CONCRETE ANCHOR INSTALLATION, LOCATE THE CONCRETE REINFORCEMENT WITH NON-DESTRUCTIVE METHOD PRIOR TO DRILLING. DRILLING WITH THE DIAMOND CORE DRILL BIT IS NOT ALLOWED AND DO NOT DAMAGE THE CONCRETE REINFORCEMENT. FOR THE ADHESIVE ANCHORAGE SYSTEM, THE MINUMUM EMBEDMENT LENGHT, SPACING AND EDGE DISTANCE SHALL BE PER ANCHOR MANUFACTURER'S RECOMMENDATION AND LOAD REQUIREMENT.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS III

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-3

ISSUED FOR BID

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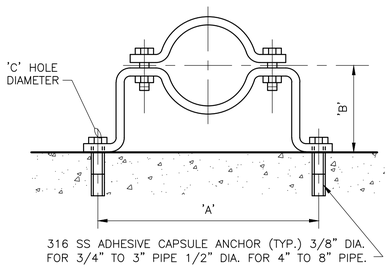
DIMENSIONS IN INCHES					
PIPE DIA.	'A'	'B' SEE NOTE 1 BELOW	'C' HOLE DIA.	'D' FLAT BAR SIZE	LOAD RATING LBS.*
3/4	5-15/16	2-1/2	7/16	3/16 X 1-1/4	300
1	6-1/4	2-5/8	7/16	3/16 X 1-1/4	300
1-1/4	6-11/16	2-3/4	7/16	3/16 X 1-1/4	300
1-1/2	6-15/16	3	7/16	3/16 X 1-1/4	300
2	8-5/16	3-3/16	7/16	1/4 X 1-1/4	500
2-1/2	8-7/8	3-7/16	7/16	1/4 X 1-1/4	500
3	9-1/8	3-3/4	7/16	1/4 X 1-1/4	500
3-1/2	10-1/16	4	7/16	1/4 X 1-1/4	500
4	10-9/16	4-1/4	9/16	1/4 X 1-1/2	600
5	11-3/4	4-3/4	9/16	1/4 X 1-1/2	600
6	14-3/8	5-5/16	9/16	3/8 X 1-1/2	850
8	16-5/8	6-5/16	9/16	3/8 X 1-1/2	850

* SAFETY FACTOR OF 5



316 SS ADHESIVE CAPSULE ANCHOR (TYP.) 3/8" DIA. FOR 3/4" TO 3" PIPE 1/2" DIA. FOR 4" TO 8" PIPE.

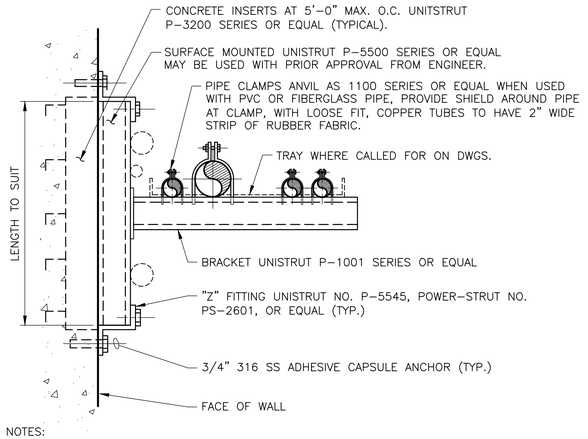
NOTE:

1. FOR FLANGED PIPING INCREASE 'B' DIMENSION AS REQUIRED.

PIPE CLAMP

DETAIL A

NTS



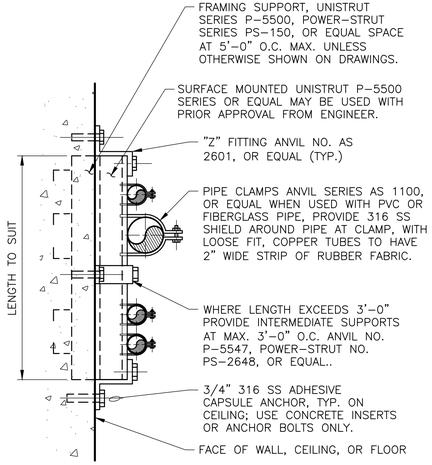
NOTES:

1. MAY BE COMBINED WITH RACKING PIPE IN VERTICAL AND WITH RUBBER HOSE IN TRAY.

CANTILEVERED PIPE SUPPORT

DETAIL B

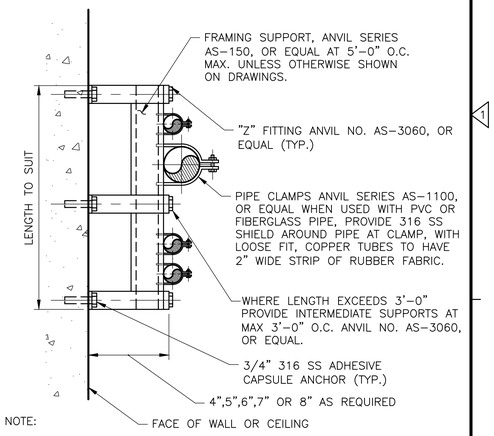
NTS



FLUSH MOUNTED PIPE SUPPORT

DETAIL C

NTS



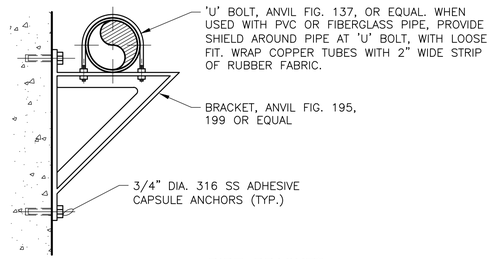
NOTE:

1. WHEN USED IN CHEMICAL CONTAINMENT AREA, PIPE SUPPORT AND ALL ACCESSORIES SHALL BE FRP. ANCHOR BOLTS SHALL BE TITANIUM.

EXTENDED PIPE SUPPORT

DETAIL D

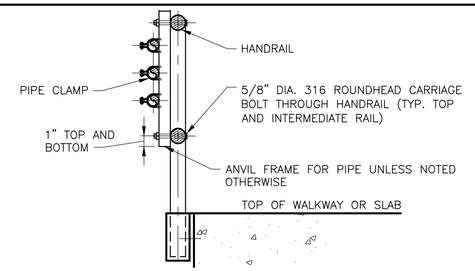
NTS



PIPE BRACKET

DETAIL E

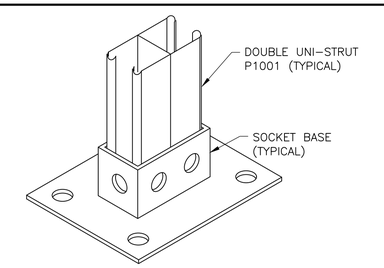
NTS



HANDRAIL SUPPORTED PIPE

DETAIL F

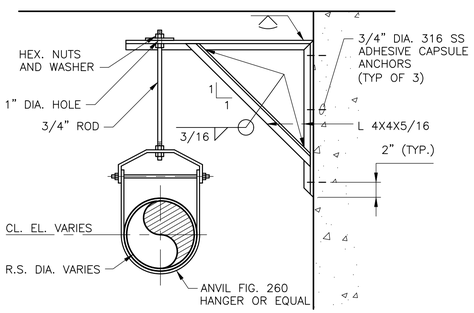
NTS



DOUBLE UNI-STRUT PIPE SUPPORT

DETAIL G

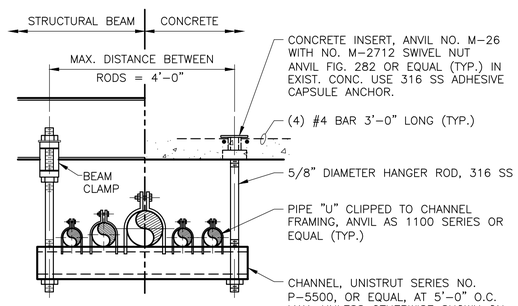
NTS



PIPE HANGER

DETAIL H

NTS



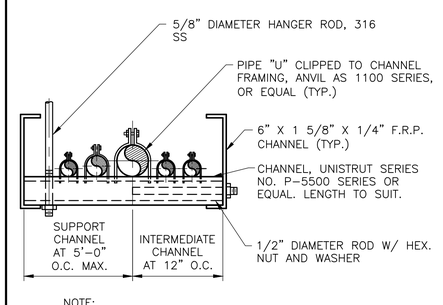
NOTE:

ADD MULTIPLE CHANNELS WHERE APPLICABLE.

TRAPEZE PIPE HANGER

DETAIL I

NTS



NOTE:

WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE SHIELD AROUND PIPE AT CLIP WITH LOOSE FIT. COPPER TUBES USE THERMOPLASTIC ELASTOMER CUSHION.

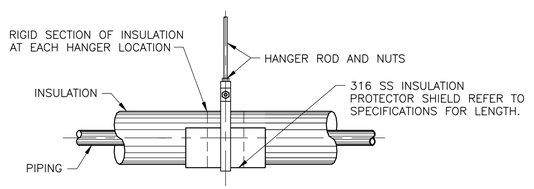
TRAPEZE PIPE HANGER

DETAIL J

NTS

NOTES

1. ALL MATERIAL USED IN THE SUPPORT SYSTEMS SHOWN ON THIS SHEET SHALL BE PER THE MATERIAL SCHEDULE PROVIDED ON G SHEETS.
2. SEE SPECIFICATIONS FOR ADDITIONAL PIPE SUPPORT DESIGN REQUIREMENTS.
3. ALL METAL PIPE SUPPORT DETAILS AND THE ASSOCIATED COMPONENTS SHOWN ON THIS DRAWING SERVE AS A MINIMUM DESIGN GUIDE WITH MINIMUM REQUIREMENTS. THE FINAL DESIGN SHALL BE PER DELEGATED PIPE SUPPORT ENGINEER AND/OR MANUFACTURER (SEE SPECIFICATION 400507 "HANGERS AND SUPPORTS FOR PROCESS PIPING" SHALL NOT BE LESS THAN THE MINIMUM AS REQUIRED IN THIS DRAWING AND SPECIFICATION.
4. REBAR SIZE AND SPACING TO BE DETERMINED BY PIPE SUPPORT DESIGN ENGINEER.
5. FOR CONCRETE ANCHOR INSTALLATION, LOCATE THE CONCRETE REINFORCEMENT WITH NON-DESTRUCTIVE METHOD PRIOR TO DRILLING. DRILLING WITH THE DIAMOND CORE DRILL BIT IS NOT ALLOWED AND DO NOT DAMAGE THE CONCRETE REINFORCEMENT. FOR THE ADHESIVE ANCHORAGE SYSTEM, THE MINUMUM EMBEDMENT LENGHT, SPACING AND EDGE DISTANCE SHALL BE PER ANCHOR MANUFACTURER'S RECOMMENDATION AND LOAD REQUIREMENT.



HANGER SUPPORT SYSTEM INSULATED HORIZONTAL PIPING

DETAIL K

NTS

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS IV

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-4

ISSUED FOR BID

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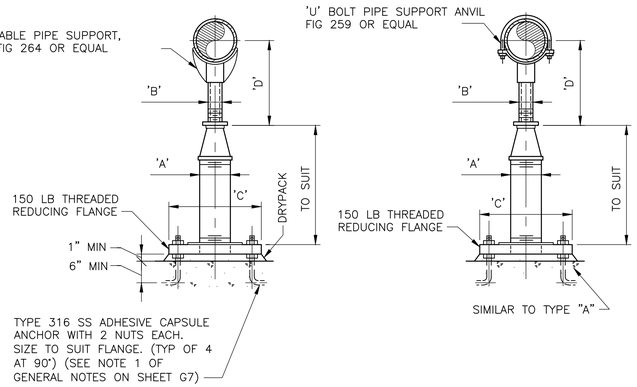


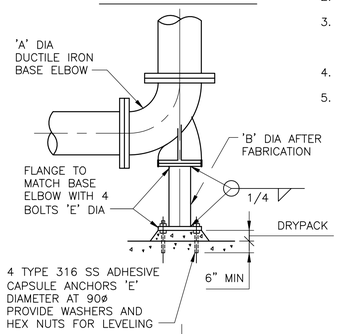
TYPE "A" TYPE "B"

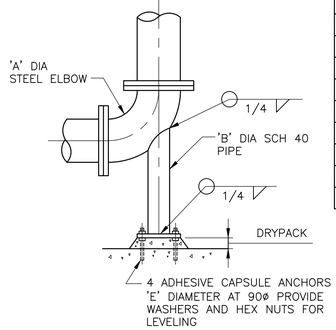
NOTES:

1. UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES, A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER.

ADJUSTABLE PIPE SUPPORT
DETAIL A
NTS

DUCTILE IRON ELBOW





ELBOW 'A' DIA	DIMENSIONS IN INCHES			
	'B' DIA	'C' DIA	'D' DIA	'E' DIA
4	2	3/8	6	5/8
6	2-1/2	3/8	7	5/8
8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13-1/2	3/4
20	8	1/2	13-1/2	3/4
24	8	1/2	13-1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23-1/2	1
48	18	3/4	25	1-1/8

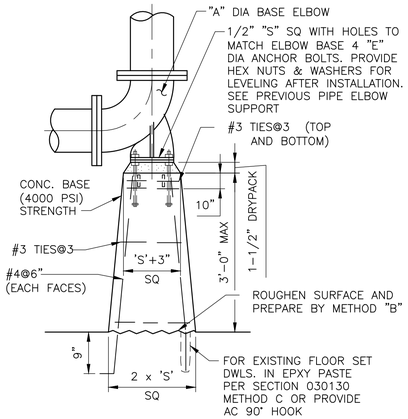
NOTE:

1. MATERIAL FINISH TO MATCH PIPE.

PIPE ELBOW SUPPORT
DETAIL B
NTS

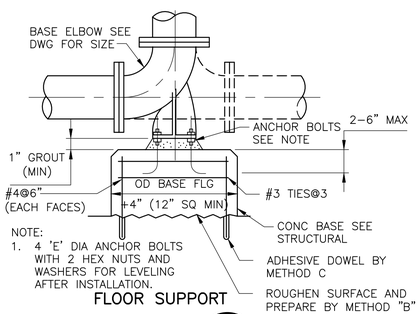
NOTES

1. ALL MATERIAL USED IN THE SUPPORT SYSTEMS SHOWN ON THIS SHEET SHALL BE PER THE MATERIAL SCHEDULE PROVIDED ON G SHEETS.
2. SEE SPECIFICATIONS FOR ADDITIONAL PIPE SUPPORT DESIGN REQUIREMENTS.
3. ALL METAL PIPE SUPPORT DETAILS AND THE ASSOCIATED COMPONENTS SHOWN ON THIS DRAWING SERVE AS A MINIMUM DESIGN GUIDE WITH MINIMUM REQUIREMENTS. THE FINAL DESIGN SHALL BE PER DELEGATED PIPE SUPPORT ENGINEER AND/OR MANUFACTURER (SEE SPECIFICATION 400507 "HANGERS AND SUPPORTS FOR PROCESS PIPING" SHALL NOT BE LESS THAN THE MINIMUM AS REQUIRED IN THIS DRAWING AND SPECIFICATION.
4. REBAR SIZE AND SPACING TO BE DETERMINED BY PIPE SUPPORT DESIGN ENGINEER.
5. FOR CONCRETE ANCHOR INSTALLATION, LOCATE THE CONCRETE REINFORCEMENT WITH NON-DESTRUCTIVE METHOD PRIOR TO DRILLING. DRILLING WITH THE DIAMOND CORE DRILL BIT IS NOT ALLOWED AND DO NOT DAMAGE THE CONCRETE REINFORCEMENT. FOR THE ADHESIVE ANCHORAGE SYSTEM, THE MINUMUM EMBEDMENT LENGHT, SPACING AND EDGE DISTANCE SHALL BE PER ANCHOR MANUFACTURER'S RECOMMENDATION AND LOAD REQUIREMENT.



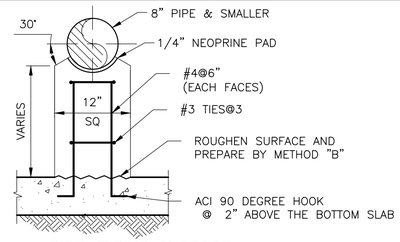
NOTE: 'S' = ELBOW BASE SIZE

PIPE ELBOW SUPPORT
CONCRETE BASE
DETAIL C
NTS



NOTE:
1. 4 'E' DIA ANCHOR BOLTS WITH 2 HEX NUTS AND WASHERS FOR LEVELING AFTER INSTALLATION.

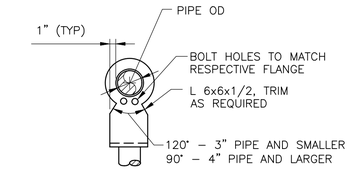
FLOOR SUPPORT
DETAIL D
NTS

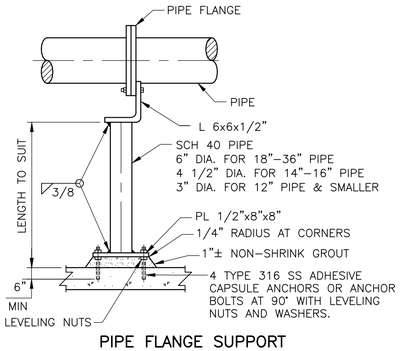


PIPE ELBOW SUPPORT
8" PIPE OR SMALLER
DETAIL E
NTS

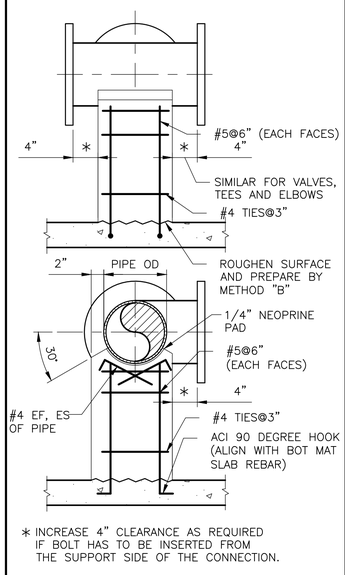
NOTE:

1. PIPE SUPPORT AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL.
2. ROUND ALL SHARP EDGES (TYP).



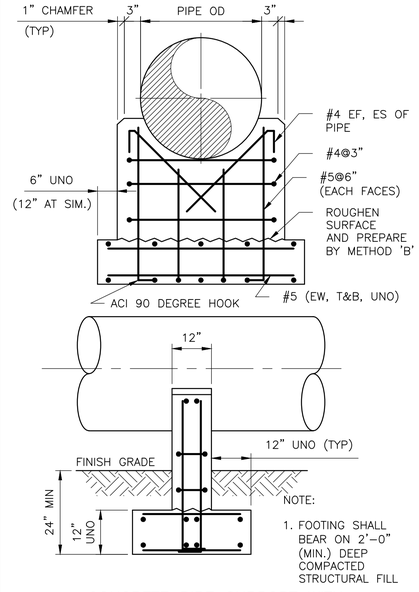


PIPE FLANGE SUPPORT
DETAIL F
NTS



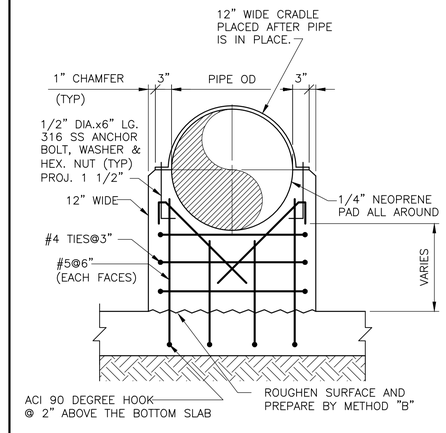
* INCREASE 4" CLEARANCE AS REQUIRED IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION.

TEE SUPPORT
DETAIL G
NTS

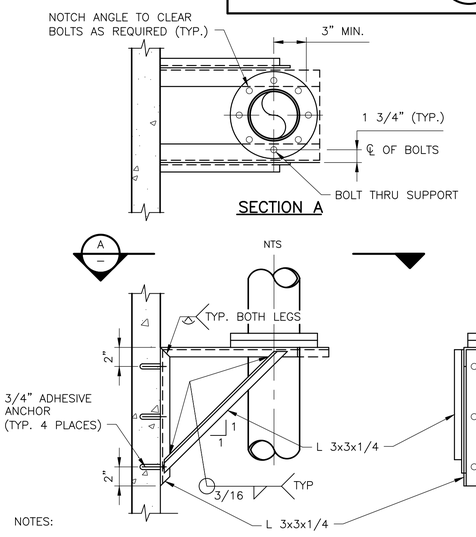


NOTE:
1. FOOTING SHALL BEAR ON 2'-0" (MIN.) DEEP COMPACTED STRUCTURAL FILL

CONCRETE PIPE SUPPORT WITH BELOW GRADE FOOTING
DETAIL H
NTS



CONCRETE PIPE SUPPORT
DETAIL I
NTS



NOTES:

1. FOR 4" AND LARGER PIPE.
2. MAXIMUM VERTICAL LOAD EQUALS 900 POUNDS.
3. FOR PIPE WITH JOINT TYPE OTHER THAN FLANGED, WELD SINGLE SLIP-ON TYPE FLANGE TO PIPE AT LOCATION OF EACH SUPPORT.

PIPE SUPPORT
DETAIL J
NTS

AUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS V

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-5

ISSUED FOR BID

XREFs: [CDMS_2234_MATHUR-S_TX-REV] Images: []
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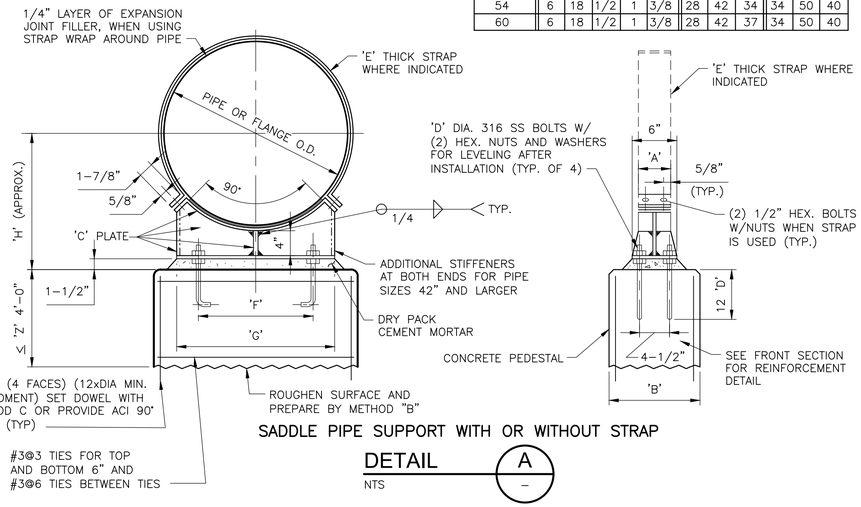
DIMENSIONS IN INCHES											
NOMINAL PIPE SIZE						SUPPORTING PIPE			SUPPORTING FLANGE		
	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'F'	'G'	'H'
6	4	12	3/8	5/8	1/4	4	8	10	6	11	13
8	4	12	3/8	5/8	1/4	5	9	11	7	13	14
10	4	12	3/8	5/8	1/4	6	11	12	9	15	15
12	4	12	3/8	5/8	1/4	7	13	13	10	17	16
14	4	12	3/8	5/8	1/4	8	13	14	11	18	17
16	4	12	3/8	5/8	1/4	9	15	15	12	20	18
18	4	12	3/8	5/8	1/4	10	16	16	13	21	19
20	5	12	3/8	5/8	3/8	10	18	17	15	23	21
22	5	12	3/8	5/8	3/8	12	19	18	16	25	22
24	5	12	3/8	5/8	3/8	13	21	19	16	26	23
26	5	12	3/8	3/4	3/8	14	22	20	18	28	24
30	5	12	3/8	3/4	3/8	16	25	22	20	31	26
34	5	15	3/8	3/4	3/8	18	28	24	22	35	29
36	6	15	3/8	3/4	3/8	19	29	25	24	36	30
42	6	18	1/2	1	3/8	21	33	28	27	41	33
48	6	18	1/2	1	3/8	24	38	31	30	46	37
54	6	18	1/2	1	3/8	28	42	34	34	50	40
60	6	18	1/2	1	3/8	28	42	37	34	50	40

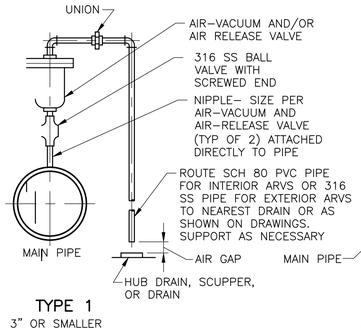
NOTES:

1. WHEN SUPPORTING PIPE & FLANGE ALTERNATELY ON THE SAME LINE, CONCRETE PIERS FOR PIPE SUPPORTS SHALL ALL HAVE THE SAME DIMENSIONS 'H' FOR FLANGE SUPPORT.
2. WHERE UTILIZED UNDER BENDS, OR OTHERWISE SKEWED, DIMENSIONS TO BE INCREASED & SADDLE FABRICATED AS ACCEPTABLE TO ENGINEER.
3. IF 'Z' IS 6" OR LESS, ANCHOR BOLTS TO PROJECT MIN. 6" INTO FLOOR.

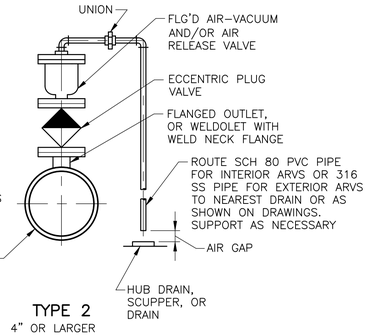


SADDLE PIPE SUPPORT WITH OR WITHOUT STRAP

DETAIL A — NTS



TYPE 1
3" OR SMALLER



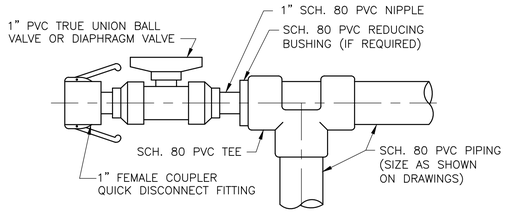
TYPE 2
4" OR LARGER

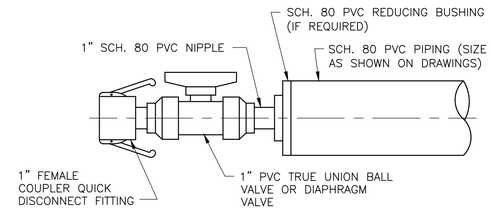
NOTES:

1. VALVE SHOWN FOR ILLUSTRATION ONLY. IT MAY NOT BE ONE PROVIDED.
2. USE FACTORY INSTALL STUBOUTS FOR DIRECTION INSTALLATION ON PIPE ONLY.
3. TYPE 1 AIR RELEASE VALVE SHALL BE ARI D025S WITH THREADED 2-IN CONNECTION. EACH AIR RELEASE VALVE SHALL BE PROVIDED WITH ONE-WAY CHECK VALVE FOR OPTIONAL PRESSURE RELIEF ONLY.

AIR RELEASE VALVE

DETAIL B — NTS



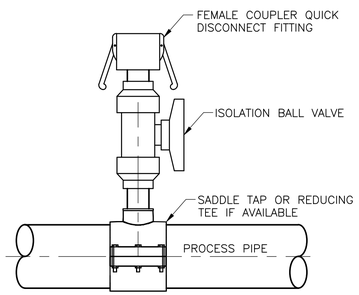


FLUSHING CONNECTION FOR CHEMICAL FEED SERVICE

DETAIL C — NTS

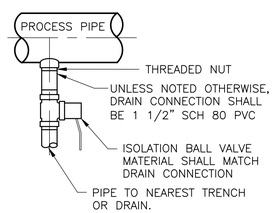
NOTES:

1. FLUSHING CONNECTION AND BALL VALVE MATERIAL SHALL MATCH PIPE MATERIAL.
2. USE ADAPTER WHEN NECESSARY SEE SPECIFICATION FOR DETAILS.



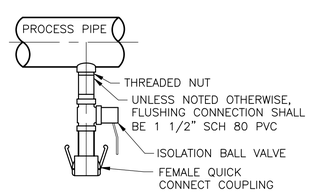
SADDLE TAP FLUSHING CONNECTION

DETAIL D — NTS



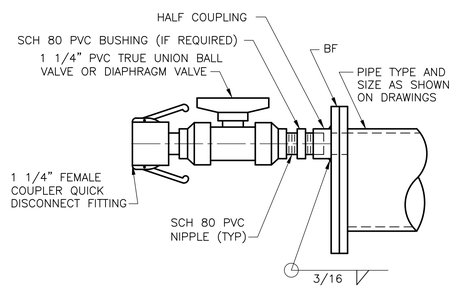
GENERAL DRAIN CONNECTION

DETAIL E — NTS



GENERAL FLUSHING CONNECTION

DETAIL F — NTS

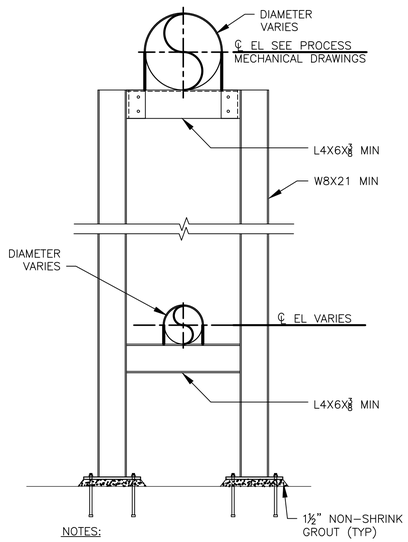


NOTES:

1. FLUSHING CONNECTION SHALL BE 1¼" DIA. UNLESS SHOWN OTHERWISE

FLUSHING COCK

DETAIL G — NTS



NOTES:

1. PIPE SUPPORTS TO BE DESIGNED AND SUPPLIED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION SECTION 400507.

FLOOR MOUNTED STACKED PIPE SUPPORT

DETAIL H — NTS

QUSTIN LEVI CRAIG — LICENSED — 24664 — 03.18.2024 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS VI

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-6

ISSUED FOR BID

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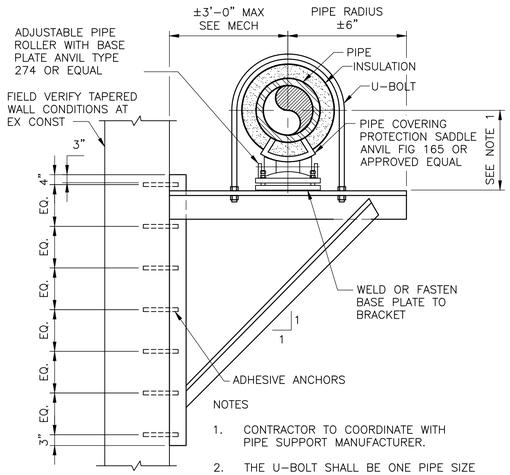
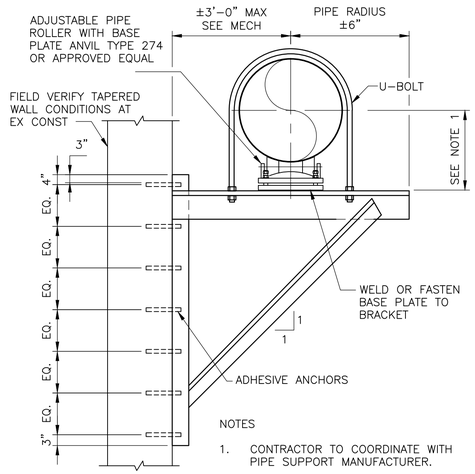


NOTES

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE INSULATION OUTSIDE DIAMETER.

TYPICAL SLIDING PIPE
PIPE SUPPORT BRACKET W/INSULATION

DETAIL A
NTS

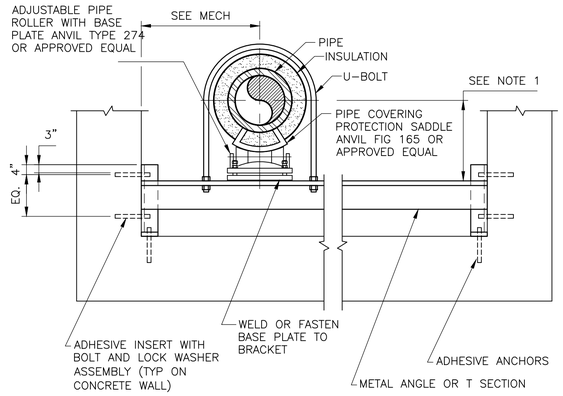


NOTES

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE OUTSIDE DIAMETER.

TYPICAL SLIDING PIPE
PIPE SUPPORT BRACKET

DETAIL B
NTS

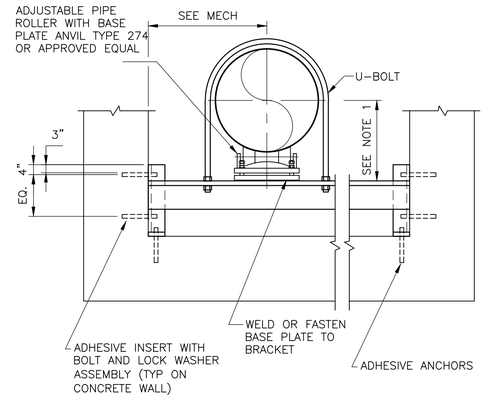


NOTES

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE INSULATION OUTSIDE DIAMETER.

TYPICAL SLIDING PIPE
TRENCH SUPPORT W/INSULATION

DETAIL C
NTS

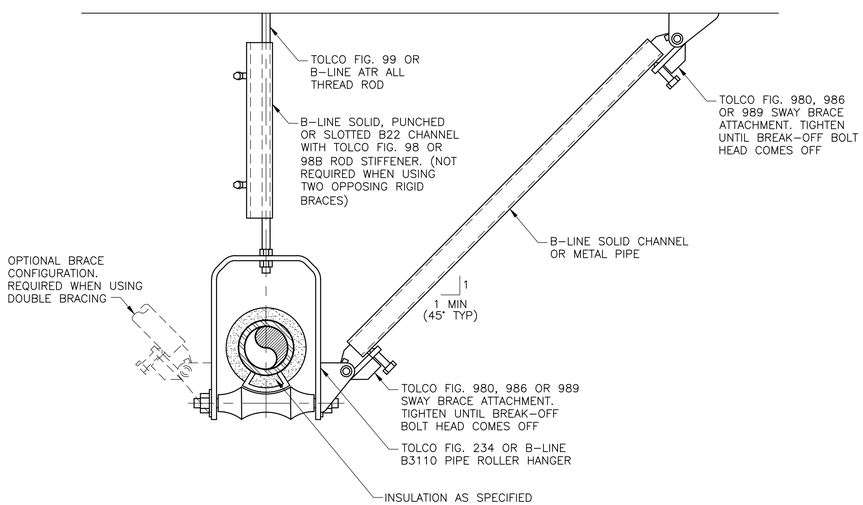


NOTES.

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE OUTSIDE DIAMETER.

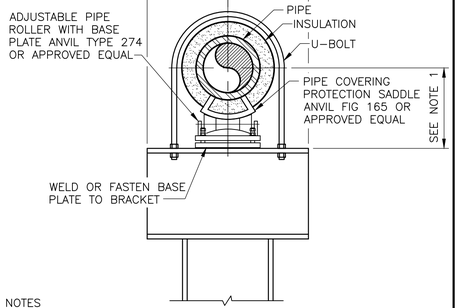
TYPICAL SLIDING PIPE
TRENCH SUPPORT

DETAIL D
NTS



TYPICAL SLIDING PIPE
HANGER SUPPORT

DETAIL E
NTS

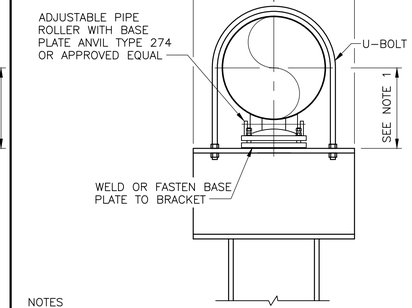


NOTES

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE INSULATION OUTSIDE DIAMETER.

TYPICAL SLIDING PIPE
TEE SUPPORT W/INSULATION

DETAIL F
NTS

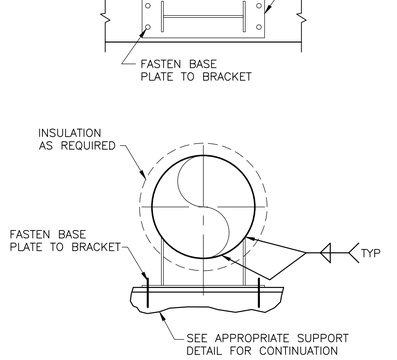


NOTES

1. CONTRACTOR TO COORDINATE WITH PIPE SUPPORT MANUFACTURER.
2. THE U-BOLT SHALL BE ONE PIPE SIZE LARGER THAN THE OUTSIDE DIAMETER.

TYPICAL SLIDING PIPE
TEE SUPPORT

DETAIL G
NTS



TYPICAL ANCHOR PIPE SUPPORT

DETAIL H
NTS

NOTES

1. ALL MATERIAL USED IN THE SUPPORT SYSTEMS SHOWN ON THIS SHEET SHALL BE PER THE MATERIAL SCHEDULE PROVIDED ON G SHEETS.
2. SEE SPECIFICATIONS FOR ADDITIONAL PIPE SUPPORT DESIGN REQUIREMENTS.
3. ALL METAL PIPE SUPPORT DETAILS AND THE ASSOCIATED COMPONENTS SHOWN ON THIS DRAWING SERVE AS A MINIMUM DESIGN GUIDE WITH MINIMUM REQUIREMENTS. THE FINAL DESIGN SHALL BE PER DELEGATED PIPE SUPPORT ENGINEER AND/OR MANUFACTURER (SEE SPECIFICATION 400507 "HANGERS AND SUPPORTS FOR PROCESS PIPING" SHALL NOT BE LESS THAN THE MINIMUM AS REQUIRED IN THIS DRAWING AND SPECIFICATION.
4. REBAR SIZE AND SPACING TO BE DETERMINED BY PIPE SUPPORT DESIGN ENGINEER.
5. FOR CONCRETE ANCHOR INSTALLATION, LOCATE THE CONCRETE REINFORCEMENT WITH NON-DESTRUCTIVE METHOD PRIOR TO DRILLING. DRILLING WITH THE DIAMOND CORE DRILL BIT IS NOT ALLOWED AND DO NOT DAMAGE THE CONCRETE REINFORCEMENT. FOR THE ADHESIVE ANCHORAGE SYSTEM, THE MINUMUM EMBEDMENT LENGHT, SPACING AND EDGE DISTANCE SHALL BE PER ANCHOR MANUFACTURER'S RECOMMENDATION AND LOAD REQUIREMENT.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

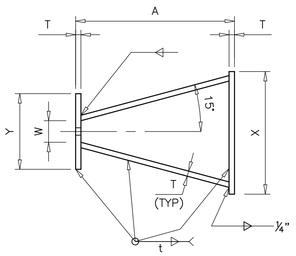
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

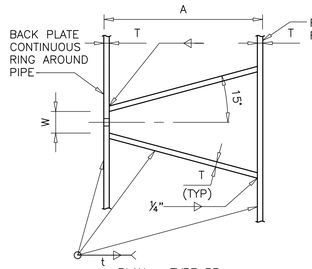
PROCESS MECHANICAL
STANDARD DETAILS VII

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

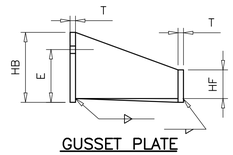
SHEET NO.
MZ-7

ISSUED FOR BID

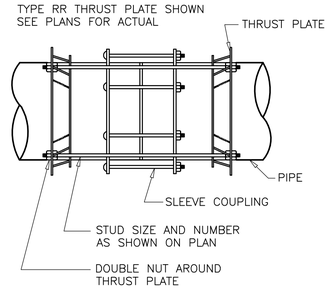




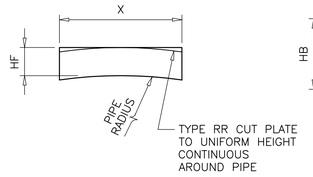
PLAN – TYPE RR
t=PIPE WALL THICKNESS AND SIZE OF FILLET ATTACHMENT WELD



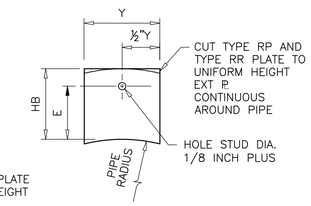
GUSSET PLATE



PLAN – TYPE P
t=PIPE WALL THICKNESS AND SIZE OF FILLET ATTACHMENT WELD



FRONT PLATE



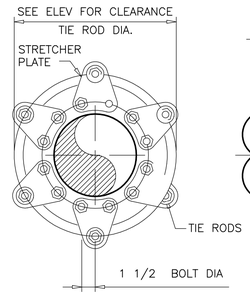
BACK PLATE

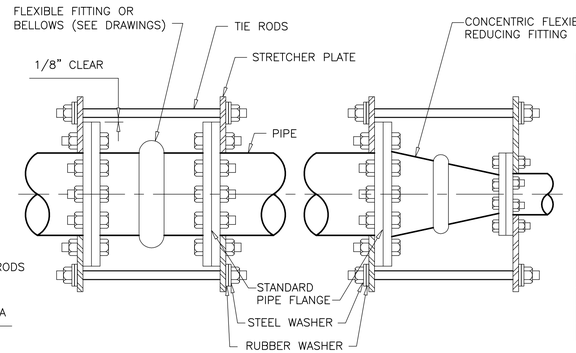
NOTE:

DIMENSIONS OF JOINT HARNESS TIE BOLTS AND LUGS FOR RUBBER GASKETED JOINTS AS PER TABLE 13.5, 2004 FOURTH EDITION OF AWWA M–11.

FLEXIBLE COUPLING W/THRUST HARNESS FOR PIPE

DETAIL A
NTS





ELEVATION

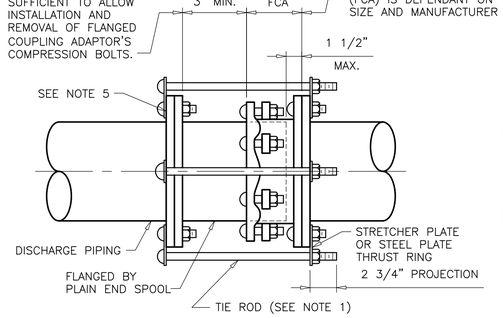
PIPE DIA.	TIE ROD NUMBER	TIE ROD DIA.	STRETCHER ℄ THICK
4	4	5/8"	1/2"
6	4	3/4"	1/2"
8	4	3/4"	1/2"
10	6	3/4"	3/4"
12	6	3/4"	3/4"
14	6	3/4"	3/4"
16	8	3/4"	3/4"
18	8	3/4"	1"
20	10	3/4"	1"
24	10	1"	1"
30	14	1"	1 1/4"
36	16	1 1/4"	1 1/4"
42	18	1 1/4"	1 1/4"
48	22	1 1/4"	1 1/2"
54	22	1 3/8"	1 1/2"

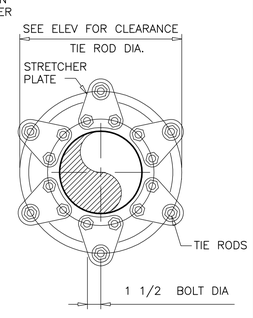
NOTES:

1. BOLTS : 316 STAINLESS STEEL.
2. STRETCHER PLATE : ASTM A36 STEEL, HOT DIP GALV.
3. FLEXIBLE FITTINGS AND METAL BELLOWS SHALL BE PROVIDED PER SPECIFICATIONS.
4. IN CONCENTRIC FLEXIBLE REDUCING FITTING THE TIE ROD DIAMETER SHALL BE SIZED USING THE LARGER SIZE PIPE DIAMETER.
5. AFTER ASSEMBLY, BACK OUT THE NUT ON ONE END OF THE THRUST ROD BY A FEW REVOLUTIONS TO ALLOW EXPANSION AND CONTRACTION.

EXPANSION JOINT W/THRUST PROTECTION

DETAIL B
NTS



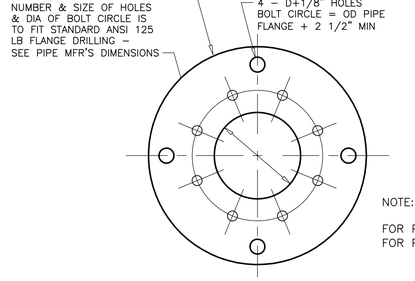


NOTES:

1. EVENLY SPACE INSTALLATION OF THE TIE RODS. LENGTH OF TIE RODS TO BE DETERMINED BY CONTRACTOR BASED ON SIZE AND FLANGED COUPLING ADAPTOR AND FINAL LENGTH OF SPOOL PIECE.
2. PROVIDE STRETCHER PLATE FOR ATTACHMENT OF TIE RODS.
3. MATERIALS – BOLTS: 316 STAINLESS STEEL. STRETCHER PLATE: ASTM A36 STEEL HOT DIP GALVANIZED. FLEXIBLE COUPLING: PER SPECIFICATIONS
4. WELD TO DEVELOP MIN. THE STRENGTH OF PIPE. REPAIR COATINGS AS REQUIRED.
5. WHERE CALLED OUT AND/OR SHOWN, PROVIDE HARNESS LUG.
6. WRAP ALL COUPLING BURIED BELOW GRADE IN PROTECTIVE TAPE.
7. AFTER ASSEMBLY, BACK OUT THE NUT ON ONE END OF THE THRUST ROD BY A FEW REVOLUTIONS TO ALLOW EXPANSION AND CONTRACTION.

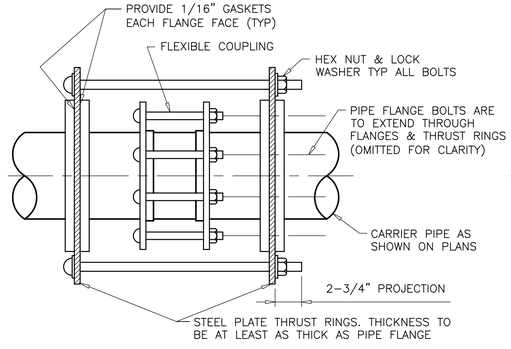
THRUST HARNESS FOR FLEXIBLE COUPLING

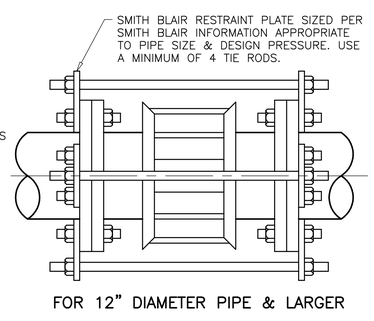
DETAIL C
NTS



NOTE:

FOR PIPE 6"ø & SMALLER, USE (2) 3/4"ø TIE RODS MIN.
FOR PIPE 8"ø & LARGER, USE (4)1"ø TIE RODS MIN.





FOR 12" DIAMETER PIPE & LARGER

THRUST HARNESS FOR FLEXIBLE CONNECTIONS

DETAIL D
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

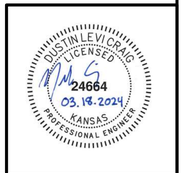
DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

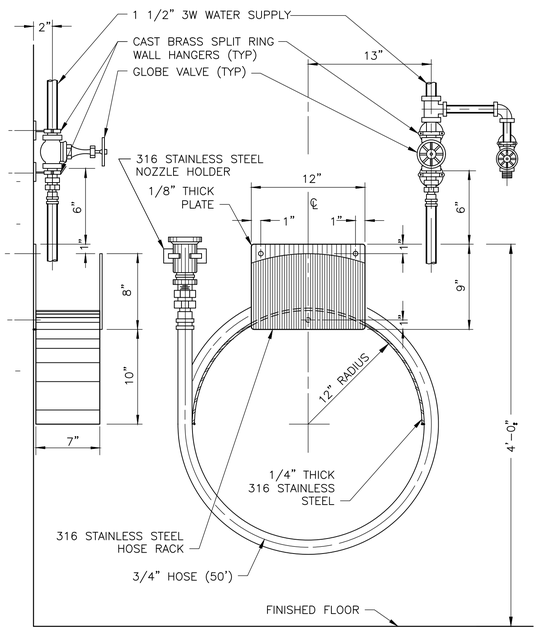
PROCESS MECHANICAL
STANDARD DETAILS VIII



PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-8

ISSUED FOR BID

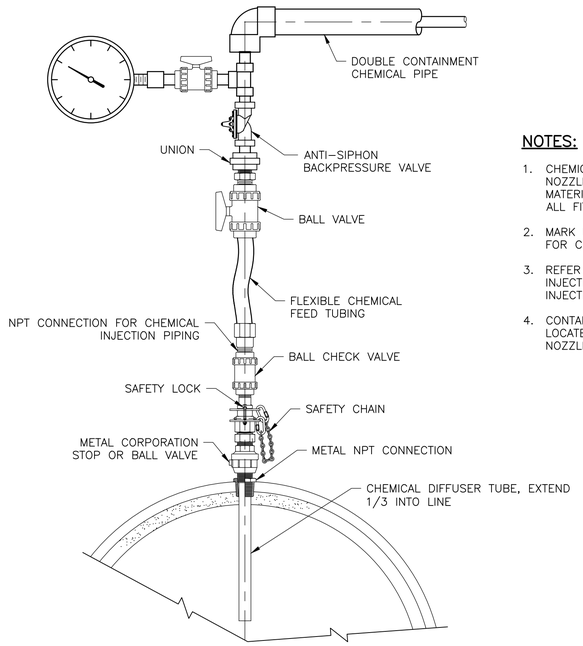


WASH HOSE STATION AND HOSE RACK

DETAIL A
NTS

NOTES:

1. WHEN USED INSIDE CHEMICAL CONTAINMENT AREA, ALL METALLIC MATERIALS USED FOR HOSE STATION SHALL BE EPOXY–COATED.
2. AT INDOOR LOCATIONS, FURNISH 50' OF 3/4" ID RUBBER HOSE AT EACH HOSE STATION. HOSE SHALL BE DESIGNED FOR 80 PSI WORKING PRESSURE AND SHALL HAVE TWO CORDS OF TIGHTLY BRAIDED REINFORCING AND FLEXIBLE NEOPRENE EXTERIOR THAT RESISTS OIL, GREASE, ABRASION AND SEVERE WEATHER CONDITIONS FOR INDUSTRIAL USE. BOTH ENDS OF HOSE SHALL BE THREADED, ONE END MALE, ONE END FEMALE. PROVIDE A TYPICAL RUBBER COVERED SPRAY NOZZLE WITH SWIVEL TYPE ADAPTORS, LEVER ACTION, RATED AT 80 PSI.
3. AT OUTDOOR LOCATIONS HOSE NOT TO BE PROVIDED, ONLY HOSE BIB AND HOSE RACK.
4. 1–1/2" TO 3/4" ADAPTOR TO BE PROVIDED TO ALLOW FOR USE OF BOTH 1–1/2" AND 3/4" HOSE.
5. SEE PLANS AND SECTION FOR HEADER PIPING ORIENTATION.
6. FOR NON–POTABLE WATER HOSE STATION PROVIDE A NON–POTABLE WATER SIGN.

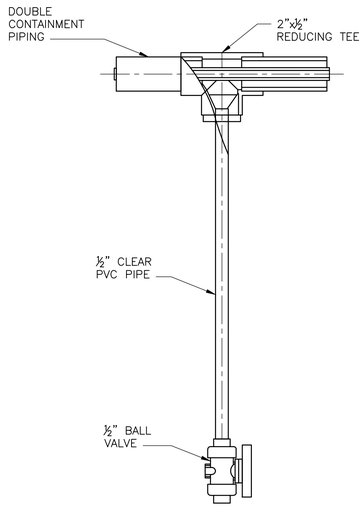


CHEMICAL INJECTION NOZZLE

DETAIL B
NTS

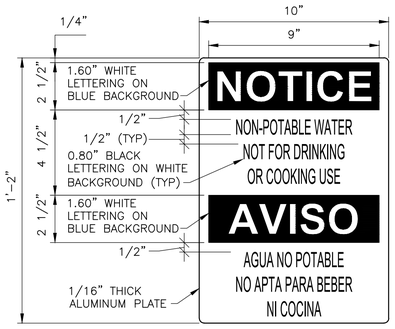
NOTES:

1. CHEMICAL SOLUTION TUBE & WATER INJECTION NOZZLE SHALL BE CHEMICAL COMPATIBLE MATERIAL. CONFIRM CHEMICAL COMPATIBILITY FOR ALL FITTINGS.
2. MARK UPSTREAM SIDES OF NOZZLES AT TOP FOR CORRECT INSERTION VERIFICATION.
3. REFER TO P&ID SHEETS FOR INDIVIDUAL INJECTION POINT CONFIGURATIONS UPSTREAM OF INJECTION QUILL ASSEMBLIES.
4. CONTAINMENT PIPE INSPECTION VALVE TO BE LOCATED ON HORIZONTAL PRIOR TO INJECTION NOZZLE ASSEMBLY.



LEAK DETECTION TEE

DETAIL C
NTS

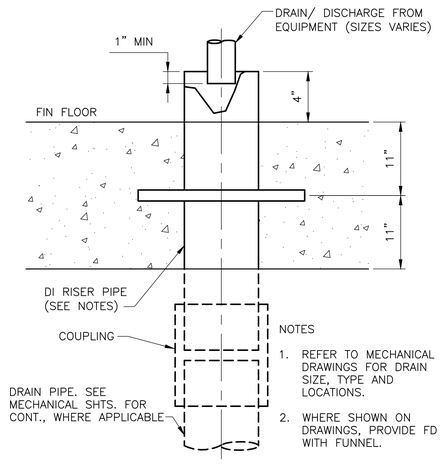


NOTES:

1. FURNISH AND INSTALL THE ABOVE SIGN ON ALL PROCESS WATER (PW) LINE HOSE STATIONS. ATTACH THE SIGN TO THE STRUCTURE, GUARDRAIL OR POST WITH STAINLESS STEEL HARDWARE AND MOUNTING BRACKET.
2. FURNISH ONE SIGN AND RECEIVE APPROVAL FROM OWNER PRIOR TO ORDERING REMAINDER OF SIGNS.
3. SIGN SHALL BE ALUMINUM BACKED AND SHALL BE AS MANUFACTURED BY BRADY WORLDWIDE, INC OR EQUAL.

WATER SIGN

DETAIL D
NTS

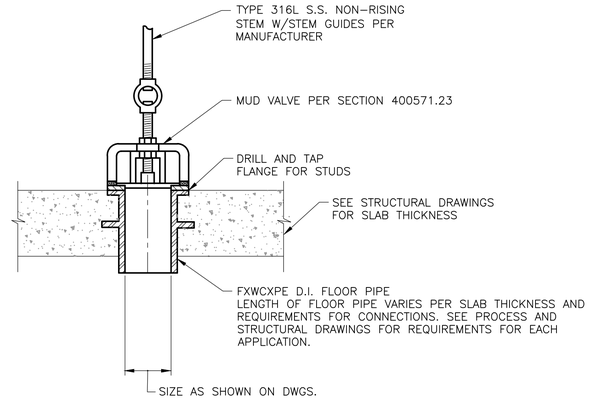


NOTES

1. REFER TO MECHANICAL DRAWINGS FOR DRAIN SIZE, TYPE AND LOCATIONS.
2. WHERE SHOWN ON DRAWINGS, PROVIDE FD WITH FUNNEL.

EQUIPMENT DRAIN

DETAIL E
NTS



MUD VALVE

DETAIL F
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS IX

PROJECT NO. 2395–267343
FILE NAME: MZ001DT–012

SHEET NO.
MZ-9

ISSUED FOR BID

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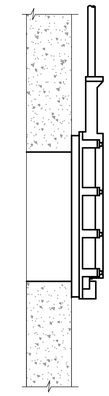
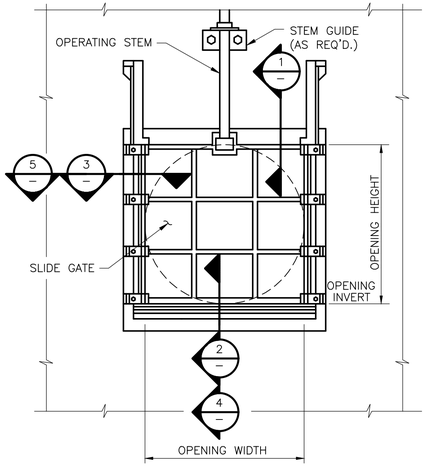


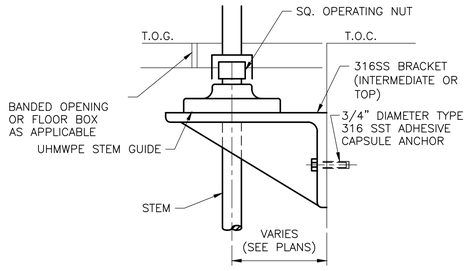
ELEVATION



FRONT VIEW

NON SELF-CONTAINED SLIDE GATE DETAIL A

NO SCALE

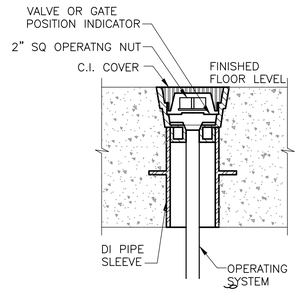


VALVE OR GATE STEM GUIDE DETAIL B

NO SCALE

NOTES:

1. SPACE STEM GUIDES PER MANUFACTURER'S RECOMMENDATIONS.
2. IF WALL OUT OF PLUM BY MORE THAN 1/8", USE A NOMINAL 1" GROUT PAD.

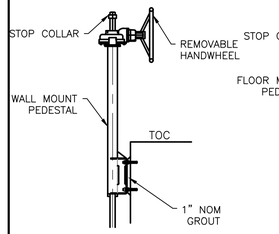


NOTES:

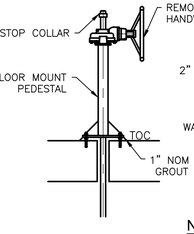
1. SIZE OF PIPE SLEEVE TO MATCH FLOOR VALVE OPERATOR NUT COVER.
2. USE ONLY WHERE NO AXIAL THRUST IS TAKEN BY OPERATING SYSTEM.

NUT OPERATOR DETAIL C

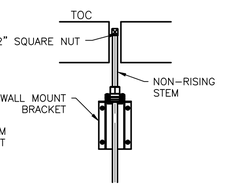
NO SCALE



WALL MOUNT PEDESTAL DETAIL



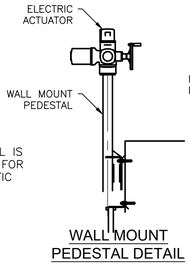
FLOOR MOUNT PEDESTAL DETAIL



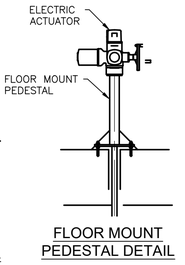
NON-RISING 2" OPERATING NUT RECESSED BELOW FLOOR ELEVATION

NOTES:

1. INSTALL GATE OPERATORS ON A 1-INCH MINIMUM NON-SHRINK GROUT PAD. FOR INSTALLATIONS OVER POTABLE WATER CLEARWELLS INSTALL ON A 6-INCH PAD WITH GASKET IN BETWEEN PAD AND OPERATOR FLOOR STAND.
2. CRANK-TYPE ACTUTATOR WITH HANDWHEEL IS ILLUSTRATED. REFER TO GATE SCHEDULE FOR ADDITIONAL DETAILS FOR PROJECT SPECIFIC ACTUATORS.
3. STEM COVERS ARE REQUIRED BUT NOT SHOWN FOR CLARITY.



WALL MOUNT PEDESTAL DETAIL



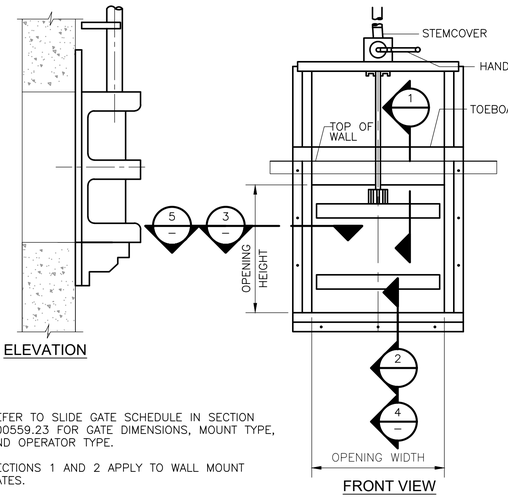
FLOOR MOUNT PEDESTAL DETAIL

SLIDE GATE OPERATORS DETAIL D

NO SCALE

NOTES:

1. SEE NOTES SHEET M-Z-1.
2. SEE SPECIFICATION FOR DETAILS AND FOR FABRICATED SLIDE GATES AND WEIR GATES. SEE GATE SCHEDULE.
3. UNLESS NOTED OTHERWISE ON THE GATE SCHEDULE, ALL GATES SHALL INCLUDE TOP SEAL, INVERT AND GUIDE SECTIONS.
4. WALL MOUNTED FRAMES REQUIRE EITHER A RUBBER MOUNTING GASKET OR A NOMINAL 1" GROUT PAD.



ELEVATION

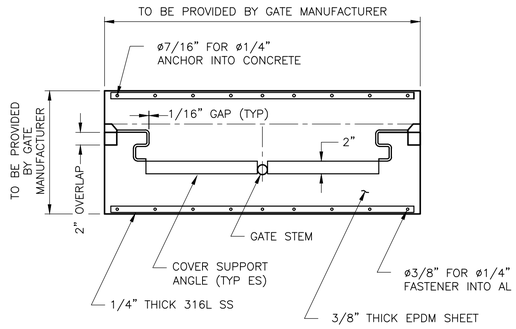
FRONT VIEW

NOTE:

1. REFER TO SLIDE GATE SCHEDULE IN SECTION 400559.23 FOR GATE DIMENSIONS, MOUNT TYPE, AND OPERATOR TYPE.
2. SECTIONS 1 AND 2 APPLY TO WALL MOUNT GATES.
3. SECTIONS 4 AND 5 APPLY TO GATES EMBEDDED IN CONCRETE.

SELF-CONTAINED SLIDE GATE DETAIL E

NO SCALE

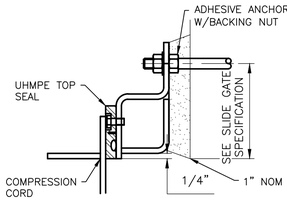


NOTE:

1. PROVIDED BY GATE MANUFACTURER.
2. CONTRACTOR TO COORDINATE OPENING SIZE WITH MISC. METAL FABRICATOR.

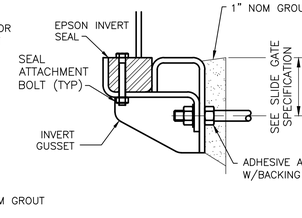
SLIDE GATE ODOR CONTROL COVER DETAIL F

NO SCALE



TOP SEAL SECTION WALL MOUNT SECTION 1

NO SCALE



INVERT SECTION WALL MOUNT SECTION 2

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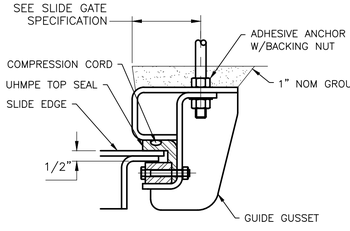

GUIDE SECTION WALL MOUNT SECTION 3

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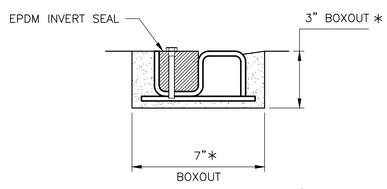

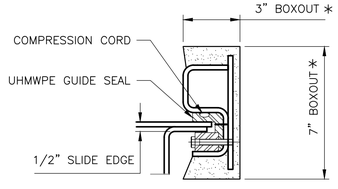

* COORDINATE DIMENSIONS WITH GATE MANUFACTURER'S RECOMMENDATIONS

INVERT SECTION EMBEDDED SECTION 4

NO SCALE

GUIDE SECTION EMBEDDED SECTION 5

NO SCALE

GATE FRAME SECTIONS W/O WALL THIMBLE DETAIL G

NO SCALE

NOTE:

1. SEE STRUCTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MILLER
DRAWN BY: K. REESE
SHEET CHK'D BY: M. WOO
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAILS X

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

SHEET NO.
MZ-10

ISSUED FOR BID

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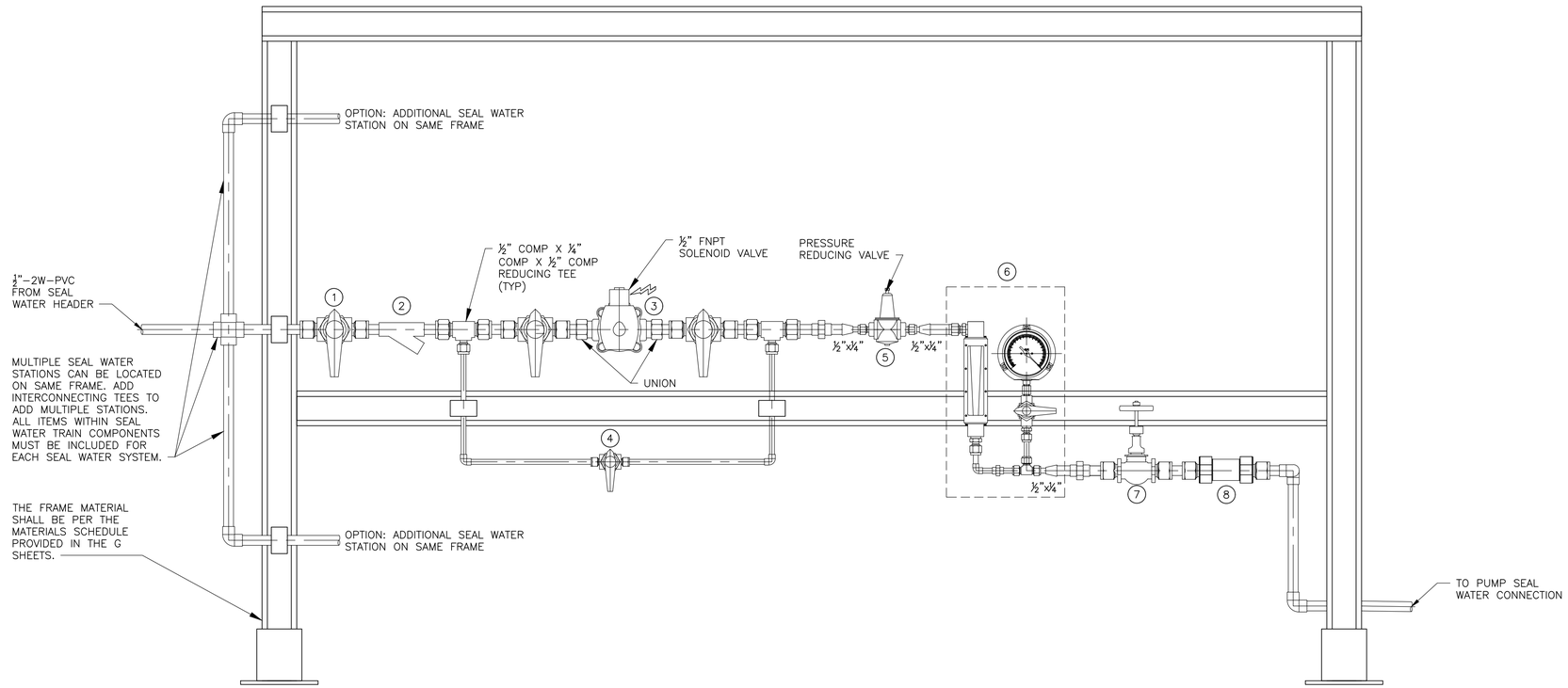

TYPICAL SEAL WATER ASSEMBLY FOR PUMPS WITH ONE MECHANICAL SEAL

DETAIL A
NTS –

SEAL WATER TRAIN COMPONENTS	
1	1/2" BALL VALVE
2	Y STRAINER
3	1/2" SOLENOID VALVE
4	1/4" BALL VALVE
5	1/4" PRESSURE REDUCING VALVE
6	1/4" FLOWSERVE SEAL GARD 32 SYSTEM
7	GLOBE VALVE
8	PIPE CLAMP: ALL 316 SS (TYPICAL)

NOTES:

1. INTERCONNECTING PIPING AND FITTINGS SHALL BE PVC, BRONZE, AND STAINLESS STEEL TUBING.

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APPROVED BY: D. CRAIG
DATE: MARCH 2024

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Kansas City, MO 64114
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

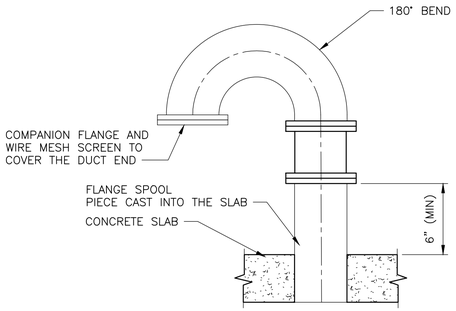
PROCESS MECHANICAL
STANDARD DETAIL XII

AUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: MZ001DT-012

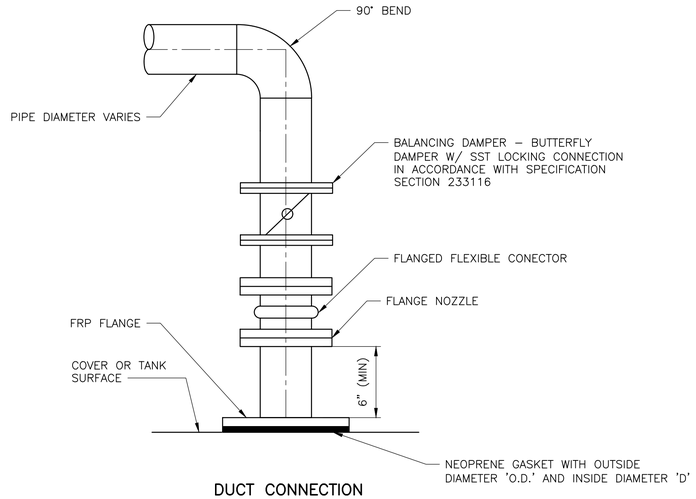
SHEET NO.
MZ-12

ISSUED FOR BID



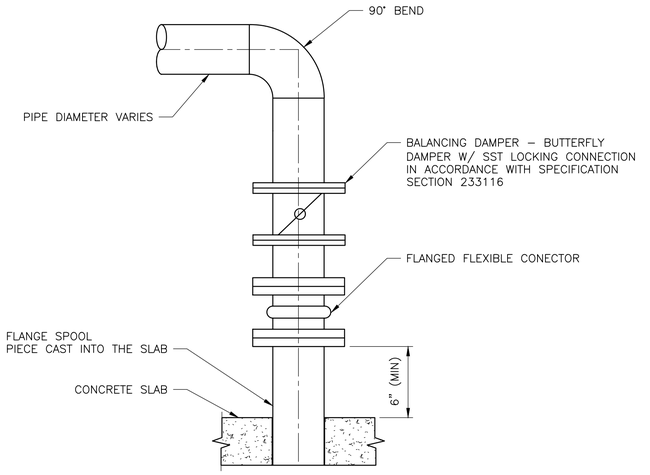
GOOSENECK VENT CONNECTION TO CONCRETE SLAB

DETAIL A
NTS



DUCT CONNECTION

DETAIL B
NTS

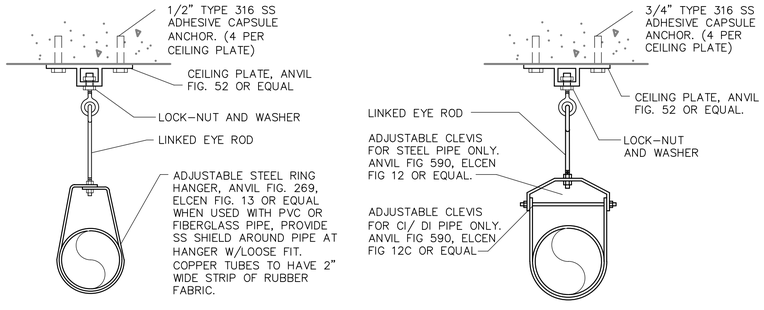


DUCT CONNECTION TO CONCRETE SLAB

DETAIL C
NTS

PIPE SUPPORT NOTES:

1. PIPE SUPPORTS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL PIPE SUPPORT DESIGN AND INSTALLATION. REFER TO SPECIFICATION SECTION 400507.
2. SUPPORTS SHALL BE PROVIDED FOR ALL PIPING, WHETHER DRAWN OR NOT. SPACING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 400507.
3. ALL PIPE SUPPORT COMPONENTS SHALL BE MANUFACTURED FROM 316 STAINLESS STEEL.
4. ALL ANCHOR BOLTS SHALL HAVE MINIMUM 6–INCH EMBEDMENT.



TYPE 'A' FOR HANGER RODS 3/4" DIA AND SMALLER

TYPE 'B' FOR HANGER RODS 7/8" DIA AND LARGER AND MIN 8" THICK CONCRETE

EXISTING CEILING

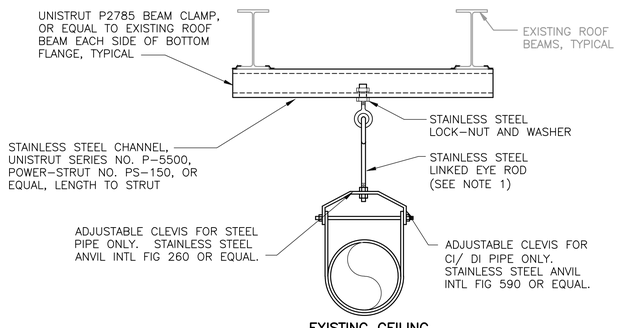
NOTES:

1. ALL PIPE SUPPORT MATERIALS INCLUDING FASTENERS SHALL BE MANUFACTURED 316SS.

PIPE HANGER RODS			
PIPE DIA (INCHES)	ROD DIA (INCHES)	WEIGHT LIMIT (LBS) TYPE 'A'	TYPE 'B'
1 AND SMALLER	3/8	610	–––
1 1/4 TO 2	3/8	610	–––
2 1/2 TO 3 1/2	1/2	1130	–––
4 TO 5	5/8	1430	–––
6	3/4	1430	3800
8,10,12	7/8	–––	3800
14,16,18	1	–––	3800

PIPE HANGER

DETAIL D
NTS



EXISTING CEILING

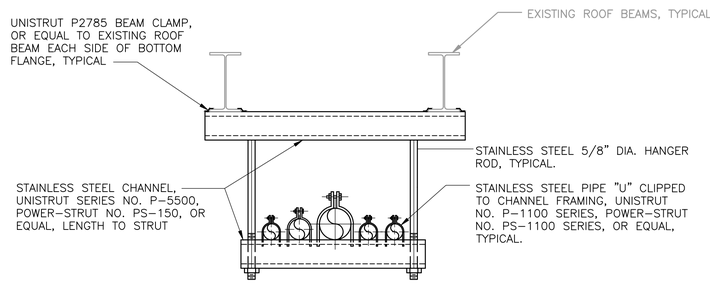
NOTES:

1. HANGER ROD DIAMETER AND MAXIMUM SUPPORT SPACING SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.
2. FOR CONNECTION OF PIPE HANGER TO STRUCTURAL STEEL MEMBER, USE BEAM CLAMP.

HANGER ROD TABLE		
DIAMETER	T	W
1/2"	1/2"	4"
5/8"	1/2"	5"
3/4"	1/2"	5"
7/8"	5/8"	6"
1"	5/8"	6"
1 1/8"	7/8"	7"

INDIVIDUAL PIPE HANGER IN EXISTING BUILDING

DETAIL E
NTS



EXISTING CEILING

TRAPEZE PIPE HANGER IN EXISTING BUILDING

DETAIL F
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. CHOUDHARY
DRAWN BY: S. GHANEKAR
SHEET CHK'D BY: E. COMPTON
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS MECHANICAL
STANDARD DETAIL XIII

PROJECT NO. 2395–267343
FILE NAME MZ001DT–013.DWG

SHEET NO.
MZ-13

XREFs: I267343_CDMS_2234-P4| Images: |
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DUCTWORK SYMBOLS

- SUPPLY DIFFUSER/GRILLE
- RETURN GRILLE
- EXHAUST GRILLE
- 12" DIA. — ROUND DUCT. SIZE IN INCHES. SIZE INDICATED IS DUCT DIAMETER.
- 24x12 — RECTANGULAR DUCT. SIZE IN INCHES. FIRST NUMBER IS SIDE SHOWN.
- 20x12 — SUPPLY OR OUTSIDE AIR DUCT UP
- 20x12 — SUPPLY OR OUTSIDE AIR DUCT DOWN
- 20x12 — RETURN DUCT UP
- 20x12 — RETURN DUCT DOWN
- 20x12 — EXHAUST DUCT UP
- 20x12 — EXHAUST DUCT DOWN
- ROUND DUCT UP
- ROUND DUCT DOWN
- RECTANGULAR ELBOW WITH TURNING VANES
- 20x12 / 16x8 — TRANSITION - RECTANGULAR TO RECTANGULAR
- 20x12 / 10" — TRANSITION - RECTANGULAR TO ROUND
- UP — ELEVATION CHANGE (UP) RISE, (DN) DROP
- FLEXIBLE CONNECTION
- FLEXIBLE DUCT - SINGLE LINE
- DIFFUSER TAKEOFF WITH FLARED SPIN-IN TAP, MANUAL DAMPER AND FLEX DUCT
- RECTANGULAR DUCT BRANCH TAKEOFF WITH 45 DEG TAP
- ROUND DUCT BRANCH TAKEOFF WITH CONICAL TAP FROM RECT. OR ROUND MAIN

HVAC SYMBOLS

- DPT — DIFFERENTIAL PRESSURE TRANSMITTER
- DX — DIRECT EXPANSION (REFRIGERANT)
- ES — END SWITCH (DAMPER MOTOR)
- FS — FLOW SENSOR
- FS — FLOW SWITCH
- GUI — GRAPHICAL USER INTERFACE
- H — HUMIDISTAT
- H — HUMIDITY SENSOR
- HOA — HAND-OFF-AUTO SWITCH
- M — MOTORIZED OPPOSED BLADE DAMPER
- MCP — MANUFACTURER'S CONTROL PANEL
- PT — PRESSURE TRANSMITTER
- PRESSURE TEMPERATURE PORT
- SD — DUCT MOUNTED SMOKE DETECTOR
- S/D — COMBINATION STARTER/DISCONNECT
- SP — DUCT STATIC PRESSURE SENSOR
- T — TEMPERATURE SENSOR/TRANSMITTER
- TC — TEMPERATURE CONTROLLER
- TT — TEMPERATURE TRANSMITTER
- TIT — TEMPERATURE INDICATOR TRANSMITTER
- T — THERMOSTAT
- C — CURRENT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- CONNECTION POINT NEW TO EXISTING
- FORCED AIR TO SPACE
- INDIRECT AIR FROM SPACE
- HORN AND STROBE
- OAS — OUTSIDE AIR SENSOR
- VENTILATION SYSTEM EMERGENCY SHUTOFF BUTTON

GENERAL ABBREVIATIONS

A	@	AT
	AD	AIR DROP
	AFF	ABOVE FINISHED FLOOR
	ALT	ALTITUDE
	AP	ACCESS PANEL
	ASD	ADJUSTABLE SPEED DRIVE
	AUTO	AUTOMATIC
	AUX	AUXILIARY
	AVG	AVERAGE
B	BDD	BACKDRAFT DAMPER
	BHP	BRAKE HORSEPOWER
	BLDG	BUILDING
	BOD	BOTTOM OF DUCT
	BOP	BOTTOM OF PIPE
	BTM	BOTTOM
	BTU	BRITISH THERMAL UNIT
C	℄	CENTER LINE
	CCW	COUNTER CLOCKWISE
	CENT	CENTRIFUGAL
	CFM	CUBIC FEET PER MINUTE
	CLASS/DIV	NEC AREA CLASSIFICATION
	CLG	CEILING
	CLR	CLEAR
	COL	COLUMN
	CONT	CONTINUE, CONTINUOUS
	CTR	CENTER
	CU FT	CUBIC FEET
	CW	CLOCKWISE
D	DACS	DATA ACQUISITION AND CONTROL SYSTEM
	DB	DRY BULB
	DCVBP	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	DEG	DEGREE
	DIA, Ø	DIAMETER
	DN	DOWN
	DWG	DRAWING
E	EA	EACH
	EL	ELEVATION
	EMERG	EMERGENCY
	ENT	ENTERING
	EQUIP	EQUIPMENT
	EWT	ENTERING WATER TEMPERATURE
F	F	FAHRENHEIT
	FLR	FLOOR
	FLG	FLANGE
	FL	FLOW LINE
	FOB	FLAT ON BOTTOM
	FPC	FIRE PROTECTION CONTRACTOR
	FPS	FEET PER SECOND
	FT	FEET
	FWE	FURNISHED WITH EQUIPMENT
G	GPM	GALLONS PER MINUTE
H	H-O-A	HAND-OFF-AUTO
	HP	HORSEPOWER
	HVAC	HEATING, VENTILATION AND AIR CONDITIONING
	HZ	HERTZ
I	ID	INSIDE DIAMETER
	IE	INVERT ELEVATION
	INV	INVERT
	IOS	INSTALLED BY OTHER SECTION
	IPS	IRON PIPE SIZE
K	KS	KITCHEN SINK
	KW	KILOWATT
L	LAB	LABORATORY
	LVG	LEAVING
	LWT	LEAVING WATER TEMPERATURE
M	M	MOTOR
	MATL	MATERIAL
	MAX	MAXIMUM
	MBH	THOUSAND BTU PER HOUR
	MCC	MOTOR CONTROL CENTER
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MTD	MOUNTED
N	NA	NOT APPLICABLE
	NC	NORMALLY CLOSED
	NO	NORMALLY OPEN OR NUMBER
	NOM	NOMINAL
	NTS	NOT TO SCALE

ABBREVIATIONS - CONTINUED

O	OD	OUTSIDE DIAMETER
P	PD	PRESSURE DROP
	PG	PRESSURE GAUGE
	PLC	PROGRAMMABLE LOGIC CONTROLLER
	PNL	PANEL
	PSI	POUNDS PER SQUARE INCH
	PSIA	PSI ABSOLUTE
	PSIG	PSI GAUGE
	P&T	PRESSURE AND TEMPERATURE
R	RM	ROOM
	RPM	REVOLUTIONS PER MINUTE
S	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
	SF	SQUARE FOOT (FEET)
	SHT	SHEET
	SPEC	SPECIFICATIONS
	SSTL	STAINLESS STEEL
	SQ	SQUARE
T	T&P	TEMPERATURE & PRESSURE RELIEF
	TEMP	TEMPERATURE
	THK	THICK(NESS)
	TOC	TOP OF CONCRETE
	TOP	TOP OF PIPE
	TOS	TOP OF STEEL
	TYP	TYPICAL
U	UL	UNDERWRITERS LABORATORY
	UNO	UNLESS NOTED OTHERWISE
W	W/	WITH
	W/O	WITHOUT
	WxH	WIDTH BY HEIGHT
	W&T	WASTE AND TRAP
	W&V	WASTE AND VENT

HVAC ABBREVIATIONS

AC	AIR CONDITIONING
BOD	BOTTOM OF DUCT
CSR	CONCENTRIC SUPPLY/RETURN
CU	CONDENSING UNIT
DMP	DAMPER (MOTORIZED W/ACTUATORS)
EA	EXHAUST AIR
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER (W/DAMPER)
EF	EXHAUST FAN
EMO	EMERGENCY OFF
HCP	HVAC CONTROL PANEL
LV	LOUVER
MAU	MAKE-UP AIR UNIT
MCP	MANUFACTURERS CONTROL PANEL
OA	OUTSIDE AIR
RA	RETURN AIR
RD	ROUND
RCP	REMOTE CONTROL PANEL (FOR MAUs)
RG	RETURN GRILLE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SCR	SCRUBBER
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER (W/DAMPER)
UH	UNIT HEATER

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
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APPROVED BY: R. AZCARATE
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
SYMBOLS LEGENDS & ABBREVIATIONS

PROJECT NO. 2395-267343
FILE NAME: H-1

SHEET NO.
H-1

ELECTRIC HEATER SCHEDULE

EQUIPMENT TAG NUMBER	CB-UH-1 - 4	CB-UH-5 - 8	CB-UH-9	DS-UH-1 & 2
BUILDING	CENTRIFUGE BLDG	CENTRIFUGE BLDG	CENTRIFUGE BLDG	DEWATERING SUPPORT
ROOM SERVED	ELECTRICAL ROOM	CENTRIFUGE ROOM	HALLWAY	PUMP ROOM
TOTAL CAPACITY, KW PER HEATER	3.7	5.0	1000 WATTS	10.0
AIRFLOW, CFM	350	700	65	1450
AIR THROW, FT	15	26	-	43
AIR TEMP RISE, DEG F	27	24	-	22
FAN TYPE	PROPELLER	PROPELLER	PROPELLER	PROPELLER
MOTOR ENCLOSURE	MFGR STD	TEFC	MFGR STD	TEFC
TERMINAL ENCLOSURE	MFGR STD	NEMA 4X	MFGR STD	NEMA 4X
RATING	N/A	WASHDOWN CORROSION RESISTANT	N/A	WASHDOWN CORROSION RESISTANT
VOLTS/PHASE/HERTZ PER HEATER	480/3/60	460/3/60	120/1/60	480/3/60
TOTAL CURRENT DRAW, AMPS	4.66	8	8.4	14
EMERGENCY POWER	NO	NO	NO	NO
OPERATING WEIGHT, LBS	25	50	20	60
MANUFACTURER	INDEECO UHIR	INDEECO	QMARK	INDEECO
MODEL NUMBER	240-U1037U	234-U11N-0050U	CWH1101DS	234-U11N-0100U
NOTES	1,2,5	1,2,3,4	1,6	1,2,3,4
CONTROLS NOTES	C1	C1	C1	C1

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 238239.20.
B. PROVIDE CLEARANCES PER MANUFACTURER.
C. UNIT SHALL BE MOUNTED AT 8'-0" UNLESS NOTED OTHERWISE.

NOTES:

1. UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH INTEGRAL TRANSFORMER FOR UNIT CONTROLS. DISCONNECT BY ELECTRICAL.
2. PROVIDE WITH SWIVEL BRACKET FOR WALL OR CEILING MOUNTING AS INDICATED ON PLANS.
3. HEATING ELEMENTS SHALL BE 316 STAINLESS STEEL.
4. PROVIDE WITH REMOTE MOUNTED THERMOSTAT AND AUTO RESET THERMAL CUTOUT.
5. PROVIDE WITH INTEGRAL THERMOSTAT, PILOT LIGHT, AND AUTO RESET THERMAL CUTOUT.
6. MOUNT ON WALL BTM 36" AFF.

CONTROLS NOTES:

C1. UNIT SHALL RUN INTERMITTENTLY, TURNING ON/OFF BASED ON THERMOSTAT SETPOINT.

INTAKE HOOD SCHEDULE

EQUIPMENT TAG NUMBER	DS-IH-01	
BUILDING	DEWATERING SUPPORT BUILDING	
AREA SERVED	PUMP ROOM MAKEUP AIR UNIT	
SERVICE	SUPPLY	
LOCATION	ROOF	
UNIT CONFIGURATION	DOWN BLAST	
MATERIAL OF CONSTRUCTION	ALUMINUM	
AIRFLOW, CFM	1,500	
TOTAL STATIC PRESSURE, IN. WG	0.12	
THROAT VELOCITY	844	
HOOD DIMENSIONS L X W X H (IN)	26 X 36 X 16	
THROAT DIMENSIONS L X W (IN)	16 X 16	
CURB CAP DIMENSIONS L X W (IN)	22 X 22	
ROOF OPENING SIZE, IN X IN	18 X 18	
OPERATING WEIGHT, LBS	100	
MANUFACTURER	GREENHECK	
MODEL NUMBER	FGI-16x16	
BIRDSCREEN	STAINLESS	
ROOF CURB HEIGHT IN	12	
DAMPER	IN DUCT	

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 23 34 00.
C. COORDINATE ROOF OPENING SIZES WITH APPROVED SUBMITTAL DATA .
B. PROVIDE WITH SLOPED ROOF CURB, MATCH ROOF SLOPE FOR LEVEL INSTALLATION.

AIR FIILTRATION UNIT SCHEDULE

EQUIPMENT TAG NUMBER	713-AFU-0915&0916	713-AFU-0917	713-AFU-0918
BUILDING	CENTRIFUGE	CENTRIFUGE	DEWATERING SUPPORT
ROOM	ELECTRICAL ROOM	CONTROL ROOM	PUMP ROOM
UNIT TYPE	PACKAGED INDOOR	PACKAGED INDOOR	PACKAGED INDOOR
UNIT CONFIGURATION	VERTICAL UPFLOW	VERTICAL DOWNFLOW	VERTICAL DOWNFLOW
TOTAL (SUPPLY) CFM	1,000	400	400
PRESSURIZATION (OUTSIDE) AIR CFM	0	50	0
RECIRCULATION (RETURN) AIR CFM	1,000	350	400
PRIMARY GAS CONTAMINANT	H2S	H2S	H2S
CONTAMINANT CONCENTRATION, PPB	-	-	-
UNIT SIZE, W X D X H, IN	27x27x87	27x15x87	27x15x87
ENTERING TEMP. RANGE, DEG F	40-86	40-86	40-86
ENTERING RELATIVE HUMIDITY, %	30-60	30-60	30-60
SOUND DATA, DBA	63	63	63
OPERATING WEIGHT, LBS	900	750	750
MANUFACTURER	CIRCUL-AIRE	CIRCUL-AIRE	CIRCUL-AIRE
MODEL NUMBER	APS-1000-V	APS-400-V	APS-400-V
PREFILTER			
EFFICIENCY, %	30	30	30
UNIT SIZE, L X W X D, IN	24X24X2	24X24X2	24X24X2
FILTER MANUFACTURER	FARR	FARR	FARR
FILTER MODEL NUMBER	30/30	30/30	30/30
ODOR FILTERS			
ODOR FILTER STAGES	2	2	2
ODOR FILTER MEDIA (1ST STAGE)	CIRCUL-AIRE MM-9000	CIRCUL-AIRE MM-9000	CIRCUL-AIRE MM-9000
MEDIA MODULE (1ST STAGE)	MM-12B	MM-12B	MM-12B
MEDIA QUANTITY (1ST STAGE), CU FT	2	0.82	0.82
MEDIA DENSITY (1ST STAGE), LB/CU FT	38	35-38	35-38
H2S ADSORPTION CAPACITY, G/CC	0.16	0.16	0.16
ODOR FILTER MEDIA (2ND STAGE)	CIRCUL-AIRE MM-1000	CIRCUL-AIRE MM-1000	CIRCUL-AIRE MM-1000
MEDIA MODULE (2ND STAGE)	MM-12B	MM-12B	MM-12B
MEDIA QUANTITY (2ND STAGE), CU FT	2	0.82	0.82
MEDIA DENSITY (2ND STAGE), LB/CU FT	55	50	50
H2S ADSORPTION CAPACITY, G/CC	0.1	0.1	0.1
AFTER FILTER			
EFFICIENCY, %	30	30	30
UNIT SIZE, L X W X D, IN	24X24X2	24X24X2	24X24X2
FILTER MANUFACTURER	FARR	FARR	FARR
FILTER MODEL NUMBER	30/30	30/30	30/30
FINAL FILTER			
EFFICIENCY, %	60	60	60
UNIT SIZE, L X W X D, IN	24X24X6	24X24X6	24X24X6
FILTER MANUFACTURER	FARR	FARR	FARR
FILTER MODEL NUMBER	RIGAFLO 15	RIGAFLO 15	RIGAFLO 15
FAN			
AIRFLOW, CFM	1000	400	400
EXTERNAL SP, IN WG	0.4	0.2	0.2
TOTAL SP, IN WG	BY VENDOR	BY VENDOR	BY VENDOR
FAN MOTOR, HP	3	0.5	0.5
MOTOR ENCLOSURE	TEFC	TEFC	TEFC
CONTROL PANEL	NEMA 12	NEMA 12	NEMA 12
ELECTRICAL			
VOLTS/PHASE/HERTZ	460/3/60	460/3/60	460/3/60
NOTES	1,2	1,2,3	1,2,3

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 23????.
B. EXTERNAL STATIC PRESSURE INDICATED ABOVE DOES NOT INCLUDE INTERNAL COMPONENTS. VENDOR SHALL ADD 0.8 IN WG FOR DIRTY FILTER LOADING AT PARTICULATE FILTERS WHEN SELECTING FAN MOTOR SIZE.
C. PROVIDE INTEGRAL MOTOR STARTER AND CONTROLLER FROM FACTORY READY FOR SINGLE POINT CONNECTION IN THE FIELD.
D. PROVIDE OUTPUT TERMINALS FOR "RUN STATUS", "FAULT", AND "FLOW".
E. DISCONNECTS PROVIDED BY ELECTRICAL.
F. REFER TO PLANS FOR CONTROLS ACCESS SIDE (E.G. FRONT FACING OR SIDE) AND PROVIDE REQUIRED MFR AND NEC CLEARANCES.

NOTES:

1. PROVIDE SYSTEM AND FILTER MONITORING PACKAGE, DPMS-3.
2. PROVIDE HIGH EFFICIENCY MOTOR.
3. CUSTON ORDER FOR BACK SUPPLY THRU WALL AND FRONT MOUNTED GAGES.

AIR HANDLING UNIT SCHEDULE (WALL-MOUNTED)

AHU TAG NUMBER	CB-AHU-1 - 4	
BUILDING	CENTRIFUGE BUILDING	
AREA SERVED	ELECTRICAL ROOM	
REDUNDANCY		
UNIT TYPE	DX PACKAGED	
UNIT CONFIGURATION	WALL-MOUNT	
FAN CONFIGURATION	SINGLE PLUG	
ALTITUDE, FT. ABOVE SEA LEVEL	1,371	
CABINET MATERIAL	GALV W/COATINGS	
NOMINAL TONS	12.5	
SUPPLY FAN TYPE	CENTRIFUGAL	
TOTAL AIRFLOW, CFM	4,650	
OUTSIDE AIR, CFM	NONE	
EXTERNAL SP., IN. WG	0.35	
DRIVE TYPE	DIRECT	
BLOWER MOTOR HP	MFR STD	
MOTOR RPM	MFR STD	
MOTOR ENCLOSURE	ECM	
ENT. AIR TEMP. DB/WB, DEG F	80/67	
CALCULATED SENSIBLE LOAD, MBH	100.6 EACH (301.7 TOTAL)	
GROSS TOTAL CAPACITY, MBH	138.9	
GROSS SENSIBLE CAPACITY, MBH	103.2	
COOLING STAGES	3	
FILTER TYPE	2" DISPOSABLE	
FILTER RATING (MERV)	8	
HEATER TYPE	NONE	
UNIT HEATING CAPACITY, KW	0.0	
NUMBER OF STAGES	N/A	
AMBIENT TEMP. RATING DEG F	105	
COMPRESSOR TYPE	(2) SCROLL	
REFRIGERANT TYPE	R410A	
MINIMUM EER @ AHRI	10.0	
VOLTS/PHASE/HERTZ	460/3/60	
MIN. CIRCUIT AMPS.	32	
MAX. OVER PROTECTION	40	
MANUFACTURER	BARD	
MODEL NUMBER	W150APC	
OPERATING WEIGHT, LBS	1220	
NOTES	1	

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 238113.13.
B. PROVIDE ANTI-SHORT CYCLE TIMER.
C. PROVIDE LOW AMBIENT CONTROL DOWN TO -10 DEG.F.
D. TWO STAGES WITH MECHANICALLY SEPARATE COOLING CIRCUITS.
E. PROVIDE WITH MOUNTING FLANGE.
F. HOUSING SHALL BE POWDER COATED LIGHT GREY.
G. PROVIDE WITH REMOTE, FULLY ADJUSTABLE THERMOSTAT AND LEAD/LAG CONTROLS FROM AC UNIT MANUFACTURER.
H. DISCONNECTS PROVIDED BY ELECTRICAL.
I. ALL OUTDOOR EXPOSED PARTS SHALL BE COATED FOR PROTECTION AGAINST H2S PER SPECIFICATION SECTION 238113.13.
J. PROVIDE ONE LC6000 LEAD/LAG CONTROLLER FOR EACH ELECTRICAL ROOM/BUILDING

NOTES:

1. PROVIDE BLANK OFF PLATE, NO OUTSIDE AIR REQUIRED.

GENERAL NOTES:

1. THE LOCATION CODE NUMBER FOR EQUIPMENT ASSOCIATED WITH THE CENTRIFUGE BUILDING IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. THE LOCATION CODE NUMBER FOR EQUIPMENT ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
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Dallas, TX 75254
Tel: (214) 217-9993

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
SCHEDULES I

PROJECT NO. 2395-267343
FILE NAME: H-2

SHEET NO.
H-2

VRF SYSTEM CONDENSING UNIT SCHEDULE

CONDENSING UNIT TAG NUMBER	CB-CU-1	CB-CU-2	
BUILDING	CENTRIFUGE BLDG CONTROL ROOM	CENTRIFUGE BLDG MECHANICAL ROOM	
EQUIPMENT SERVED	CB-AC-1	CB-AC-2	
UNIT TYPE	AIR-COOLED	AIR-COOLED	
UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL	
MOUNTING	OUTDOOR ON STAND	OUTDOOR ON STAND	
DESIGN COOLING OUTDOOR TEMP. DB F.	110	110	
DESIGN HEATING OUTDOOR TEMP. DB F.	1.7	1.7	
NOMINAL TONS	1	1	
COMPRESSOR TYPE	MFR STD	MFR STD	
COMPRESSOR QUANTITY	1	1	
SOUND PRESSURE (dBA)	-	-	
COOLING EFFICIENCY SEER	26.1	26.1	
HEATING HSPF	12.5	12.5	
NOMINAL COOLING CAPACITY, MBH	12	12	
NOMINAL HEATING CAPACITY, MBH	14	14	
VOLTS/PHASE/HERTZ	208/1	208/1	
ELECTRICAL MCA, AMPS	10	10	
ELECTRICAL RFS, AMPS	-	-	
ELECTRICAL MOCP, AMPS	15	15	
MANUFACTURER	TRANE/MITSUBISHI	TRANE/MITSUBISHI	
MODEL NUMBER	NTXSPH12B112AA	NTXSPH12B112AA	

REMARKS: (APPLICABLE TO ALL UNITS)

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 238126.10.
2. PROVIDE LOW AMBIENT CONTROL WIND BAFFLE FOR OPERATION DOWN TO 0 DEG.F.
3. CAPACITY SHALL BE AT 110 DEG.F. AMBIENT CONDITIONS.
4. DISCONNECTS PROVIDED BY ELECTRICAL.
5. PROVIDE BLYGOLD CORROSION RESISTANT COATING ON CONDENSING UNITS.
6. PROVIDE WITH STAINLESS STEEL WALL SUPPORT BRACKETS.

MAKEUP AIR UNIT SCHEDULE

MAU TAG NUMBER	777-MAU-0902&0912	777-MAU-0902
BUILDING	CENTRIFUGE BUILDING	DEWATERING SUPPORT BLDG
AREA SERVED	CENTRIFUGE ROOM	PUMP ROOM
LOCATION	ROOF MOUNTED	MECHANICAL ROOM
UNIT TYPE	PACKAGED	PACKAGED
UNIT CONFIGURATION	ROOF MOUNTED	PAD MOUNTED
FAN CONFIGURATION	HORIZONTAL	VERTICAL
ALTITUDE, FT. ABOVE SEA LEVEL	1,371	1,371
CABINET MATERIAL	ALUMINUM	ALUMINUM
HEAT EXCHANGER MATERIAL	STAINLESS STEEL	STAINLESS STEEL
SUPPLY FAN TYPE	CENTRIFUGAL AF	CENTRIFUGAL AF
TOTAL AIRFLOW, CFM	7,200	1,500
OUTSIDE AIR, CFM	7,200	1,500
EXTERNAL SP., IN. WG	1.5	1.5
DRIVE TYPE	BELT	BELT
BLOWER MOTOR HP	7.5	2.0
MOTOR ENCLOSURE	TEFC	TEFC
ENT. AIR TEMP. DB, DEG F	2	2
LVG. AIR TEMP. DB, DEG F	70	70
FILTER TYPE	ALUMINUM	ALUMINUM
FILTER RATING (MERV)	8	8
HEATER TYPE	INDIRECT GAS	INDIRECT GAS
GAS INPUT (MBH)	700	150.0
GAS OUTPUT (MBH)	567	122.0
TURNDOWN	15:1	15:1
INLET GAS PRESSURE (IN. W.G.)	7-9	7-9
VOLTS/PHASE/HERTZ	460/3/60	460/3/60
MCA	16.8	8.4
MOP	25	15
MANUFACTURER	ENGINEERED AIR	ENGINEERED AIR
MODEL NUMBER	DSJ100/O	DSJ20/I
OPERATING WEIGHT, LBS	3,200	1,500

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 237433.
B. PROVIDE 12" TALL ALUMINUM ROOF CURB FOR CB-MAU-1&2.
C. PROVIDE DISCHARGE AIR TEMP CONTROL WITH ROOM MOUNTED THERMOSTAT OVERRIDE.
D. PROVIDE INTAKE WEATHER HOOD FOR CB-MAU-1&2.
E. PROVIDE STAND-ALONE CONTROLS AND UNIT MOUNTED DISCONNECT IN NEMA 4X 316 SSTL PANELS.
F. PROVIDE, OBD, LOW LEAKAGE, SPRING TO CLOSE, DAMPER ON DISCHARGE.
G. PROVIDE WASHABLE ALUMINUM FILTERS.
H. PROVIDE CONTACTS FOR NFPA 820 "LOSS OF AIRFLOW" ALARM.

VRF SYSTEM AIR CONDITIONING UNIT SCHEDULE

AIR CONDITIONER TAG NUMBER	CB-AC-1	CB-AC-2	
BUILDING	CENTRIFUGE BUILDING	CENTRIFUGE BUILDING	
AREA SERVED	CONTROL ROOM	MECHANICAL ROOM	
UNIT TYPE	SPLIT VRF	SPLIT VRF	
UNIT CONFIGURATION	HIGH WALL	HIGH WALL	
MOUNTING	WALL	WALL	
FAN CONFIGURATION	MFR. STD.	MFR. STD.	
ALTITUDE, FT. ABOVE SEA LEVEL	1,371	1,371	
NOMINAL TONS	1	1	
SUPPLY FAN:			
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	
PEAK AIRFLOW, CFM	320	320	
OUTSIDE AIR, CFM	N/A	N/A	
EXTERNAL SP., IN. WG	N/A	N/A	
FAN CONTROL	3-SPEED	3-SPEED	
DRIVE TYPE	DIRECT	DIRECT	
MOTOR HP	MFR. STD.	MFR. STD.	
MOTOR RPM	VARIES	VARIES	
MOTOR ENCLOSURE	MFR. STD.	MFR. STD.	
VOLTS/PHASE/HERTZ	208/1/60	208/1/60	
CURRENT INPUT, AMPS	POWERED BY CU	POWERED BY CU	
MAX. OVERCURRENT PROTECTION	POWERED BY CU	POWERED BY CU	
COOLING COIL:			
ENT. AIR TEMP. DB/WB, DEG F	75/63	75/63	
LVG. AIR TEMP. DB, DEG F			
NOMINAL COOLING CAPACITY, BTUH	12,000	12,000	
ADJUSTED COOLING CAPACITY, BTUH	9,978	9,978	
SENSIBLE CAPACITY, BTUH	9,978	9,978	
HEATING:			
TYPE	HEAT PUMP	HEAT PUMP	
HEATING CAPACITY, BTUH	14,000	14,000	
ADJUSTED HEATING LOAD, BTUH	8,648	8,648	
FILTERS:			
PRE-FILTER TYPE	WASHABLE	WASHABLE	
FILTER RATING (MERV)	MFR. STD.	MFR. STD.	
REFRIGERANT LIQUID PIPE SIZE, IN	MFR. STD.	MFR. STD.	
REFRIGERANT GAS PIPE SIZE, IN	MFR. STD.	MFR. STD.	
DRAIN PIPE CONNECTION SIZE	1-1/8"	1-1/8"	
NET WEIGHT, LBS	30	30	
MANUFACTURER	TRANE/MITSUBISHI	TRANE/MITSUBISHI	
MODEL NUMBER	NTXWPH12B112AA	NTXWPH12B112AA	
SYSTEM NO.	N/A	N/A	
ASSOCIATED CONDENSING UNITS	CB-CU-1 & 2	CB-CU-1 & 2	
ASSOCIATED BRANCH CIRCUIT CONTROLLER	N/A	N/A	

REMARKS: (APPLICABLE TO ALL UNITS)

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 238126.10.
2. PROVIDE WIRED WALL MOUNTED CONTROLLER.
3. PROVIDE WITH MANUFACTURER'S STANDARD CONDENSATE PUMP AND HIGH WATER CUTOFF.
4. PROVIDE WALL MOUNTED UNITS WITH CONCEALED (INTERNALLY MOUNTED) CONDENSATE PUMPS, BY MFR, RECTORSEAL AQUA SERIES, OR APPROVED EQUAL.
5. DISCONNECTS PROVIDED BY ELECTRICAL.

FAN SCHEDULE

EQUIPMENT TAG NUMBER	724-FAN-0925 & 30	724-FAN-0935 & 40	724-FAN-0925	
BUILDING	CENTRIFUGE BUILDING	CENTRIFUGE BUILDING	DEWATERING SUPPORT	
ROOM SERVED	CENTRIFUGE AREA	CENTRIFUGE AREA	PUMP ROOM	
SERVICE	24/7	SUMMER	24/7	
LOCATION	ROOF	ROOF	ROOF	
DISCHARGE	UPBLAST	UPBLAST	UPBLAST	
ALTITUDE, FT. ABOVE SEA LEVEL	1,371	1,371	1,371	
FAN MATERIAL OF CONSTRUCTION	ALUMINUM	ALUMINUM	ALUMINUM	
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	
AIRFLOW, CFM	7,300	7,300	1,600	
TOTAL STATIC PRESSURE, IN. WG	0.5	0.4	0.45	
AIR STREAM TEMP RANGE, DEG F	40-110	40-110	40-110	
FAN RPM	565	543	1140	
DRIVE TYPE	BELT	BELT	DIRECT	
MOTOR HP	1.50	1.50	0.25	
MOTOR RPM	1725	1725	1140	
MOTOR ENCLOSURE	TEFC	TEFC	TEFC	
FAN SPEED CONTROL	CONSTANT	CONSTANT	CONSTANT	
VOLTS/PHASE/HERTZ	460/3/60	460/3/60	115/1/60	
MCA	3.75	3.75		
MOP	15	15		
EMERGENCY POWER	NO	NO	NO	
SPARK PROOF	NO	NO	NO	
SOUND DATA (DBA @ 5 FT. RADIUS)	65	65	60	
VIBRATION ISOLATORS	MFG. STD.	MFG. STD.	MFG. STD.	
ROOF/WALL OPENING SIZE, IN X IN	36.5 X 36.5	36.5 X 36.5	18.5 X 18.5	
OPERATING WEIGHT, LBS	250	250	140	
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	
MODEL NUMBER	CUBE-300-15	CUBE-300-15	CUBE-160-4	
DAMPER LOCATION	IN DUCT	IN DUCT	IN DUCT	
OBD DAMPER	MOTORIZED	MOTORIZED	MOTORIZED	
NOTES	1-5	1-5	1-5	
CONTROLS NOTES	C1	C2	C1	

GENERAL NOTES: (APPLICABLE TO ALL UNITS)

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 233416.
2. DISCONECTS BY ELECTRICAL.

NOTES:

1. PROVIDE WITH STAINLESS STEEL BIRDSCREEN.
2. PROVIDE WITH PREMIUM EFFICIENCY MOTOR.
3. PROVIDE EXTENDED LUBE LINES AND HI-PRO POLYESTER COATING.
4. PROVIDE HIGH WIND RATED AND STAINLESS STEEL SHAFT AND FASTENERS.
5. PROVIDE 18" HIGH ALUMINUM ROOF CURB WITHOUT DAMPER TRAY.

NOTES:

C1. FAN SHALL RUN CONTINUOUSLY 24/7, TURNING ON/OFF BASED ON PERMISSIVE FROM THE HVAC CONTROL PANEL.
C2. FAN SHALL RUN INTERMITTENTLY, TURNING ON/OFF BASED ON PERMISSIVE FROM THE HVAC CONTROL PANEL.

GENERAL NOTES:

1. THE LOCATION CODE NUMBER FOR EQUIPMENT ASSOCIATED WITH THE CENTRIFUGE BUILDING IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. THE LOCATION CODE NUMBER FOR EQUIPMENT ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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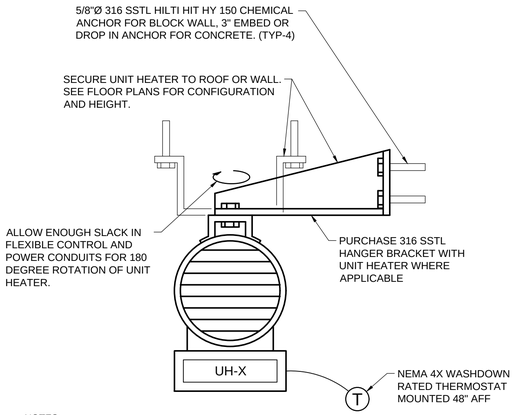
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
SCHEDULES II

PROJECT NO. 2395-267343
FILE NAME: H-3

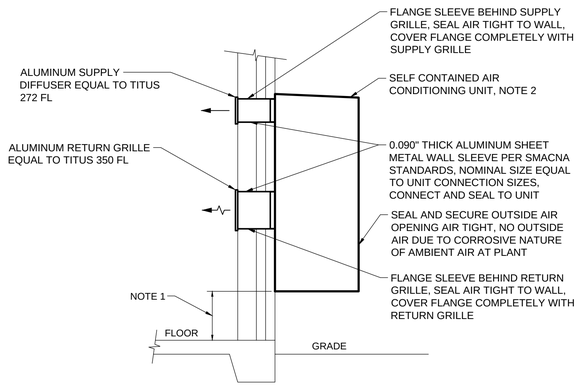
SHEET NO.
H-3



NOTES:

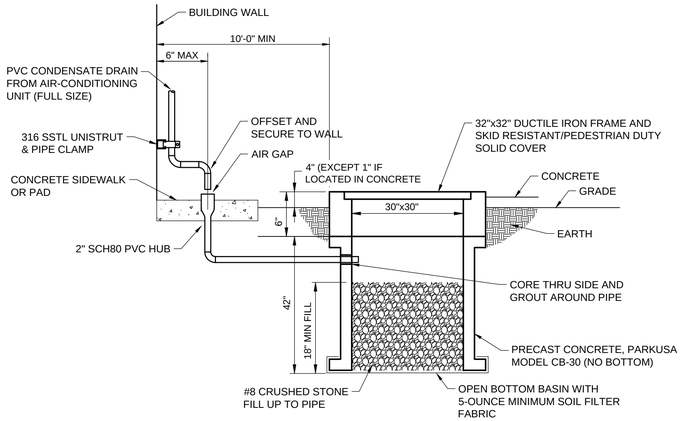
1. UNIT HEATER SHALL BE MOUNTED WITH BOTTOM AT 8'-0". THIS DIMENSION MAY BE ADJUSTED FROM 8'-0" MINIMUM TO 9'-0" MAXIMUM IF NEEDED DUE TO A CONFLICT IN THE FIELD. NOTIFY ENGINEER IF MORE ADJUSTMENT IS NEEDED.

UNIT HEATER (ELECTRIC)
DETAIL A
NTS



NOTES:
1. 24" FOR UNITS MOUNTED TO PRECAST WALLS TO ALLOW FOR SNOW DRIFTS OUTSIDE. COORDINATE EXACT WALL OPENING SIZES WITH PRECAST MANUFACTURER.
2. COORDINATE WEIGHT OF PURCHASED UNITS AND EPOXY STYLE ANCHOR DETAILS (LOCATIONS, QUANTITY, DIAMETER, PENETRATION DEPTH, EDGE DISTANCE, ETC.) WITH PRECAST MANUFACTURER.
3. OPENINGS IN WALL SHALL BE SIZED 1/2" LARGER THAN THE DUCT SLEEVES. FILL VOID BEHIND GRILLES AROUND DUCTWORK WITH DAPTEX PLUS MULTI-PURPOSE SPRAY FOAM. DO NOT USE OVER-EXPANSIVE TYPE YELLOW FOAM.

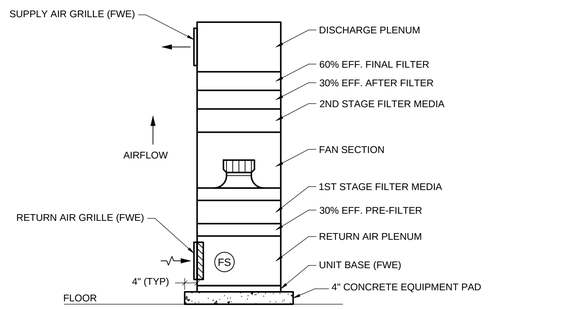
WALL MOUNTED AC UNIT
DETAIL B
NTS



NOTES:

1. PRE-CAST MODEL SHALL BE PROVIDED WITH NO BOTTOM TO ALLOW FOR DRAINAGE TO SOIL.
2. COVER SHALL BE HEAVY DUTY AND SOLID WITH CAST-IN STEEL FRAME.
3. OUTDOOR PIPING SHALL BE PAINTED FOR UV PROTECTION.

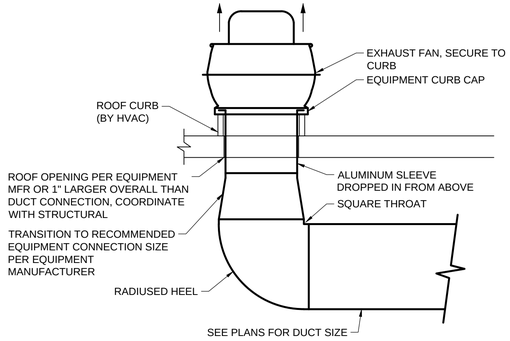
CONDENSATE DRY WELL
DETAIL C
NTS



NOTES:

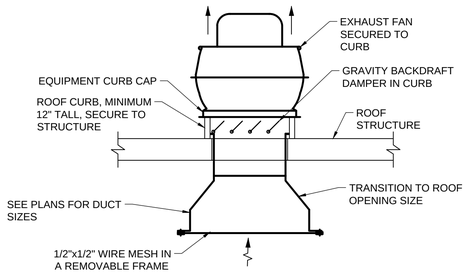
1. FWE - FURNISHED WITH EQUIPMENT.

AIR FILTRATION UNIT (UPFLOW)
DETAIL D
NTS



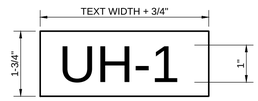
NOTES:
1. PROVIDE LONG RADIUSED ELBOWS WHERE POSSIBLE. SHORT RADIUS AND SQUARE THROAT ELBOWS MAY BE USED WHEN NECESSARY.
2. SEE ARCHITECTURAL FOR ROOF CURB FLASHING DETAILS.

ROOF-MOUNTED EXHAUST FAN W/HORIZONTAL DUCT
DETAIL E
NTS



NOTES:
1. SEE ARCHITECTURAL FOR ROOF CURB FLASHING DETAILS.

ROOF-MOUNTED EXHAUST FAN WITH HIGH INTAKE
DETAIL F
NTS



NOTE:

1. PROVIDE ON ALL HVAC EQUIPMENT AS LABELED ON PLANS AND SCHEDULES.
2. SIMILAR FOR AHU, AFU, EF, AC & CU.

EQUIPMENT LABELS
DETAIL G
NTS

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

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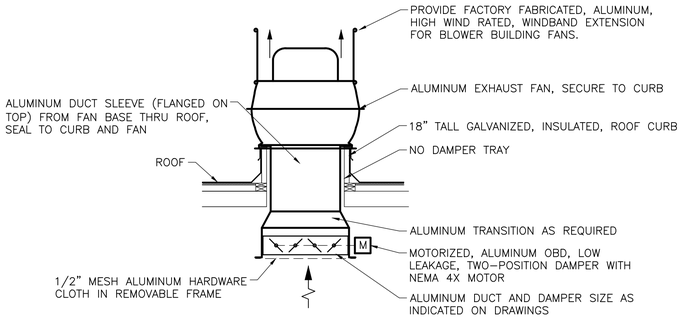
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
DETAILS I

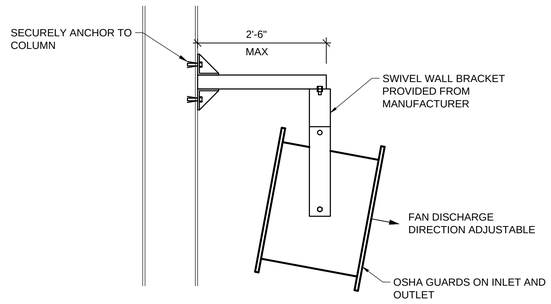
PROJECT NO. 2395-267343
FILE NAME: HZ-1

SHEET NO.
HZ-1



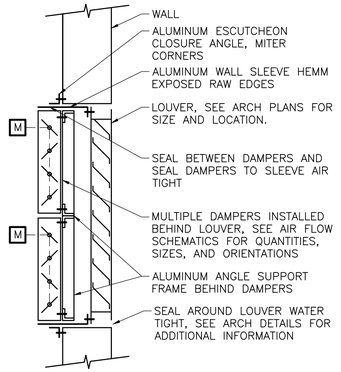
EXHAUST FAN WITH DAMPER

DETAIL A
NTS



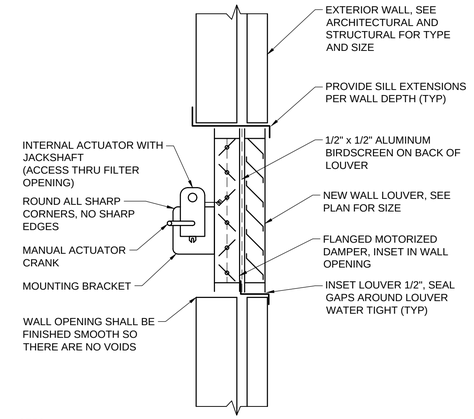
RECIRCULATION FAN

DETAIL B
NTS



MULTIPLE MOTORIZED DAMPERS AT LOUVERS

DETAIL C
NTS

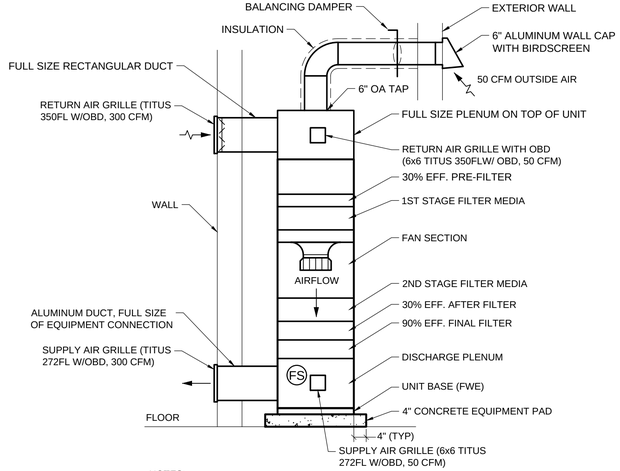


NOTES:

1. TYPICAL ELEVATION IS BOTTOM OF LOUVER AT 8" AFF. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL ALUMINUM AND/OR 316 SSTL CONSTRUCTION.

EXTERIOR WALL LOUVER WITH MOTORIZED DAMPER

DETAIL D
NTS

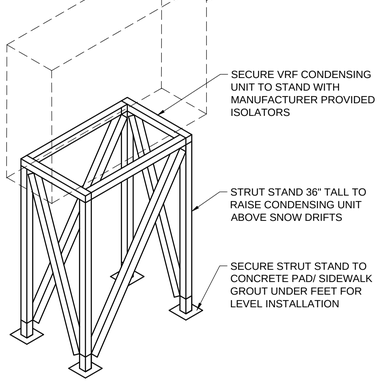


NOTES:

1. FWE - FURNISHED WITH EQUIPMENT.
2. DUCT AND INSULATE OUTSIDE AIR TO EXTERIOR WALL CAP.

AIR FILTRATION UNIT (CENTRIFUGE BUILDING)

DETAIL E
NTS

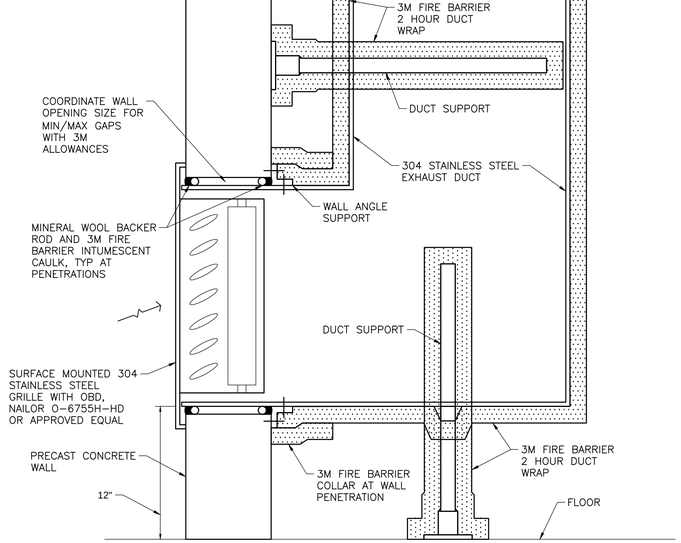


NOTES:

1. PROVIDE MANUFACTURERS RECOMMENDED SPACE BETWEEN WALL AND CONDENSING UNIT.
2. COORDINATE STAND DIMENSIONS WITH MOUNTING HOLES OF CONDENSING UNIT.
3. ALL STRUT COLUMNS, BEAMS, AND BRACING SHALL BE 1-5/8" X 1-5/8", SOLID, 12-GAGE, TYPE 304 SSTL. ALL FASTENERS SHALL BE TYPE 304 SSTL.
4. CONCRETE PAD SHALL BE PER STRUCTURAL DETAIL A/SZ-2 WITH 4" EDGE DISTANCE LARGER THAN THE O.D. OF THE STAND FEET ON ALL SIDES.
5. ALL CONCRETE ANCHORS SHALL BE SS 304/316 WITH ADHESIVE ANCHOR SYSTEM RE-500-V3 BY HILTI OR APPROVED EQUAL.
6. ALL STRUT CONNECTIONS SHALL BE PER MANUFACTURERS RECOMMENDATIONS. PROVIDE LOCK NUT AND/OR LOCK WASHER FOR EACH CONNECTION.

VRF CONDENSING UNIT STAND

DETAIL F
NTS



NOTES:

1. CONSTRUCT DUCTWORK AND SUPPORTS ACCORDING TO SMACNA. INCREASE DUCT WALL THICKNESS, REINFORCEMENT, AND SUPPORTS TO SUPPORT THE WEIGHT OF THE FIRE WRAP ON THE DUCT AND SUPPORTS.
2. FIRE WRAP DUCT THRU ROOF OPENING TO DUCT FLANGE ON CURB CAP.
3. INSTALL ALL 3M FIRE BARRIER 615+ DUCT WRAP AND SEALANTS ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.

EXHAUST WITH FIRE BARRIER WRAP

DETAIL G
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
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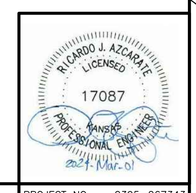
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
DETAILS II



PROJECT NO. 2395-267343
FILE NAME: HZ-2

SHEET NO.
HZ-2

PIPE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- BALL VALVE
- FLOW BALANCING AND SHUTOFF VALVE
- BUTTERFLY VALVE
- CHECK VALVE, GENERAL SYMBOL
- SOLENOID VALVE
- ANGLE VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- STRAINER-WITH BLOW DOWN VALVE
- NEEDLE VALVE
- VALVE-CIRCUIT SETTER
- PETE'S PLUG
- QUICK DISCONNECT - FEMALE END
- QUICK DISCONNECT-MALE END
- HOSE BIBB
- AUTOMATIC AIR RELEASE VENT
- MANUAL AIR RELEASE VENT
- BALL VALVE WITH HOSE CONNECTION
- RAIN LEADER DISCHARGE SPOUT
- CAP
- TEE-TOP CONNECTION
- ELBOW UP
- ELBOW DOWN
- P-TRAP
- TEE UP

PIPE SYMBOLS - CONTINUED

- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- ALIGNMENT GUIDE
- ANCHOR
- DIRECTION OF PITCH
- HOSE
- FCO — FLOOR CLEANOUT
- DCO — DOUBLE CLEANOUT
- WCO — WALL CLEANOUT
- WATER HAMMER ARRESTOR
- FLOW ALARM SWITCH
- EMERGENCY EYEWASH UNIT
- EMERGENCY SHOWER/EYEWASH UNIT
- FLOOR DRAIN WITH P-TRAP
- HUB DRAIN WITH P-TRAP
- TEE DOWN
- UNION-SCREWED
- UNION-FLANGED
- STRAINER
- FLEX CONNECTOR

GENERAL ABBREVIATIONS

A	@	AT
	AD	AIR DROP
	AFF	ABOVE FINISHED FLOOR
	ALT	ALTITUDE
	AP	ACCESS PANEL
	ASD	ADJUSTABLE SPEED DRIVE
	AUTO	AUTOMATIC
	AUX	AUXILIARY
	AVG	AVERAGE
B	BHP	BRAKE HORSEPOWER
	BLDG	BUILDING
	BOD	BOTTOM OF DUCT
	BOP	BOTTOM OF PIPE
	BTM	BOTTOM
	BTU	BRITISH THERMAL UNIT
C	℄	CENTER LINE
	CCW	COUNTER CLOCKWISE
	CENT	CENTRIFUGAL
	CFM	CUBIC FEET PER MINUTE
	CLASS/DIV	NEC AREA CLASSIFICATION
	CLG	CEILING
	CLR	CLEAR
	COL	COLUMN
	CONT	CONTINUE, CONTINUOUS
	CTR	CENTER
	CU FT	CUBIC FEET
	CW	CLOCKWISE
D	DACS	DATA ACQUISITION AND CONTROL SYSTEM
	DB	DRY BULB
	DCVBP	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	DEG	DEGREE
	DIA, Ø	DIAMETER
	DN	DOWN
	DWG	DRAWING
E	EA	EACH
	EL	ELEVATION
	EMERG	EMERGENCY
	ENT	ENTERING
	EQUIP	EQUIPMENT
	EWT	ENTERING WATER TEMPERATURE
F	F	FAHRENHEIT
	FLR	FLOOR
	FLG	FLANGE
	FL	FLOW LINE
	FOB	FLAT ON BOTTOM
	FPC	FIRE PROTECTION CONTRACTOR
	FPS	FEET PER SECOND
	FT	FEET
	FWE	FURNISHED WITH EQUIPMENT
G	GPM	GALLONS PER MINUTE
H	H-O-A	HAND-OFF-AUTO
	HP	HORSEPOWER
	HVAC	HEATING, VENTILATION AND AIR CONDITIONING
	HZ	HERTZ
I	ID	INSIDE DIAMETER
	IE	INVERT ELEVATION
	INV	INVERT
	IOS	INSTALLED BY OTHER SECTION
	IPS	IRON PIPE SIZE
K	KS	KITCHEN SINK
	KW	KILOWATT
L	LAB	LABORATORY
	LVG	LEAVING
	LWT	LEAVING WATER TEMPERATURE
M	M	MOTOR
	MATL	MATERIAL
	MAX	MAXIMUM
	MBH	THOUSAND BTU PER HOUR
	MCC	MOTOR CONTROL CENTER
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MTD	MOUNTED
N	NA	NOT APPLICABLE
	NC	NORMALLY CLOSED
	NO	NORMALLY OPEN OR NUMBER
	NOM	NOMINAL
	NTS	NOT TO SCALE

ABBREVIATIONS - CONTINUED

O	OD	OUTSIDE DIAMETER
P	PD	PRESSURE DROP
	PG	PRESSURE GAUGE
	PLC	PROGRAMMABLE LOGIC CONTROLLER
	PNL	PANEL
	PSI	POUNDS PER SQUARE INCH
	PSIA	PSI ABSOLUTE
	PSIG	PSI GAUGE
	P&T	PRESSURE AND TEMPERATURE
R	RM	ROOM
	RPM	REVOLUTIONS PER MINUTE
S	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
	SF	SQUARE FOOT (FEET)
	SHT	SHEET
	SPEC	SPECIFICATIONS
	SSTL	STAINLESS STEEL
	SQ	SQUARE
T	T&P	TEMPERATURE & PRESSURE RELIEF
	TEMP	TEMPERATURE
	THK	THICK(NESS)
	TOC	TOP OF CONCRETE
	TOP	TOP OF PIPE
	TOS	TOP OF STEEL
	TYP	TYPICAL
U	UL	UNDERWRITERS LABORATORY
	UNO	UNLESS NOTED OTHERWISE
W	W/	WITH
	W/O	WITHOUT
	WxH	WIDTH BY HEIGHT
	W&T	WASTE AND TRAP
	W&V	WASTE AND VENT

PLUMBING ABBREVIATIONS

CO	CLEANOUT
CD	CONDENSATE DRAIN
CW	COLD WATER
DCO	DOUBLE CLEANOUT
DCVBP	DOUBLE CHECK VALVE BACKFLOW PREVENTER
ESEW	EMERGENCY SAFETY SHOWER EYEWASH
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FPW	FIRE PROTECTION WATER
HW	HOT WATER
NPW	NON-POTABLE WATER
PPW	PLANT POTABLE WATER
PW	POTABLE WATER
RP	RECIRC PUMP
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
SS	SANITARY SEWER
TP	TRAP PRIMER
TW	TEPID WATER
TWS	TEPID WATER SKID
V	VENT
VTR	VENT THRU ROOF
WH	WATER HEATER
YCO	YARD CLEANOUT

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
SYMBOLS LEGENDS & ABBREVIATIONS

PROJECT NO. 2395-267343
FILE NAME: P-1

SHEET NO.
P-1

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE TYPE	MANUFACTURER	VALVE / FAUCET	OPERATION TYPE	FLOW (GPF/GPM)	TRAP	WASTE	VENT	CW	HW	DESCRIPTION, TRIM AND NOTES
WC-A	WATER CLOSET - FLOOR MOUNTED, TANK (ADA)	AMERICAN STANDARD 231AA.104	INCLUDED	MANUAL	1.28 GPF	INT	4"	2"	1/2"	-	FLOOR -MOUNTED TANK TOILET WITH ELONGATED BOWL; VITREOUS CHINA, 2-3/8" GLAZED TRAPWAY, STANDARD WHITE. TOILET SEAT - 5905.100 ELONGATED OPEN FRONT. ADA COMPLIANT. AMERCAIN STANDARD - CHAMPION 4 MAX RIGHT HEIGHT ELONGATED TOILET.
LAV-A	WALL HUNG LAVATORY W/THREE HOLE (ADA)	AMERICAN STANDARD LUCERN–0356.015	AMERICAN STANDARD MONTERREY-6500.175	MANUAL (HOT & COLD WRISTBLADE)	0.5 GPM	1-1/4"	2"	2"	1/2"	1/2"	20"x18", WALL MOUNTED, VITREOUS CHINA, THREE FAUCET HOLES, FRONT OVERFLOW, SELF-DRAINING DECK, FAUCET LEDGE, DECK MOUNTED WRISTBLADE HANDLE FAUCET, CHROME-PLATED, 8" FIXED CENTERS, 0.5 GPM AERATOR. FURNISH COMPLETE WITH MCGUIRE 155WC OFF-SET LAVATORY STRAINER, MCGUIRE #8902 P-TRAP, MCGUIRE #170LK SUPPLIES WITH LOOSE KEY STOPS AND TRUEBRO #102-EZ INSULATION. MOUNTED AT ADA HEIGHT.
SK-A	COFFEE SINK (ADA)	ELKAY BCR15	ZURN Z871B4-XL-3F	MANUAL	0.5 GPM	1-1/2"	2"	1-1/2"	1/2"	1/2"	DROP-IN SINGLE-COMPARTMENT, 15"x15" 20 GAUGE TYPE 304 STAINLESS STEEL SINK. FAUCET: POLISHED CHROME-PLATED 8" BRASS DECK FAUCET WITH 5-3/8" FIXED GOOSENECK SPOUT, QUARTER TURN CERAMIC DISC CARTRIDGE AND 0.5 FLOW RESTRICTED AERATOR, 4" VANDAL-RESISTANT COLOR CODED METAL WRIST BLADE HANDLES, MOUNTING HARDWARE. FIXED GRID STAINLESS STEEL STRAINER, CHROME PLATED BRASS P-TRAP AND MCGUIRE #170LK SUPPLIES WITH LOOSE KEY STOPS.
FD-A	FLOOR DRAIN	JAY R. SMITH-2010	N/A	N/A	N/A	-	SEE PLAN	2"	1/2"	-	CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD WITH 6" ROUND NICKEL BRONZE STRAINER.
FCO-A	FLOOR CLEANOUT	JAY R. SMITH-4231 SERIES	N/A	N/A	N/A	-	SEE PLAN	-	-	-	DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED EXTRA HEAVY DUTY CAST IRON TOP.
WB-A	WALL BOX - COFFEE MAKER	OATEY	38574	MANUAL (1/4-TURN BALL VALVE)	N/A	-	-	-	1/2"	-	COFFEE MAKER WALL BOX WITH 1/4-TURN BALL VALVE.
TP-A	TRAP PRIMER ASSEMBLY	PRECISION PLUMBING PRODUCTS	N/A	MECHANICAL	N/A	-	-	-	1/2"	-	PR-500 PRESSURE DROP ACTIVATED TRAP PRIMER, PROVIDE COPPER BODY DISTRIBUTION UNIT (DU-4) FOR MULTIPLE DRAINS.

GENERAL NOTES: (APPLICABLE TO ALL UNITS)

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION XXXXXX.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AND LOCATIONS OF ALL PLUMBING FIXTURES INCLUDING HANDICAPPED (ADA) FIXTURES.
3. ALL PLUMBING FIXTURES DESIGNATED HANDICAPPED (ADA) SHALL BE INSTALLED TO MEET ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES SET FORTH IN THE AMERICANS WITH DISABILITY ACT (ADA).
4. CONTRACTOR SHALL FURNISH AND INSTALL ON EACH PLUMBING FIXTURE REQUIRED THE FOLLOWING: 17 GAUGE CHROME PLATED BRASS P-TRAP W/ CLEANOUT, 17 GAUGE TAILPIECE, CHROME PLATED HEAVY BRASS NIPPLES AND SET SCREW FLANGES, AND CHROME PLATED BRASS ANGLE SUPPLIES (KEYLESS) WITH RIGID RISERS. LAVATORIES SHALL BE SUPPLIED WITH FLAT CHROME PLATED BRASS FLAT GRID STRAINERS AS SPECIFIED ABOVE.
5. ALL PLUMBING FIXTURES DESIGNATED HANDICAPPED (ADA) SHALL HAVE THE FOLLOWING WHERE REQUIRED: SEAMLESS VINYL P-TRAP, OFFSET DRAIN AND SUPPLY INSULATORS, AND OFFSET LAVATORY STRAINER.

ELECTRIC INSTANTANEOUS WATER HEATER SCHEDULE

WATER HEATER TAG NUMBER	CB-IWH-1	CB-IWH-2
LOCATION	RESTROOM	CONTROL ROOM
UNIT TYPE	TANKLESS	TANKLESS
MOUNTING	UNDERSINK WALL	UNDERSINK CABINET
CAPACITY, GALLONS	N/A	N/A
VOLTS/PHASE/HERTZ	120/1/60	120/1/60
NUMBER OF ELEMENTS	1	1
TOTAL WATTS	2400	2400
MOCP, AMPS	20	20
EMERGENCY POWER	NO	NO
MAXIMUM ACTIVATION FLOW, GPM	0.20 (ULTRA LOW FLOW)	0.20 (ULTRA LOW FLOW)
MINIMUM OPERATING PRESSURE, PSI	25	25
MAXIMUM OPERATING PRESSURE, PSI	150	150
OPERATING TEMPERATURE, DEG.F.	110	110
INLET & OUTLET SIZE/TYPE	3/8" NPT	3/8" NPT
T&P OUTLET	N/A	N/A
HOUSING MATERIAL	MFR STD	MFR STD
DIMENSIONS, HxWxD	6-1/2"x10-1/4"x2-3/4"	6-1/2"x10-1/4"x2-3/4"
WEIGHT, LBS	N/A	N/A
MANUFACTURER	CHRONOMITE	CHRONOMITE
MODEL NUMBER	CM-20L/120	CM-20L/120
NOTES:	1	1

REMARKS: (APPLICABLE TO ALL UNITS)

A. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 223300.

NOTES:

1. INSTALL UNDER SINK WITH STAINLESS STEEL BRAIDED SUPPLY LINES.

SHGF EMERGENCY SHOWER/EYE WASH UNIT SCHEDULE

EQUIPMENT TAG NUMBER	CB-ESEW-1&2	CB-ESEW-3	DS-ESEW-1&2	DS-ESEW-3&4
AREA SERVED	CENTRIFUGE BUILDING	CENTRIFUGE BUILDING	DEWATERING SUPPORT BUILDING	FERRIC STORAGE AREA
LOCATION	POLYMER AREA	OUTDOOR FILL STATION	TBD	CONTAINMENT & FILL STATION
CONFIGURATION	TOP FEED	FLOW-THRU	TOP FEED	FLOW-THRU
INSULATION & JACKET	NONE	YES	NONE	YES
MANUFACTURER	HAWS	HAWS	HAWS	HAWS
MODEL NUMBER	8330	8317CTFP CF N4-RECIRC	8330	8317CTFP CF N4-RECIRC
HEAT TRACE	NONE	YES	NONE	YES
VOLTS/PHASE/HERTZ	N/A	120/1/60	N/A	120/1/60
WATTS	N/A	80	N/A	80
MAXIMUM CIRCUIT AMPACITY	N/A	15	N/A	15
EMERGENCY ALARM SYSTEM	NONE	NONE	NONE	NONE
VOLTS/PHASE/HERTZ	NA	NA	NA	NA
MANUFACTURER	NA	NA	NA	NA
MODEL NUMBER	NA	NA	NA	NA
NOTES	2	1	2	1

GENERAL NOTES: (APPLICABLE TO ALL UNITS)

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 224500.
2. CUSTOM ORDERED, SIMILAR TO HAWS MODEL INDICATED.
3. UNITS TO HAVE "CORROSION RESISTANT PACKAGE".

NOTES:

1. CUSTOM ORDER FOR FLOW THRU SERVICE AND WITHOUT DRENCH HOSE.
2. STAINLESS STEEL CONSTRUCTION AND VALVES.

TEPID WATER SKID SCHEDULE

EQUIPMENT TAG NUMBER	110-LCP-0912	110-LCP-0912	
AREA SERVED	CENTRIFUGE BUILDING	DEWATERING SUPPORT BUILDING	
LOCATION	CHEMICAL ROOM	STORAGE ROOM	
TEPID WATER SKID:			
VOLTS/PHASE/HERTZ	208/3/60	208/3/60	
AMPS	15	15	
MANUFACTURER	HAWS	HAWS	
MODEL NUMBER	8780.31 WALL MOUNT	8780.31 WALL MOUNT	
NOTES	1	1	

NOTES:

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 223300.

ELECTRIC WATER HEATER SCHEDULE

EQUIPMENT TAG NUMBER	CB-TWH-1	DS-TWH-1	
AREA SERVED	CENTRIFUGE BUILDING	DEWATERING SUPPORT BUILDING	
LOCATION	MECHANICAL ROOM	STORAGE ROOM	
TOTAL CAPACITY, GAL	150	150	
INPUT, KILOWATTS	36	36	
VOLTS/PHASE/HERTZ	480/3/60	480/3/60	
FULL LOAD AMPS	44	44	
RECOVERY RATE, GPH	180	180	
TEMPERATURE RISE, DEG F	80	80	
LEAVING WATER TEMP, DEG F	120	120	
MANUFACTURER	PVI DURAWATT	PVI DURAWATT	
MODEL NUMBER	180 L 150A-E	180 L 150A-E	
NOTES	1-3	1-3	

NOTES:

1. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION 223300.
2. PROVIDE STORAGE TYPE HEATERS WITH HEAT TRAPS AT EACH WATER INLET AND OUTLET.
3. PROVIDE WATTS MODEL DETA-30 EXPANSION TANK (10 GAL ACCEPTANCE, 15 GAL VOLUME MIN).

GENERAL NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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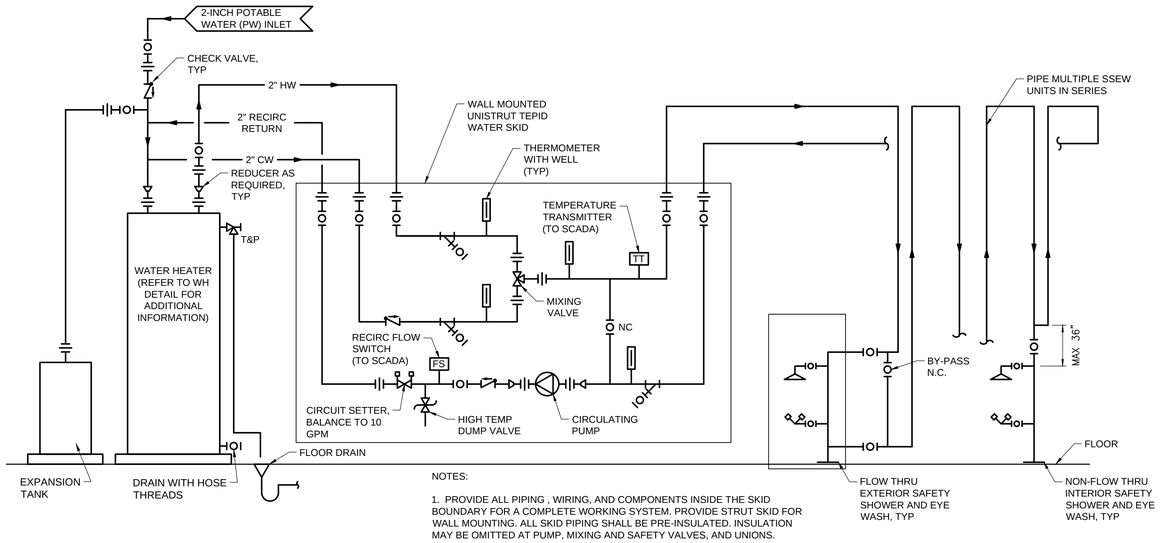
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING SCHEDULES I

PROJECT NO. 2395-267343
FILE NAME: P-2

SHEET NO.
P-2



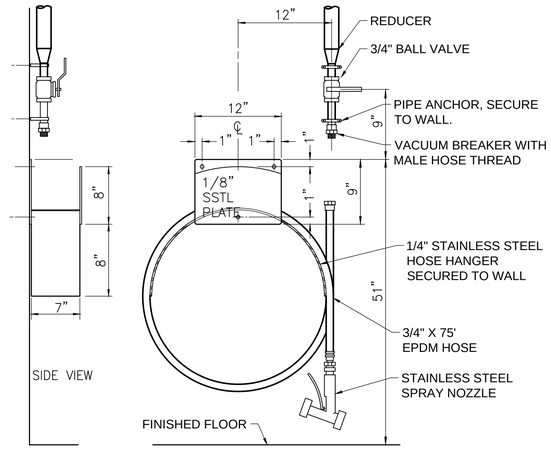
NOTES:

1. PROVIDE ALL PIPING , WIRING, AND COMPONENTS INSIDE THE SKID BOUNDARY FOR A COMPLETE WORKING SYSTEM. PROVIDE STRUT SKID FOR WALL MOUNTING. ALL SKID PIPING SHALL BE PRE-INSULATED. INSULATION MAY BE OMITTED AT PUMP, MIXING AND SAFETY VALVES, AND UNIONS.

2. PROVIDE RECIRC PUMP FLOW AND TEPID WATER SUPPLY TEMPERATURE TO SCADA. PROGRAM SCADA FOR LOW WATER TEMPERATURE ALARM BELOW 60 DEGREES F. AND PUMP FAILURE WHEN LOSS OF FLOW.

3. HEAT TRACE ALL EXTERIOR TEPID WATER PIPING.

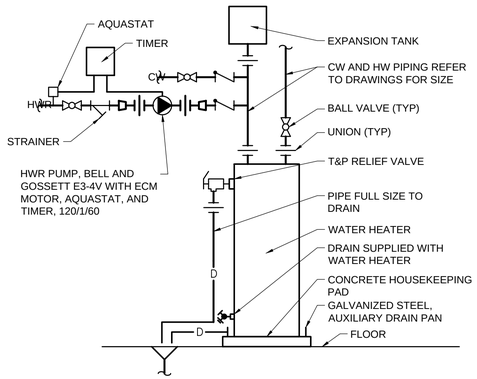
TEPID WATER SYSTEM
DETAIL A
NTS



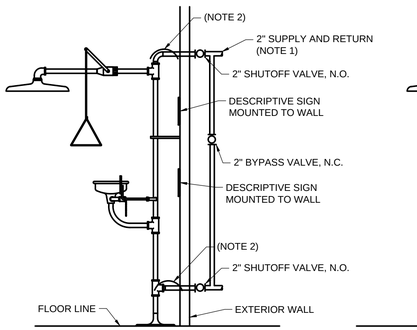
NOTES:

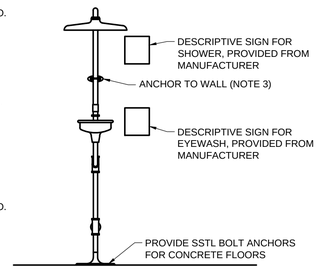
1. WASH HOSE STATION, FASTENERS, AND MOUNTING HARDWARE SHALL BE 304 STAINLESS STEEL.

WASH HOSE STATION
DETAIL B
NTS



WATER HEATER
DETAIL C
NTS





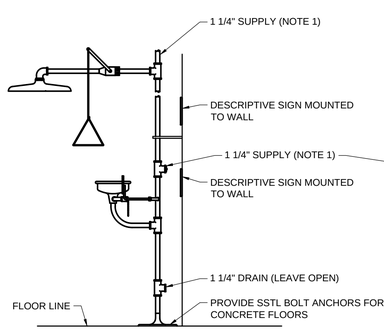
NOTES:

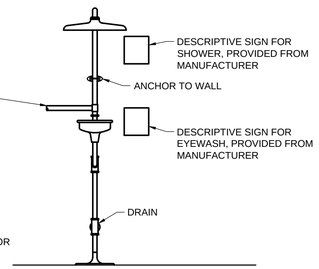
1. AT THE CONTRACTORS OPTION, EITHER CONNECTION CAN BE USED FOR SUPPLY AND RETURN DEPENDING ON MAIN CONDITIONS. REDUCE SIZE AT SHOWER CONNECTIONS.

2. FOR FREEZE PROOF ASSEMBLIES, CUSTOM ORDER WITH ADDITIONAL HEAT TRACE CABLE "PIG TAIL" LONG ENOUGH TO PROTECT SUPPLY PIPING EITHER TO WALL OR TO RE-CIRCULATION PIPING.

3. WHERE NO WALL AVAILABLE AND UNIT IS FREE-STANDING CONTRACTOR TO PROVIDE A UNISTRUT RACK ANCHORED TO FLOOR TO LATERALLY BRACE SHOWER.

FLOW THRU EMERGENCY SHOWER/EYE WASH
DETAIL D
NTS





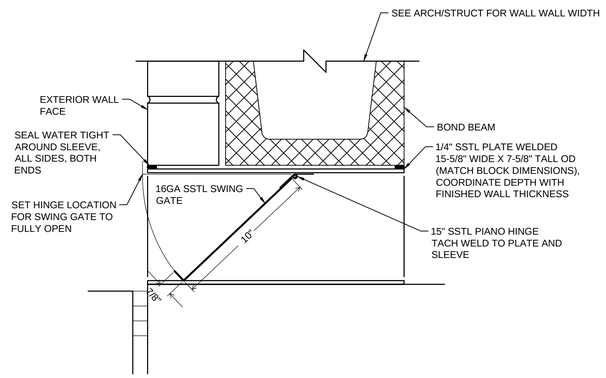
NOTES:

1. AT THE CONTRACTORS OPTION, THE WATER SUPPLY CAN BE CONNECTED AT EITHER SUPPLY CONNECTION PROVIDED BY THE MANUFACTURER DEPENDING ON MAIN CONDITIONS. REDUCE SIZE AT SHOWER CONNECTIONS.

2. WHERE NO WALL AVAILABLE AND UNIT IS FREE-STANDING CONTRACTOR TO PROVIDE A UNISTRUT RACK ANCHORED TO FLOOR TO LATERALLY BRACE SHOWER.

3. INTERIOR SHOWER ASSEMBLIES SHALL BE CORROSION RESISTANT ALL STAINLESS STEEL CONSTRUCTION. HAWS MODEL 8330 OR APPROVED EQUAL.

NON-FLOW THRU EMERGENCY SHOWER/EYE WASH
DETAIL E
NTS



OVERFLOW SCUPPER
DETAIL F
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
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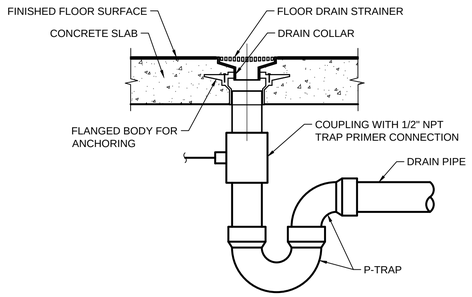
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
DETAILS I

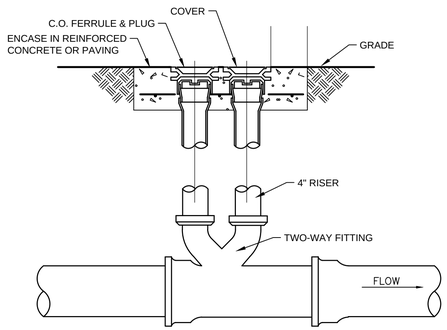
PROJECT NO. 2395-267343
FILE NAME: PZ-1

SHEET NO.
PZ-1



FLOOR DRAIN & P–TRAP (W/TRAP PRIMER)

DETAIL A – NTS

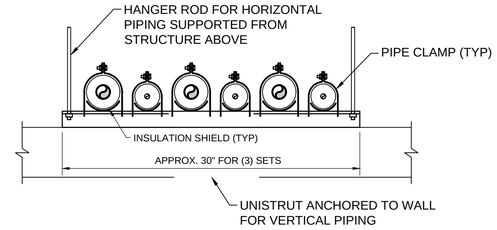


NOTE:

1. SIMILAR FOR SINGLE YARD CLEANOUT.

YARD CLEANOUT (DCO OR YCO)

DETAIL B – NTS

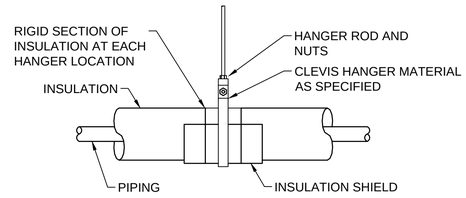


NOTE:

1. PROVIDE RIGID SECTION OF INSULATION AT EACH HANGER LOCATION.
2. MATERIALS SHALL BE 316 STAINLESS STEEL.

SUSPENDED MULTIPLE PIPE SUPPORT

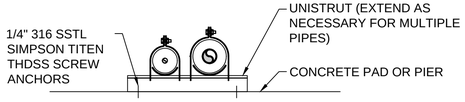
DETAIL C – NTS



1. PROVIDE RIGID SECTION OF INSULATION AT EACH HANGER LOCATION.
2. MATERIALS SHALL BE 316 STAINLESS STEEL.

SUSPENDED SINGLE PIPE SUPPORT

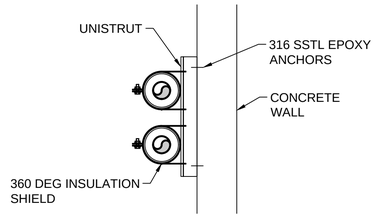
DETAIL D – NTS



NOTES:
1. FABRICATE FROM 316 MILL FINISH STAINLESS STEEL.

HORIZONTAL SURFACE FLUSH PIPE SUPPORT

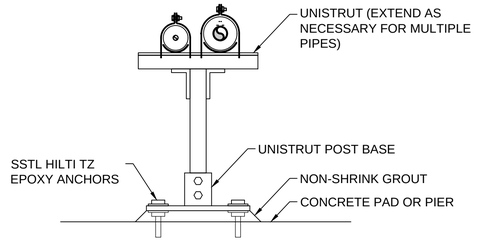
DETAIL E – –



NOTES:
1. FABRICATE FROM 316 MILL FINISH STAINLESS STEEL.

VERTICAL SURFACE FLUSH PIPE SUPPORT

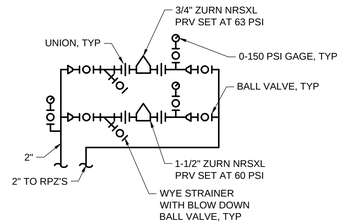
DETAIL F – NTS



NOTES:
1. FABRICATE FROM 316 MILL FINISH STAINLESS STEEL.

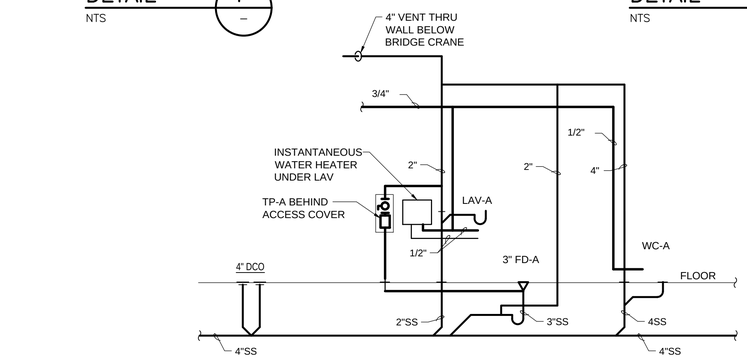
FLOOR–MOUNTED ELEVATED PIPE SUPPORT

DETAIL G – NTS



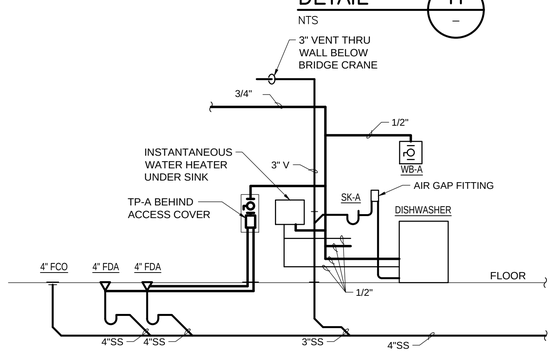
PRESSURE REDUCING VALVE ASSEMBLY

DETAIL H – NTS



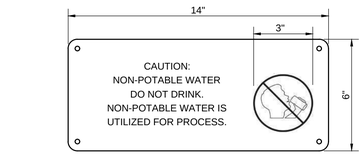
CENTRIFUGE BUILDING RESTROOM RISER DIAGRAM

DETAIL J – –



CENTRIFUGE BUILDING RISER DIAGRAM

DETAIL K – –



LETTER HEIGHT: 1/2" WITH 1/2" SPACE BETWEEN LINES.
COLORS: BACKGROUND SHALL BE OSHA SAFETY YELLOW, LETTERS SHALL BE RECESSED BLACK.

NOTES:

1. FURNISH & INSTALL THE ABOVE SIGN ABOVE ALL NON–POTABLE WATER WASH HOSE STATIONS AND HOSE BIBBS. ATTACH THE SIGN WITH STAINLESS STEEL HARDWARE.

2. FURNISH ONE SIGN & RECEIVE APPROVAL FROM OWNER PRIOR TO ORDERING REMAINDER OF SIGNS.

NON–POTABLE WATER CAUTION SIGN

DETAIL I – –

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
DETAILS II

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-MAR-01

PROJECT NO. 2395–267343
FILE NAME: PZ–2

SHEET NO.
PZ-2

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
52 CS	——	MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH
FRAME TRIP	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
*		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR - FULL VOLTAGE REVERSING RVNR - REDUCED VOLTAGE NON-REVERSING RVAT - REDUCED VOLTAGE AUTOTRANSFORMER RVSS - REDUCED VOLTAGE SOLID STATE 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
*		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
*	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, * AMPERE RATING AND FUSE SIZE AS NOTED * AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	——	DRAWOUT TYPE EQUIPMENT OR DEVICE
	——	MEDIUM VOLTAGE CABLE TERMINATION
	——	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
*	——	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH * FUSE RATING
	——	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
480V Δ KVA Y 120/208V 3P, 4W	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS, ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
* A TO 5	——	CURRENT TRANSFORMER * QUANTITY A = PRIMARY AMPERES
* V TO 120	——	POTENTIAL TRANSFORMER * QUANTITY V = PRIMARY VOLTAGE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
ATS N S 100A	——	AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS-1), (MTS-1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
*	*	VARIABLE SPEED DRIVE CONTROLLER * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE
#KW	E	UNIT HEATER - ELECTRIC HEATING COIL AND FAN # - RATING
——	U	UNIT HEATER - GAS FIRED, STEAM OR WATER HEATING COIL AND FAN
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER
VS VM *	——	VOLTMETER WITH SWITCH, 3 PHASE
AS AM *	——	AMMETER WITH SWITCH, 3 PHASE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	——	METER * WM - WATTMETER WHM - WATTHOUR METER WHDM - WATTHOUR DEMAND METER WHDR - WATTHOUR DEMAND RECORDER PF - POWER FACTOR METER DMU - DIGITAL METERING UNIT TRANSDUCER AX - CURRENT TRANSDUCER WX - WATT TRANSDUCER WHX - WATTHOUR TRANSDUCER
		RELAY, NO. AS INDICATED 25 - SYNCHRONISM CHECK RELAY 27 - UNDERVOLTAGE RELAY 32 - DIRECTIONAL POWER RELAY 38 - BEARING PROTECTIVE DEVICE 40 - LOSS OF EXCITATION RELAY 42 - RUNNING CONTACTOR/PILOT RELAY 46 - REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 49 - MACHINE OR TRANSFORMER THERMAL RELAY 50/51 - INSTANTANEOUS/TIME OVERCURRENT RELAY 50G - INSTANTANEOUS GROUND 51 - TIME OVERCURRENT RELAY 51G - TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N- TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V- TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X- AUXILIARY RELAY (TRIPS CB AND ALARMS) 59 - OVERVOLTAGE RELAY 60 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 63 - OVERPRESSURE RELAY 64 - GENERATOR FIELD GROUND RELAY 67 - AC DIRECTIONAL OVERCURRENT RELAY 74 - ALARM LATCHING RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY B - SUFFIX INDICATES "BUS" G - SUFFIX INDICATES "GENERATOR" GF - GROUND FAULT ST - SHUNT TRIP T - SUFFIX INDICATES "TRANSFORMER" X - SUFFIX INDICATES "AUXILIARY"
*	——	SPECIAL CAPACITOR * SC - SURGE CAPACITOR PF - POWER FACTOR CORRECTION CAPACITOR
*	——	TUNED POWER FACTOR CORRECTION CAPACITOR
	——	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	——	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
STOP START	PBL	START-STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP
	PBM	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP
OFF ON	S/S	OFF/ON SELECTOR SWITCH
L R (XO) (OX)	LR	LOCAL/REMOTE SELECTOR SWITCH
A B C* (XOO) (OXO) (OOX)	*	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O-OPEN X-CLOSED POSITION / TOP CONTACT / MIDDLE CONTACT / BOTTOM CONTACT A / X / O / O B / O / X / O C / O / O / X NAMEPLATE (A/B/C) HOA- HAND/OFF/AUTO HOR- HAND/OFF/REMOTE LOR - LOCAL/OFF/REMOTE RSL - RAISE/STOP/LOWER TOA - TEST/OFF/AUTO

GD/VF #	GD/VF #	GAS DETECTOR / VENTILATION FAILURE ALARM
		# INDICATES TYPE OF UNIT
		1=MASTER, 2=REMOTE

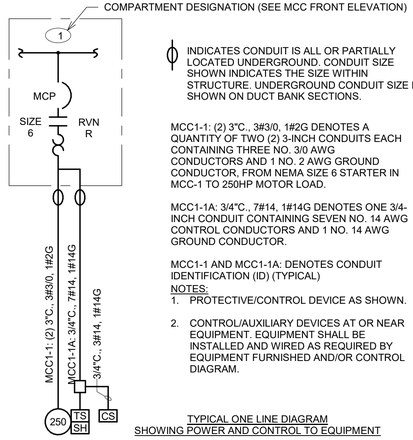
42 #	——	MOTOR STARTER COIL, NUMBER AS INDICATED TO DENOTE INTERLOCKING ONLY
CR #	——	CONTROL RELAY COIL, NUMBER AS INDICATED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	——	PILOT LIGHT, COLOR AS NOTED * R - RED G - GREEN B - BLUE W - WHITE A - AMBER
	——	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
* RANGE # SETPOINT		TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED NUMBER AS INDICATED TDE - TIME DELAY AFTER ENERGIZATION ON DELAY TDD - TIME DELAY AFTER DE-ENERGIZATION OFF DELAY NOTC - NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED NCTO - NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED NOTO - NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED NCTC - NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
* NOTC		
NCTO		
* NOTO		
NCTC		
——	* - ##	FIELD INSTRUMENT, TAG NO. AS INDICATED * INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO.
	LS OR ■	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSES ON RISING LEVEL NORMALLY CLOSED, OPENS ON RISING LEVEL
	PS OR ■	PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSES ON RISING PRESSURE NORMALLY OPEN, CLOSES ON DROPPING PRESSURE NORMALLY CLOSED, OPENS ON RISING PRESSURE NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
	TS OR T OR ■	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSES ON RISING TEMPERATURE NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING TEMPERATURE NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	FS OR ■	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSES ON INCREASED FLOW NORMALLY CLOSED, OPENS ON INCREASED FLOW
	ZS OR ■	POSITION (LIMIT) SWITCH NORMALLY OPEN NORMALLY OPEN - HELD CLOSED NORMALLY CLOSED NORMALLY CLOSED - HELD OPEN
	W OR ■ S	TORQUE SWITCH NORMALLY OPEN, CLOSES ON HIGH TORQUE NORMALLY CLOSED, OPENS ON HIGH TORQUE
#	——	UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
	——	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	——	CONDUCTORS ELECTRICALLY CONNECTED
	S	SOLENOID VALVE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
LA	——	LIGHTNING ARRESTER
		GROUND OR GROUND ROD
30A	——	FUSE, AMPERE RATING AS NOTED
	HTR	STRIP HEATER OR HEATING ELEMENT
	——	INDUCTOR
TG	TG	TACHOMETER GENERATOR
	——	CONTACT, NORMALLY OPEN (NO)
	——	CONTACT, NORMALLY CLOSED (NC)
	——	OVERLOAD RELAY HEATER
	——	* K = KEY INTERLOCK E = ELECTRICAL INTERLOCK
TB	——	TERMINAL OR TEST BLOCK
RTD	——	RESISTANCE TEMPERATURE DETECTOR
VE OR VE	——	VIBRATION DETECTOR
DM	DM	DAMPER MOTOR
ETM	——	ELAPSED TIME METER
M	M	MOTOR OPERATED VALVE OR GATE
	——	INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE

EXISTING WORK | NEW WORK | FUTURE EXPANSION

EXISTING, NEW OR FUTURE CONDITION DESIGNATION



TYPICAL ONE LINE DIAGRAM
SHOWING POWER AND CONTROL TO EQUIPMENT

INDICATES CONDUIT IS ALL OR PARTIALLY LOCATED UNDERGROUND. CONDUIT SIZE SHOWN INDICATES THE SIZE WITHIN STRUCTURE. UNDERGROUND CONDUIT SIZE IS SHOWN ON DUCT BANK SECTIONS.

MCC1-1: (2) 3"C., 3#3/0, 1#2 DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR, FROM NEMA SIZE 6 STARTER IN MCC-1 TO 250HP MOTOR LOAD.

MCC1-1A: 3/4"C., 7#14, 1#14G DENOTES ONE 3/4-INCH CONDUIT CONTAINING SEVEN NO. 14 AWG CONTROL CONDUCTORS AND 1 NO. 14 AWG GROUND CONDUCTOR.

MCC1-1 AND MCC1-1A: DENOTES CONDUIT IDENTIFICATION (ID) (TYPICAL)

NOTES:
1. PROTECTIVE/CONTROL DEVICE AS SHOWN.
2. CONTROL/AUXILIARY DEVICES AT OR NEAR EQUIPMENT. EQUIPMENT SHALL BE INSTALLED AND WIRED AS REQUIRED BY EQUIPMENT FURNISHED AND/OR CONTROL DIAGRAM.

GENERAL NOTE
THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

NOTES

IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS WHICH SHALL INCLUDE CONDUITS SHOWN ON ONE-LINE AND RISER DIAGRAMS AND HOME-RUNS SHOWN ON PLAN DRAWINGS. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.

THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW:
BLANK: NOT INTENDED FOR USE. PLATE ONLY
SPACE: EQUIPPED WITH REQUIRED BUS AND HARDWARE FOR THE FUTURE ADDITION OF BREAKERS AND/OR STARTERS WITHIN THE SIZE AND RANGE SHOWN
SPARE: CONTAINS A COMPLETELY INSTALLED BREAKER AND/OR STARTER OF SIZE AND TYPE INDICATED FOR FUTURE USE.

INTERPRETATION OF ELECTRICAL DRAWINGS: CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS:

POWER ONE LINE DIAGRAMS: POWER, CONTROL AND SIGNAL WIRING REQUIREMENTS FOR ELECTRICAL DISTRIBUTION EQUIPMENT AND UTILIZATION EQUIPMENT POWERED FROM SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND MAJOR POWER DISTRIBUTION PANELBOARDS ARE TYPICALLY SHOWN ON THE ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE AND QUANTITY FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT, AND SIZE OF THE GROUNDING ELECTRODE CONDUCTORS.

INSTRUMENTATION AND CONTROL RISER DIAGRAMS: POWER, CONTROL, SIGNAL AND DATA HIGHWAY WIRING REQUIREMENTS FOR INSTRUMENTS AND CONTROL DEVICES CONTROLLED/MONITORED FROM INSTRUMENTATION AND CONTROL PANELS SUCH AS RTUS, PLCS, TERMINAL CABINETS, AND REMOTE I/O PANELS ARE TYPICALLY SHOWN ON THE INSTRUMENTATION AND CONTROL ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE, QUANTITY AND TYPE FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT.

FLOOR PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS LOCATED WITHIN STRUCTURES, FLOOR PLANS SHOW THE LOCATION OF ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, UTILIZATION EQUIPMENT, INSTRUMENTS, ANCILLARY EQUIPMENT AND DEVICES AND THE ANTICIPATED PENETRATION LOCATIONS WHERE CONDUITS EXIT/ENTER THE STRUCTURE. HOMERUNS MAY ALSO BE SHOWN FROM MISCELLANEOUS EQUIPMENT NOT SHOWN ON A ONE LINE OR RISER DIAGRAM.

SITE PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS EXTERIOR TO STRUCTURES AND TO IDENTIFY THE SPECIFIC REQUIREMENTS OF THE UNDERGROUND CONDUITS OR DUCT BANKS, SITE PLANS SHOW THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS WITH SECTIONS INDICATING THE CONDUIT SIZE, ARRANGEMENT AND CIRCUIT ROUTING.

NOTE THAT CONDUIT SIZE WITHIN STRUCTURE IS INDICATED ON ONE-LINE DIAGRAM AND UNDERGROUND SIZE IS INDICATED ON DUCT BANK SECTIONS.

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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KANSAS CERTIFICATE OF AUTHORITY #E-1067

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL LEGEND AND ABBREVIATIONS SHEET 1

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
E-1

ABBREVIATIONS	
A	AMPS
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AIC	AMPERE INTERRUPTING CAPACITY
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CGD	COMBUSTIBLE GAS DETECTOR
CKT	CIRCUIT
CLB	CURRENT LIMITING BREAKER
CLF	CURRENT LIMITING FUSE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH/CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
CWS	CONDUIT WALL SEAL
DC	DIRECT CURRENT
DIA	DIAMETER
DMU	DIGITAL METERING UNIT
DN	DOWN
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
ENCL	ENCLOSURE OR ENCLOSED
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING
FO	FIBRE OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HACR	HEATING & AIR CONDITIONING RATED
HH	HANDHOLE
HT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HZ	HERTZ
ID	IDENTIFICATION
INSTR	INSTRUMENT
K	KILO (PREFIX)
kcmil	1000 CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LA	LIGHTNING ARRESTER
LTG	LIGHTING
LP	LIGHTING PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL
NV	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OH	OVERHEAD
OL	OVERLOAD
PB	PULL BOX
PCP	PUMP CONTROL PANEL
PH	PHASE
PMH	POWER MANHOLE
PNL	PANEL OR PANELBOARD
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
REQD	REQUIRED
QTY	QUANTITY
SA	SURGE ARRESTER
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SPACE HEATER
SHH	SIGNAL HANDHOLE
SPD	SURGE PROTECTIVE DEVICE
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME TO CLOSE OR TRAY CABLE
TEL	TELEPHONE
TO	TIME TO OPEN
TS	TWISTED SHIELDED
TYP	TYPICAL
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS, WIDTH, WITH, WIRE
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

SYMBOL	DESCRIPTION
A 3 b	LIGHTING FIXTURE "A" - FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "b" - CONTROLLED BY SWITCH "b" "3" - CIRCUIT NUMBER
A 3 b	LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b	WALL MOUNTED TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b OR A 3	CROSS HATCH INDICATES LIGHTING FIXTURE THAT IS UNSWITCHED AND SHALL REMAIN ON AT ALL TIMES. NOTATIONS SAME AS ABOVE.
A 3 b OR A 3 b	SHADED AREA INDICATES LIGHTING FIXTURE THAT IS EQUIPPED WITH EMERGENCY BACKUP POWER SOURCE. NOTATIONS SAME AS ABOVE.
A 3	POLE MOUNTED AREA TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3	POLE MOUNTED ROADWAY TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
EM 3 (*)	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "EM" - FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" - SUPERVISORY CIRCUIT * - FIXTURE TAG #
R-2 BU-1(*)	REMOTE EMERGENCY ADJUSTABLE WALL LIGHTING FIXTURE WITH TWO LAMP HEADS "R-2" - FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) * - HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN (2) NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND (1) NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
A 3	COMBINATION BATTERY UNIT AND EXIT SIGN. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
A 3	CEILING MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN. (DOUBLE FACE DOUBLE CHEVRONS SHOWN)
A 3	WALL MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
RH-3 E 3 BU-1 (*)	REMOTE EMERGENCY CEILING LIGHTING FIXTURE. "RH-3" - FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" - SUPERVISORY CIRCUIT * - HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
	HOME RUN TO DESIGNATED EQUIPMENT. BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE NOTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING.
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
	'X' INDICATES EXPLOSION PROOF CONDUIT SEAL FITTING.
	CONCRETE ENCASED DUCTBANK, WIDTH VARIES, SEE DUCTBANK SECTION/DETAILS FOR REQUIREMENTS AND WIDTH
	CONDUIT STUBBED OUT AND CAPPED
(2) 3"C., 3#3/0, 1#2G	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR.
2-2/C#16 SH	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
2-3/C#16 SH	SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
(3) 4"C.	THREE 4-INCH CONDUITS
	FLEXIBLE METAL CONDUIT "WHIP" (3/4"C., 2#12, 1#12G UNLESS OTHERWISE NOTED) FOR LIQUID TIGHT MOTOR CONNECTIONS
	'X' INDICATES CONDUIT SEAL FITTING IN OTHER THAN CODE REQUIRED LOCATIONS.
	INDICATES MOTOR STARTER AND/OR MOTOR CONTROL EQUIPMENT WITHIN THE ENCLOSURE.

SYMBOL	DESCRIPTION
$a	SINGLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$a2	DOUBLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$c3	THREE WAY SWITCH "c" INDICATES FIXTURES CONTROLLED.
$a4	FOUR WAY SWITCH "a" INDICATES FIXTURES CONTROLLED.
$aD	DIMMER SWITCH "a" INDICATES FIXTURES CONTROLLED.
SM	MOTOR RATED TOGGLE SWITCH
$OS	SINGLE POLE SWITCH "OS" INDICATES A PASSIVE INFRARED OCCUPANCY SENSOR
$2OS	DOUBLE POLE SWITCH "OS" INDICATES PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF INBOARD/OUTBOARD SWITCHING
$DT	SINGLE POLE SWITCH "DT" INDICATES DUAL TECHNOLOGY PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF SENSING MOTION AND SOUND
C 3	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
	PUSH BUTTON STATION
TYPE A	INDICATES ALL LIGHTING FIXTURES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
	LIGHTING PANELBOARD (LP-#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
	POWER PANELBOARD (PP-#) OR DISTRIBUTION PANELBOARD (DP-#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
	LIGHTING CONTACTOR PANELBOARD (LCP-#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
*4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W * GFCI - GROUND FAULT CIRCUIT INTERRUPTER TYPE WP - WEATHERPROOF XP - EXPLOSION PROOF T - TRANSIENT VOLTAGE SURGE SUPPRESSOR IC - ISOLATED GROUND 4 - CIRCUIT NUMBER
*4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W MOUNTED ABOVE COUNTER-TOP OR 42" AFF * NOTATIONS SAME AS ABOVE
*60 3 4W	SPECIAL PURPOSE RECEPTACLE * - VOLT RATING "3" - NUMBER OF POLES "60" - AMPERE RATING "4W" - 4 WIRES IN ADDITION TO GROUND
	MULTI-OUTLET ASSEMBLY, SYMBOL DENOTES RECEPTACLE TYPE
	FLUSH FLOOR OUTLET BOX WITH TYPE OUTLET INDICATED
	UNDER FLOOR DUCT SYSTEM WITH TYPE OUTLETS INDICATED
	THREE CELL UNDER FLOOR DUCT SYSTEM JUNCTION BOX
J OR J	JUNCTION BOX
P	PULL BOX
TC	TERMINAL CABINET
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
ESA	EMERGENCY EYEWASH/SHOWER ALARM STATION WITH FLOW SWITCH(ES)
	INDICATED EQUIPMENT AND MATERIALS TO BE DEMOLISHED
DUST	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
DAMP OR WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CLASS I, DIV. 1 GROUP D	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.

SYMBOL	DESCRIPTION
	GROUND SYSTEM GRID OR LOOP, 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
	EXOTHERMIC WELD CONNECTION
	3/4" x 10'-0" GROUND ROD. UNLESS SPECIFIED OTHERWISE.
	GROUND ROD TEST WELL STATION (SEE DETAIL SHEET FOR REQUIREMENTS)
	COMMUNICATION SYSTEMS
K	TELEPHONE OUTLET FOR DESK TYPE HANDSET K = KEY SYSTEM
K	TELEPHONE OUTLET FOR WALL TYPE HANDSET (MOUNT UP 4'-6") K = KEY SYSTEM
	PAGE/PARTY TELEPHONE OUTLET FOR DESK TYPE HANDSET
	PAGE/PARTY TELEPHONE OUTLET FOR WALL TYPE HANDSET, MOUNT UP 4'-6"
S H W	PAGING SPEAKER, WALL MOUNTED H = HORN TYPE W = WIDE ANGLE TYPE
S W	PAGING SPEAKER, WALL MOUNTED, BI-DIRECTIONAL, HORN TYPE W = WIDE ANGLE TYPE
S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE
VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER, MOUNT UP 5'-0"
A	PAGING SPEAKER AMPLIFIER ASSEMBLY
TM	TELEPHONE CABINET OR BACKBOARD AS NOTED
P OR C	"C" - DATA INPUT/OUTPUT CABLE OUTLET "P" - PROCESS COMPUTER SYSTEM (CAT6 RJ-45 JACK)

GD/VF #	GAS DETECTOR/VENTILATION FAILURE ALARM,
	# INDICATES TYPE OF UNIT.
	1 = MASTER, 2 = REMOTE

GB	GAS DETECTION/VENTILATION FAILURE WEATHERPROOF DUAL-LITE BEACON MOUNT TOP OF DEVICE UP 6'-8" A.F.F.
15 G	GAS DETECTION/VENTILATION FAILURE HORN/STROBE MOUNT TOP OF DEVICE UP 6'-8" A.F.F.
G	GAS DETECTION/VENTILATION FAILURE HORN, MOUNT TOP OF DEVICE UP 6'-8" A.F.F.
G	GAS DETECTION/VENTILATION FAILURE STROBE, MOUNT TOP OF DEVICE UP 6'-8" A.F.F.
	SECURITY SYSTEMS
SAC P	SECURITY ALARM CONTROL PANEL
DS	SECURITY ALARM DOOR SWITCH
K	SECURITY ALARM KEY PAD
R	SECURITY SYSTEM CARD ACCESS READER
WS	SECURITY ALARM WINDOW SWITCH
	SECURITY ALARM MOTION DETECTOR
CCTV	CLOSED CIRCUIT TV CAMERA
PTZ	PAN, TILT, ZOOM CAMERA LENS CONTROLS
GB	GLASS BREAK DETECTOR
	FIRE ALARM SYSTEMS
H 200 R	FIRE ALARM HEAT DETECTOR 135 FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" - 200 FIXED TEMPERATURE "R" - FIXED TEMPERATURE RATE-OF-RISE TYPE
I	FIRE ALARM SMOKE DETECTOR PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED. "I" - IONIZATION TYPE.
D	FIRE ALARM DUCT SMOKE DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FV	FIRE ALARM VENTILATION PANEL WITH GRAPHIC PANEL
FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL

SYMBOL	DESCRIPTION
F	FIRE ALARM MASTER BOX
F	FIRE ALARM HORN, MOUNT UP 7'-6"
15 F	FIRE ALARM STROBE, MOUNT UP 6'-8" 15 = CANDELA RATING
15 F	FIRE ALARM HORN AND STROBE LIGHT COMBINATION, MOUNT UP 6'-8" 15 = CANDELA RATING
F	FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'-0"
VSS	SPRINKLER VALVE SUPERVISORY SWITCH
SFS	SPRINKLER FLOW ALARM SWITCH
F	FIRE ALARM BELL
F	WEATHERPROOF HI-INTENSITY FIRE ALARM STROBE LIGHT WITH HORN
PIR	PASSIVE INFRARED DETECTOR
R	SMOKE BEAM DETECTOR (RECEIVER)
T	SMOKE BEAM DETECTOR (TRANSMITTER)
	FIRE ALARM SMOKE DETECTOR REMOTE INDICATOR AND TEST SWITCH

A / E-4 — SHEET NO. WHERE DETAIL IS DRAWN

SYMBOL WHERE THERE IS A DETAIL

DETAIL 1/4" = 1'-0" — A / E-3 — SHEET NO. WHERE THERE IS A DETAIL

SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL

1 / E-4 — SHEET NO. WHERE SECTION IS DRAWN

SYMBOL WHERE THERE IS A SECTION

SECTION 1/4" = 1'-0" — 1 / E-3 — SHEET NO. WHERE SECTION IS TAKEN

SYMBOL WHERE SECTION IS DRAWN

SECTION SYMBOL

GENERAL NOTE

THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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SHEET CHK'D BY: C. BREWSTER
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APPROVED BY: C. BREWSTER
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL LEGEND AND ABBREVIATIONS
SHEET 2

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
E-2

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SCOPE OF WORK:

1. PROJECT PROVIDES PROCESS AND ELECTRICAL SYSTEM IMPROVEMENTS AT THE CITY OF WICHITA, KANSAS SEWAGE TREATMENT PLANT. MAJOR IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED, MEDIUM AND LOW VOLTAGE ELECTRICAL DISTRIBUTION SYSTEM UPGRADES, AND PROVISION OF POWER AND CONTROL CIRCUITS TO SERVE THE NEW PROCESS EQUIPMENT SHOWN ON DRAWINGS.
2. PROVIDE LIGHTNING PROTECTION SYSTEMS IN ACCORDANCE WITH SPECIFICATION 264113.
3. PROVIDE POWER SYSTEM STUDIES IN ACCORDANCE WITH SPECIFICATION 260573.

GENERAL NOTES:

1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
2. COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
3. MAINTAIN EXISTING PROCESS OPERATIONS. POWER INTERRUPTIONS TO ELECTRICAL EQUIPMENT SHALL BE AT OWNER'S CONVENIENCE WITH 72 HOURS MINIMUM NOTICE. EACH INTERRUPTION SHALL HAVE PRIOR WRITTEN APPROVAL.
4. FIELD VERIFY EXISTING UNDERGROUND ELECTRICAL CONDUIT, CONCRETE DUCT BANKS, MANHOLES, PULL BOXES, ETC. AND MECHANICAL PIPING. CONTRACTOR SHALL INCLUDE IN BID COSTS ASSOCIATED WITH RELOCATION OR REMOVAL OF UNDERGROUND EQUIPMENT AS REQUIRED BY THIS CONTRACT. USE DUE CARE IN CONGESTED AREAS TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES.
5. CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES, OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
6. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. EXCEPT WHERE DIMENSIONS ARE SHOWN, LOCATIONS OF EQUIPMENT, FIXTURES, OUTLETS, AND SIMILAR DEVICES ARE APPROXIMATE.
7. WORK SHALL COMPLY WITH 2020 NEC AND LOCAL CODES.
8. DO NOT SPLICE CONDUCTORS EXCEPT AS NOTED.
9. POWER AND CONTROL CONDUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR WIRE SIZED PER TABLE 250.122 OF THE NEC (UON).
10. COORDINATE SEQUENCE OF CONSTRUCTION WITH CIVIL, MECHANICAL, AND STRUCTURAL DISCIPLINES. PROVIDE TEMPORARY POWER AND CONTROL CIRCUITS AS REQUIRED TO MAINTAIN FACILITY OPERATION. VERIFY EXISTING UTILITIES IN AREA OF CONSTRUCTION. REFER TO CIVIL DRAWINGS FOR ADDITIONAL UNDERGROUND INFORMATION.
11. REPAIR, IN ACCORDANCE WITH SPECIFICATIONS, SIDEWALKS, WALLS, ROADWAYS, ETC. DISTURBED BY CONSTRUCTION ACTIVITIES WHETHER OR NOT SHOWN FOR REPAIR/REPAVING ON CIVIL DRAWINGS.
12. CONCEAL CONDUITS TO GREATEST EXTENT PRACTICABLE. CONDUITS RUN AT EXISTING STRUCTURES SHALL BE RUN EXPOSED.
13. WHERE LOCAL DISCONNECTS AND CONTROL PANELS ARE SHOWN ON PLAN VIEWS, LOCATIONS ARE APPROXIMATE. ADJUST LOCATION AS REQUIRED TO COMPLY WITH NEC ARTICLE 110 FOR WORKING CLEARANCES.
14. DO NOT INSTALL MAJOR CONDUIT RUNS THROUGH AREAS DESIGNATED FOR FUTURE STRUCTURES.
15. BIDDER SHALL BE RESPONSIBLE TO VISIT THE AREAS MODIFIED UNDER THIS CONTRACT AND SHALL TAKE FULL RESPONSIBILITY FOR UNDERSTANDING THE OBVIOUS FIELD CONDITIONS AT THE TIME OF BID.
16. REDESIGN OF ELECTRICAL OR MECHANICAL WORK DUE TO THE CONTRACTOR'S USE OF AN ALTERNATE ITEM OR ALTERNATE LAYOUT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

SUBMITTALS:

1. SUBMIT SHOP DRAWINGS FOR EQUIPMENT, MATERIALS AND OTHER ITEMS FURNISHED UNDER DIVISION 26.
2. SUBMIT CONDUIT SHOP DRAWINGS FOR YARD ELECTRICAL, WITHIN AND UNDER ROADS, BUILDINGS AND STRUCTURES PRIOR TO COMMENCING WORK. DO NOT POUR CONCRETE UNTIL ENGINEER HAS APPROVED THE ASSOCIATED SHOP DRAWING.
3. SUBMIT POWER SYSTEM STUDY IN ACCORDANCE WITH SECTION 26 05 73.
4. SUBMIT OPERATION AND MAINTENANCE MANUALS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
5. SUBMIT STARTUP/COMMISSIONING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
6. SUBMIT TESTING AND SERVICE REPORTS FOR EQUIPMENT AND MATERIALS FURNISHED UNDER DIVISION 26.
7. SUBMIT TRAINING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
8. SUBMIT RECORD DOCUMENTATION TO ACCURATELY SHOW COMPLETED INSTALLATION. INCLUDE MODIFICATIONS TO CONTRACT DOCUMENTS (ONE LINE POWER DIAGRAMS, EQUIPMENT ELEVATIONS, PANEL SCHEDULES, ELEMENTARY CONTROL DIAGRAMS, RISER DIAGRAMS, PLANS, CONDUIT AND DUCTBANK ROUTING, ETC) ALONG WITH ADDITIONAL DRAWINGS OR SKETCHES CREATED TO CONVEY COMPLETED INSTALLATION.

INTERPRETATION OF CONTRACT DOCUMENTS:

1. IF DURING PERFORMANCE OF WORK, THERE IS A CONFLICT, ERROR, OR DISCREPANCY BETWEEN OR AMONG CONTRACT DOCUMENTS AND LAWS AND REGULATIONS, PROVIDE THE HIGHER PERFORMANCE STANDARD UNLESS OTHERWISE DIRECTED BY ENGINEER.
2. PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS GOVERN OVER SCALED DIMENSIONS, DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS, LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS, CHANGE ORDER DRAWINGS SUPERCEDE ORIGINAL CONTRACT DRAWINGS, AND CONTRACT DRAWINGS GOVERN SHOP DRAWINGS.
3. IN GENERAL, DRAWINGS DO NOT SHOW CONDUIT ROUTING. PLAN AND ROUTE CONDUITS IN COMPLIANCE WITH SPECIFICATIONS AND DRAWING DETAILS. COORDINATE INSTALLATION WITH OTHER TRADES AND ACTUAL SUPPLIED EQUIPMENT.
4. DUCTBANK ROUTING SHOWN ON ELECTRICAL SITE PLANS IS DIAGRAMMATIC IN NATURE AND MAY NOT INCLUDE INTERFERENCES THAT MAY BE PRESENT.
5. SEE ADDITIONAL NOTES ON ELECTRICAL LEGEND E-1 AND E-2 SHEETS.

ENCLOSURE TYPES:

PROVIDE THE FOLLOWING NEMA TYPE ELECTRICAL ENCLOSURES, UNLESS OTHERWISE NOTED:

1. NEMA 1 IN DRY, NON-PROCESS INDOOR LOCATIONS.
2. NEMA 12 IN "DUST" LOCATIONS SHOWN ON THE DRAWINGS.
3. NEMA 4X IN OUTDOOR LOCATIONS, ROOMS BELOW GRADE INCLUDING BASEMENTS AND BURIED VAULTS AND "DAMP" OR "WET" LOCATIONS SHOWN ON THE DRAWINGS.
4. NEMA 4X IN "CORROSIVE" LOCATIONS SHOWN ON THE DRAWINGS.
5. NEMA 7 AND LISTED FOR THE SPECIFIC NEC HAZARDOUS AREA CLASSIFICATION AS SHOWN ON THE DRAWINGS.
6. REFER TO MATERIALS SCHEDULE ON SHEET G-17, FOR ADDITIONAL REQUIREMENTS.

NEC CLASSIFIED HAZARDOUS AREAS:

1. THIS PROJECT DOES INCLUDE NEC CLASSIFIED HAZARDOUS AREAS. THE FOLLOWING NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS APPLY: NFPA 820-2020
2. REFER TO SHEETS G-14 TO G-16 FOR ADDITIONAL INFORMATION ON CLASSIFICATION BOUNDARIES.

MATERIALS AND EQUIPMENT:

1. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND SHALL BEAR APPROPRIATE UL LISTING MARK OR CLASSIFICATION MARKING. EQUIPMENT, MATERIALS, ETC. UTILIZED NOT BEARING A UL CERTIFICATION SHALL BE FIELD OR FACTORY UL CERTIFIED PRIOR TO EQUIPMENT ACCEPTANCE AND USE.
3. PROVIDE MAJOR ELECTRICAL EQUIPMENT BY A SINGLE MANUFACTURER: I.E. UNIT SUBSTATIONS, SWITCHGEAR, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, PANELBOARDS, ETC.

EQUIPMENT SIZE, HANDLING AND STORAGE:

1. COORDINATE WITH EQUIPMENT MANUFACTURER SHIPPING SPLITS TO PERMIT SAFE HANDLING AND PASSAGE OF EQUIPMENT TO FINAL INSTALLATION LOCATION.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR UPRIGHT EQUIPMENT ORIENTATION DURING TRANSPORTATION.
3. PROTECT EQUIPMENT FROM MECHANICAL INJURY, OR EXPOSURE TO MOISTURE, CHEMICALS, OR CORROSIVE GASES. DO NOT STORE ELECTRICAL EQUIPMENT OUTDOORS.
4. PROVIDE AND ENERGIZE TEMPORARY SPACE HEATERS IF REQUIRED TO CONTROL MOISTURE DURING STORAGE.

CUTTING AND PATCHING:

1. CUT AND PATCH IN A WORKMANLIKE MANNER AS REQUIRED TO INSTALL ELECTRICAL WORK.
2. CUTTING OF STRUCTURAL MEMBERS SUCH AS JOISTS, BEAMS, GIRDERS OR COLUMNS IS PROHIBITED.
3. PATCH SURFACES TO RESTORE TO ORIGINAL INTEGRITY (WATERPROOF OR FIREPROOF AS REQUIRED) AND APPEARANCE.
4. CORE DRILL HOLES IN CONCRETE FLOORS AND WALLS AS REQUIRED. PRIOR TO CORING CONCRETE, SCAN SLAB OR WALL USING RADAR TO LOCATE AND IDENTIFY REBAR AND/OR CONDUIT AND WIRING. LOCATE CORES AS TO AVOID CUTTING OR DRILLING THROUGH REBAR AND/OR CONDUITS. SPACE CONDUITS SO AS NOT TO ALTER THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE BEING CORE DRILLED. NOTIFY ENGINEER IMMEDIATELY IF ANY REBARS ARE CUT OR UPON BECOMING AWARE OF DISCREPANCIES WITHIN AREA OF WORK.

CLEANING:

1. REMOVE ALL RUBBISH AND DEBRIS FROM INSIDE AND AROUND ELECTRICAL EQUIPMENT AND ENCLOSURES.
2. REMOVE DIRT, DUST OR CONCRETE SPATTER FROM INTERIOR AND EXTERIOR OF EQUIPMENT USING BRUSHES, VACUUM CLEANER OR CLEAN LINT-FREE RAGS. DO NOT USE COMPRESSED AIR.

DELEGATED DESIGN / PROFESSIONAL ENGINEERING SERVICES:

1. WHEN ENGINEERING SERVICES ARE SPECIFIED TO BE PROVIDED BY CONTRACTOR, CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PERFORM THE SERVICES. ENGINEER SHALL BE LICENSED AT THE TIME SERVICES ARE PERFORMED AND LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED. IF THE STATE ISSUES DISCIPLINE SPECIFIC LICENSES, ENGINEER SHALL BE LICENSED IN THE APPLICABLE DISCIPLINE. ENGINEER SHALL BE EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED.
2. ENGINEERING WORK SHALL BE DONE ACCORDING TO THE APPLICABLE REGULATIONS FOR PROFESSIONAL ENGINEERS TO INCLUDE SIGNING, SEALING AND DATING DOCUMENTS.

DEMOLITION AND DISPOSITION OF EQUIPMENT:

1. MECHANICAL DRAWING PLANS SHOWING REMOVAL OF MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT IS NOT INTENDED TO SHOW ALL COMPONENTS TO BE DEMOLISHED. NOT ALL PIPING, CONDUITS, DUCTS, EQUIPMENT, ANCILLARY DEVICES, ETC. ARE SHOWN. THE CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
2. UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO SOURCE AND/OR POINT OF CONCEALMENT INCLUDING ABOVE ACCESSIBLE CEILING FINISHES. WIRING SHALL BE REMOVED.
3. CUT FLUSH WITH SLAB, CEILING, OR WALL ABANDONED CONCEALED CONDUIT. SUITABLY PLUG CONDUITS.
4. REPAIR AND RESTORE ADJACENT CONSTRUCTION AND FINISHES AFTER DEMOLITION IS COMPLETE.
5. MATERIAL AND EQUIPMENT INDICATED FOR REMOVAL OR DEMOLITION IS TO BECOME CONTRACTOR'S PROPERTY UPON REMOVAL, UNLESS NOTED OTHERWISE. REMOVED MATERIAL TO BE PROPERLY HANDLED AND DISPOSED.

MAJOR ELECTRICAL SEQUENCE OF CONSTRUCTION:

REFER TO THE MOPO PLAN MEMORANDUM FOR SEQUENCING CONSTRAINTS.

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: R.LARKEY
SHEET CHK'D BY: C.BREWSTER
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
GENERAL NOTES

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
E-3

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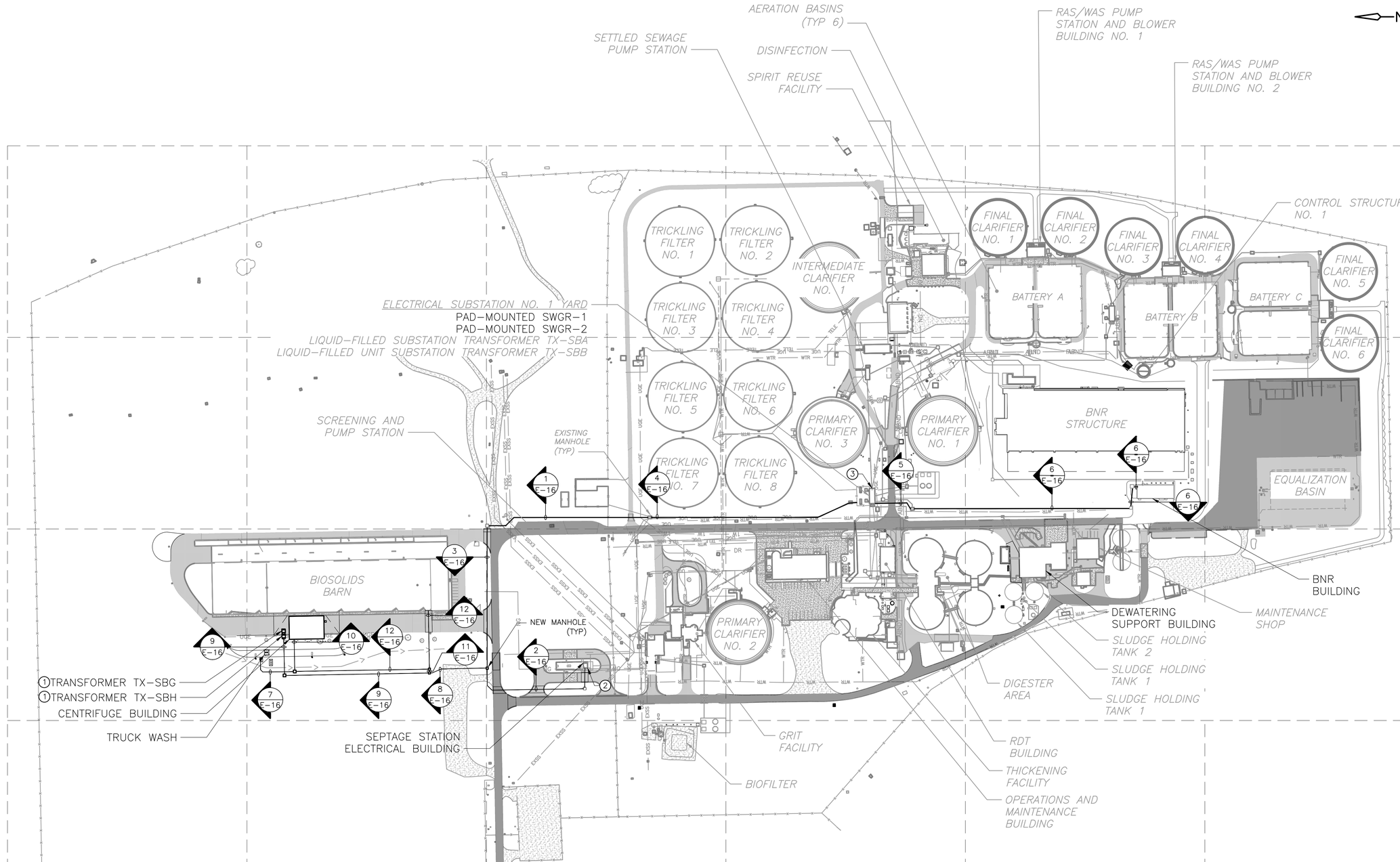

KEY NOTE:

1. PROVIDED UNDER PACKAGE 5 INSTALLED UNDER THIS PACKAGE
2. DEMOLISH EXISTING CONDUITS INSIDE ICC ELECTRICAL BUILDING, REFER TO XD-701.
3. ROUTE CABLE THROUGH ELECTRICAL SUBSTATION BASEMENT AS REQUIRED.

GENERAL NOTES:

1. REFER TO CIVIL DRAWINGS FOR UNDERGROUND CONDITIONS WHEN PLANNING CONSTRUCTION OF NEW DUCTBANK.

MODIFIED ELECTRICAL SITE PLAN

PLAN

1" = 150'

75 0 150

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. RUIZ
DRAWN BY: N. MONTGOMERY
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL SITE PLAN

INDIRA PJETROVIC LICENSED 03/01/2024 21918 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: E-X.DWG

SHEET NO.
E-4

ISSUED FOR BID

XREFs: [GRID, CWP000YP, CEP000SS, grading BNR 2, CWP000SS, 267343_CDMS_2234-P4, CWP094KP] Images: []
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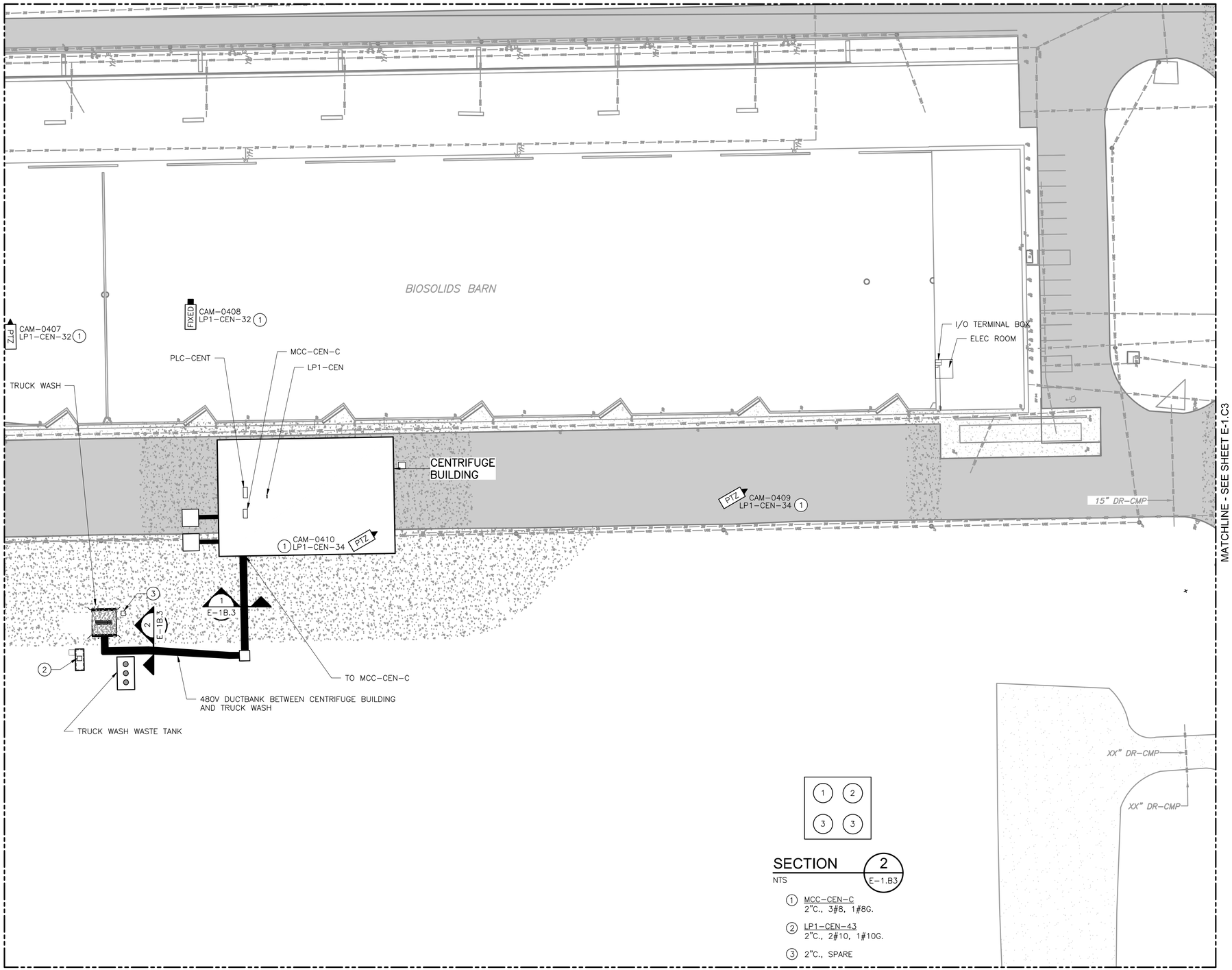
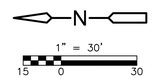
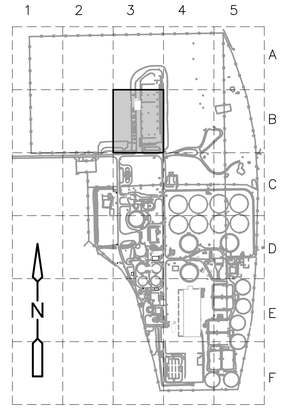


MATCHLINE - SEE SHEET E-1.C3





KEYPLAN

NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. CONTRACTOR SHALL ADJUST DUCTBANK LOCATION VERTICALLY TO AVOID AND PROVIDE THE NECESSARY CLEARANCE WHEN CROSSING EXISTING UTILITIES.
3. REFER TO SITE CIVIL PLANS FOR COMPLETE PROJECT DUCTBANK REQUIREMENTS.

KEYNOTES: (*)

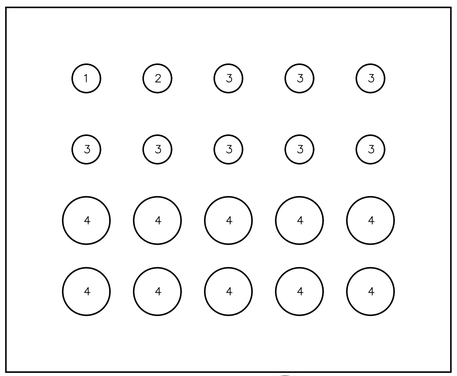
1. PROVIDE 2-#10,1-#10G IN 1" CONDUIT FROM PANEL LP1-CEN TO CAMERA.
2. TRUCK WASH VALVE MOTOR 038-BFV-0402, 480V, 3ø. REFER TO SHEET OE-8 MCC-CEN-C.
3. TRUCK WASH PHOTO-EYE 120V, ZS-0405. MOUNT ON PEDESTAL WITH 120V WEATHERPROOF DUPLEX RECEPTACLE. CIRCUIT TO LP1-CEN-43. REFER TO CONTROLS PLANS FOR CONTROL CABLE REQUIREMENTS.

SECTION 2 / E-1.B3
NTS

(1) MCC-CEN-C
2"C., 3#8, 1#8G.

(2) LP1-CEN-43
2"C., 2#10, 1#10G.

(3) 2"C., SPARE



SECTION 1 / E-1.B3
NTS

(1) MCC-CEN-C
2"C., 3#8, 1#8G.

(2) LP1-CEN-43
2"C., 2#10, 1#10G.

(3) 2"C., SPARE

(4) 4"C., SPARE

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. JONES
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CUSTOM ENGINEERING
12760 East 40 Highway
Independence, Missouri 64055
816.350.1473

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL SITE PLAN AREA B3

PROJECT NO. 2395-267343
FILE NAME: E005.B3STPL
SHEET NO.
E-1.B3

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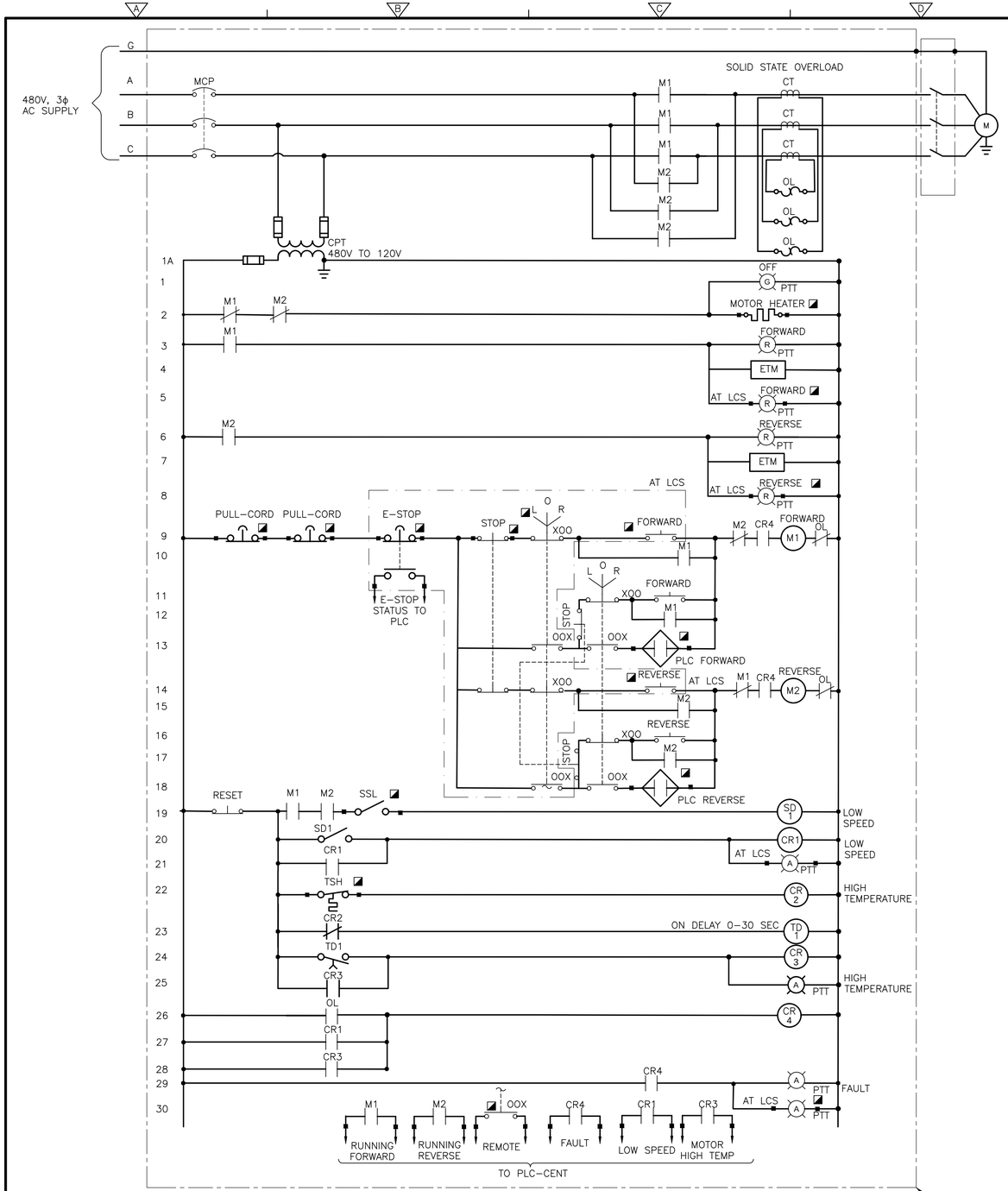
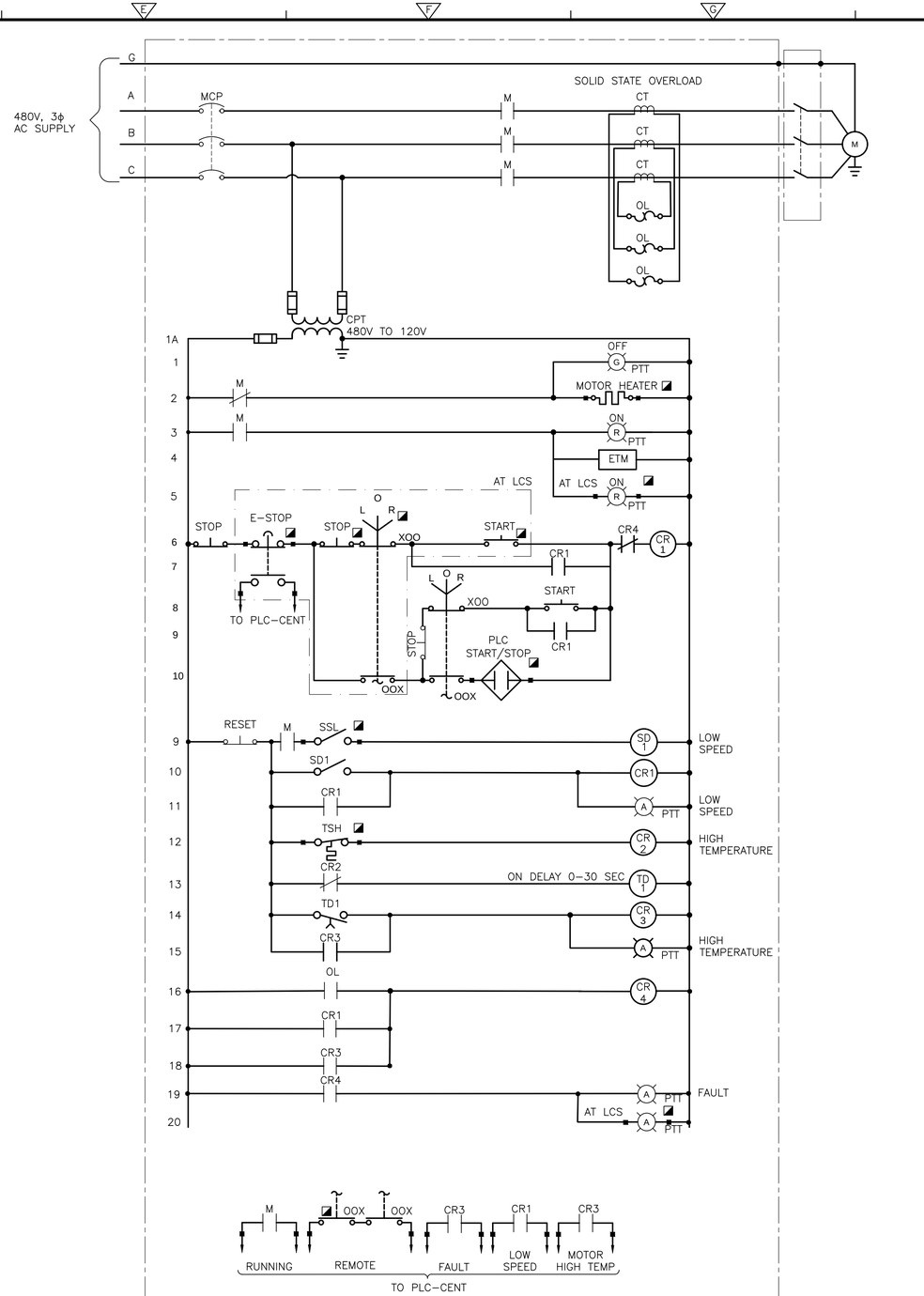


(4269–366–SC–0101)
(4269–366–SC–0102)
(4269–366–SC–0103)

CENTRIFUGE SCREW CONVEYOR

SCHEMATIC 1 – NTS



(4269–366–SC–0104)
(4269–366–SC–0105)

BIOSOLIDS BARN LOADOUT SCREW CONVEYOR

SCHEMATIC 2 – NTS

LEGEND:

◪ LOCATED AT PUMP, MOTOR OR LCS

NOTES:

1. ENCLOSURE RATING AND MATERIALS PER MATERIALS SCHEDULE ON G–17.

INDIRA PJETROVIC LICENSED 03/01/2024 - 21910 - KANSAS - PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

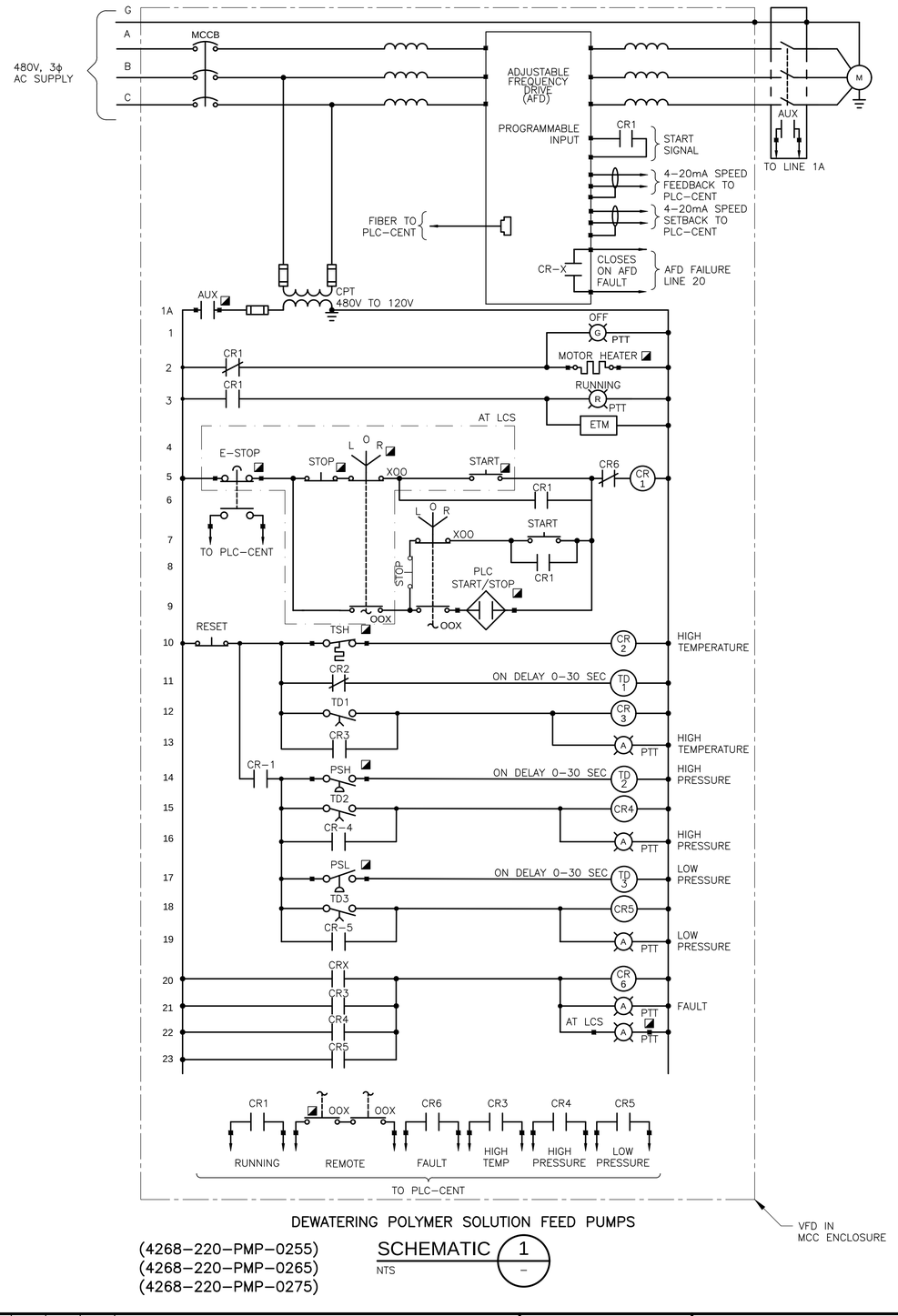
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS-I

PROJECT NO. 2395–267343
FILE NAME: E005NFCD

SHEET NO.
E-5

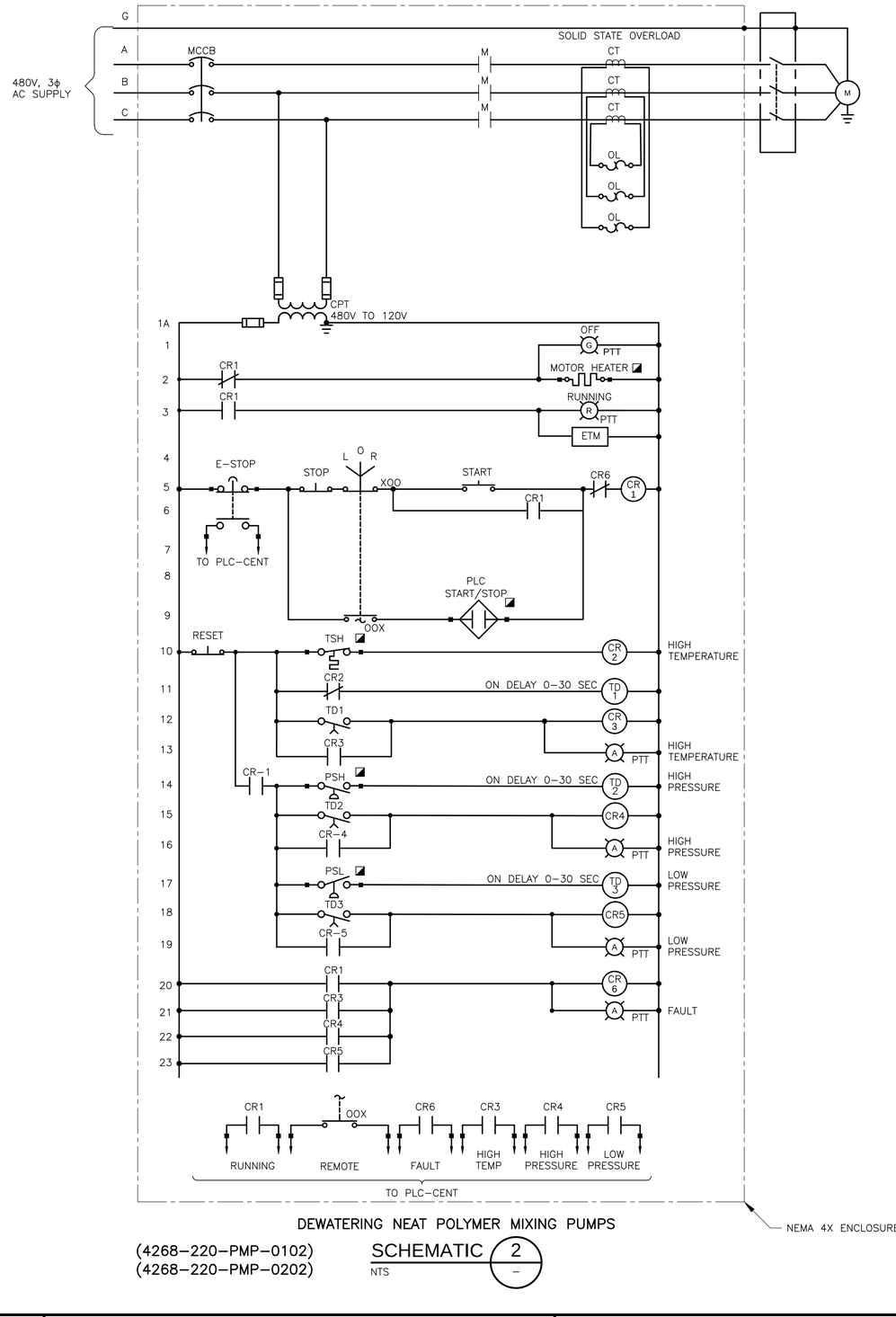
ISSUED FOR BID



DEWATERING POLYMER SOLUTION FEED PUMPS

(4268–220–PMP–0255)
(4268–220–PMP–0265)
(4268–220–PMP–0275)

SCHEMATIC 1
NTS



DEWATERING NEAT POLYMER MIXING PUMPS

(4268–220–PMP–0102)
(4268–220–PMP–0202)

SCHEMATIC 2
NTS

LEGEND:

◪ LOCATED AT PUMP, MOTOR OR LCS

NOTES:

1. ENCLOSURE RATING AND MATERIALS PER MATERIALS SCHEDULE ON G–17.

INDIRA PJETROVIC LICENSED 03/01/2024 21914 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS-II

PROJECT NO. 2395–267343
FILE NAME: E006NFCD

SHEET NO.
E-6

ISSUED FOR BID

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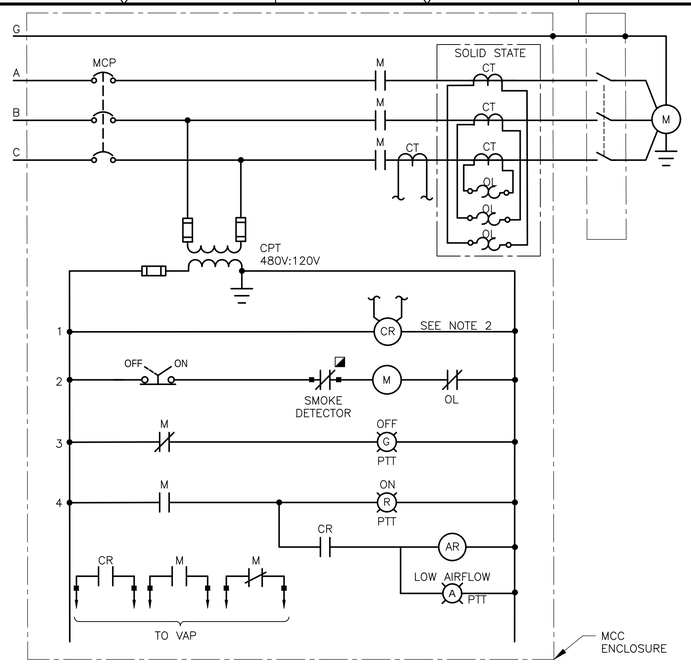
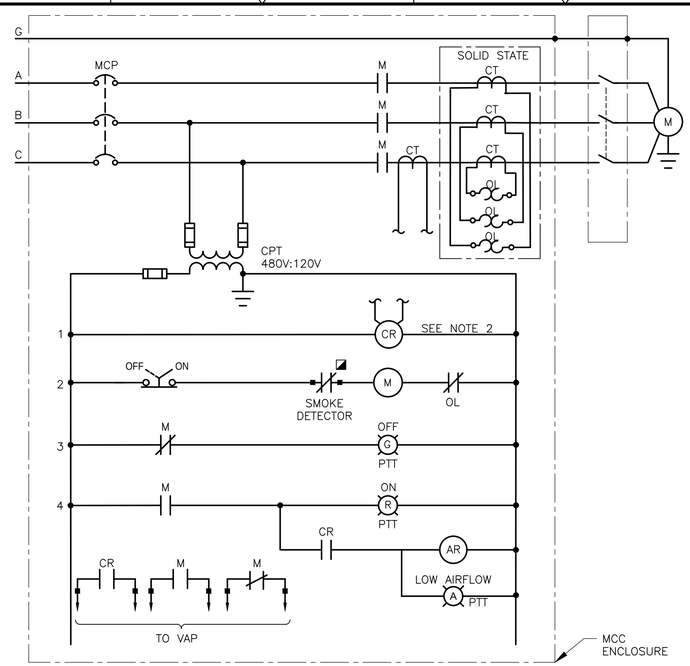


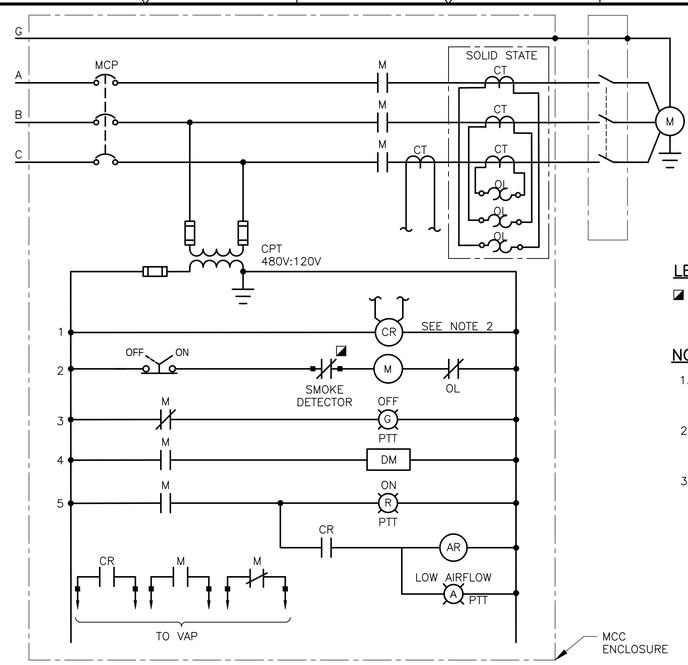
CONTINUOUS OPERATION EXHAUST FAN 4262–724–FAN–0925

SCHEMATIC 1
NTS



CONTINUOUS OPERATION EXHAUST FAN 4262–724–FAN–0930

SCHEMATIC 2
NTS



CONTINUOUS OPERATION EXHAUST FAN 4262–724–FAN–0935

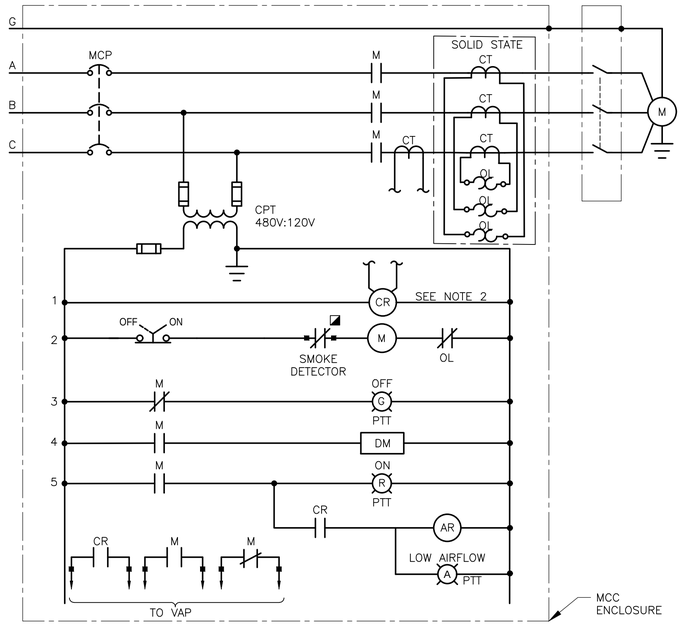
SCHEMATIC 3
NTS

LEGEND:

◪ LOCATED AT PUMP, MOTOR, LCS, OR HVAC CONTROL PANEL.

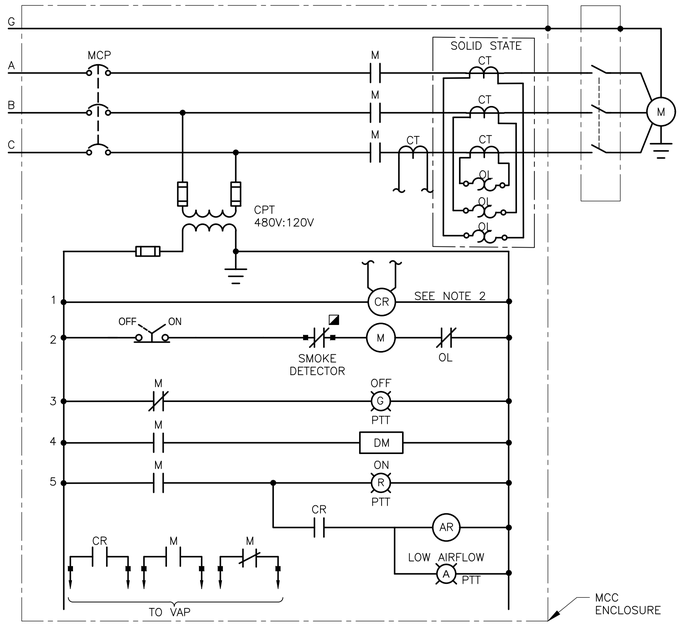
NOTES:

1. ENCLOSURE RATING AND MATERIALS PER MATERIALS SCHEDULE ON G–17.
2. LOW AIRFLOW CURRENT SENSING RELAY, EATON CURRENT WATCH OR EQUAL.
3. PROVIDE 2#12, #12G, 3/4"C TO DAMPERS.



CONTINUOUS OPERATION EXHAUST FAN 4262–724–FAN–0940

SCHEMATIC 4
NTS



CONTINUOUS OPERATION EXHAUST FAN 4267–724–FAN–0925

SCHEMATIC 5
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

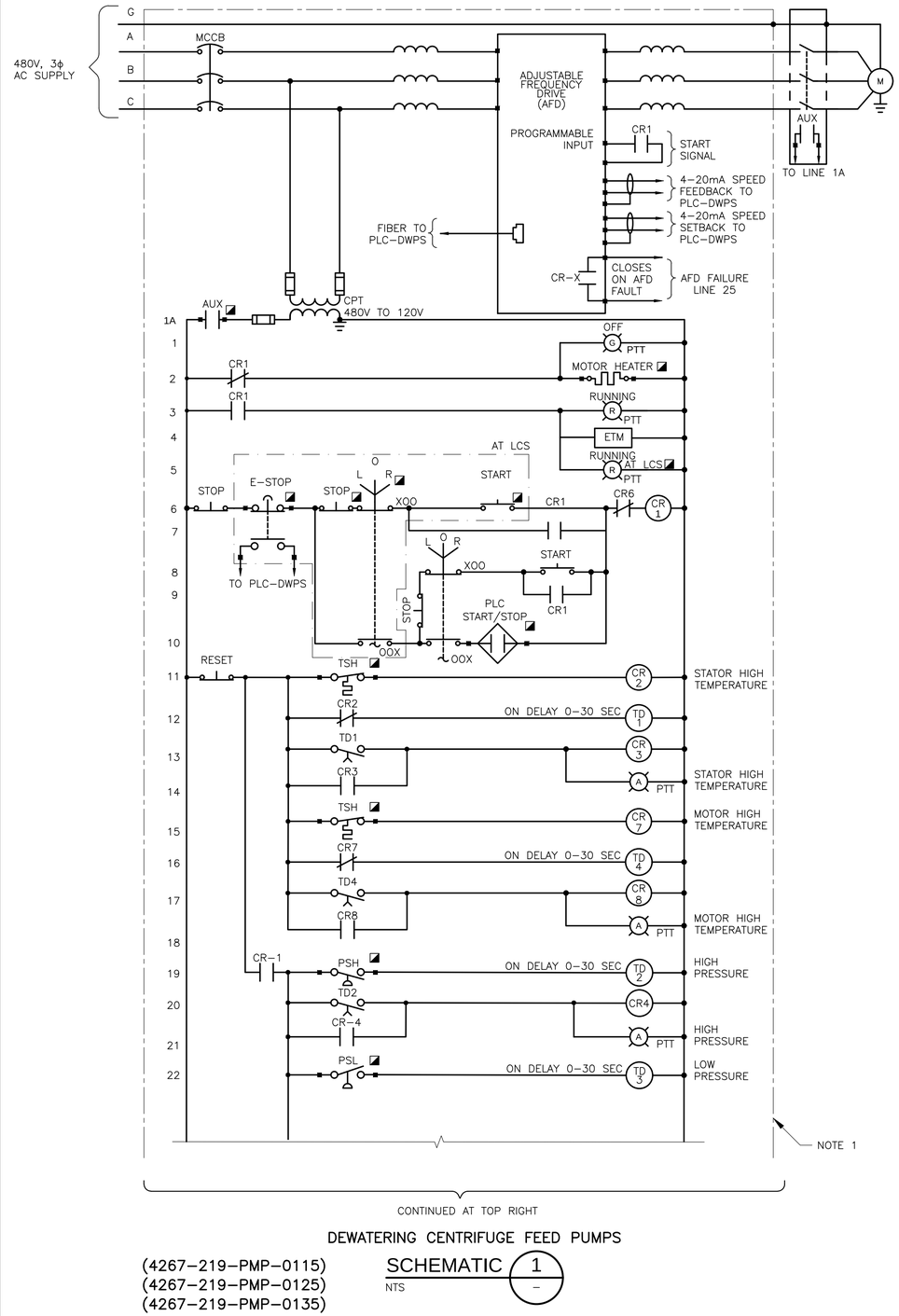
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS-III

INDIRA PJETROVIC LICENSED 03/01/2024 21918 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: E007NFCD
SHEET NO.
E-7

ISSUED FOR BID



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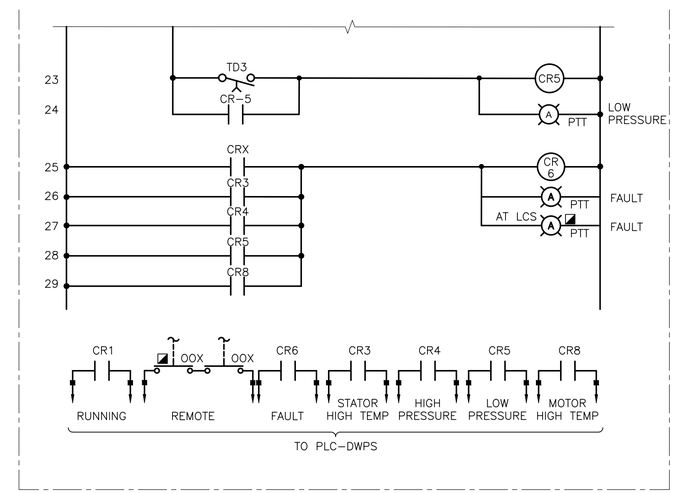
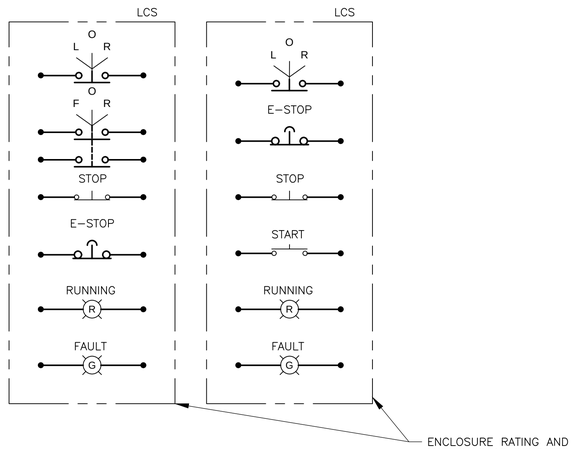
DEWATERING CENTRIFUGE FEED PUMPS

(4267–219–PMP–0115)
(4267–219–PMP–0125)
(4267–219–PMP–0135)

SCHEMATIC 1
NTS

CONTINUED FROM BELOW LEFT





LOCAL CONTROL STATION (LCS)

SCHEMATIC 2
NTS

(TYPICAL OF ALL LOCAL CONTROL STATIONS, REFER TO RISER DIAGRAMS AND PLAN VIEWS)

LEGEND:

◪ LOCATED AT PUMP, MOTOR OR LCS

NOTES:

1. ENCLOSURE RATING AND MATERIALS PER MATERIALS SCHEDULE ON G–17.

INDIRA PJETROVIC LICENSED 03/01/2024 21916 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS-IV

PROJECT NO. 2395–267343
FILE NAME: E008NFCD
SHEET NO.
E-8

ISSUED FOR BID

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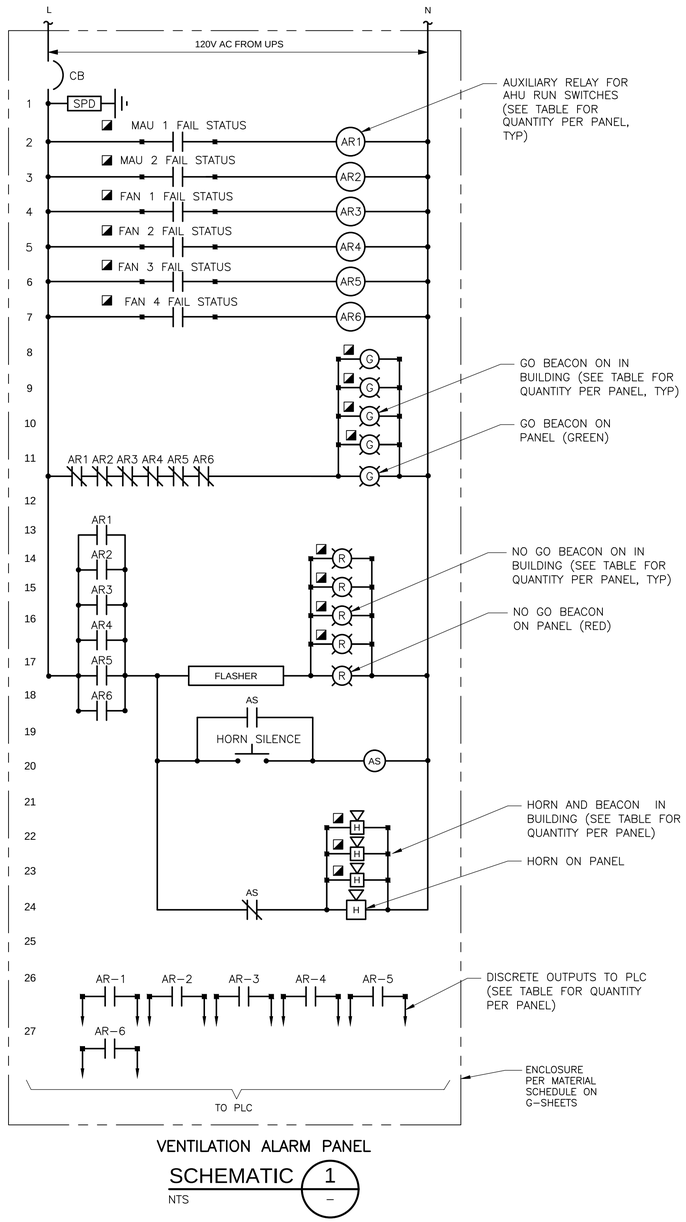
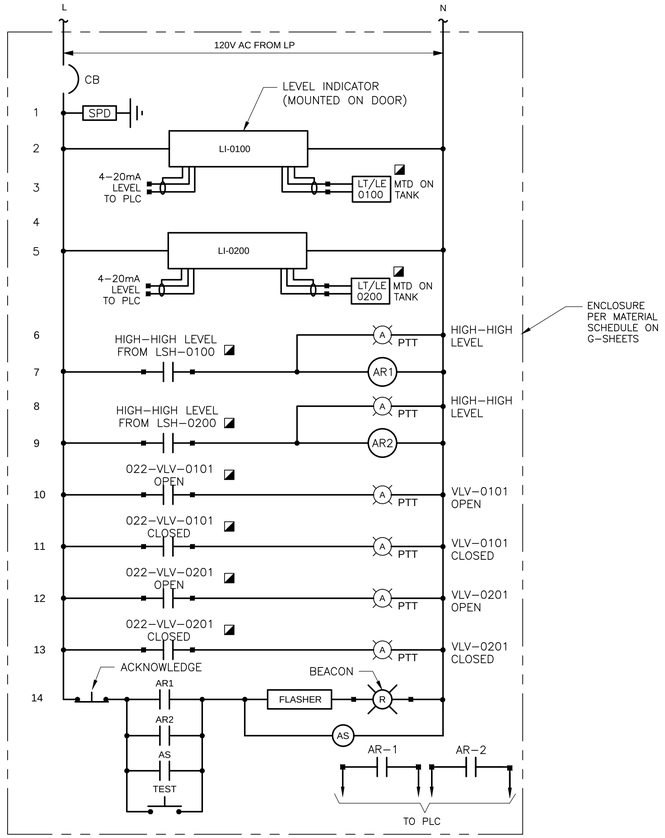


VENTILATION ALARM PANEL

SCHEMATIC 1

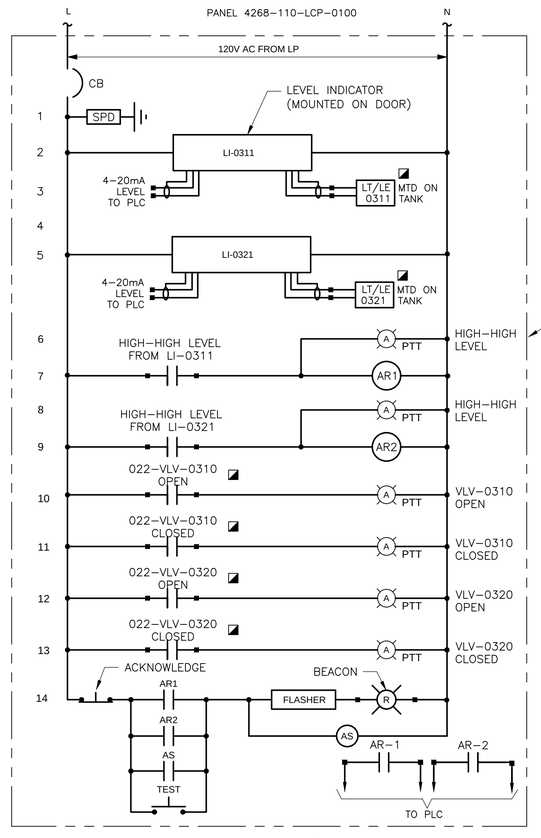
NTS



DEWATERING NEAT POLYMER TRUCK FILL STATION PANEL

SCHEMATIC 2

NTS



FERRIC CHLORIDE UNLOADING/ FILL STATION PANEL

SCHEMATIC 3

NTS

PANEL 4267–110–LCP–0300

LEGEND:

◪ LOCATED AT PUMP, MOTOR OR LCS

NOTES:

1. ENCLOSURE RATING AND MATERIALS PER MATERIALS SCHEDULE ON G–17.

VAP PANEL	INPUTS						OUTPUTS							
	DISCRETE				ANALOG		DISCRETE						ANALOG	
	MAU FAIL	FAN FAIL	H2S HIGH	LEL HIGH	H2S	LEL	GO	NO GO	HORN BEACON	NO FLOW	H2S HIGH	LEL HIGH	H2S	LEL
4262–770–VAP–0905	2	4	0	0	0	0	2	2	2	0	0	0	0	0
4267–770–VAP–0905	1	2	0	0	0	0	2	2	2	0	0	0	0	0

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS-V

INDIRA PJETROVIC LICENSED 03/01/2024 21918 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: E009NFCD

SHEET NO.
E-9

ISSUED FOR BID

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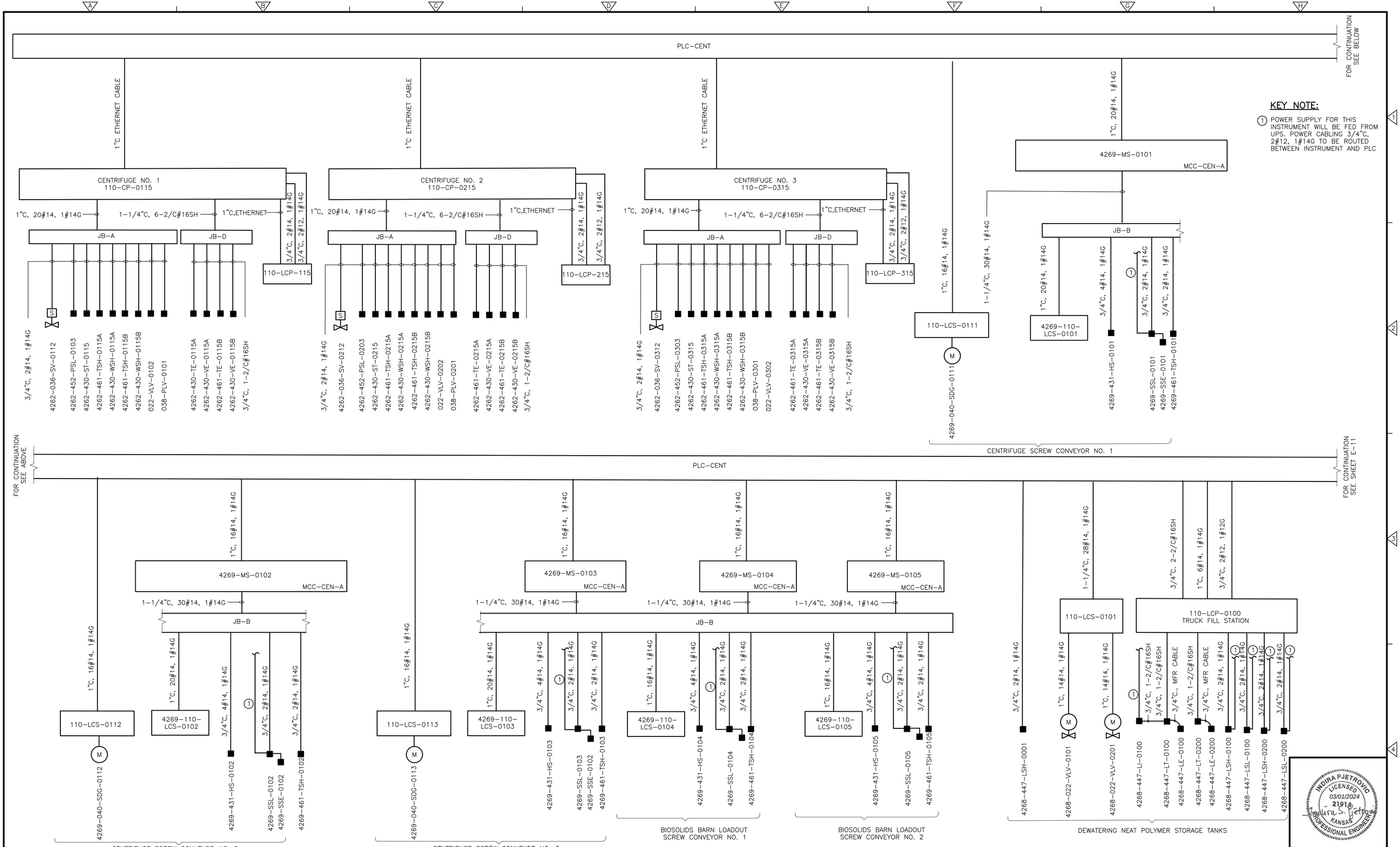

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL AND INSTRUMENT RISER DIAGRAM - I

PROJECT NO. 2395-267343
FILE NAME: E010NFRD.DWG

SHEET NO.
E-10

INDIRA PJETROVIC LICENSED 03/01/2024 - 21910 - KANSAS PROFESSIONAL ENGINEER

ISSUED FOR BID

XREFs: [267343_CDMS_2234-Pid] Images: []
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FOR CONTINUATION SEE SHEET E-10

PLC-CENT

1"C, 18#14, 1#14G

110-LCP-0102
DEWATERING NEAT POLYMER MIXING PUMP NO.1

3/4"C, 2#14, 1#14G

4268-452-PSL-0101
4268-461-TSH-0102A
4268-461-TSH-0102B
4268-452-PSH-0103

1"C, 18#14, 1#14G

110-LCP-0202
DEWATERING NEAT POLYMER MIXING PUMP NO.2

3/4"C, 2#14, 1#14G

4268-452-PSL-0201
4268-461-TSH-0202A
4268-461-TSH-0202B
4268-452-PSH-0203

VENDOR PROVIDED

1"C, 12#14, 1#14G
1"C, 2-2/C#16SH

110-LCP-0111
DEWATERING POLYMER SYSTEM NO.1

3/4"C, MFR CABLE

4268-498-FSL-0015
4268-498-FSL-0112
4268-022-VLV-0016

VENDOR PROVIDED

1"C, 12#14, 1#14G
1"C, 2-2/C#16SH

110-LCP-0211
DEWATERING POLYMER SYSTEM NO.2

3/4"C, MFR CABLE

4268-498-FSL-0025
4268-498-FSL-0212
4268-022-VLV-0026

1-1/4"C, 28#14, 1#14G

110-LCS-0121

1"C, 14#14, 1#14G

4268-022-VLV-0121

3/4"C, 1-2/C#16SH
3/4"C, 1-2/C#16SH
3/4"C, MFR CABLE

4268-447-LU-0122
4268-447-LT-0122
4268-447-LE-0122

3/4"C, 1-2/C#16SH

4268-447-LSH-0123

3/4"C, 1-2/C#16SH

4268-447-LSL-0124

1"C, 14#14, 1#14G

4268-022-VLV-0123

DEWATERING AGING TANK NO. 1

110-LCS-0121

1"C, 14#14, 1#14G

4268-022-VLV-0221

3/4"C, 1-2/C#16SH
3/4"C, 1-2/C#16SH
3/4"C, MFR CABLE

4268-447-LU-0222
4268-447-LT-0222
4268-447-LE-0222

3/4"C, 1-2/C#16SH

4268-447-LSH-0223

3/4"C, 1-2/C#16SH

4268-447-LSL-0224

1"C, 14#14, 1#14G

4268-022-VLV-0226

DEWATERING AGING TANK NO. 2

FOR CONTINUATION SEE BELOW

KEY NOTE:

(1) POWER SUPPLY FOR THIS INSTRUMENT WILL BE FED FROM UPS. POWER CABLING 3/4"C, 2#12, 1#14G TO BE ROUTED BETWEEN INSTRUMENT AND PLC

FOR CONTINUATION SEE ABOVE

PLC-CENT

1"C, 18#14, 1#14G

117-AFD-0255
DEWATERING POLYMER SOLUTION FEED PUMP NO.1

1"C, 16#14, 1#14G

4268-110-LCS-0255

3/4"C, 2#14, 1#14G

4268-452-PSL-0251
4268-461-TSH-0255A
4268-461-TSH-0255B
4268-452-PSH-0256
4268-220-PMP-0255

1"C, 18#14, 1#14G

117-AFD-0265
DEWATERING POLYMER SOLUTION FEED PUMP NO.2

1"C, 16#14, 1#14G

4268-110-LCS-0265

3/4"C, 2#14, 1#14G

4268-452-PSL-0261
4268-461-TSH-0265A
4268-461-TSH-0265B
4268-452-PSH-0266
4268-220-PMP-0265

1"C, 18#14, 1#14G

117-AFD-0275
DEWATERING POLYMER SOLUTION FEED PUMP NO.3

1"C, 16#14, 1#14G

4268-110-LCS-0275

3/4"C, 2#14, 1#14G

4268-452-PSL-0271
4268-461-TSH-0275A
4268-461-TSH-0275B
4268-452-PSH-0276
4268-220-PMP-0275

1"C, 2-2/C#16SH

(1)

3/4"C, 1-2/C#16SH
3/4"C, MFR CABLE

4268-438-FIT-0275
4268-438-FE-0275

(1)

3/4"C, 1-2/C#16SH
3/4"C, MFR CABLE

4268-438-FIT-0285
4268-438-FE-0285

(1)

3/4"C, 1-2/C#16SH
3/4"C, MFR CABLE

4268-438-FIT-0295
4268-438-FE-0295

3/4"C, 1-2/C#16SH

4262-461-TT-0914

3/4"C, 1-2/C#16SH

4262-461-TT-0909

2"C, 20#14, 1#14G

I/O TERMINAL BOX

BIOSOLIDS BUILDING

1"C ETHERNET CABLE

4262-100-PQM-0001 SBG
4262-100-PQM-002 SBH
4262-100-PQM-003 MCC-CEN-A
4262-100-PQM-004 MCC-CEN-B
4262-100-PQM-0005 MCC-CEN-C
OWS-CENT THIN CLIENT CONTROL ROOM

INDIRA PJETROVIC
LICENSED
03/01/2024
- 21910 -
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL AND INSTRUMENT RISER DIAGRAM - II

PROJECT NO. 2395-267343
FILE NAME: E011NFRD.DWG

SHEET NO.
E-11

ISSUED FOR BID

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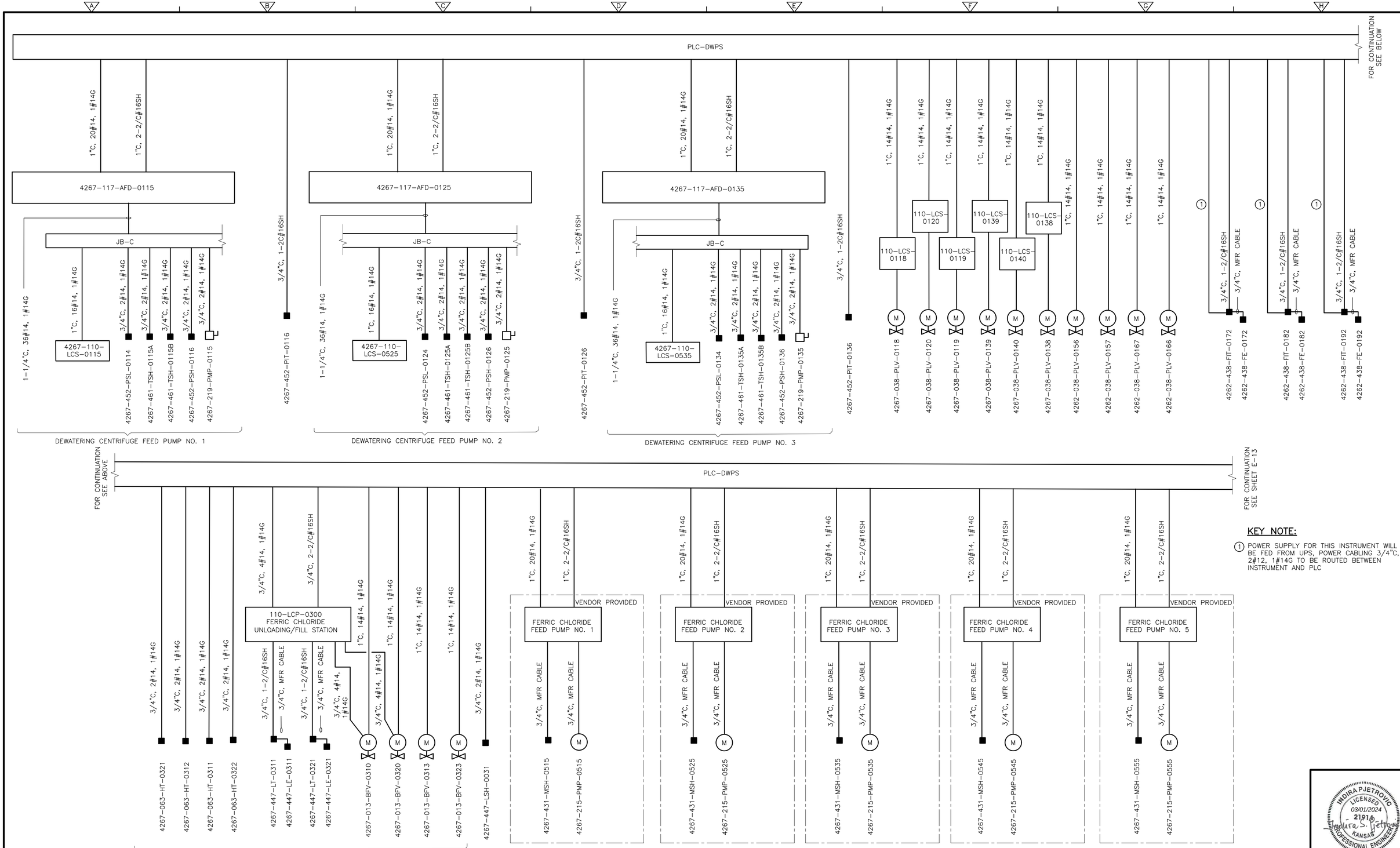

KEY NOTE:

(1) POWER SUPPLY FOR THIS INSTRUMENT WILL BE FED FROM UPS, POWER CABLING 3/4"C, 2#12, 1#14G TO BE ROUTED BETWEEN INSTRUMENT AND PLC

INDIRA PJETROVIC
LICENSED
03/01/2024
21918
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL AND INSTRUMENT RISER DIAGRAM-III

PROJECT NO. 2395-267343
FILE NAME: E012NFRD

SHEET NO.
E-12

ISSUED FOR BID

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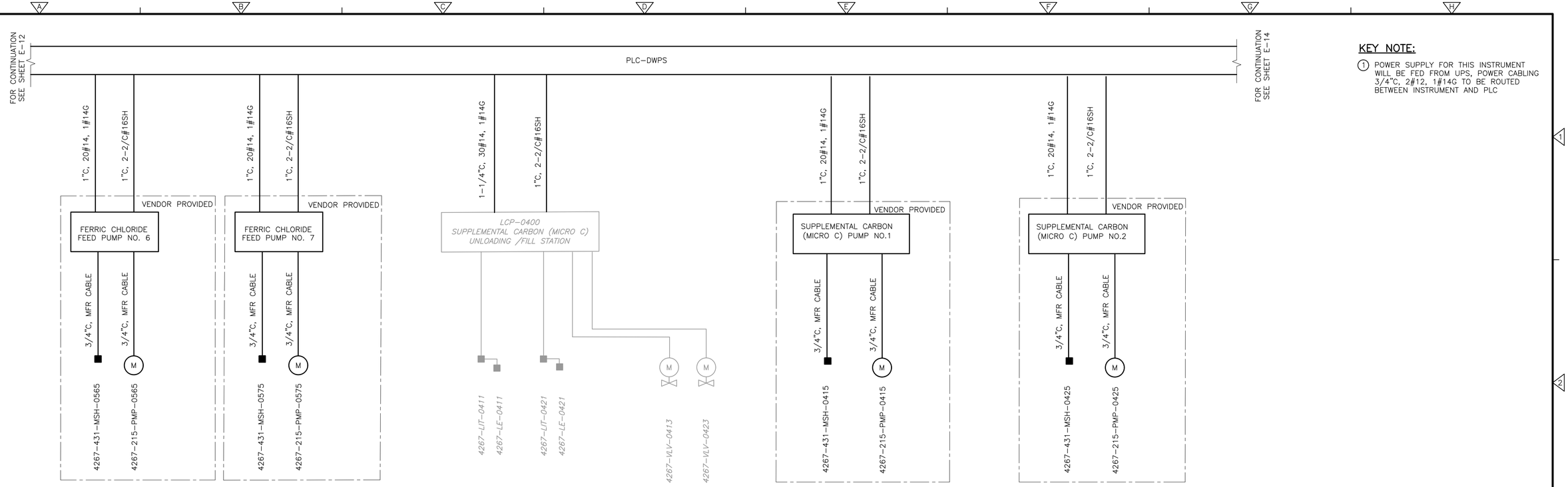

KEY NOTE:

1. POWER SUPPLY FOR THIS INSTRUMENT WILL BE FED FROM UPS, POWER CABLING 3/4"C, 2#12, 1#14G TO BE ROUTED BETWEEN INSTRUMENT AND PLC

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B.BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL AND INSTRUMENT RISER DIAGRAM-IV

INDIRA PJETROVIC LICENSED 03/01/2024 21918 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: E013NFRD

SHEET NO.
E-13

ISSUED FOR BID

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KEY NOTE:

(1) POWER SUPPLY FOR THIS INSTRUMENT WILL BE FED FROM UPS, POWER CABLING 3/4"C, 2#12, 1#14G TO BE ROUTED BETWEEN INSTRUMENT AND PLC

FOR CONTINUATION SEE SHEET E-13

PLC-DWPS

- 3/4"C, 12#14, 1#14G → 4267-770-VAP-0905 VENTILATION ALARM PANEL
  - 3/4"C, 2#14, 1#14G → 777-MAU-0902 MAKEUP AIR UNIT NO. 1
  - 3/4"C, 2#14, 1#14G → 4267-132-MS-0925 EXHAUST FAN MOTOR STARTER(MCC-CEN-C)
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4267-0906
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4267-0907
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4267-0908
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4267-0909
  - 3/4"C, 2#14, 1#14G → HORN/BEACON PANEL → 4267-0910
- 3/4"C, 1-2/C#16SH → 4267-461-TT-0909
- 3/4"C, 4#14, 1#14G → 110-LCP-0912 TEPID WATER SKID LOCAL CONTROL PANEL
  - 3/4"C, 2#14, 1#14G → 4267-512-FS-0914
  - 3/4"C, 1-2/C#16SH → 4267-461-TT-0913
- 3/4"C, 2#14, 1#14G → 713-AFU-0915 AIR FILTRATION UNIT NO. 1
- 1"C ETHERNET CABLE → 4267-100-PQM-0001 MCC-D
- 2"C FO CABLE
- 3/4"C, 2#14, 1#14G → 4267-063-HT-0115
- 3/4"C, 2#14, 1#14G → 4267-063-HT-0125
- 3/4"C, 2#14, 1#14G → 4267-063-HT-0135
- 3/4"C, 2#14, 1#14G → 4267-063-HT-0153
- 3/4"C, 2#14, 1#14G → 4267-063-HT-0163

FOPP-BNR → 2"C FO CABLE → FOPP-BB

CONTROL ROOM CARD READER → 1"C BELDEN CABLE → SACP

FOPP-SEPT → 2"C FO CABLE

ESW-CENT 2
- 1"C ETHERNET CABLE → 7492-743 CAM-0409
- 1"C ETHERNET CABLE → 7492-743 CAM-0408
- 1"C ETHERNET CABLE → 7492-743 CAM-0407
- 1"C ETHERNET CABLE → 7492-743 CAM-0410

1"C FO CABLE

FOR CONTINUATION SEE SHEET E-11

PLC-CENT

- 3/4"C, 12#14, 1#14G → 4262-770-VAP-0905 VENTILATION ALARM PANEL
  - 3/4"C, 2#14, 1#14G → 777-MAU-0902 MAKEUP AIR UNIT NO. 1
  - 3/4"C, 2#14, 1#14G → 4267-132-MS-0925 EXHAUST FAN MOTOR STARTER (MCC-CEN-C)
  - 3/4"C, 2#14, 1#14G → 4267-132-MS-0930 EXHAUST FAN MOTOR STARTER (MCC-CEN-C)
  - 3/4"C, 2#14, 1#14G → 777-MAU-0911 MAKEUP AIR UNIT NO. 2
  - 3/4"C, 2#14, 1#14G → 4267-132-MS-0940 EXHAUST FAN MOTOR STARTER (MCC-CEN-C)
  - 3/4"C, 2#14, 1#14G → 4267-132-MS-0935 EXHAUST FAN MOTOR STARTER (MCC-CEN-C)
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4262-0906
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4262-0907
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4262-0908
  - 3/4"C, 2#14, 1#14G → BEACON PANEL → 4262-0909
  - 3/4"C, 2#14, 1#14G → HORN/BEACON PANEL → 4262-0910
- 1"C, 2-2/C#16SH
- 3/4"C, 4#14, 1#14G → 500-FAP-0900 FIRE ALARM PANEL
- 3/4"C, 2#14, 1#14G → 713-AFU-0915 AIR FILTRATION UNIT NO. 1
- 3/4"C, 2#14, 1#14G → 713-AFU-0916 AIR FILTRATION UNIT NO. 2
- 3/4"C, 4#14, 1#14G → 110-LCP-0912 TEPID WATER SKID LOCAL CONTROL PANEL
  - 3/4"C, 2#14, 1#14G → 4267-512-FS-0914
  - 3/4"C, 1-2/C#16SH → 4267-461-TT-0913
- 3/4"C, 1-2/C#16SH → 4262-461-TT-0909
- (1) 3/4"C, 2/14, 1#14G → 4262-499-ZS-0405
- 2"C, 14#14, 1#14G → 110-LCS-0402
  - 1"C, 14#14, 1#14G → (M) → 4262-038-BFV-0402
  - 1"C, 2-2/C#16SH
- 2"C, 2-2/C#16SH
- 3/4"C, 2/14, 1#14G → 4262-498-FS-0406
- 3/4"C, 2/14, 1#14G → 4262-447-LSH-0410

TRUCK WASH

INDIRA PJETROVIC LICENSED 03/01/2024 21918 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: SANIYA
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

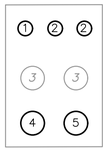
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL AND INSTRUMENT RISER DIAGRAM-V

PROJECT NO. 2395-267343
FILE NAME: E014NFRD

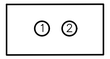
SHEET NO.
E-14

ISSUED FOR BID



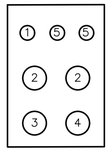
SECTION 1 E-4
NTS

(K3) (1) 2"C., FIBER OPTIC
(2) 2"C., SPARE
(3) *5"C., SPARE*
(K3) (4) P-SWGR1-1
5"C., 3#2/0 (15KV), 1#1/0G
(K3) (5) P-SWGR2-4
5"C., 3#2/0 (15KV), 1#1/0G



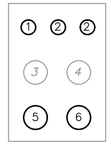
SECTION 2 E-4
NTS

(1) 2"C., FIBER OPTIC
(2) 2"C., SPARE



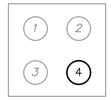
SECTION 3 E-4 (K1)
NTS

(1) 2"C., FIBER OPTIC
(2) 5"C., SPARE
(3) P-SWGR1-1
5"C., 3#2/0 (15KV), 1#1/0G
(4) P-SWGR2-4
5"C., 3#2/0 (15KV), 1#1/0G
(5) 2"C., SPARE



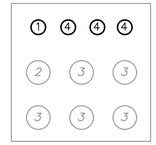
SECTION 4 E-4
NTS

(K3) (1) 2"C., FIBER OPTIC
(2) 2"C., SPARE
(3) P-MSWG-1
5"C., 3#750KCMIL (15KV),
1#250KCMIL G
(4) P-MSWG-2
5"C., 3#750KCMIL (15KV),
1#250KCMIL G
(K3) (5) P-SWGR1-1
5"C., 3#2/0 (15KV), 1#1/0G
(K3) (6) P-SWGR2-4
5"C., 3#2/0 (15KV), 1#1/0G



SECTION 5 E-4
NTS

(1) P-SWG1-4
4"C., 3#2/0 (15KV), 1#1/0G
(2) P-SWG2-2
4"C., 3#2/0 (15KV), 1#1/0G
(3) *4" C., SPARE*
(K3) (4) 4"C., FIBER OPTIC



SECTION 6 E-4
NTS

(K3) (1) 2"C., FIBER OPTIC
(2) P-SWG1-4
4" C., 3#2/0 (15KV), 1#1/0G,
(3) *4" C., SPARE*
(4) 2"C., SPARE

GENERAL NOTES:

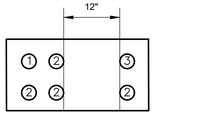
1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION. PROVIDE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.

KEY NOTES:

(K1) ADDITIONAL DUCTBANK RUNS IN PARALLEL WITH THIS. REFER TO E1.B3 SECTION 1. CIRCUITS SHOWN IN E1.B3 SECTION 1 CAN BE CONSOLIDATED WITH THIS DUCTBANK.

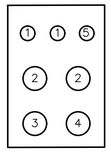
(K2) REFER TO OI-8 FOR MORE INFO.

(K3) NEW CABLE IN EXISTING CONDUIT.



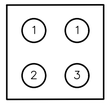
SECTION 7 E-4 (K1)
NTS

(1) 2"C., DIGITAL SIGNALS
14#14
(2) 2"C., SPARE
(3) 2"C., ANALOG SIGNALS
2-2/C#16SH



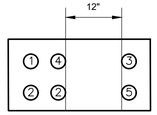
SECTION 8 E-4
NTS

(1) 2"C., FIBER OPTIC
(2) 5"C., SPARE
(3) P-SWGR1-1
5"C., 3#2/0 (15KV), 1#1/0G
(4) P-SWGR2-4
5"C., 3#2/0 (15KV), 1#1/0G
(5) 2"C., SPARE



SECTION 9 E-4
NTS

(1) 5"C., SPARE
(2) P-SWGR1-1
5"C., 3#2/0 (15KV), 1#1/0G
(3) P-SWGR2-4
5"C., 3#2/0 (15KV), 1#1/0G



SECTION 10 E-4
NTS

(1) 2"C., DIGITAL SIGNALS
14#14
(2) 2"C., FIBER OPTIC
(3) 2"C., ANALOG SIGNALS
2-2/C#16TS
(4) BIOSOLIDS BUILDING I/O
TERMINAL BOX CONNECTIONS
20#14, 1#14G
(5) 2"C., SPARE

SECTION 11 E-4
NTS

(1) 2"C., FIBER OPTIC
(2) 2"C., SPARE

SECTION 12 E-4
NTS

(1) 2"C., FIBER OPTIC
(K2) (2) 2"C., BIOSOLIDS BUILDING I/O
TERMINAL BOX CONNECTIONS
20#14, 1#14G
(3) 2"C., SPARE

INDIRA PJETROVIC
LICENSED
03/01/2024
21918
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. RUIZ
DRAWN BY: T. RUIZ
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DUCTBANKS
ELECTRICAL
DUCTBANK SCHEDULE

PROJECT NO. 2395-267343
FILE NAME: E016DTSC.DWG

SHEET NO.
E-16

ISSUED FOR BID

XREFs: [CDMS_2234] Images: []
Last saved by: RUIZTP Time: 2/23/2024 1:41:53 PM
C:\Users\ruiztp\ACCDocs\CDM Smith Inc\2395-267343 - Wichita Plant 2 BNR\Project Files\09 Electrical (E)\10 CADD\Package 4\CDMS\E016DTSC.dwg
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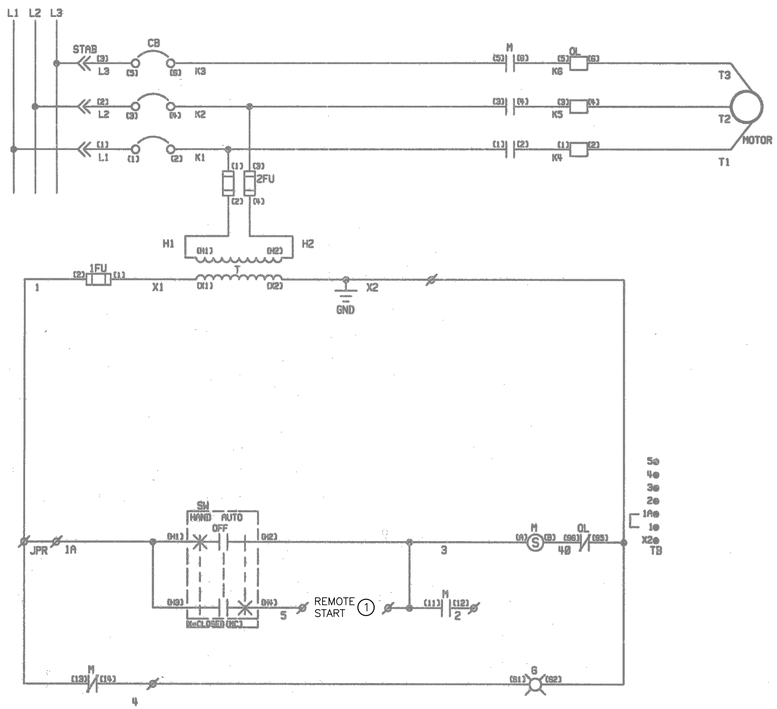
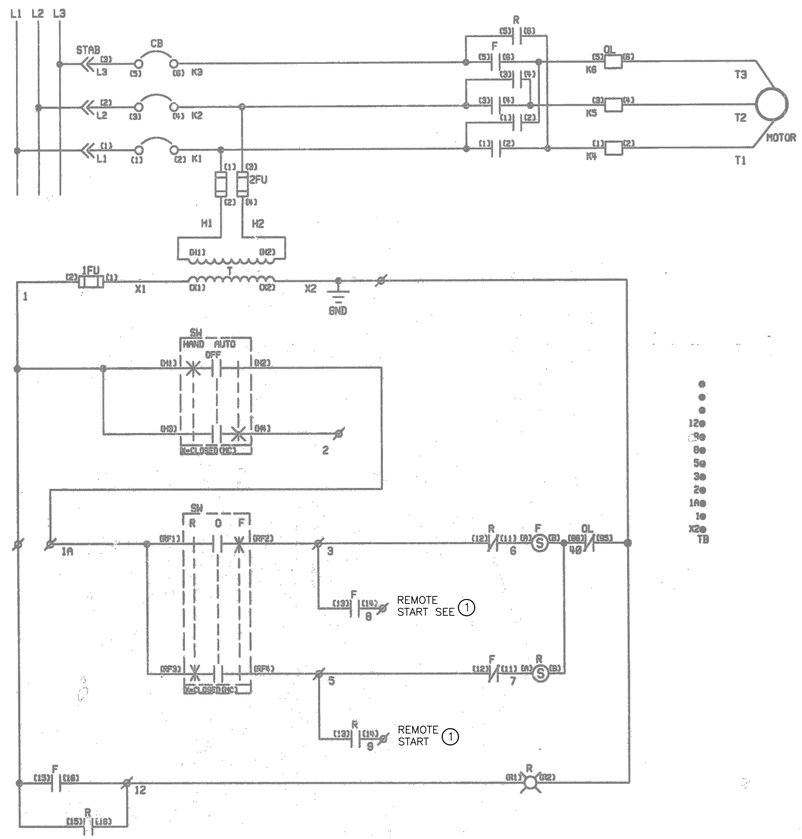


SCHEMATIC 1
NTS



SCHEMATIC 2
NTS

GENERAL NOTES:

1. THE SCHEMATICS ARE OBTAINED FROM UNVERIFIED RECORD DRAWINGS. TRACE ALL WIRING TO CONFIRM THE FUNCTIONALITY OF ALL MCC BUCKETS.
2. EXTEND EXISTING CONTROLS WIRING TO REMOTE DEVICES AND RECONNECT TO NEW MCC BUCKETS.

KEY NOTES:

(1) CONTRACTOR TO VERIFY ALL WIRING FOR EXISTING MCC AND WIRE NEW MCC TO OPERATE THE SAME AS EXISTING.

(2) VERIFY REMOTE START INPUT WIRING PRIOR TO MCC REPLACEMENT.

(3) VERIFY REMOTE FORWARD, REVERSE AND STOP WIRING FROM BELT PRESS CONVEYOR CONTROL PANEL IN DEWATERING SUPPORT BUILDING PRIOR TO MCC REPLACEMENT.

(4) INSTALL MOTION FAILURE ALARM EQUIVALENT TO EXISTING MILLTRONICS MFA-4 AND PROVIDE WIRING TO EXISTING PROBE AT CONVEYOR. SEE SHEET PD-603 FOR DETAILS.

LOAD	NOTE 1	SCHEMATIC	NOTES
SC-10	SIZE 1 FVR	2	
SG-1	SIZE 1 FVR	2	(4)
SG-2	SIZE 1 FVR	2	
SG-3	SIZE 1 FVR	2	
SC-6	SIZE 1 FVR	2	(4)
SC-7	SIZE 1 FVR	2	(4)
SC-8	SIZE 1 FVR	2	(4)
SC-9	SIZE 1 FVR	2	(4)
#504 HEATER FAN	SIZE 1	1	
SC-5	SIZE 1 FVR	2	(4)
EF-5	SIZE 1	1	
EF-6	SIZE 1	1	
EF-7	SIZE 1	1	
UH #16	SIZE 1	1	
AIR-COMP	SIZE 2	1	
SG-4	SIZE 1 FVR	2	
SG-5	SIZE 1 FVR	2	
SG-6	SIZE 1 FVR	2	
SG-7	SIZE 1 FVR	2	
SF-503	SIZE 1	1	

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: M. ELANGOVAN
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

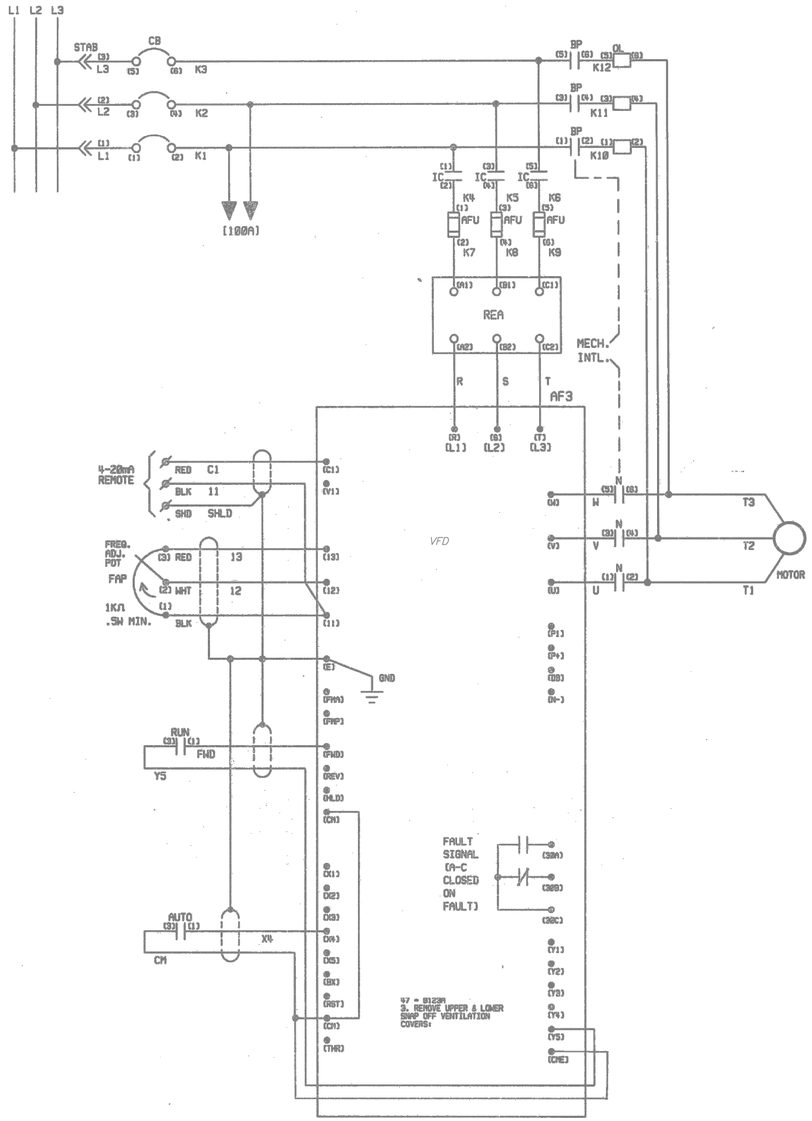
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

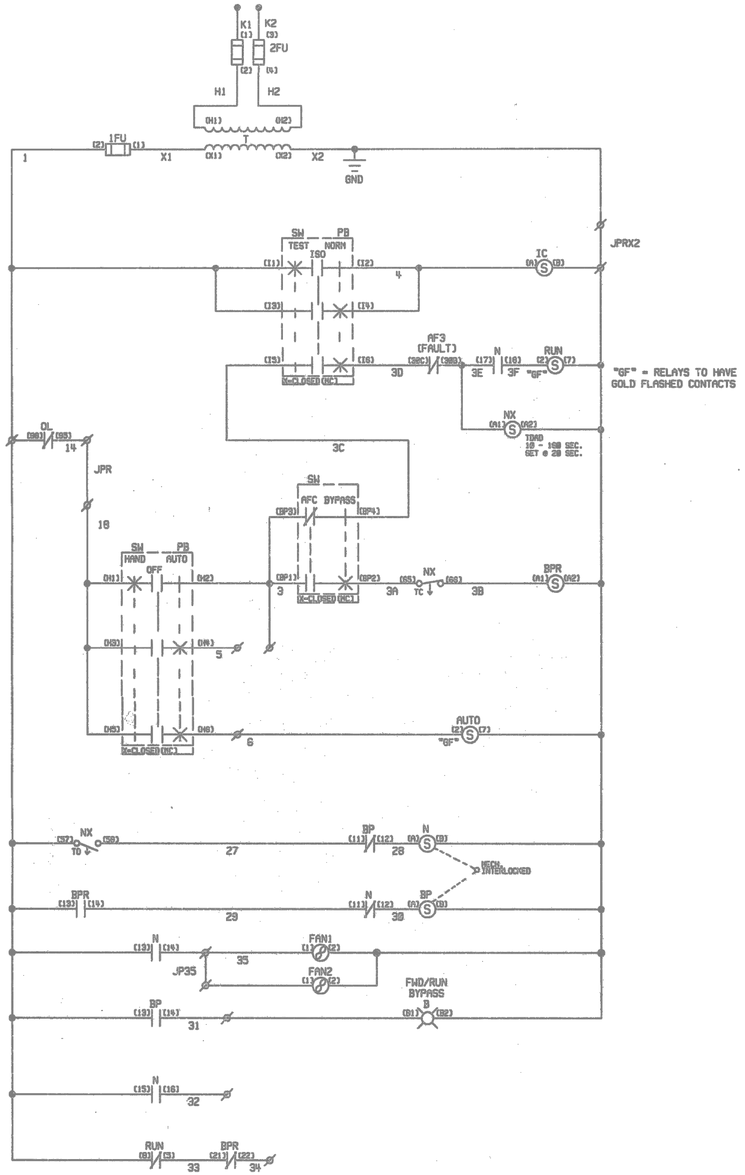
ELECTRICAL
CONTROL SCHEMATICS MCC-D REPLACEMENT-I

INDIRA PJETROVIC LICENSED 03/01/2024 21914 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: E017NFCD.DWG
SHEET NO. E-17

ISSUED FOR BID





SCHEMATIC 1
NTS

GENERAL NOTES:

1. THE SCHEMATICS ARE OBTAINED FROM UNVERIFIED RECORD DRAWINGS. TRACE ALL WIRING TO CONFIRM THE FUNCTIONALITY OF ALL MCC BUCKETS.
2. EXTEND EXISTING CONTROLS WIRING TO REMOTE DEVICES AND RECONNECT TO NEW MCC BUCKETS.

KEY NOTES:

(1) CONTRACTOR TO VERIFY ALL WIRING FOR EXISTING MCC AND WIRE NEW MCC TO OPERATE THE SAME AS EXISTING.

(2) PROVIDE VFD FOR CONVEYOR EQUIVALENT TO EXISTING GE AF-300E$. VERIFY WIRING OF EXISTING REMOTE VFD CONTROL AT CONVEYOR CONTROL PANEL. SEE SHEET PD-603 FOR DETAILS.

(3) INSTALL MOTION FAILURE ALARM EQUIVALENT TO EXISTING MILLTRONICS MFA-4 AND PROVIDE WIRING TO EXISTING PROBE AT CONVEYOR. SEE SHEET PD-603 FOR DETAILS.

LOAD	NOTE 1	SCHEMATIC	NOTES
SC-4 WEST AUGER SOUTH MOTOR	VFD	1	SEE NOTE 2&3
SC-3 EAST AUGER SOUTH MOTOR	VFD	1	SEE NOTE 2&3
SC-2 WEST AUGER NORTH MOTOR	VFD	1	SEE NOTE 2&3
SC-1 EAST AUGER NORTH MOTOR	VFD	1	SEE NOTE 2&3

INDIRA PJETROVIC LICENSED 03/01/2024 21914 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: BRIAN BYRD
DRAWN BY: M. ELANGOVAN
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
CONTROL SCHEMATICS MCC-D REPLACEMENT-II

PROJECT NO. 2395-267343
FILE NAME: E018NFCD.DWG
SHEET NO. E-18

ISSUED FOR BID

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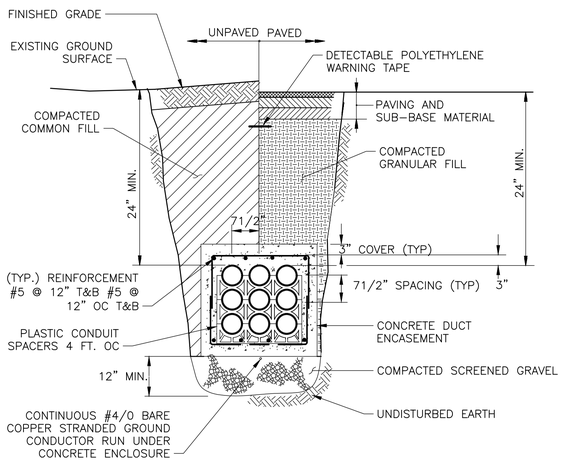
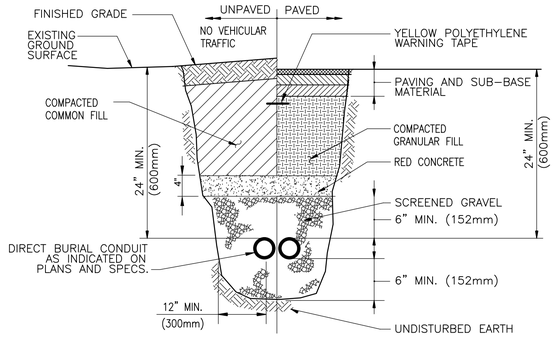


UNDERGROUND POWER DUCT BANK

DETAIL A

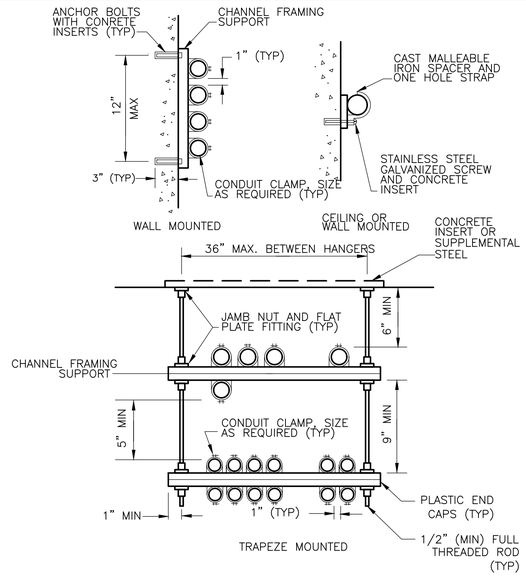
NTS



DIRECT BURIAL CONDUIT

DETAIL B

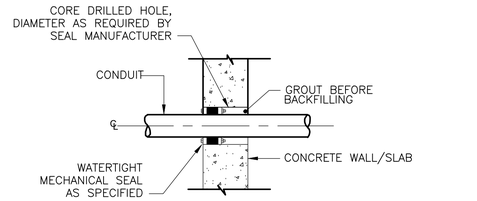
NTS



CONDUIT MOUNTING

DETAIL C

NTS

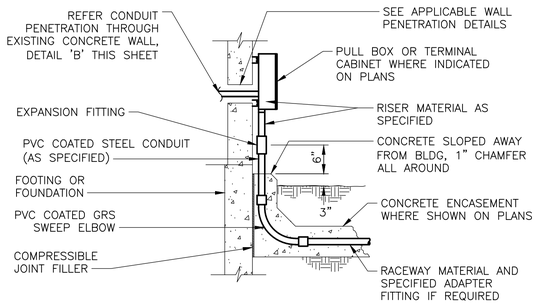


NOTE:
CARE SHALL BE TAKEN TO AVOID DAMAGING EXISTING REINFORCEMENT. PRIOR TO CORE DRILLING FIELD LOCATE REINFORCEMENT IN THE AREA OF CONDUIT PENETRATIONS.

CONDUIT PENETRATION
THROUGH EXISTING CONCRETE WALL/SLAB

DETAIL D

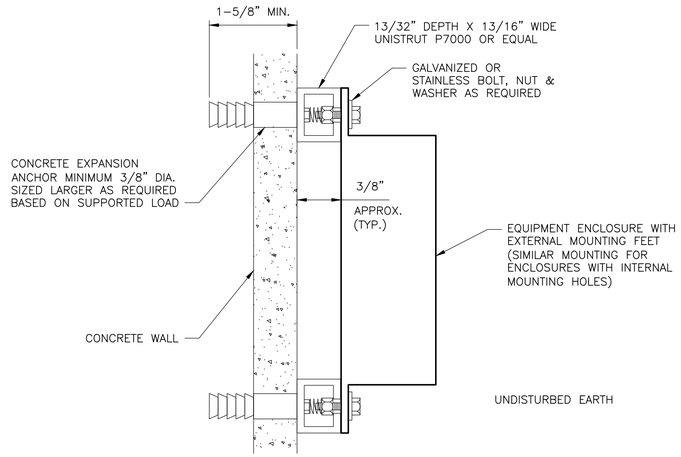
NTS



ABOVE GRADE CONDUIT PENETRATIONS THROUGH
EXISTING BUILDING OR STRUCTURE

DETAIL E

NTS



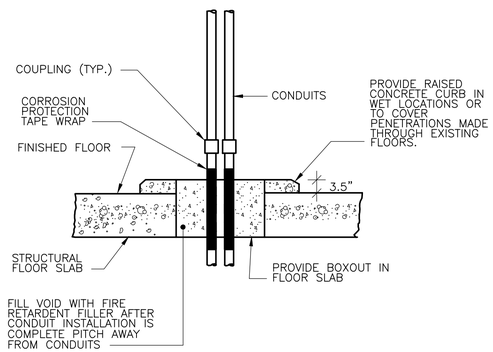
NOTE:

1. APPLICABLE FOR ALL NON CAST-IRON ENCLOSURES OR BOXES

EQUIPMENT ENCLOSURE MOUNTED ON CONCRETE WALL

DETAIL F

NTS



TYPICAL CONDUIT FLOOR PENETRATION

DETAIL G

N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: C. BREWSTER
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL DETAILS-I

PROJECT NO. 2395-267343
FILE NAME: EZ001NFDT.DWG

SHEET NO.
EZ-1

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

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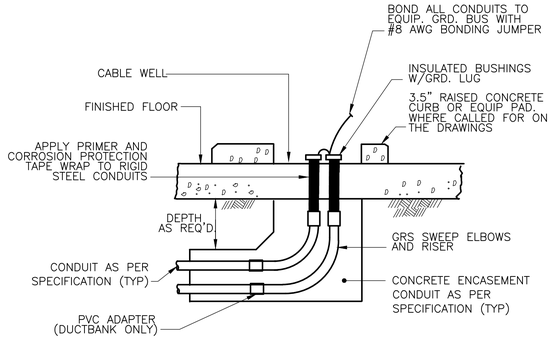
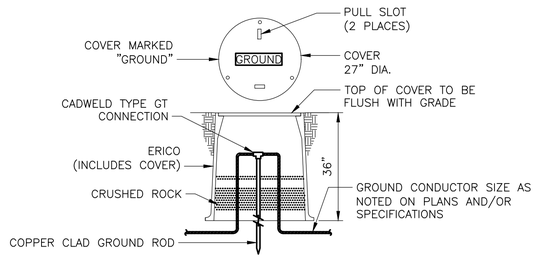


TYPICAL CONDUIT STUB–UP FROM BELOW FLOOR SLAB

DETAIL H
N.T.S.

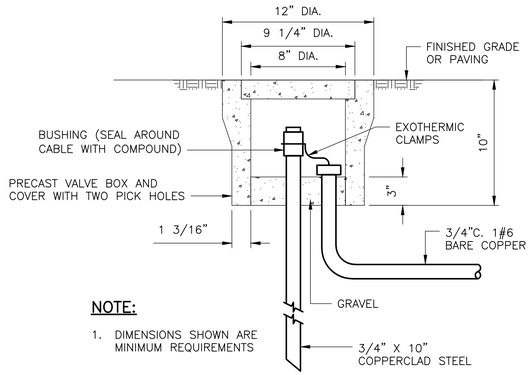


NOTE:

1. TO IMPROVE SYSTEM RESISTANCE, ERICO GEM MAY BE USED AS A BACKFILL MATERIAL IN AN AUGERED HOLE

GROUND ROD TEST WELL

DETAIL J
NTS

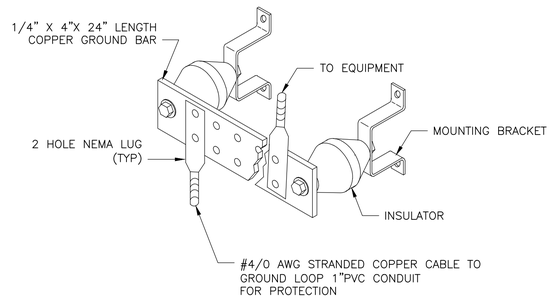


NOTE:

1. DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS

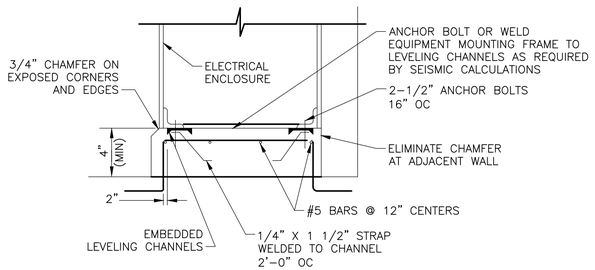
GROUND ROD

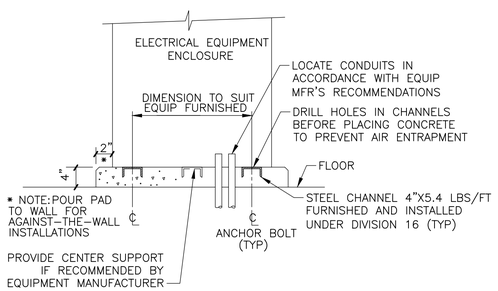
DETAIL K
NTS



GROUND BAR

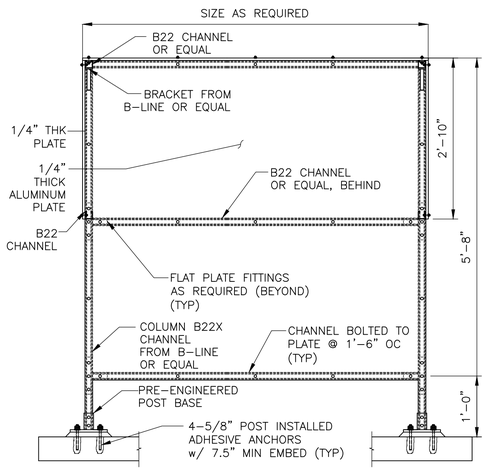
DETAIL L
NTS





ELECTRICAL EQUIPMENT PAD

DETAIL M
NTS

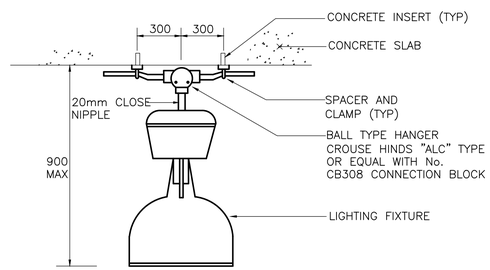


NOTES:

1. ALL MATERIAL SHALL BE 316 STAINLESS STEEL.

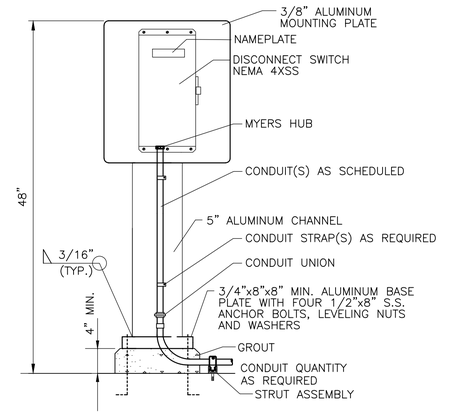
EQUIPMENT SUPPORT STRUCTURE

DETAIL N
NTS



HIGH BAY LIGHT FIXTURE

DETAIL O
NTS



UNCLASSIFIED LOCATION

NOTES:

1. PROVIDE DISCONNECT WITH AUXILIARY CONTACT.
2. PUSHBUTTONS AS REQUIRED.
3. CONTRACTOR TO DESIGN MOUNTING STAND. MINIMUM DIMENSIONS ARE SHOWN.
4. SUBMITTALS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.

MOUNTING STAND

DETAIL P
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: C. BREWSTER
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: A. JONES
CROSS CHK'D BY: C. BREWSTER
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

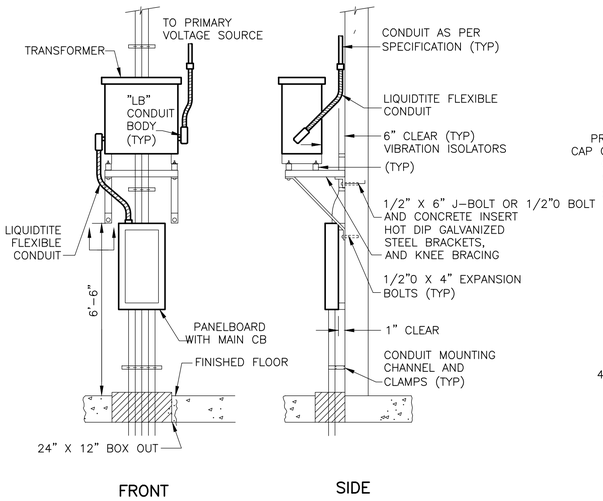
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL DETAILS-II

PROJECT NO. 2395–267343
FILE NAME: EZ002NFDT.DWG

SHEET NO.
EZ-2

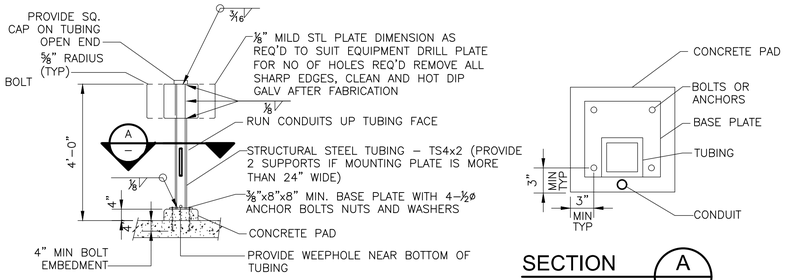
CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

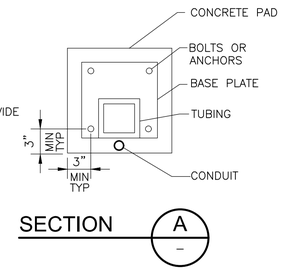


WALL-MOUNTED TRANSFORMER AND PANELBOARD

DETAIL Q

N.T.S.



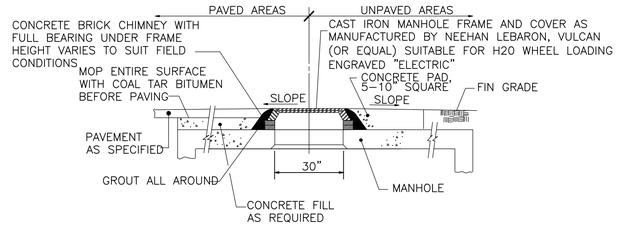


SECTION A

CONTROL STATION MOUNTING STAND

DETAIL R

NTS

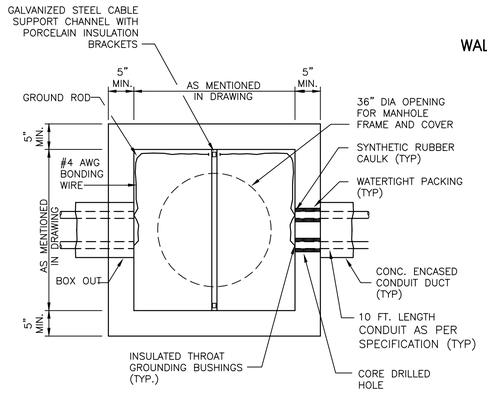


NOTE: FINAL GRADING SHALL PROVIDE ADEQUATE DRAINAGE AWAY FROM MANHOLE COVER IN ALL DIRECTIONS

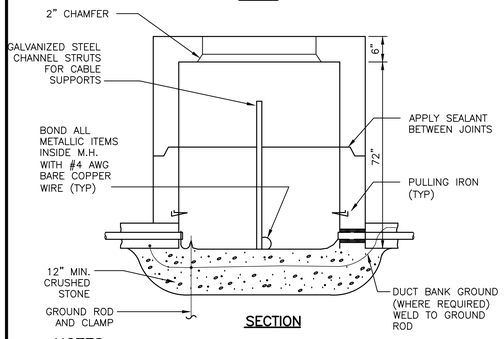
MANHOLE FRAME AND COVER

DETAIL S

N.T.S.



PLAN



SECTION

NOTES:

BOND ALL METALLIC ITEMS INSIDE EHH TO GROUND W/MIN. #4 AWG BARE COPPER CABLE UNO.

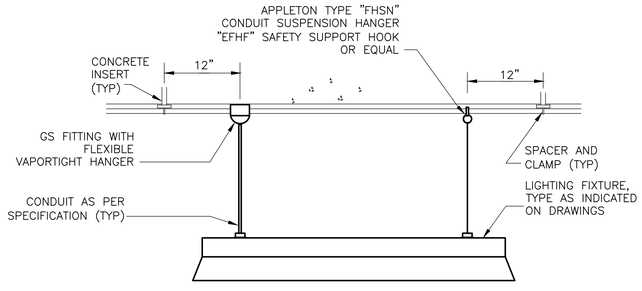
HANDHOLES SHALL BE REINFORCED FOR H20 WHEEL LOAD.

CABLES SHALL BE RACKED ON PORCELAIN INSULATION CLAMPS.

ELECTRICAL HANDHOLE (EHH)

DETAIL T

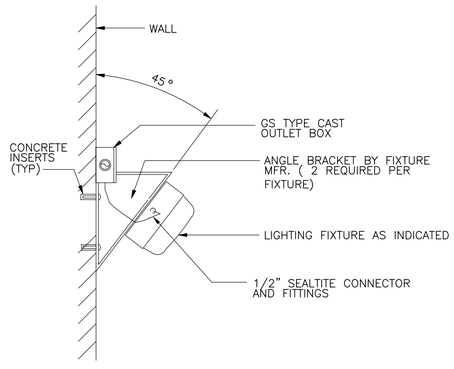
NTS



PENDANT MOUNTED LIGHTING FIXTURE

DETAIL U

N.T.S.



FIXTURE MOUNTING DETAIL

DETAIL V

NTS

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DESIGNED BY: C. BREWSTER
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: A. JONES
CROSS CHK'D BY: C. BREWSTER
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
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CITY OF WICHITA, KS

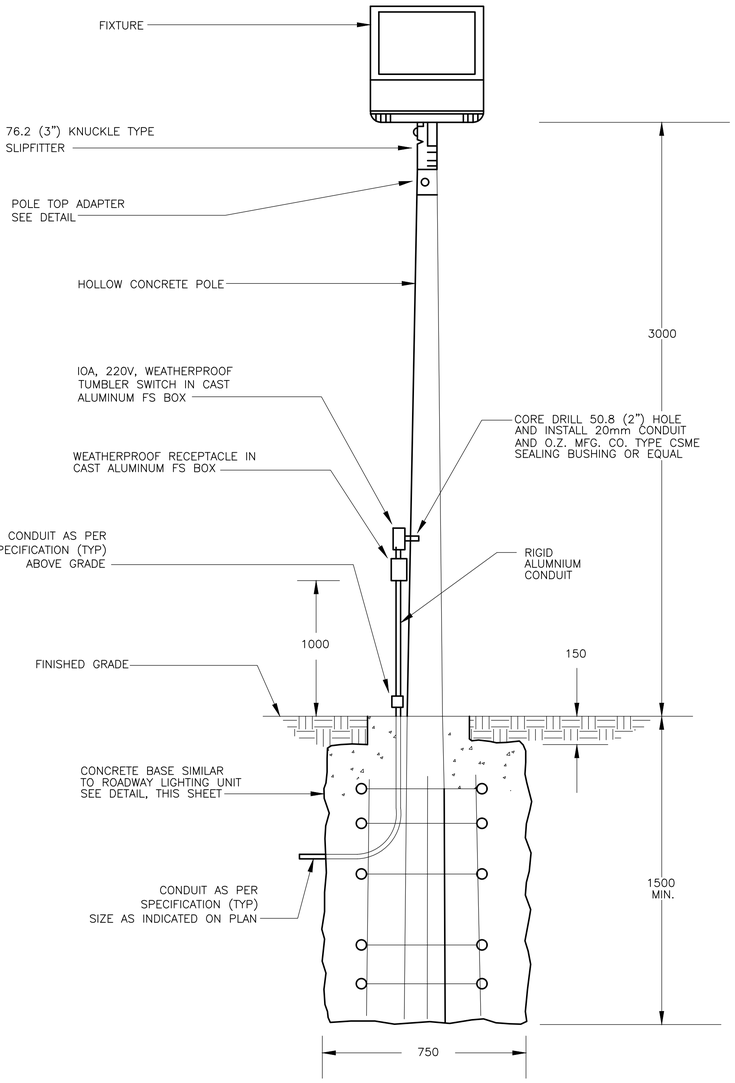
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL DETAILS-III

PROJECT NO. 2395-267343
FILE NAME: EZ003NFDT.DWG

SHEET NO.
EZ-3

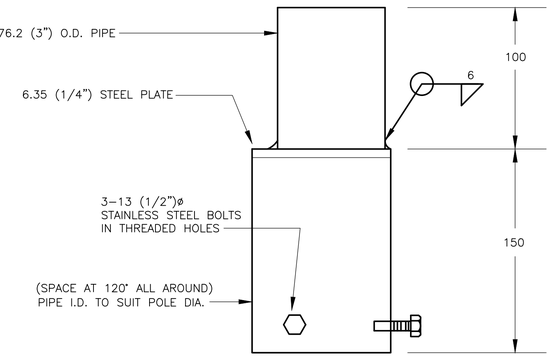
CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024



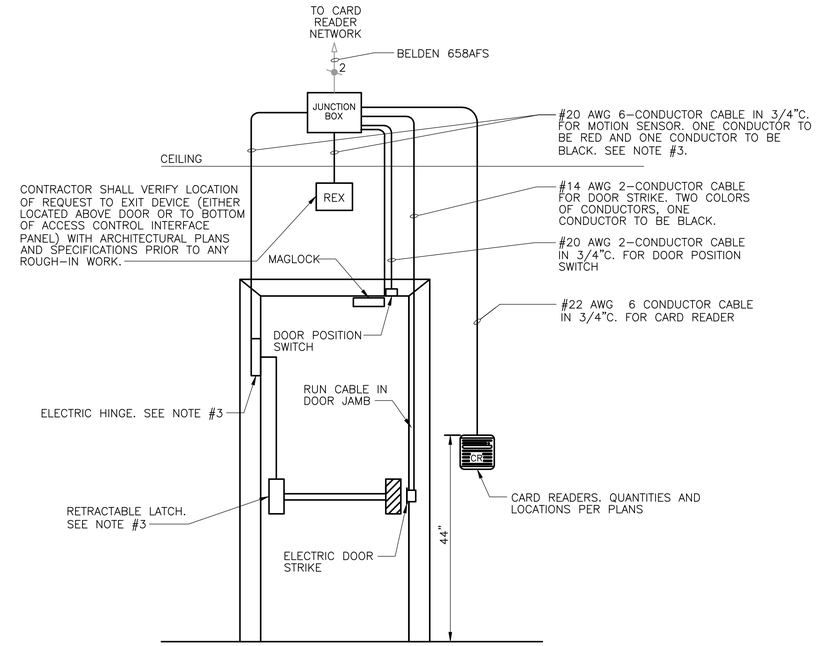
POLE MOUNTED FLOODLIGHT

NOTES:

1. HOT DIP GALVANIZED ENTIRE SUPPORT ASSEMBLY AFTER FABRICATION BUT BEFORE THREADING BOLT HOLES.
2. GRIND CONCRETE POLE IF NECESSARY TO MOUNT SUPPORT ASSEMBLY.



POLE TOP ADAPTER



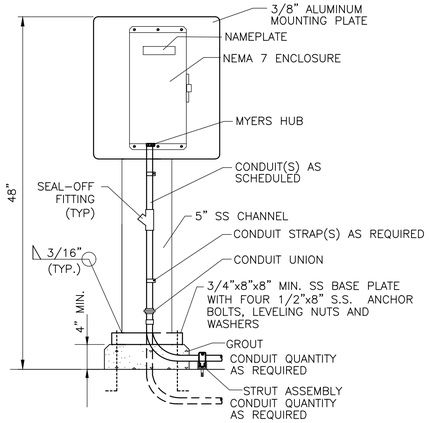
NOTES:

1. VERIFY DOOR TYPE WITH ARCHITECTURAL DOOR HARDWARE SCHEDULE.
2. VERIFY MOUNTING OF ELECTRIC STRIKES IN DOUBLE DOORS WITH ARCHITECT PRIOR TO ANY ROUGH-IN WORK.
3. PROVIDE ROUGH-IN FOR RETRACTABLE LATCH OR ELECTRIC STRIKE. VERIFY REQUIREMENTS WITH DOOR SUPPLIER PRIOR TO ROUGH-IN.

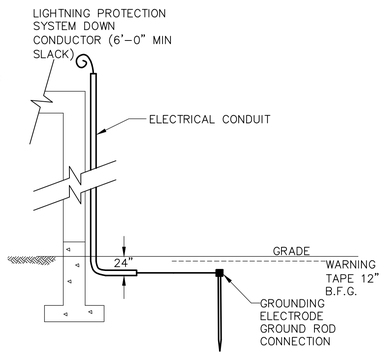
DOOR CONTROL ACCESS DETAIL

DETAIL Y / –

NTS



HAZARDOUS LOCATION



LIGHTNING PROTECTION DOWN CONDUCTOR

DETAIL Z / –

NTS

POLE MOUNTED FLOODLIGHT

DETAIL W / –

N.T.S.

MOUNTING STAND

DETAIL X / –

NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
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DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL DETAILS-IV

PROJECT NO. 2395-267343
FILE NAME: EZ004NFDT.DWG

SHEET NO.
EZ-4

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

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GENERAL INSTRUMENT OR FUNCTION SYMBOLS

SHARED DISPLAY/ SHARED CONTROL				
PRIMARY CHOICE	SECONDARY CHOICE	COMPUTER SOFTWARE	DISCRETE	LOCATION AND ACCESSIBILITY
◯	◇	⬡	◯	FIELD MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◯	◇	⬡	◯	PRIMARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◯	◇	⬡	◯	PRIMARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE
◯	◇	⬡	◯	SECONDARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◯	◇	⬡	◯	SECONDARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE

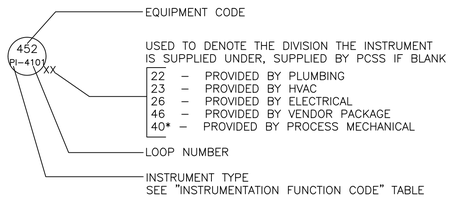
◯◯ INSTRUMENTS SHARING COMMON HOUSING

◯ PILOT LIGHT

MISCELLANEOUS SYMBOLS

- (M) MOTOR
- (M) VARIABLE SPEED MOTOR
- MCC — INDICATES INTERLOCK OR LOGIC IN A MOTOR CONTROL CENTER
- I — INDICATES GENERAL OR MISCELLANEOUS HARDWIRED INTERLOCK
- MS — MOTOR STARTER
- AFD — ADJUSTABLE FREQUENCY DRIVE
- XXYY — CAMERA – FIXED (XX–PACKAGE NO. YY–CAMERA NO.)
- XXYY — CAMERA – PTZ (XX–PACKAGE NO. YY–CAMERA NO.)
- SMCP — SECURITY MASTER CONTROL PANEL
- SACP — SECURITY ACCESS CONTROL PANEL
- SWS — SECURITY WORKSTATION
- R — CARD READER

TYPICAL TAG NUMBERS & DESIGNATION



INSTRUMENTATION FUNCTION CODE

	FIRST LETTERS		SUCCEEDING LETTERS		
	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
	MEASURED/INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSED
D	USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL, ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED (1)	X–AXIS	ACCESSORY DEVICES, UNCLASSIFIED (1)	UNCLASSIFIED (1)	UNCLASSIFIED (1)
Y	EVENT, STATE, PRESENCE	Y–AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z–AXIS, SAFETY INSTRUMENT SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED, FINAL CONTROL ELEMENT	

TABLE NOTES:
(1) WHEN USED SYMBOL OR SIGNAL LINE IS ANNOTATED.

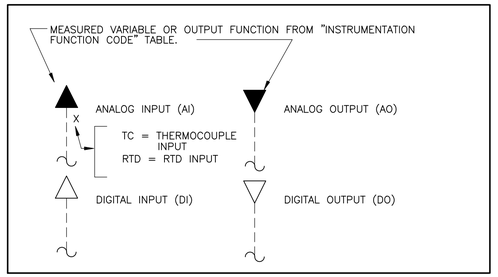
INSTRUMENT LINE SYMBOLS

- ELECTRICAL SIGNAL
- TELEPHONE SIGNAL
- ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
- ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)
- PNEUMATIC SIGNAL
- CAPILLARY TUBE
- HYDRAULIC SUPPLY
- VENDOR SUPPLIED CABLE
- COMMUNICATION LINK – COPPER (HARDWIRED)
- COMMUNICATION LINK – FIBER OPTICS
- E (S) — ELECTRIC (OR STEAM) TRACING

ELECTRICAL / AIR SOURCES

- UPS — UPS POWERED ELECTRICAL SOURCE
- ES — ELECTRICAL SOURCE
- IA — INSTRUMENT AIR SOURCE

I/O SIGNALS



PRIMARY ELEMENTS

- FE (M) — MAGNETIC FLOW METER
- FE — TURBINE OR PROPELLER FLOW METER
- FE — AVERAGING PITOT TUBE
- FE — ULTRASONIC FLOW METER
- FE — ROTAMETER
- WEIR (FE)
- ORIFICE PLATE (FE)
- VENTURI TUBE (FE)
- FLUME (FE)
- FE, X — GENERAL INSERTION FLOW METER (IM=INSERT MAG)
- FE — THERMAL MASS FLOW METER
- LE — FLOAT SWITCH
- LE — ULTRASONIC LEVEL SENSOR
- LE — RADAR LEVEL SENSOR
- LE — CAPACITANCE LEVEL SENSOR
- PI — PRESSURE GAUGE
- PDI — DIFFERENTIAL PRESSURE GAUGE
- TI — TEMPERATURE GAUGE
- AE, X — GENERAL ANALYZER (pH=pH; DO=DISSOLVED OXYGEN; H2S=HYDROGEN SULFIDE; LEL=% LOWER EXPLOSIVE LIMIT; 02=OXYGEN; 03=OZONE; NH3=AMMONIA; TURB=TURBIDITY; FL=FLUORIDE)
- LE — TUNING FORK LEVEL SWITCH

GENERAL NOTES

1. THIS LEGEND APPLIES TO P&IDS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.

2. IN GENERAL THIS LEGEND SHEET AND THE P&IDS ARE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS AND RECOMMENDED PRACTICES FOR INSTRUMENTATION AND CONTROL. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.

3. SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE P&IDS.

4. SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.

5. LIGHTER WEIGHT LINES, SHOWN AS ———— , INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE EXISTING OR OUTSIDE OF THE SCOPE OF THIS PACKAGE. WEIGHTED LINES, SHOWN AS ———— OR HEAVIER ———— , INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE NEW. DASHED WEIGHTED LINES, SHOWN AS ———— , INDICATED EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE GROUPED AS A PACKAGE.

GENERAL ABBREVIATIONS

AFD	ADJUSTABLE FREQUENCY DRIVE
AI	ANALOG IN
AO	ANALOG OUT
AWS	ACCESS WORKSTATION
BWS	BUSINESS WORKSTATION
CPU	CENTRAL PROCESSOR UNIT
DI	DIGITAL OR DISCRETE INPUT
DO	DIGITAL OUTPUT
ESW	ETHERNET SWITCH
FC	FAIL CLOSED
FO	FAIL OPEN OR FIBER OPTIC
FOPP	FIBER OPTIC PATCH PANEL
HIM	HUMAN INTERFACE MODULE
HMI	HUMAN MACHINE INTERFACE
MCC	MOTOR CONTROL CENTER
MM FOC	MULTIMODE FIBER OPTIC CABLE
NC	NORMALLY CLOSED
NPW	NON–POTABLE WATER
NO	NORMALLY OPEN
OIT	OPERATOR INTERFACE TERMINAL
OWS	OPERATOR WORKSTATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PQM	POWER QUALITY METER
PW	PLANT WATER
RIO	REMOTE INPUT/OUTPUT
SCR	SILICON CONTROLLED RECTIFIER
SWS	SECURITY WORKSTATION
UPS	UNINTERRUPTIBLE POWER SUPPLY

HAND SWITCH ABBREVIATIONS

AO = AUTO/OFF		LOR = LOCAL/OFF/REMOTE
AM = AUTO/MANUAL		LOS = LOCKOUT/STOP
CM = COMPUTER/MANUAL		LA = LOCAL/AUTO
CL = COMPUTER/LOCAL		LR = LOCAL/REMOTE
E–STOP = EMERGENCY STOP		OC = OPEN/CLOSE
FR = FORWARD/REVERSE		OCA = OPEN/CLOSE/AUTO
FOR = FORWARD/OFF/REVERSE		OO = ON/OFF
FS = FAST/SLOW		OOA = ON/OFF/AUTO
FOS = FAST/OFF/SLOW		OSC = OPEN/STOP/CLOSE
HOA = HAND/OFF/AUTO		RSL = RAISE/STOP/LOWER
LLS = LEAD/LAG/STANDBY		SS = START/STOP
LOC = LOCAL/OFF/COMPUTER		SOR = START/OFF/RESET

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DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

INSTRUMENTATION LEGEND I

PROJECT NO. 2395–267343
FILE NAME: I001NFLG.DWG

SHEET NO.
I-1

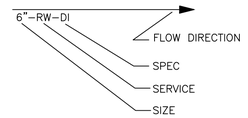
PIPE LINE SYMBOLS

- PIPE UNION
- FLEXIBLE BELLOWS TYPE COUPLING
- FLEXIBLE COUPLING (GENERAL SYMBOL)
- QUICK CONNECT TYPE COUPLING
- HOSE CONNECTION
- Y–STRAINER
- REDUCER/ENLARGER
- AIR FILTER/SILENCER
- PIPE MATERIAL TRANSFER (SS DI)
- THREADED CAP
- BLIND FLANGE
- CONTINUED PIPE
- CONCENTRIC FLANGE MOUNTED DIAPHRAGM SEAL
- THREADED DIAPHRAGM SEAL
- OPEN EQUIPMENT DRAIN
- BASKET STRAINER
- FILTER
- PULSATION DAMPNER
- RUPTURE DISC
- SILENCER
- MAJOR PROCESS LINE
- MINOR PROCESS LINE
- DOUBLE WALLED PIPE
- DRAWING CONTINUATION (DWG NO. / TO/FROM LOCATION)
- STOP PLATE
- WEIR
- VENTURI INJECTOR
- DIFFUSER
- BIRD SCREEN

VALVE SYMBOLS

- GATE VALVE (GV)
- PLUG VALVE (PLV)
- BUTTERFLY VALVE (BFV)
- BALL VALVE (VLV)
- BACK FLOW PREVENTER VALVE (VLV)
- GLOBE VALVE (VLV)
- PINCH VALVE (PIV)
- DIAPHRAGM VALVE (VLV)
- SWING CHECK VALVE (CV)
- BALL CHECK VALVE (CV)
- SOLENOID VALVE (SV) (S)
- TELESCOPIC VALVE (VLV)
- NEEDLE VALVE (VLV)
- KNIFE VALVE (KGV)
- MUD VALVE (VLV)
- TRIPLE DUTY VALVE (TV)
- PRESSURE REGULATING VALVE (RV)
- BACK PRESSURE REGULATING VALVE (RV)
- DIFFERENTIAL PRESSURE REGULATING VALVE W/ EXTERIOR TAPS
- SELF–CONTAINED DIFFERENTIAL PRESSURE REGULATING VALVE
- DAMPER
- PRESSURE RELIEF VALVE (RV)
- VACUUM RELIEF VALVE (RV)
- AIR–VACUUM RELEASE VALVE (RV)
- COMBINATION AIR VALVE (RV)

TYPICAL PIPE TAG NUMBERS & DESIGNATION



TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION

FOR EQUIPMENT TAG IDENTIFICATION REFER TO THE GENERAL LEGEND SHEETS

VALVE ACTUATORS

- HAND (MANUALLY) OPERATED
- DIAPHRAGM, SPRING OPPOSED
- DIAPHRAGM, PRESSURE–BALANCED
- ROTARY MOTOR. (SHOWN TYPICALLY WITH ELECTRIC SIGNAL. MAY BE HYDRAULIC OR PNEUMATIC) (M)
- SOLENOID (S)
- ELECTROHYDRAULIC (E/H)
- CYLINDER, SINGLE–ACTING, SPRING OPPOSED WITHOUT POSITIONER OR PILOT.
- SYMBOLIZES MOTORIZED ACTUATOR WITH LOR SWITCH, OPEN, STOP, AND CLOSE PUSHBUTTONS, STATUS LIGHTS AND POSITION FEEDBACK AND CONTROL AS REQUIRED. REFER TO VALVE SPECIFICATIONS FOR MORE DETAILED INFORMATION. (M)

GATE SYMBOLS

- SLUICE GATE (SDG)
- SLIDE GATE (SDG)
- WEIR SLIDE GATE
- BUTTERFLY GATE
- BULK HEAD GATE/STOP LOG

PROCESS EQUIPMENT SYMBOLS

PARTIAL LIST
ADDITIONAL SYMBOLS MAY BE SHOWN ON THE FLOW DIAGRAMS

- CENTRIFUGAL PUMP
- PERISTALTIC PUMP
- CALIBRATION COLUMN
- STATIC MIXER
- EMERGENCY SHOWER AND EYEWASH UNIT
- SOLENOID DIAPHRAGM METERING PUMP
- DRUM PUMP
- PROGRESSIVE CAVITY PUMP
- EDUCTOR
- CENTRIFUGAL BLOWER
- VERTICAL TURBINE PUMP
- SUBMERSIBLE PUMP
- MIXER
- ROTARY LOBE PUMP
- GAS BURNER
- GRINDER
- PROPELLER PUMP

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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CROSS CHK'D BY: M. MALLOY
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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

INSTRUMENTATION LEGEND II

PROJECT NO. 2395–267343
FILE NAME: I002NFLG.DWG

SHEET NO.
I-2

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TO PLANT 1

48 STRAND SM FOC

FOPP–PL1

ESXi ADMIN HOST SVR (ADMIN)
ESXi HOST SVR 1 (HOST 1)
ESXi HOST SVR 2 (HOST 2)
CORE ETHERNET SWITCH A (CES A)
ACCESS ETHERNET SWITCH A (AES A)
ACCESS ETHERNET SWITCH B (AES B)
CPP (NOTE 1)
FOPP (NOTE 2)
FIREWALL
UPS

PRIMARY SCADA SERVER RACK (PLANT NETWORK) (NOTE 6)

HMI THIN CLIENTS & PRINTERS

24 STRAND

(PACKAGE 3 SCOPE)

(SEE SHEET I–4)

12 STRAND SM FOC

48 STRAND SM FOC

12 STRAND SM FOC

PLC–ADMIN
PS
CPU
ENET
ENET
I/O
I/O
I/O

FOPP–ADMIN (NOTE 2)

ETHERNET/IP (NOTE 3)

FIBER OPTIC PATCH CABLE

ESW–ADMIN (NOTE 4)

UPS

UPS–ADMIN

ADMIN BUILDING PLC CABINET (PACKAGE 3 SCOPE)

ETHERNET SWITCH (NOTE 6)
SECURITY SERVER
FOPP–IT
ETHERNET SWITCH
CPP (NOTE 1)
UPS

IT SERVER RACK (BUSINESS AND SECURITY NETWORK)

AWS AND SWS THIN CLIENTS

SERVER ROOM (NOTE 9)

CONTROL ROOM (NOTE 9)

ADMIN BUILDING (PACKAGE 2 SCOPE)

(PACKAGE 3 SCOPE)
(PACKAGE 2 SCOPE)

7492–743–CAM–0202
7492–743–CAM–0201
CARD READER
FRONT ENTRANCE GATE
FIBER CONVERTER
FIBER CONVERTER ENCLOSURE (PACKAGE 2 SCOPE)

48 STRAND SM FOC

4 STRAND SM FOC

FOPP–THICK

THICKENING SUPPORT BUILDING (SEE I–5) (PACKAGE 2 SCOPE)

FOPP–DIG

DIGESTER FACILITY (SEE I–5) (PACKAGE 2 SCOPE)

CARD READER
CARD READER
7492–743–CAM–0207
7492–743–CAM–0208
7492–743–CAM–0209
7492–743–CAM–0218

TOOL CRIB
BACK PARKING LOT
FUEL ISLAND
FRONT PARKING LOT

(PACKAGE 3 SCOPE)
(PACKAGE 2 SCOPE)

48 STRAND SM FOC

FOPP–GEN
FOPP–HDW
FOPP–SEPT
FOPP–CENT
FOPP–BB

GENERATOR AREA (SEE I–10) (PACKAGE 2 SCOPE)
HEADWORKS ELECTRICAL BUILDING (SEE I–11) (PACKAGE 2 SCOPE)
SEPTAGE STATION BUILDING (SEE I–11) (PACKAGE 2 SCOPE)
CENTRIFUGE BUILDING (SEE I–10) (PACKAGE 4 SCOPE)
BIOSOLIDS BUILDING (SEE I–10) (PACKAGE 4 SCOPE)

FOPP–RDT
FOPP–DWPS
FOPP–ICC
FOPP–ELEC
FOPP–CLAR
FOPP–UV
FOPP–SPIRIT
FOPP–RAS1
FOPP–RAS2
FOPP–RAS3
FOPP–SSPS
FOPP–BNR

RDT BUILDING (SEE I–5) (PACKAGE 2 SCOPE)
DEWATERING SUPPORT BUILDING (SEE I–6) (PACKAGE 2 SCOPE)
ICC BUILDING (SEE I–6) (PACKAGE 2 SCOPE)
ELECTRICAL SUBSTATION NO. 1 (SEE I–6) (PACKAGE 2 SCOPE)
VERTICAL TURBINE BUILDING (SEE I–6) (PACKAGE 2 SCOPE)
UV BUILDING (SEE I–7) (PACKAGE 3 SCOPE)
SPIRIT REUSE PUMP STATION (SEE I–7) (PACKAGE 3 SCOPE)
RAS PUMP STATION AND BLOWER BUILDING NO. 1 (SEE I–8) (PACKAGE 3 SCOPE)
RAS PUMP STATION AND BLOWER BUILDING NO. 2 (SEE I–8) (PACKAGE 3 SCOPE)
RAS PUMP STATION AND BLOWER BUILDING NO. 3 (SEE I–9) (PACKAGE 3 SCOPE)
SSPS ELECTRICAL BUILDING (SEE I–9) (PACKAGE 3 SCOPE)
BNR BUILDING (SEE I–9) (PACKAGE 3 SCOPE)

NOTES:

1. ALL COPPER CABLES (CAT6A) TO THE SERVER RACKS SHALL LAND ON COPPER PATCH PANELS LOCATED IN EACH RACK. COPPER PATCH CABLES SHALL BE PROVIDED TO CONNECT TO THE SERVERS FROM THE PATCH PANELS.
2. *48 STRANDS FIBER OPTIC CABLE SHALL DEDICATE 12 STRANDS TO EACH NETWORK. STRANDS 1–12 FOR PLC/HMI NETWORK, STRANDS 13–24 FOR SECURITY NETWORK, STRANDS 25–36 FOR BUSINESS NETWORK, STRANDS 37–48 FOR SPARE NETWORK.*
3. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
4. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
   C) NETWORK MANAGEMENT
5. *THIS DRAWING PROVIDES AN OVERVIEW OF THE FIBER OPTIC NETWORK. REFER TO I–5 THROUGH I–11 PACKAGE DESIGNATIONS AND DETAILED NETWORK ARCHITECTURE.*
6. *COORDINATE WITH THE OWNER'S IT DEPARTMENT FOR RELOCATION OF EXISTING IT ETHERNET SWITCH.*
7. THE CONTRACTOR SHALL FURNISH 3 PHYSICAL SERVERS ESXi VMWARE CLUSTER TO HOST ALL THE VIRTUAL MACHINES AS SPECIFIED IN SPECIFICATION SECTION 406213.
8. *TWO ESXi HOSTS SHALL BE LOCATED IN THE PRIMARY SCADA SERVER RACK AT THE ADMIN BUILDING, AND THE THIRD ESXi HOST SHALL BE LOCATED IN THE SECONDARY SCADA SERVER RACK AT THE BNR BUILDING.*
9. CONTROL ROOM AND SERVER ROOM HARDWARE SHALL BE PROCURED, CONFIGURED, AND DELIVERED TO THE SITE ON PACKAGE 2. THE CONTRACTOR SHALL MAKE ATLEAST ONE WORKSTATION OPERATIONAL FOR PACKAGE 2 COMMISSIONING. HOWEVER, FINAL TESTING AND INSTALLATION OF THE HARDWARE SHALL BE PART OF PACKAGE 3.

KATHLEEN M. BUECHLER
LICENSED
19852
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

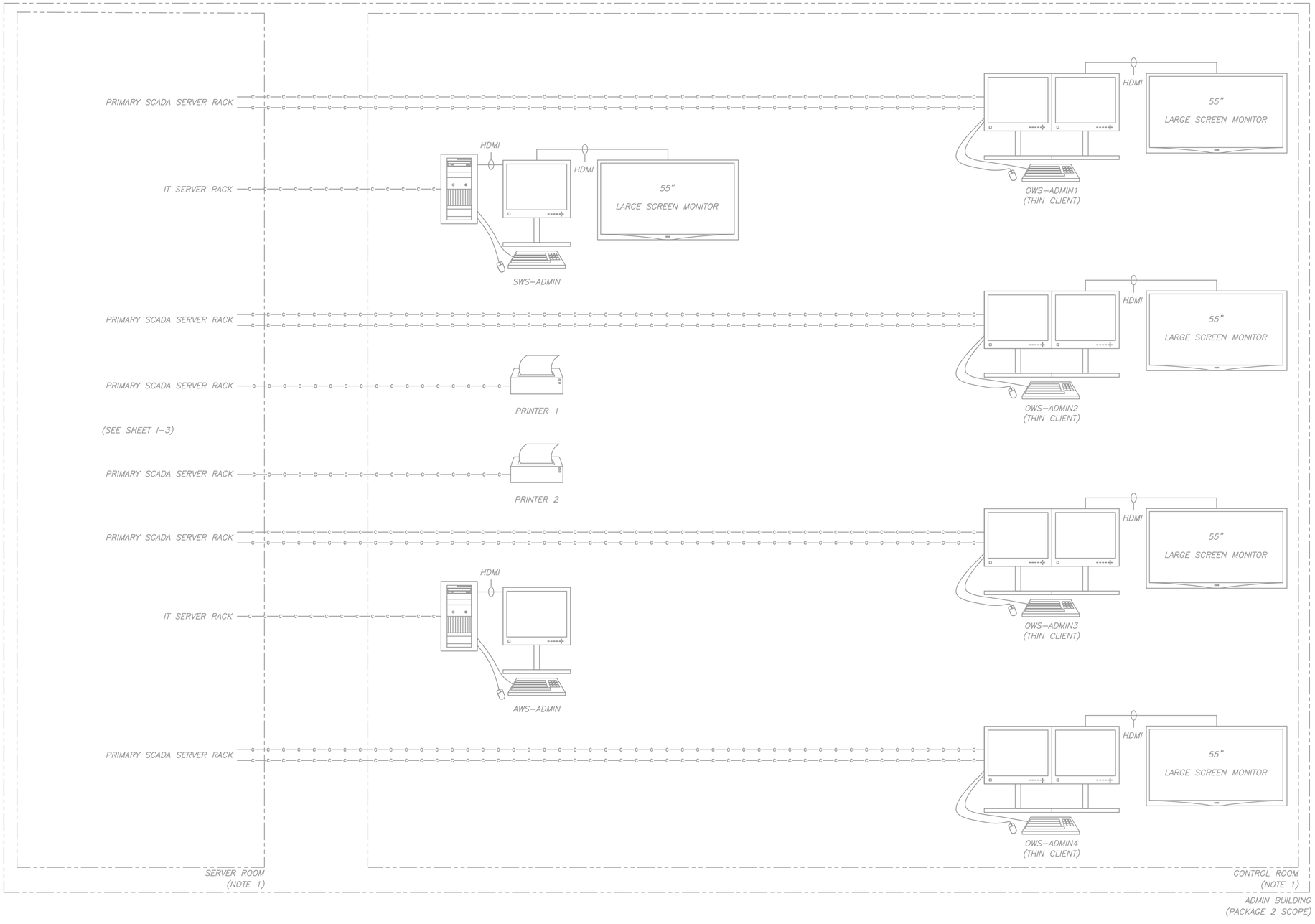
SYSTEM ARCHITECTURE I

PROJECT NO. 2395–267343
FILE NAME: I001NFSA.DWG

SHEET NO.
I-3

NOTES:

1. CONTROL ROOM AND SERVER ROOM HARDWARE SHALL BE PROCURED, CONFIGURED, AND DELIVERED TO THE SITE ON PACKAGE 2. THE CONTRACTOR SHALL MAKE ATLEAST ONE WORKSTATION OPERATIONAL FOR PACKAGE 2 COMMISSIONING. HOWEVER, FINAL TESTING AND INSTALLATION OF THE HARDWARE SHALL BE PART OF PACKAGE 3.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

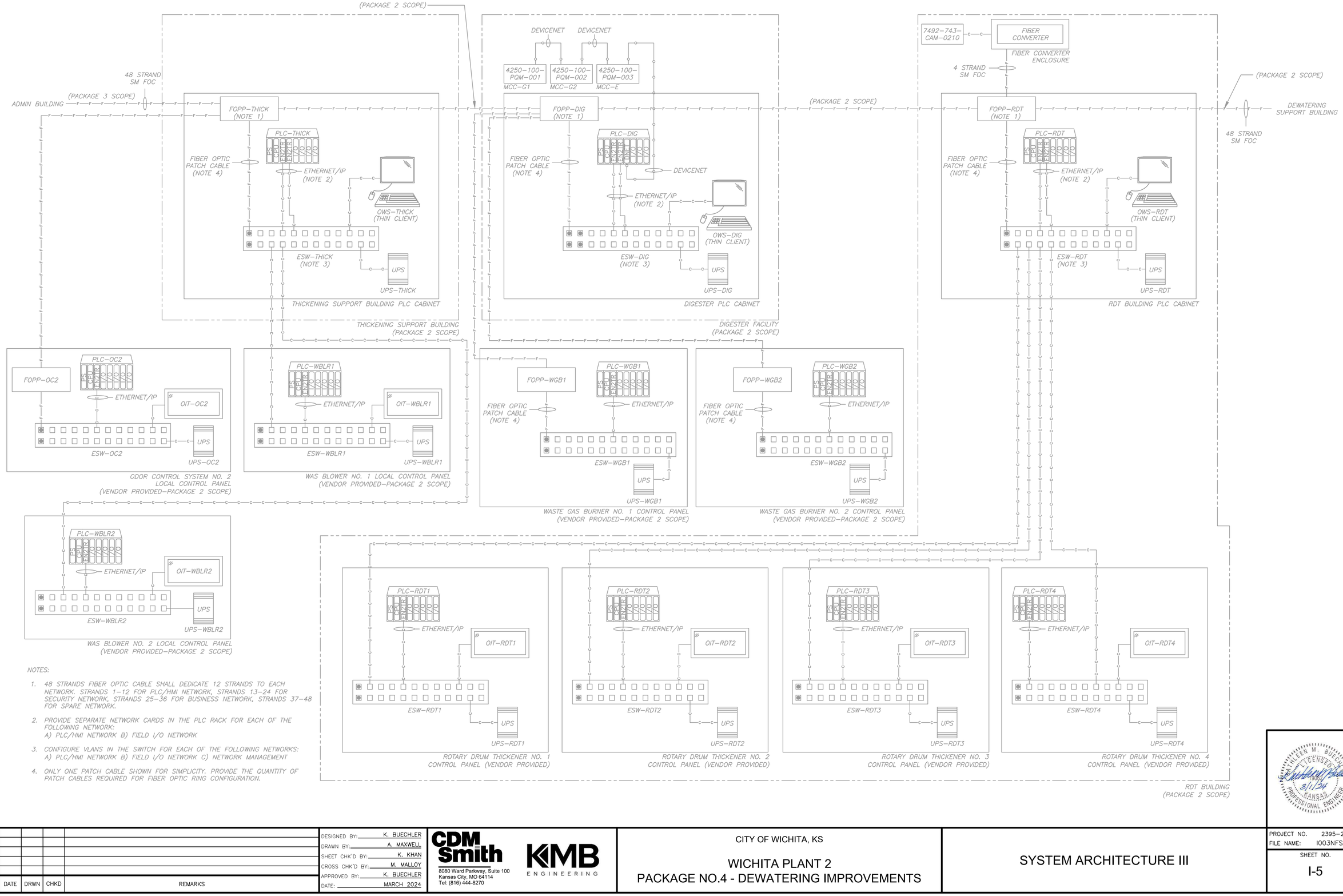
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE II

KATHLEEN M. BUECHLER
LICENSED
2/1/24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I002NFSA.DWG

SHEET NO.
I-4



NOTES:

1. 48 STRANDS FIBER OPTIC CABLE SHALL DEDICATE 12 STRANDS TO EACH NETWORK. STRANDS 1–12 FOR PLC/HMI NETWORK, STRANDS 13–24 FOR SECURITY NETWORK, STRANDS 25–36 FOR BUSINESS NETWORK, STRANDS 37–48 FOR SPARE NETWORK.
2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE III

KATHLEEN M. BUECHLER
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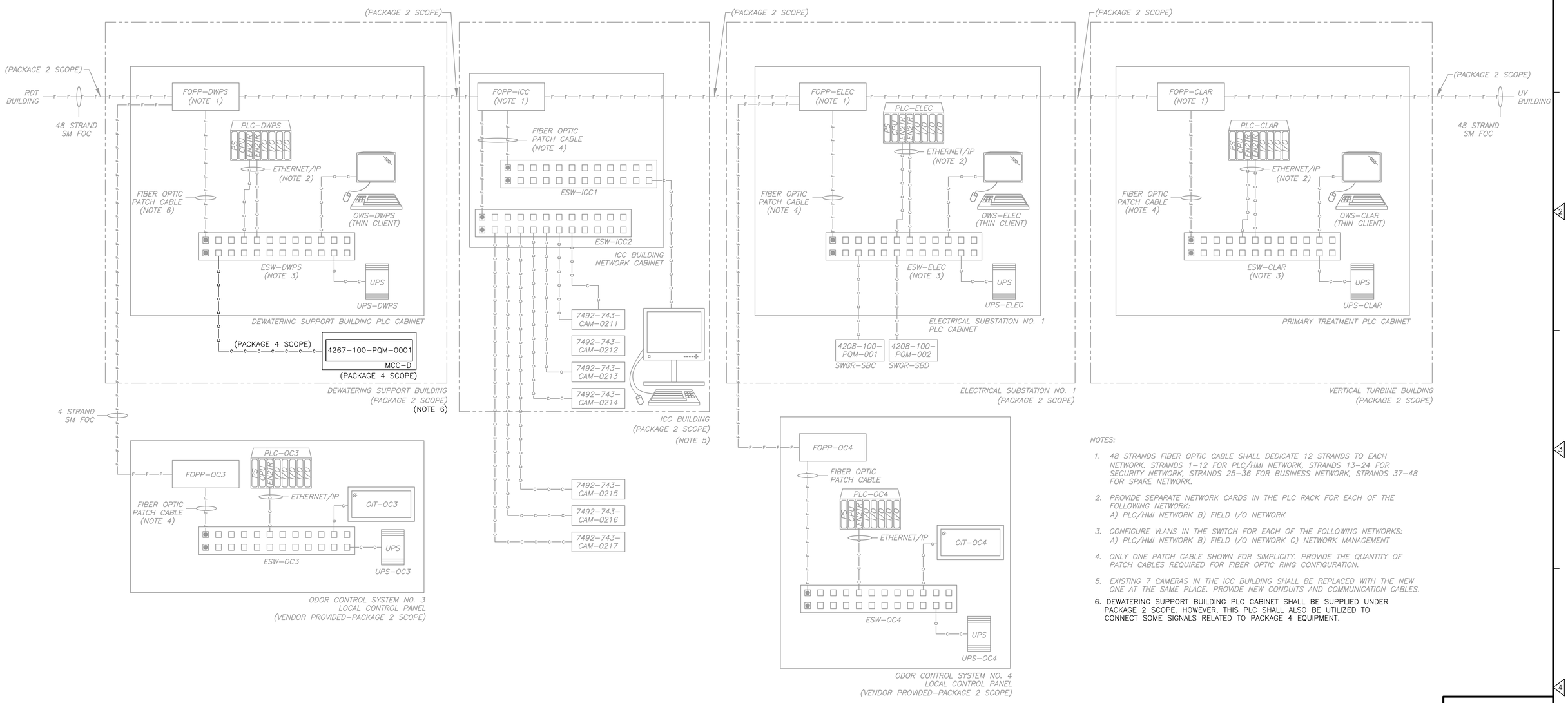
19002
3/1/24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: I003NFSA.DWG

SHEET NO.
I-5



NOTES:

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2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.
5. EXISTING 7 CAMERAS IN THE ICC BUILDING SHALL BE REPLACED WITH THE NEW ONE AT THE SAME PLACE. PROVIDE NEW CONDUITS AND COMMUNICATION CABLES.
6. DEWATERING SUPPORT BUILDING PLC CABINET SHALL BE SUPPLIED UNDER PACKAGE 2 SCOPE. HOWEVER, THIS PLC SHALL ALSO BE UTILIZED TO CONNECT SOME SIGNALS RELATED TO PACKAGE 4 EQUIPMENT.

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DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE IV

PROJECT NO. 2395–267343
FILE NAME: I004NFSA.DWG

SHEET NO.
I-6

KATHLEEN M. BUECHLER — LICENSED — 25051 — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

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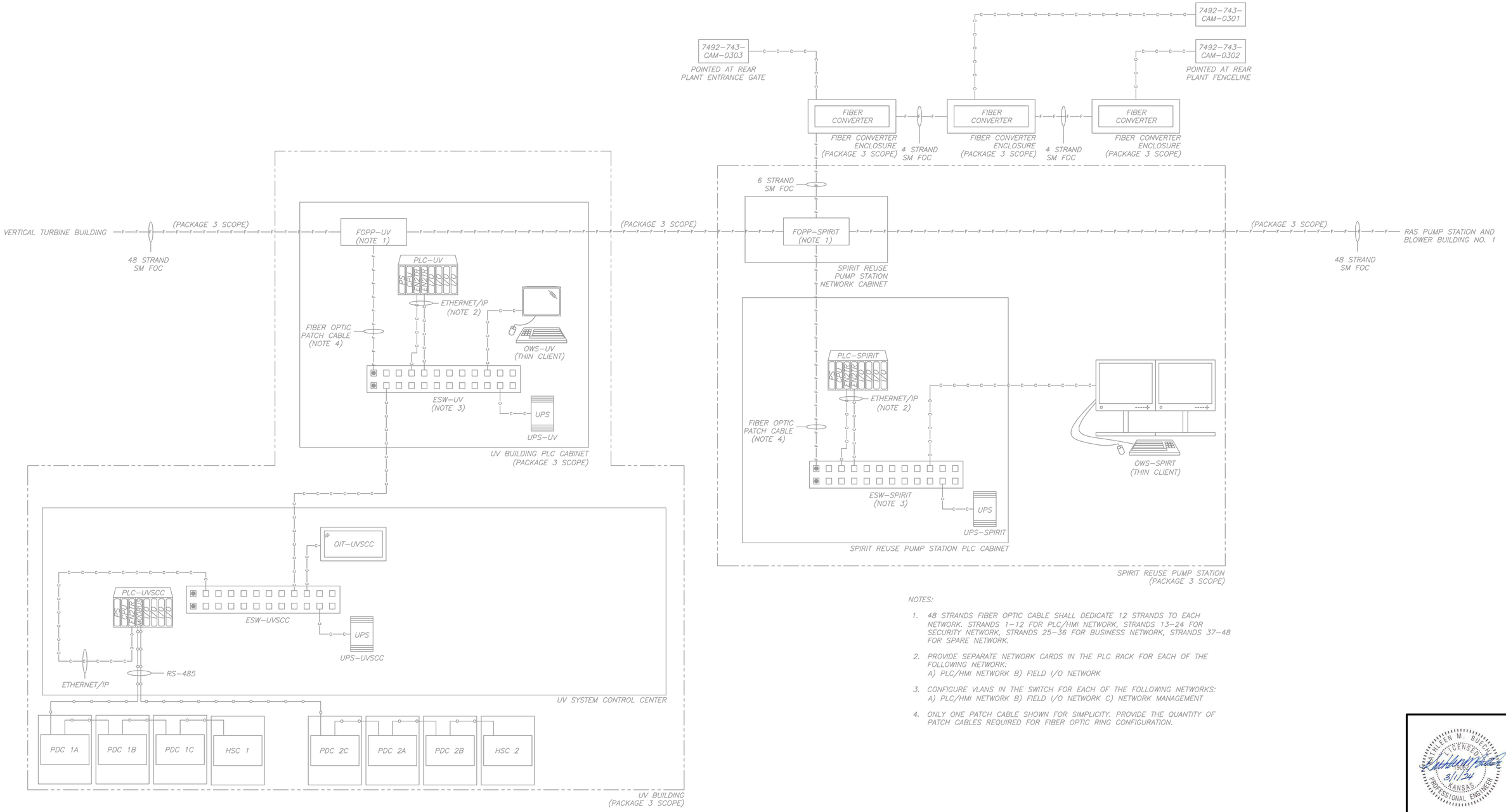

NOTES:

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2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
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DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE V

KATHLEEN M. BUECHLER LICENSED 19883 3/1/24 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I005NFSA.DWG

SHEET NO.
I-7

NOTES:

1. 48 STRANDS FIBER OPTIC CABLE SHALL DEDICATE 12 STRANDS TO EACH NETWORK. STRANDS 1–12 FOR PLC/HMI NETWORK, STRANDS 13–24 FOR SECURITY NETWORK, STRANDS 25–36 FOR BUSINESS NETWORK, STRANDS 37–48 FOR SPARE NETWORK.
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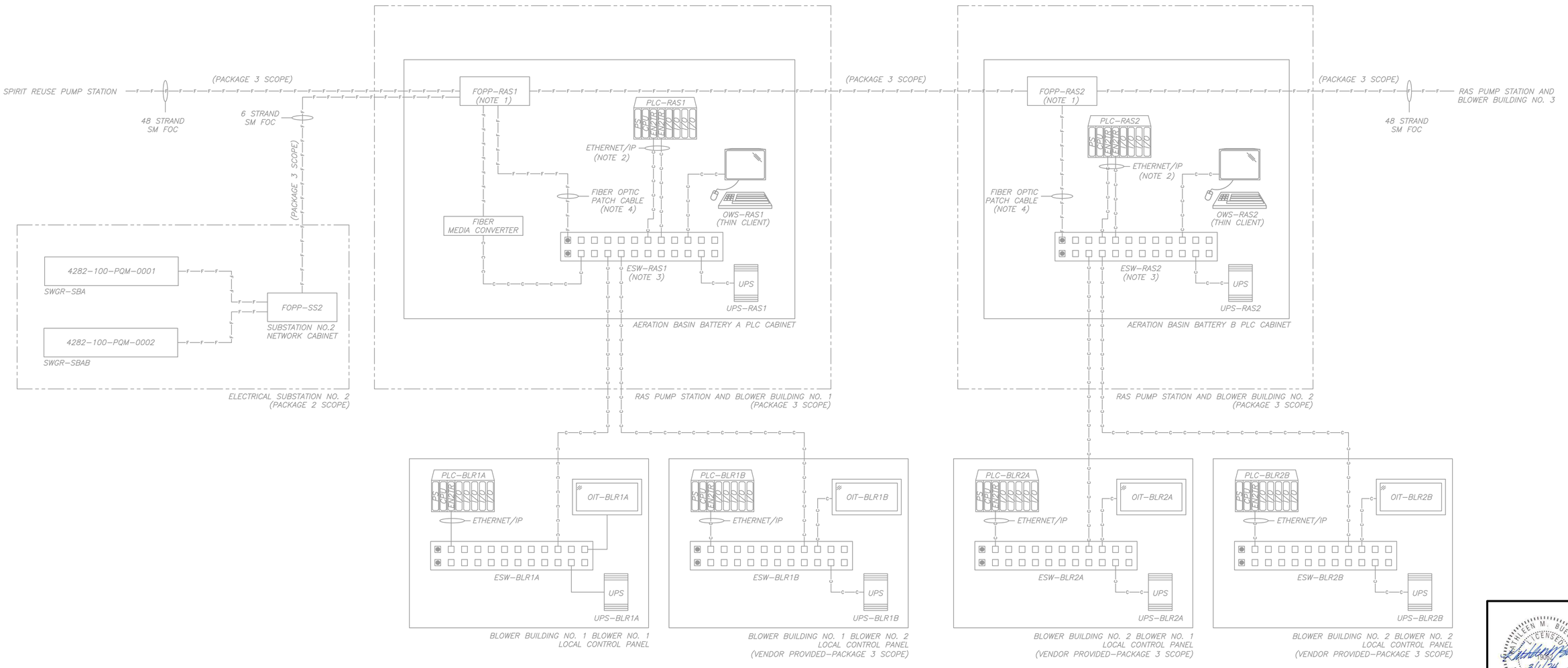
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

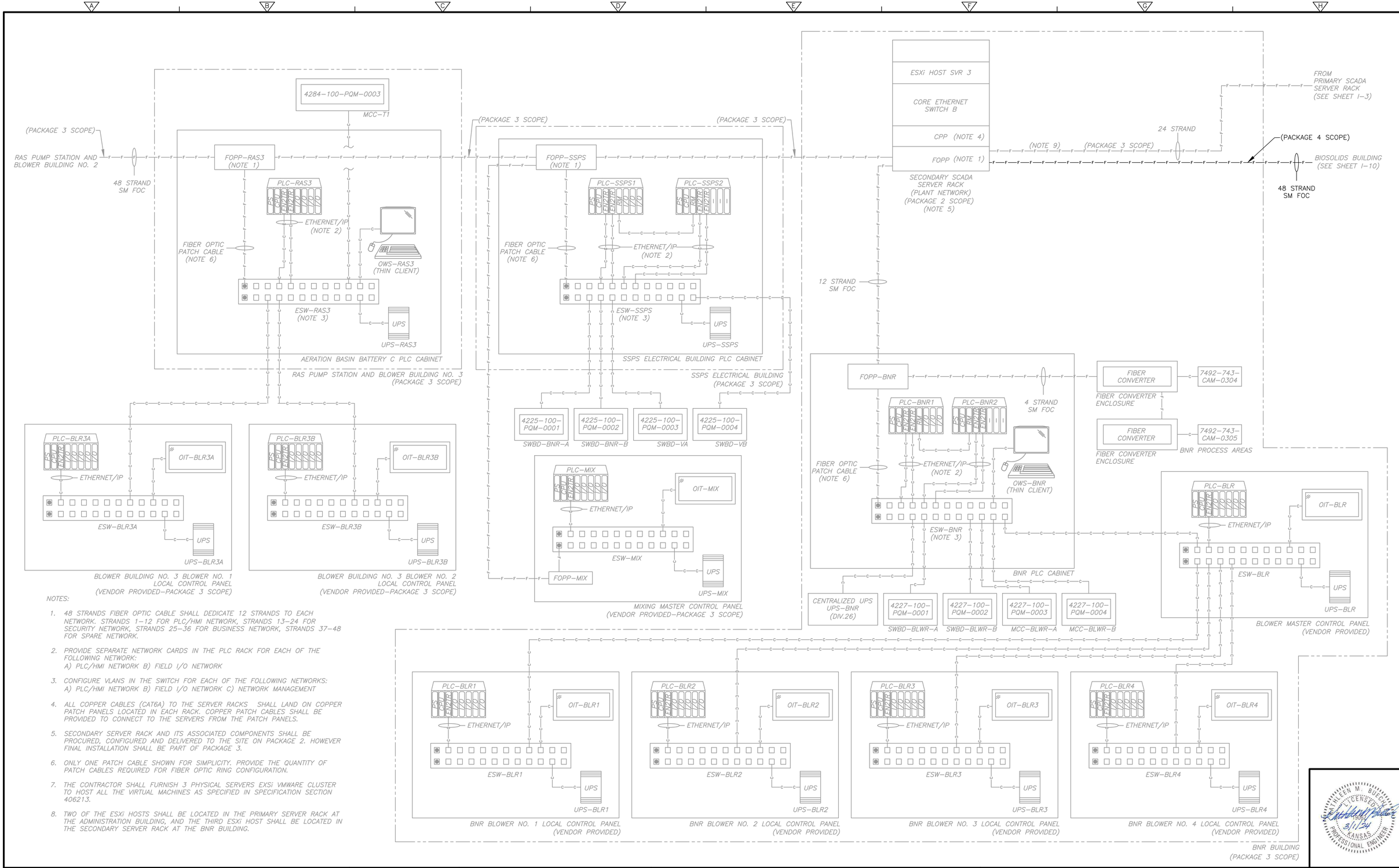
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE VI

KATHLEEN M. BUECHLER
LICENSED
10002
3/1/24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: I006NFSA.DWG

SHEET NO.
I-8



NOTES:

1. 48 STRANDS FIBER OPTIC CABLE SHALL DEDICATE 12 STRANDS TO EACH NETWORK. STRANDS 1-12 FOR PLC/HMI NETWORK, STRANDS 13-24 FOR SECURITY NETWORK, STRANDS 25-36 FOR BUSINESS NETWORK, STRANDS 37-48 FOR SPARE NETWORK.
2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ALL COPPER CABLES (CAT6A) TO THE SERVER RACKS SHALL LAND ON COPPER PATCH PANELS LOCATED IN EACH RACK. COPPER PATCH CABLES SHALL BE PROVIDED TO CONNECT TO THE SERVERS FROM THE PATCH PANELS.
5. SECONDARY SERVER RACK AND ITS ASSOCIATED COMPONENTS SHALL BE PROCURED, CONFIGURED AND DELIVERED TO THE SITE ON PACKAGE 2. HOWEVER FINAL INSTALLATION SHALL BE PART OF PACKAGE 3.
6. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.
7. THE CONTRACTOR SHALL FURNISH 3 PHYSICAL SERVERS EXSi VMWARE CLUSTER TO HOST ALL THE VIRTUAL MACHINES AS SPECIFIED IN SPECIFICATION SECTION 406213.
8. TWO OF THE ESXi HOSTS SHALL BE LOCATED IN THE PRIMARY SERVER RACK AT THE ADMINISTRATION BUILDING, AND THE THIRD ESXi HOST SHALL BE LOCATED IN THE SECONDARY SERVER RACK AT THE BNR BUILDING.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE VII

PROJECT NO. 2395-267343
FILE NAME: I007NFSA.DWG
SHEET NO. I-9

KATHLEEN M. BUECHLER LICENSED PROFESSIONAL ENGINEER 3/1/24 KANSAS

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NOTES:

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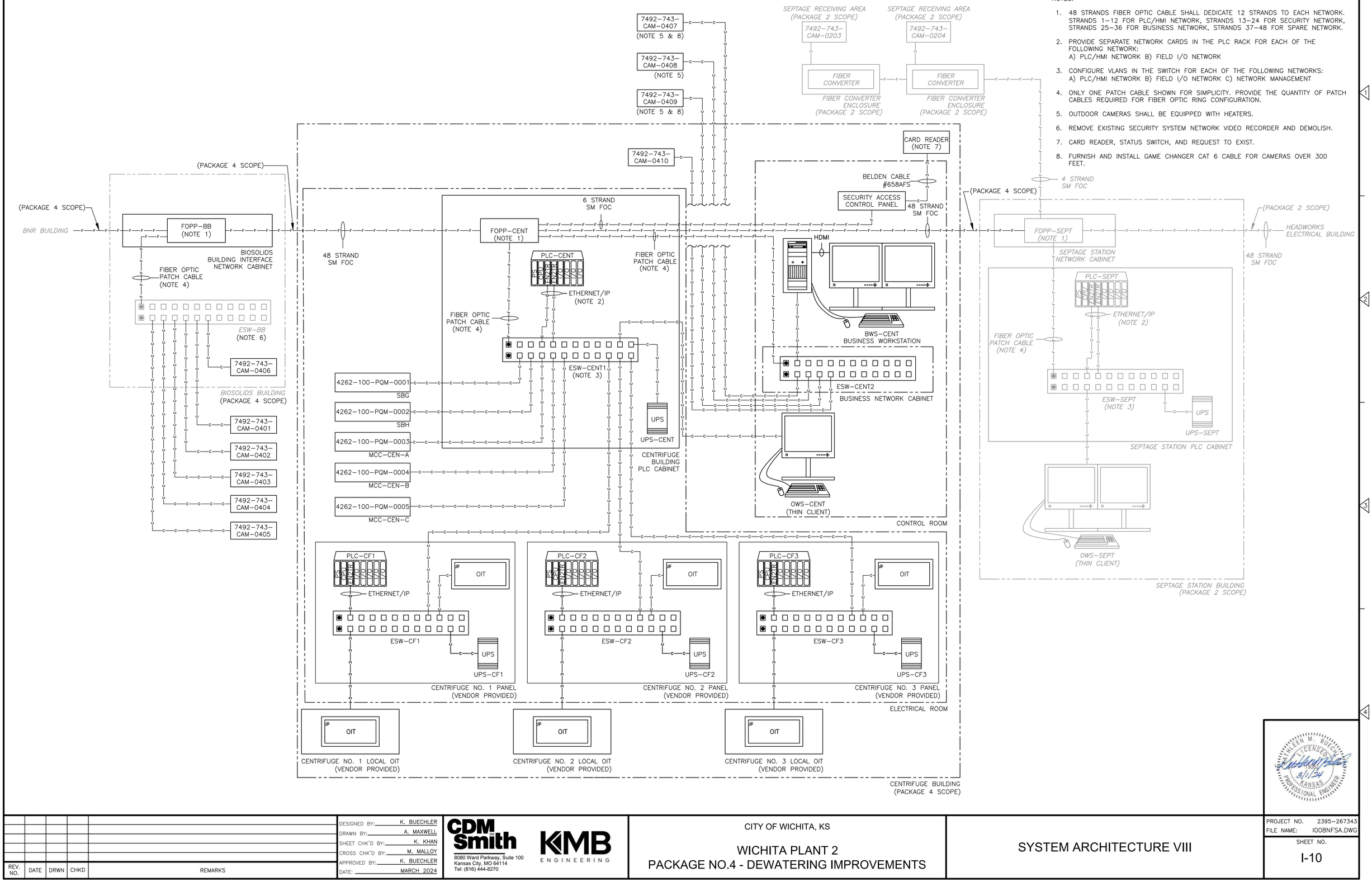
2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.
5. OUTDOOR CAMERAS SHALL BE EQUIPPED WITH HEATERS.
6. REMOVE EXISTING SECURITY SYSTEM NETWORK VIDEO RECORDER AND DEMOLISH.
7. CARD READER, STATUS SWITCH, AND REQUEST TO EXIST.
8. FURNISH AND INSTALL GAME CHANGER CAT 6 CABLE FOR CAMERAS OVER 300 FEET.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE VIII

KATHLEEN M. BUECHLER LICENSED 3/1/24 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: I008NFSA.DWG
SHEET NO.
I-10

NOTES:

1. 48 STRANDS FIBER OPTIC CABLE SHALL DEDICATE 12 STRANDS TO EACH NETWORK. STRANDS 1–12 FOR PLC/HMI NETWORK, STRANDS 13–24 FOR SECURITY NETWORK, STRANDS 25–36 FOR BUSINESS NETWORK, STRANDS 37–48 FOR SPARE NETWORK.
2. PROVIDE SEPARATE NETWORK CARDS IN THE PLC RACK FOR EACH OF THE FOLLOWING NETWORK:
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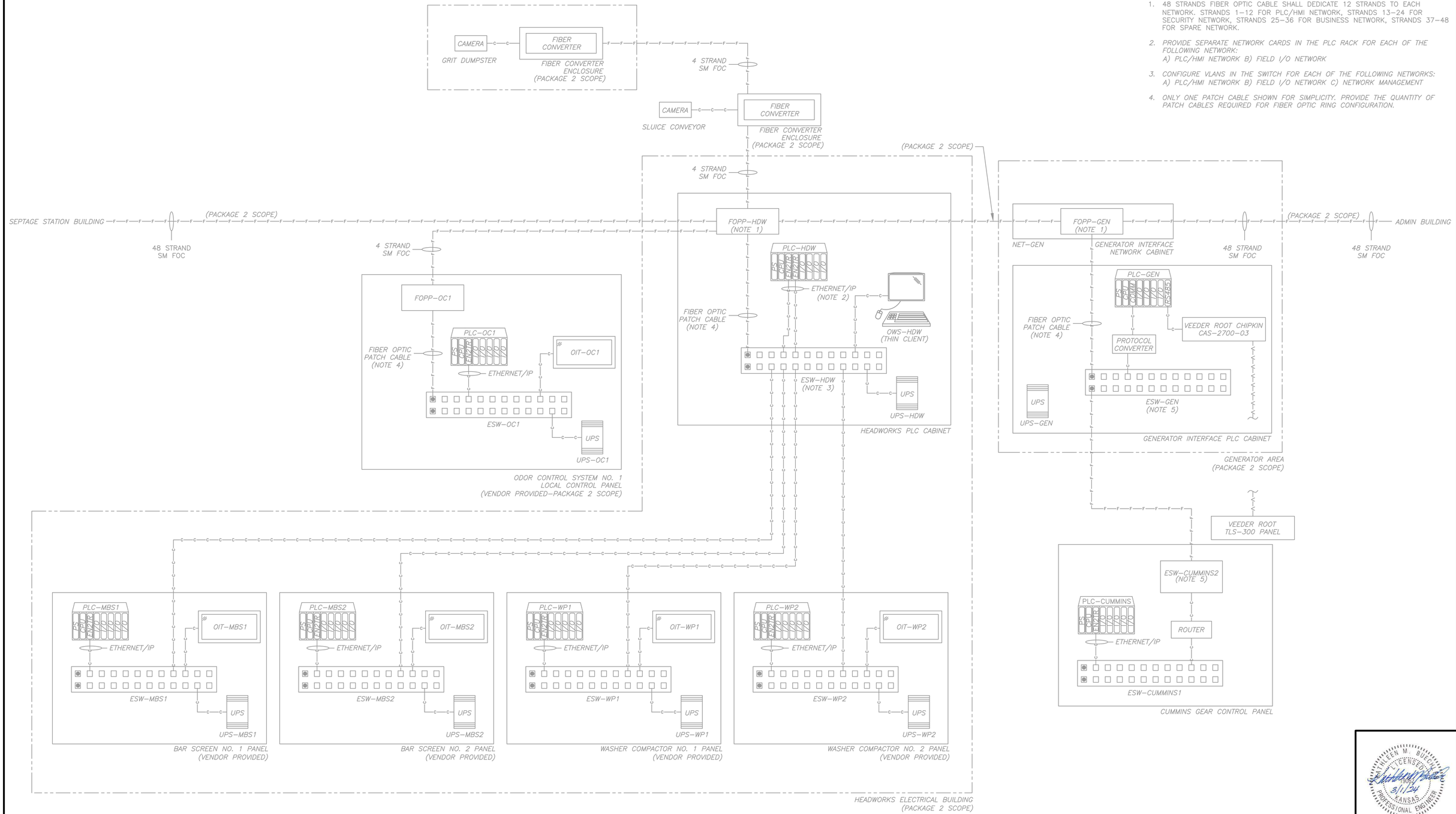
3. CONFIGURE VLANS IN THE SWITCH FOR EACH OF THE FOLLOWING NETWORKS:
   A) PLC/HMI NETWORK B) FIELD I/O NETWORK C) NETWORK MANAGEMENT
4. ONLY ONE PATCH CABLE SHOWN FOR SIMPLICITY. PROVIDE THE QUANTITY OF PATCH CABLES REQUIRED FOR FIBER OPTIC RING CONFIGURATION.



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DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

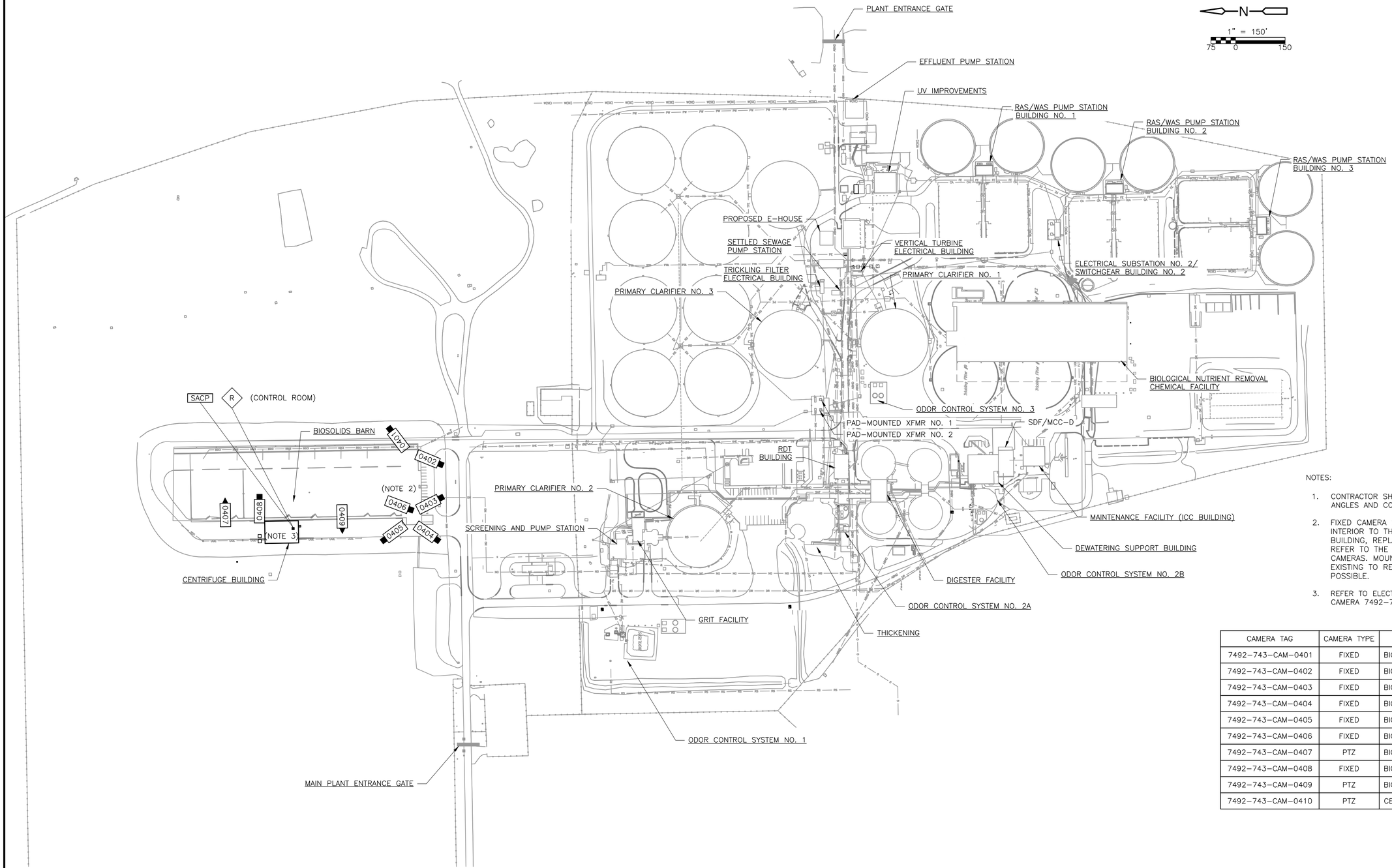
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SYSTEM ARCHITECTURE IX

KATHLEEN M. BUECHLER LICENSED 19000 3/1/24 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: I009NFSA.DWG

SHEET NO.
I-11



NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR CAMERA ANGLES AND CORRECT VIEW POINT FOR EACH CAMERA.
2. FIXED CAMERA SHOWN REPRESENTS THE CAMERA LOCATED INTERIOR TO THE BIOSOLIDS BUILDING. AT THE BIOSOLIDS BUILDING, REPLACE SIX CAMERAS IN EXISTING LOCATIONS. REFER TO THE TABLE FOR TYPE AND LOCATION OF THE CAMERAS. MOUNT SECURITY PANEL IN SAME LOCATION AS EXISTING TO RE-USE EXISTING CABLES AS MUCH AS POSSIBLE.
3. REFER TO ELECTRICAL SHEETS FOR LOCATION OF THE INTERIOR CAMERA 7492-743-CAM-0410.

CAMERA TAG	CAMERA TYPE	LOCATION
7492-743-CAM-0401	FIXED	BIOSOLIDS BUILDING – EAST EXTERIOR WALL
7492-743-CAM-0402	FIXED	BIOSOLIDS BUILDING – SOUTH EXTERIOR WALL
7492-743-CAM-0403	FIXED	BIOSOLIDS BUILDING – SOUTH EXTERIOR WALL
7492-743-CAM-0404	FIXED	BIOSOLIDS BUILDING – WEST EXTERIOR WALL
7492-743-CAM-0405	FIXED	BIOSOLIDS BUILDING – WEST EXTERIOR WALL
7492-743-CAM-0406	FIXED	BIOSOLIDS BUILDING – INTERIOR
7492-743-CAM-0407	PTZ	BIOSOLIDS BARN EXTERIOR
7492-743-CAM-0408	FIXED	BIOSOLIDS BARN EXTERIOR
7492-743-CAM-0409	PTZ	BIOSOLIDS BARN EXTERIOR
7492-743-CAM-0410	PTZ	CENTRIFUGE BUILDING

XREFs: [CST-PL100_CEPR000SS_EWP0STPL_CWP000SS_267343_CDMS_2234-P4, 267343_CDMS_2234-P2, 267343_CDMS_2234-P3] Images: [KMB Engineering Logo Suite_KMB Logo Black, KMB Engineering Logo Suite_KMB Logo Black_1]
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: T. PRAGADHEESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270
KMB ENGINEERING

CITY OF WICHITA, KS

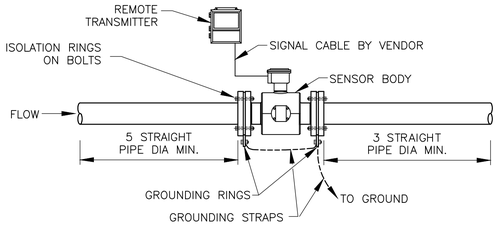
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SECURITY SYSTEM SITE PLAN

KATHLEEN M. BUECHLER
LICENSED
NO. 25-24511
3/1/24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I012STPL.DWG

SHEET NO.
I-12

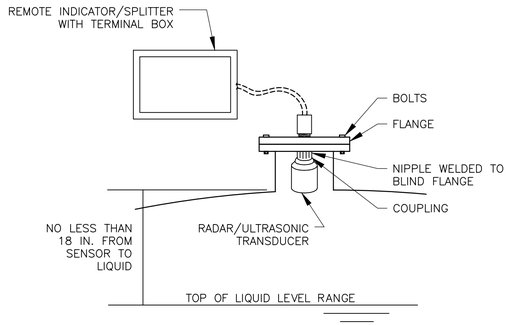


NOTES:

1. PROVIDE GROUNDING RING(S) AS RECOMMENDED BY MANUFACTURER.
2. PROVIDE SENSOR LINING TO PREVENT BUILDUP ON METER.

MAGNETIC FLOW METER

DETAIL A / – — NTS

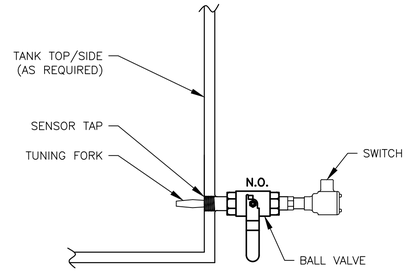


NOTES:

1. PROVIDE TEMPERATURE COMPENSATION FOR SENSOR PER MANUFACTURER RECOMMENDATIONS.
2. PROVIDE AN AIR PURGE OR HEATER TO PREVENT CONDENSATION.
3. CONTRACTOR TO COORDINATE FOR BLANKING DISTANCES FOR ULTRASONIC AND RADAR PER INSTALLATION.

RADAR/ULTRASONIC LEVEL (CLOSED TANK)

DETAIL B / – — NTS

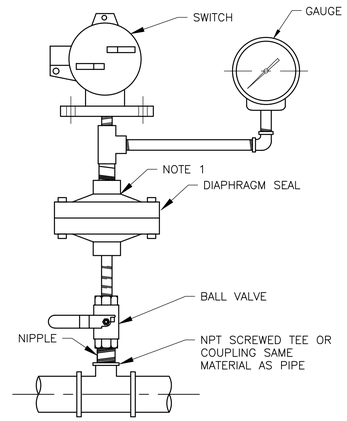


NOTES:

1. ENSURE THE INSTALLATION LOCATION DOES NOT VIBRATE AT THE SENSOR'S NATURAL FREQUENCY OF 1300Hz. THIS MAY CAUSE UNEXPECTED READINGS FROM THE SENSOR.

TUNING FORK LEVEL SWITCH (TANK TOP/SIDE)

DETAIL C / – — NTS

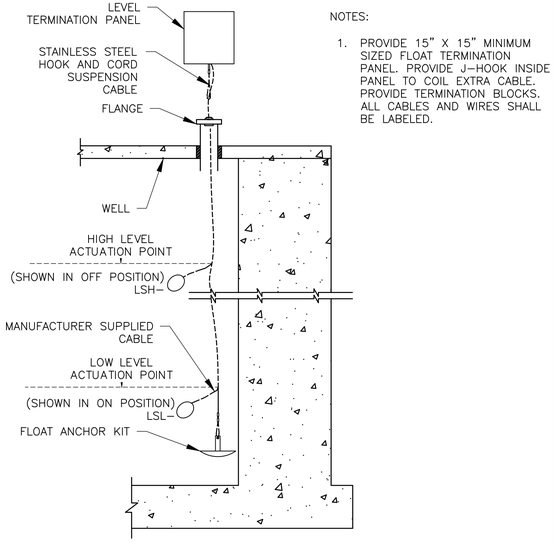


NOTES

1. FOR PROPER OPERATION, EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL PRIOR TO DELIVERY ONSITE.

PRESSURE SWITCH AND PRESSURE GAUGE (WITH DIAPHRAGM SEAL)

DETAIL D / - — NTS

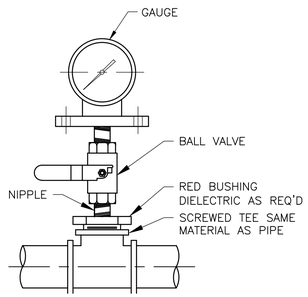


NOTES:

1. PROVIDE 15" X 15" MINIMUM SIZED FLOAT TERMINATION PANEL. PROVIDE J-HOOK INSIDE PANEL TO COIL EXTRA CABLE. PROVIDE TERMINATION BLOCKS. ALL CABLES AND WIRES SHALL BE LABELED.

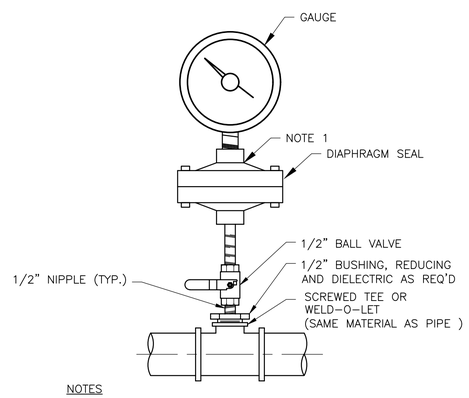
FLOAT SWITCH (CABLE SUSPENSION)

DETAIL E / – — NTS



PRESSURE GAUGE

DETAIL F / – — NTS



NOTES

1. FOR PROPER OPERATION, EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL PRIOR TO DELIVERY ONSITE.
2. TYPICAL FOR TRANSMITTER/SWITCH.

PRESSURE GAUGE/TRANSMITTER/SWITCH (WITH DIAPHRAGM SEAL)

DETAIL G / - — NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. M. UGESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

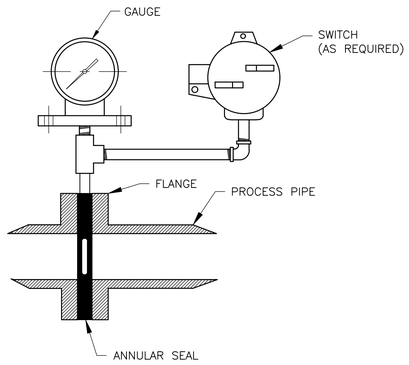
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

INSTRUMENTATION DETAIL I

PROJECT NO. 2395-267343
FILE NAME: I109NFDT.DWG

SHEET NO.
IZ-1

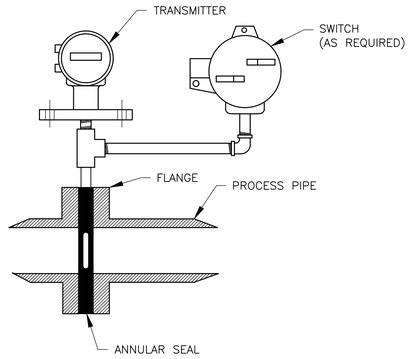


NOTES:

1. FOR PROPER OPERATION,EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL.

PRESSURE SWITCH AND PRESSURE GAUGE (WITH ANNULAR SEAL)

DETAIL A
NTS –



NOTES:

1. FOR PROPER OPERATION,EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL.

PRESSURE TRANSMITTER AND PRESSURE SWITCH (WITH ANNULAR SEAL)

DETAIL B
NTS –

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. M. UGESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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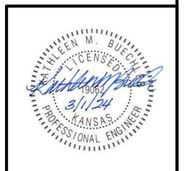
KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

INSTRUMENTATION DETAIL II



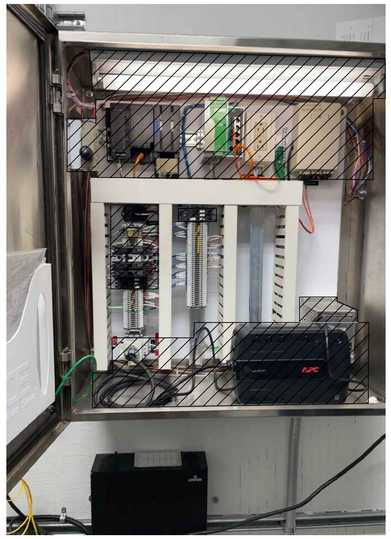
PROJECT NO. 2395-267343
FILE NAME: I110XXPI.DWG

SHEET NO.
IZ-2

CP-1 CONTROL PANEL

PHOTOGRAPH 1 E-1.B3

NTS



CP-1 CONTROL PANEL

PHOTOGRAPH 2 E-1.B3

NTS

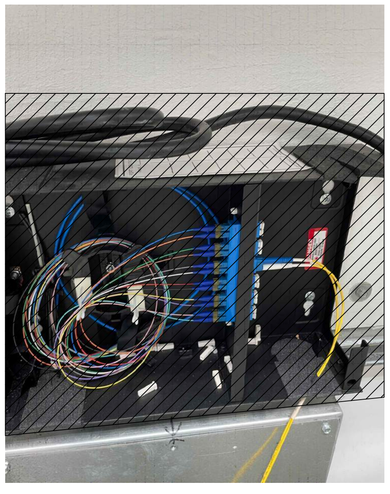
INTERFACE NETWORK CABINET

PHOTOGRAPH 3 E-1.B3

NTS

NOTES:

1. THE I/O POINTS IN THE BIOSOLIDS BUILDING PANEL CP-1 SHALL BE INCORPORATED INTO THE NEW PLC-CENT IN THE CENTRIFUGE BUILDING. EXISTING CP-1 BECOMES A TERMINAL BOX. SEE SECTION 40 61 93 FOR IO LIST.
2. REPLACE EXISTING NAMEPLATE "CP-1" WITH "I/O TERMINAL BOX".
3. THE CONTRACTOR SHALL SALVAGE THE EXISTING PLC CONTROLLER, I/O CARDS, ETHERNET SWITCH, UPS, POWER SUPPLY AND TURN THEM OVER TO THE OWNER.
4. EXISTING WIRING FOR TERMINAL BLOCKS TO FIELD DEVICES SHALL BE RETAINED.
5. SEE ELECTRICAL SHEETS FOR WIRING REQUIREMENTS FROM TERMINAL BOX TO PLC-CENT.
6. REPLACE EXISTING FIBER OPTIC PATCH PANEL WITH NEW BIOSOLIDS BUILDING INTERFACE NETWORK CABINET.



FIBER OPTIC PATCH PANEL

PHOTOGRAPH 4 E-1.B3

NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: S. SHRI VIDYA
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

BIOSOLIDS BUILDING
CP-1 CONTROL PANEL
DEMOLITION

KATHLEEN M. BUECHLER
LICENSED
19951
5/1/24
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I701CBDM.DWG

SHEET NO.
OD-701

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BUILDING CODE KEY DETERMINATIONS

PROJECT NAME WICHITA PLANT 2
LOCATION CITY OF WICHITA, KS
DESCRIPTION NEW CENTRIFUGE BUILDING

APPLICABLE CODES

2018 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS BY METROPOLITAN AREA BUILDING AND CONSTRUCTION DEPARTMENT (MABCD)
2018 INTERNATIONAL ENERGY CONSERVATION CODE - COMMERCIAL
2021 INTERNATIONAL MECHANICAL CODE WITH AMENDMENTS BY MABCD
2021 UNIFORM PLUMBING CODE WITH AMENDMENTS BY MABCD
2020 NATIONAL ELECTRICAL CODE (NEC) WITH AMENDMENTS BY MABCD
CITY OF WICHITA, KANSAS - CODE OF ORDINANCES
TITLE 15 - FIRE PREVENTION
TITLE 18 - BUILDING CODE

ACCESSIBILITY
PER 2018 IBC SECTION 1103.2.9 EQUIPMENT SPACES. SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR OR OCCASIONAL MONITORING OF EQUIPMENT ARE NOT REQUIRED TO COMPLY WITH CHAPTER 11 ACCESSIBILITY.

BUILDING CLASSIFICATION
OCCUPANCY - SECTION 306 GROUP F-1 (MODERATE HAZARD FACTORY INDUSTRIAL)

CONSTRUCTION - SECTION 602.2 TYPE II B

BUILDING HEIGHTS AND AREAS

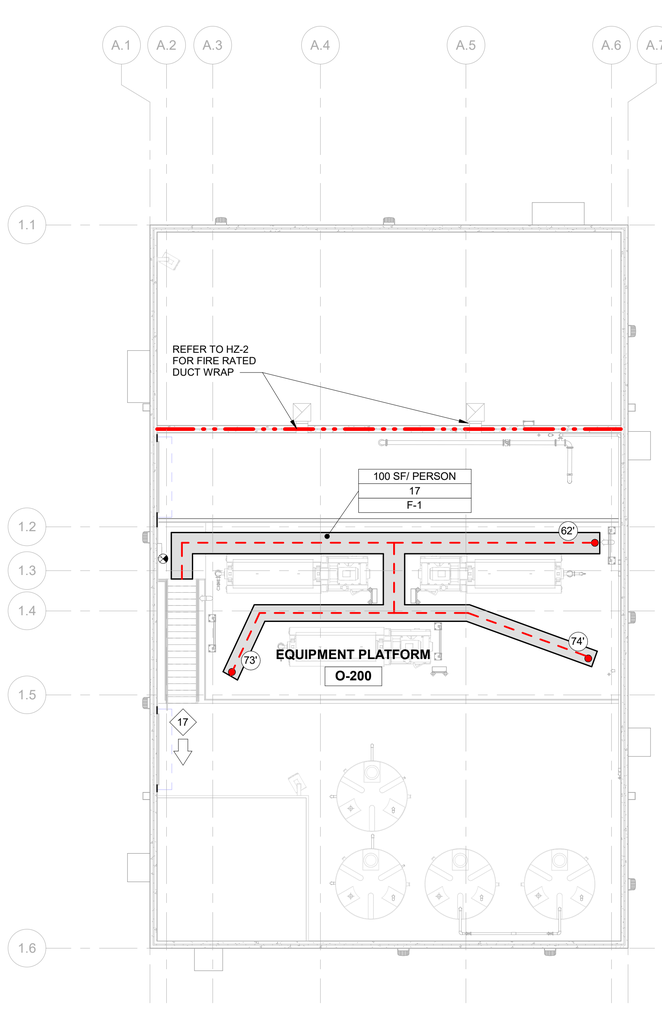
TABLE 504.4	MAX AREA	15,500 SF PER FLOOR	ACTUAL	FIRST FLOOR:	6,234.21 SF
				MEZZANINE:	1,700.03 SF
				TOTAL:	7,934.24 SF
	MAX HEIGHT	UNLIMITED FEET	ACTUAL	33 FEET	
	MAX STORIES	UNLIMITED	ACTUAL	1 STORY	
REQUIRED SEPARATION TABLE 508.4	NONE REQUIRED				
ROOM SEPARATION NFPA 13 EXCEPTION	ELECTRICAL ROOM	2 HOUR			
FIRE SEPARATION DISTANCE TABLE 602	TYPE IIB IN GROUP F-1 BUILDINGS 10' OR GREATER				
FIRE RESISTANCE RATING FOR GROUP F-1 TABLE 602	FIRE SEPARATION = 0 HOURS 10' SEPARATION DISTANCE				
STAIRS SECTION 1011	MIN WIDTH	44" CLEAR TREAD	ACTUAL	MEZZANINE STAIR:	44" CLEAR TREAD
	MAX RISER HEIGHT	7"	ACTUAL	7"	
	MIN TREAD DEPTH	11"	ACTUAL	11"	
RAMPS	N/A				
SPRINKLERS REQUIRED	NO	PROVIDED: NO			
FIRE ALARM REQUIRED	YES	PROVIDED: YES			
PLUMBING FIXTURES TABLE 403.1 (IPC)	WATER CLOSETS REQ'D	0	PROVIDED	1 (ACROSS ALL OCCUPANCIES)	
	LAVATORIES REQ'D	0	PROVIDED	1 (ACROSS ALL OCCUPANCIES)	
	DRINKING FOUNTAIN REQ'D	0	PROVIDED	0 (1 WATER COOLER)	
	SERVICE SINK REQ'D	0	PROVIDED	0 (ACROSS ALL OCCUPANCIES)	

GROUP F-1 MODERATE HAZARD STORAGE

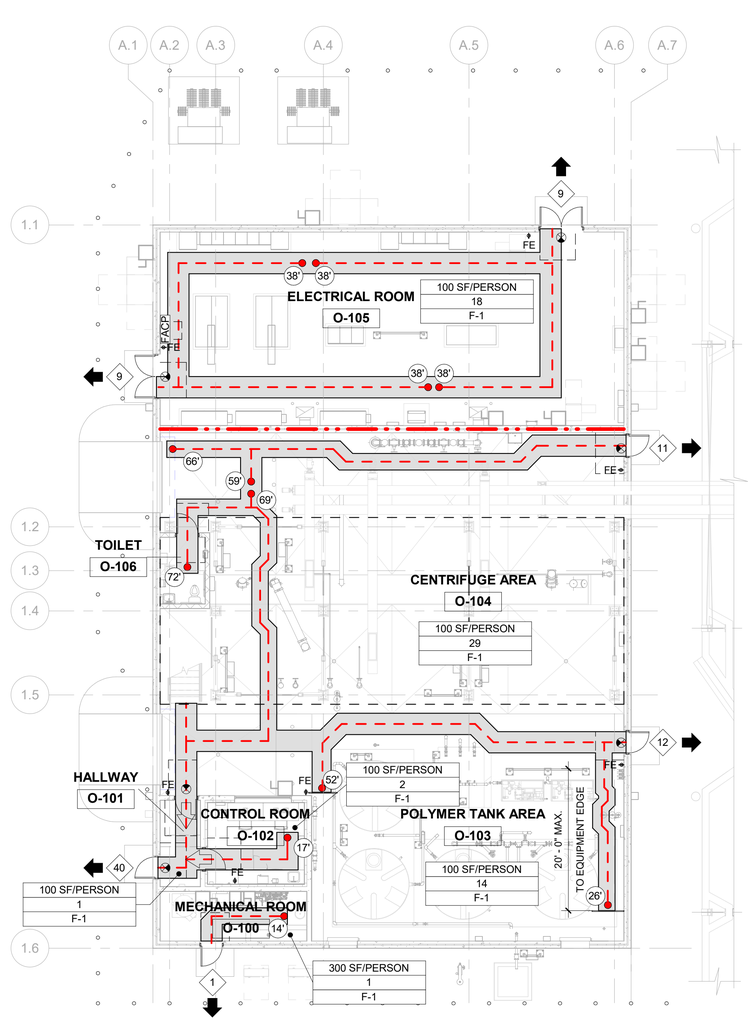
OCCUPANT LOAD SECTION 1004.5	300 SF PER OCCUPANT IN MECHANICAL ROOMS = 1 OCCUPANT 100 SF PER OCCUPANT IN F-1 AREAS = 81 OCCUPANTS		
MEANS OF EGRESS WIDTH 1005.3.2	REQUIRED 40 OCCUPANTS X .2 IN = 8 IN	ACTUAL	32" MINIMUM PER EXIT
EXITS PER SPACE TABLE 1006.3.2	REQUIRED 2	ACTUAL	2 MIN
EXIT ACCESS TRAVEL DISTANCE 1017.2	WITHOUT A SPRINKLER SYSTEM 200 LINEAL FEET		
MAX TRAVEL DISTANCE THROUGH A SPACE WITH ONE EXIT OR EXIT ACCESS DOORWAY TABLE 1006.2.1	MAXIMUM DISTANCE 75 FEET	ACTUAL	MAX 72 FEET
EGRESS AISLE WIDTH 1018.5 EXCEPTION	THE EXCEPTION ALLOWS FOR A NON-PUBLIC MAXIMUM OCCUPANT LOAD FOR EGRESS AISLE NON-PUBLIC AISLE THAT'S SERVING LESS THAN THE EGRESS AISLE WITH THE WIDTH PROVIDED: 36" 50 PEOPLE TO BE A MINIMUM OF 28" WIDE LARGEST OCCUPANCY COUNT: 29		

GENERAL NOTES:

1. REFER TO SHEET OA-9 FOR WALL TYPES



B MEZZANINE LEVEL FLOOR PLAN
3/32" = 1'-0"



A FIRST LEVEL FLOOR PLAN
3/32" = 1'-0"

LIFE SAFETY LEGEND

- 2 HOUR FIRE RATING
- EXIT DISCHARGE
- AREA OR SPACE EXIT
- EXIT SIGN
- FE — FIRE EXTINGUISHER
- EGRESS PATH
- (X) — TRAVEL DISTANCE (FEET)
- X — OCCUPANTS USING THIS EXIT
- FACP — FIRE ALARM CONTROL PANEL

DOUGLAS C. SMITH LICENSED 3581 5/1/24 KANSAS PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: AMH
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

EAE ENVIRONMENTAL ADVISORS AND ENGINEERS, INC.
19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
LIFE SAFETY PLAN AND CODE ANALYSIS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-1

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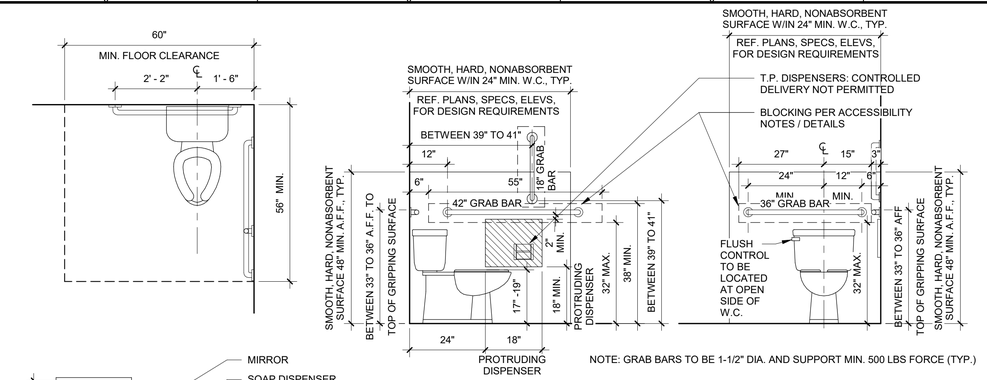
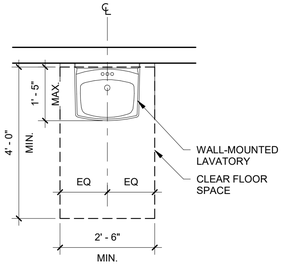
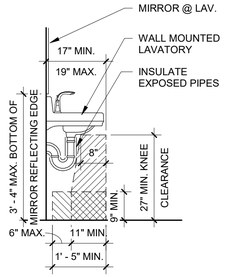
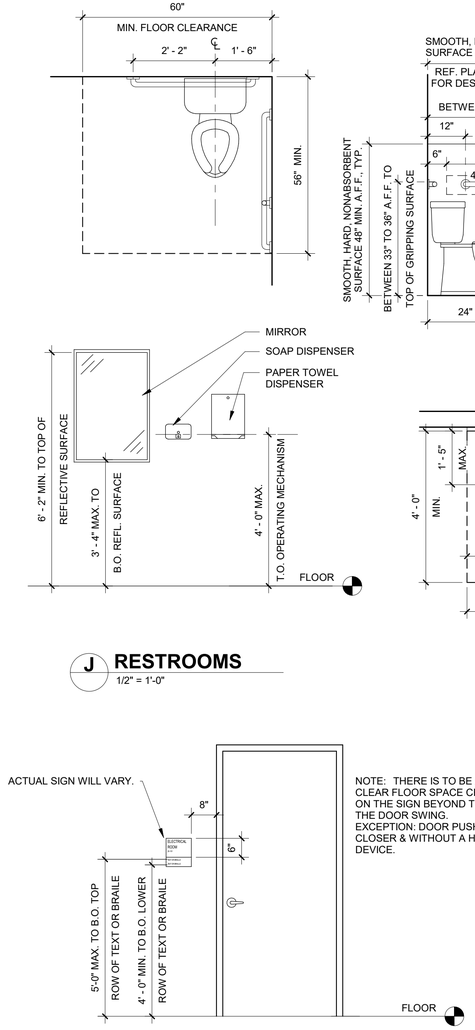


NOTE: GRAB BARS TO BE 1-1/2" DIA. AND SUPPORT MIN. 500 LBS FORCE (TYP.)





J RESTROOMS
1/2" = 1'-0"



NOTE: THERE IS TO BE AN 18"x18" CLEAR FLOOR SPACE CENTERED ON THE SIGN BEYOND THE ARC OF THE DOOR SWING. EXCEPTION: DOOR PUSH SIDE W/ CLOSER & WITHOUT A HOLD-OPEN DEVICE.

SIGNAGE NOTES:

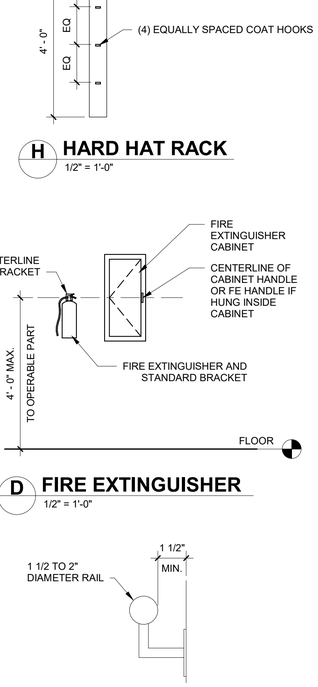
INTERIOR & EXTERIOR SIGN LOCATIONS:
1. PROVIDE SIGNAGE FOR PERMANENT ROOMS, ALCOVES, DIRECTIONAL SIGNAGE FOR EGRESS, ELEVATORS, ENTRANCES, EXIT STAIRWAYS, ETC.
2. SIGNS TO HAVE ROOM NAMES AND ROOM NUMBERS WITH RAISED CHARACTERS/BRAILLE SIGNS AT DOORS SUCH AS:
   SINGLE DOOR: LATCH SIDE
   DOUBLE DOOR W/ ACTIVE LEAVES: RIGHT SIDE OR RIGHT LEAF
   DOUBLE DOOR W/ INACTIVE LEAF: ON INACTIVE LEAF
   NO WALL SPACE: ON NEAREST WALL.

PICTOGRAMS AND RAISED CHARACTERS:
1. LOCATE TEXT DESCRIPTIONS DIRECTLY BELOW PICTOGRAMS.
2. TEXT EXEMPT SIGNS ARE: NO SMOKING, LOGOS, ACCESSIBILITY SYMBOL.
3. DUPLICATE TEXT BELOW IN GRADE 2 BRAILLE.
4. TEXT TO BE RAISED 1/32" MIN ABOVE BACKGROUND.
5. REFER TO 703 IN ANSI A117.1 FOR CHARACTER HEIGHT, WIDTH, STROKE, AND SPACING.
6. CHARACTERS AND SYMBOLS ARE TO CONTRAST WITH THE BACKGROUND.
7. THE SIGN BLADE IS TO HAVE A NON-GLARE SURFACE.

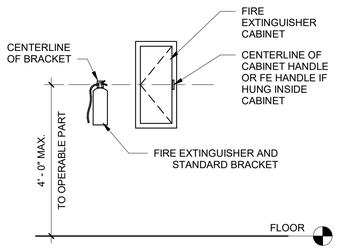
REFER TO ICC/ANSI A117.1 FOR MORE REQUIREMENTS ON MOUNTING LOCATION.

CONTRACTOR SHALL BE FAMILIAR AND INCORPORATE ALL ESTABLISHED CODE REQUIREMENTS APPLICABLE TO THE PROJECT OR THE MOST CURRENT AS ADOPTED BY THE LOCAL JURISDICTION.

E SIGNAGE
1/2" = 1'-0"

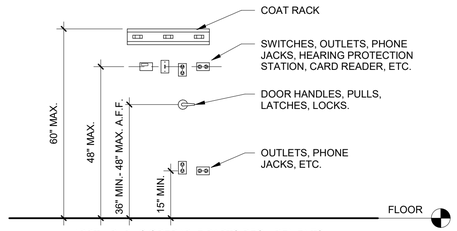


H HARD HAT RACK
1/2" = 1'-0"



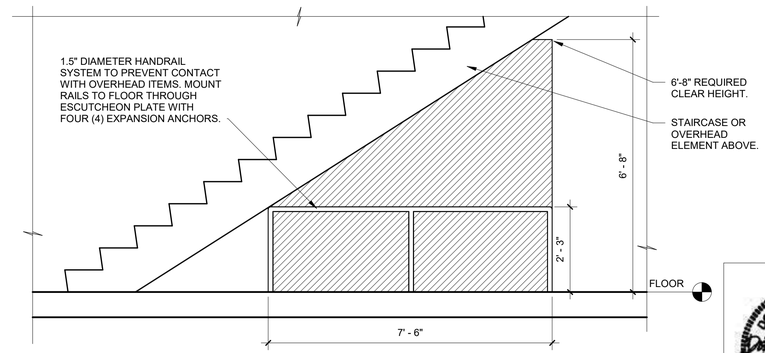
D FIRE EXTINGUISHER
1/2" = 1'-0"

C HAND RAIL
3" = 1'-0"



ADDT'L PUBLIC OPERABLE PARTS REQUIREMENTS:
1. OPERABLE W/ ONE HAND: NO TIGHT GRASPING, PINCHING, TWISTING OF WRIST.
2. OPERATION = < 5 LBS. OF FORCE.

B OPERABLE PARTS MOUNTING HEIGHTS
1/2" = 1'-0"



A RAILS UNDER STAIRS
1/2" = 1'-0"

DOUGLAS C. SMITH — KANSAS — 3581 — 3/1/24 — PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: AMH/JCF
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH, 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

EAE
ENVIRONMENTAL ADVISORS AND ENGINEERS, INC.
19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ACCESSIBILITY DETAILS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-2

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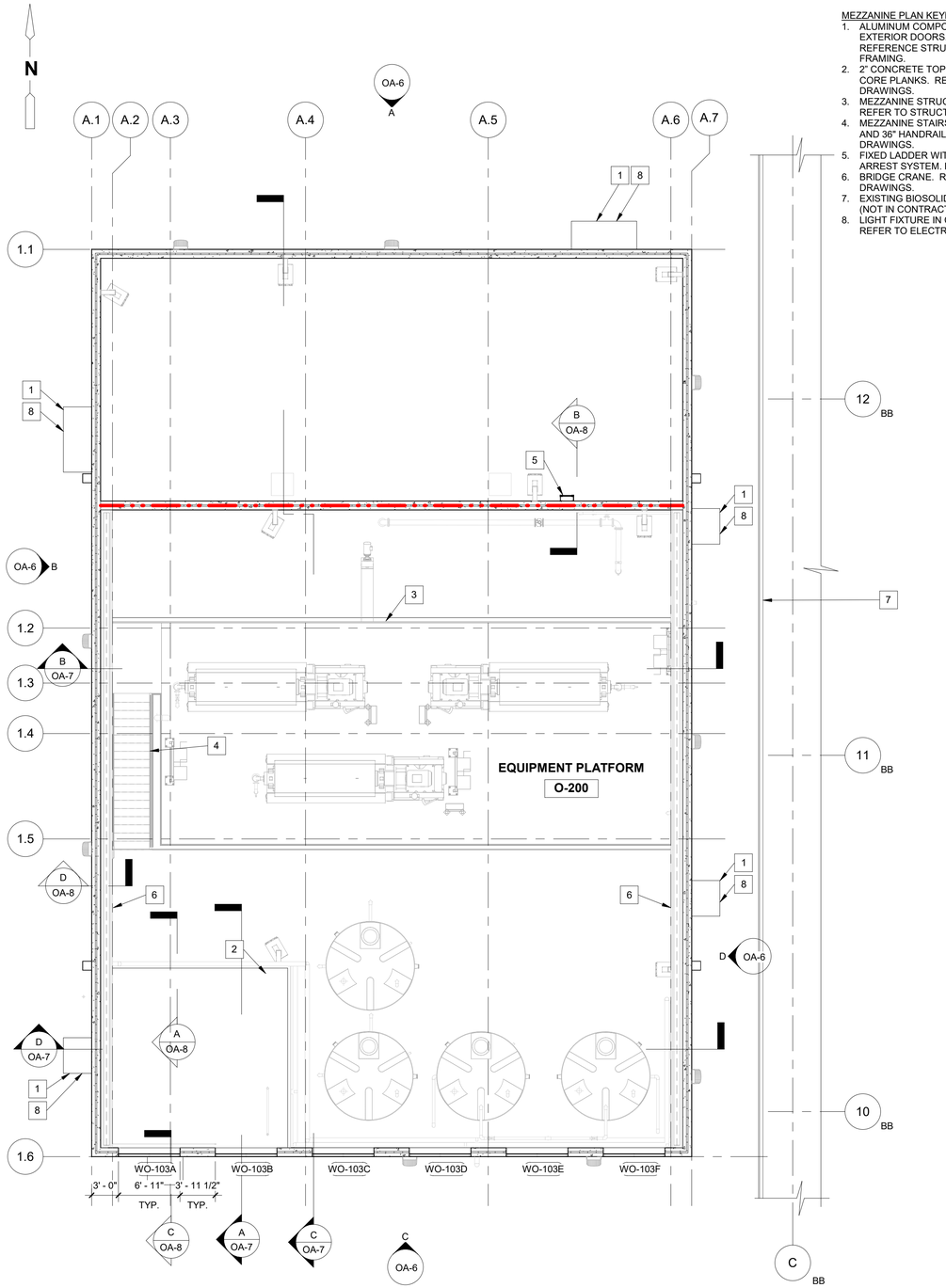
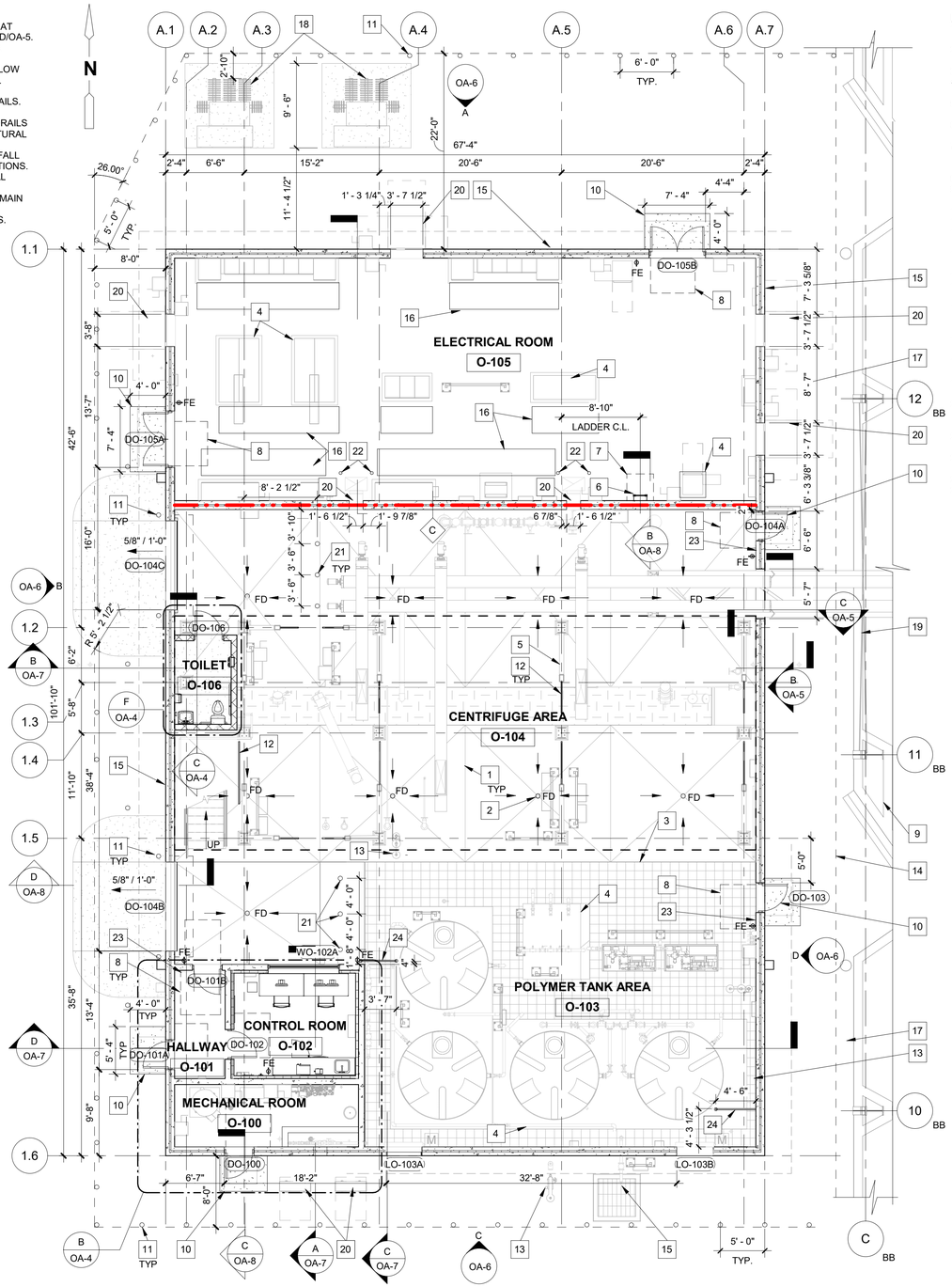


MEZZANINE PLAN KEYNOTES (□):

1. ALUMINUM COMPOSITE PANEL CANOPY AT EXTERIOR DOORS. REFERENCE DETAIL D/OA-5. REFERENCE STRUCTURAL SHEETS FOR FRAMING.
2. 2" CONCRETE TOPPING SLAB ON 8" HOLLOW CORE PLANKS. REFER TO STRUCTURAL DRAWINGS.
3. MEZZANINE STRUCTURE WITH GUARDRAILS. REFER TO STRUCTURAL DRAWINGS.
4. MEZZANINE STAIRS TO HAVE 42" GUARDRAILS AND 36" HANDRAILS. REFER TO STRUCTURAL DRAWINGS.
5. FIXED LADDER WITH OSHA COMPLIANT FALL ARREST SYSTEM. REFER TO SPECIFICATIONS.
6. BRIDGE CRANE. REFER TO STRUCTURAL DRAWINGS.
7. EXISTING BIOSOLIDS BARN ROOF TO REMAIN (NOT IN CONTRACT).
8. LIGHT FIXTURE IN CANOPY OVER DOORS. REFER TO ELECTRICAL PLANS.

B OA-6 MEZZANINE PLAN (EL. 1274.62')
1/8" = 1'-0"
0 4' 8' 16'



FLOOR PLAN KEYNOTES (□):

1. TOP OF FLOOR TO BE AT ELEVATION 1263.62' SLOPE CONCRETE TO FLOOR DRAINS.
2. TOP OF FLOOR DRAIN TO BE AT ELEVATION - 1263.52'. SLOPE CONCRETE ACCORDINGLY.
3. GRATING. REFER TO STRUCTURAL DRAWINGS.
4. EQUIPMENT PADS. REFER TO STRUCTURAL DRAWINGS.
5. MEZZANINE STRUCTURE. REFER TO STRUCTURAL DRAWINGS.
6. FIXED LADDER WITH OSHA COMPLIANT FALL ARREST SYSTEM. REFER TO SPECIFICATIONS.
7. PROVIDE 4" WIDE PAINTED LINES AT THE PERIMETER OF THE 3'-0" X 3'-0" CLEAR FLOOR SPACE, CENTERED ON THE LADDER.
8. CLEAR FLOOR SPACE.
9. EXISTING BIOSOLIDS BARN TO REMAIN. NOT IN CONTRACT.
10. CONCRETE STOOP. REFER TO STRUCTURAL.
11. BOLLARDS. REFER TO CIVIL DRAWINGS.
12. RAILS UNDER STAIRS AND ANGLED STRUCTURE. REFER TO DETAIL A/OA-2.
13. EYEWASH SHOWER. REFER TO PLUMBING DRAWINGS.
14. BIOSOLIDS ROOF TO REMAIN. NOT IN CONTRACT
15. REFER TO CIVIL PLANS FOR GRADES AND PAVEMENT ADJACENT TO THE BUILDING.
16. PROVIDE ELECTRICAL SAFETY FLOOR MATS IN FRONT OF ELECTRICAL EQUIPMENT. REFER TO ELECTRICAL SPECIFICATIONS.
17. EXISTING ASPHALT AND CONCRETE PAVEMENT TO BE REMOVED. REFER TO CIVIL PLANS.
18. TRANSFORMERS. REFER TO ELECTRICAL DRAWINGS.
19. EXISTING CROSS BRACING FOR THE BIOSOLIDS BARN TO REMAIN. NOT IN CONTRACT.
20. HVAC EQUIPMENT. PROVIDE OPENINGS IN WALLS. SEE EXTERIOR ELEVATIONS FOR DIMENSIONS. REFERENCE THE HVAC DRAWINGS
21. 6" DIAMETER x 4' TALL REMOVABLE BOLLARD WITH SLIP COVER. REFER TO DETAIL.
22. 4" DIAMETER x 4' TALL REMOVABLE BOLLARD WITH SLIP COVER. REFER TO DETAIL.
23. HEARING PROTECTION STATION.
24. 36" TALL GUARD RAIL AT ENDS OF ACCESSIBLE EGRESS PATH AREAS. REFERENCE OA-1. FLOOR MOUNT OR WALL MOUNT AS REQUIRED USING FOUR (4) 3/8" DIA. EXPANSION ANCHORS.

A OA-4 FIRST FLOOR PLAN (EL. 1263.62')
1/8" = 1'-0"
0 4' 8' 16'

LEGEND

- A — WALLTYPE
- 2 HOUR BARRIER
- FE — FIRE EXTINGUISHER
- WO-XXX — WINDOW
- LO-XXX — LOUVER
- DO-XXX — DOOR
- BB — BIOSOLIDS BARN

GENERAL NOTES:

1. ALL FERROUS METALS INSIDE THE BUILDING ARE TO RECEIVE A HIGH-PERFORMANCE COATING TO RESIST H2S CORROSION INCLUDING ALL FIELD CUT EDGES.
2. REFER TO SHEET OA-9 FOR WALL TYPES.

DOUGLAS C. SMITH LICENSED 35611 5/1/24 KANSAS PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH 2024

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19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

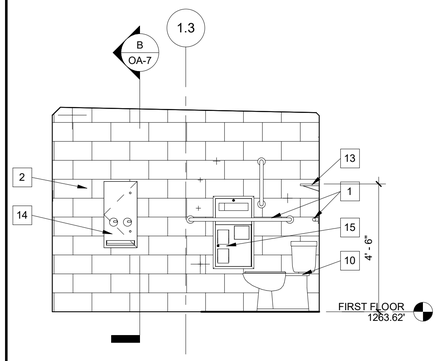
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

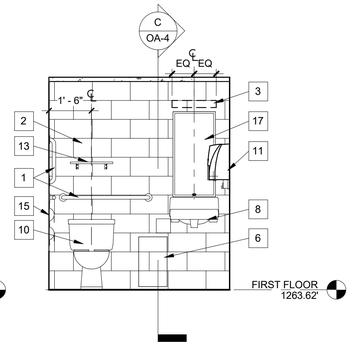
CENTRIFUGE BUILDING
FIRST FLOOR AND MEZZANINE PLANS

PROJECT NO. 2395-267343
FILE NAME:

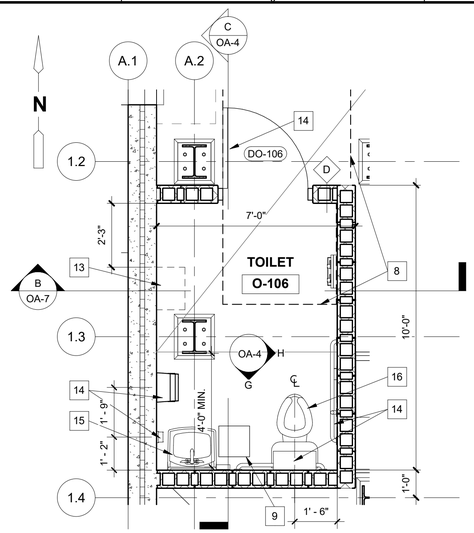
SHEET NO.
OA-3



H TOILET - EAST ELEVATION
OA-4 3/8" = 1'-0"

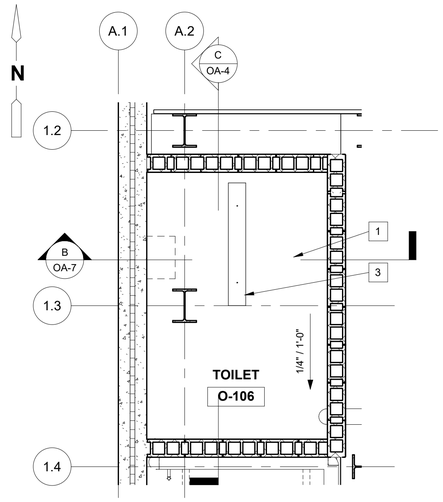


G TOILET - SOUTH ELEVATION
OA-4 3/8" = 1'-0"



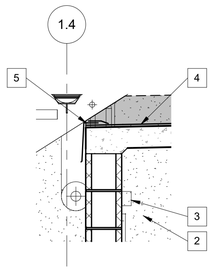
ENLARGED PLAN NOTES (□):
1. LAB GRADE CABINETS (SINGLE BASE CABINET WITH DRAWER AND DOUBLE BASE CABINET AT SINK) AND CHEMICAL RESISTANT COUNTERTOP WITH UNDER-MOUNTED CHEMICAL RESISTANT STAINLESS STEEL SINK AND GOOSENECK FAUCET. PROVIDE ENDSPLASH AND BACKSPLASH ON COUNTER.
2. OPERATOR'S WORKSTATION FURNITURE. COMPUTER STATIONS TO BE PROVIDED BY OWNER AND CONNECTED BY THE G.C.
3. UNDERCOUNTER REFRIGERATOR.
4. BULLETIN BOARD. MOUNT BOTTOM AT 4'-0" A.F.F.
5. WHITE BOARD. MOUNT BOTTOM AT 4'-0" A.F.F.
6. HARD HAT RACK. REFER TO DETAIL H/ OA-2
7. COAT RACK.
8. CLEAR FLOOR SPACE.
9. FREE STANDING PLASTIC WASTE RECEPTACLE.
10. DISHWASHER
11. COFFEE POT STATION
12. MICROWAVE
13. SOLID WOOD WALL HUNG 18" STORAGE CABINET WITH STAINLESS STEEL HARDWARE.
14. REFER TO OA-2, ELEVATIONS, AND SPECIFICATIONS FOR RESTROOM ACCESSORIES.
15. WALL HUNG SINK WITH STAINLESS STEEL FAUCET.
16. FLOOR MOUNTED TANK TOILET. REFER TO PLUMBING DRAWINGS.
17. KEY BOX
18. CARD READER
19. OVERFLOW SCUPPER
20. 10" CURB. VERIFY DIMENSIONS WITH PLUMBING. REFERENCE STRUCTURAL.

F TOILET ENLARGED PLAN
OA-3 3/8" = 1'-0"



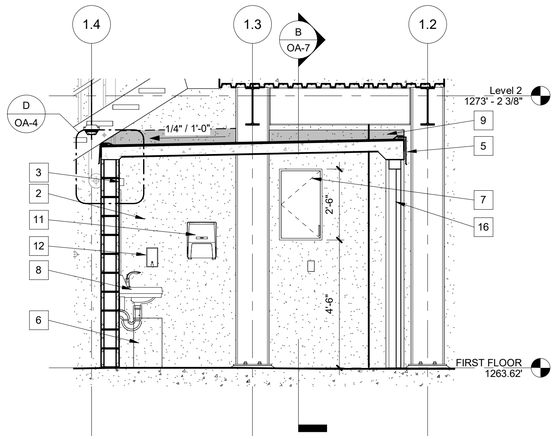
REFLECTED CEILING KEYNOTES (□):
1. PAINTED CONCRETE. SLOPE TOWARD STAIRS.
2. FASTEN RIGID INSULATION WITH AN R-30 RATING TO THE UNDERSIDE OF THE HOLLOW CORE SLABS.
3. LIGHT FIXTURES. REFER TO LIGHTING DRAWINGS.
4. SUSPENDED CEILING SYSTEM WITH ALUMINUM GRID AND 2'X4' ACOUSTIC CEILING TILES AT 9'-0" AFF.
5. RECESSED WET RATED LED DOWNLIGHT. REFER TO LIGHTING DRAWINGS.
6. CARD READER 'REQUEST TO EXIT' DEVICE LOCATED ABOVE DOOR.

E TOILET REFLECTED CEILING PLAN
OA-4 3/8" = 1'-0"

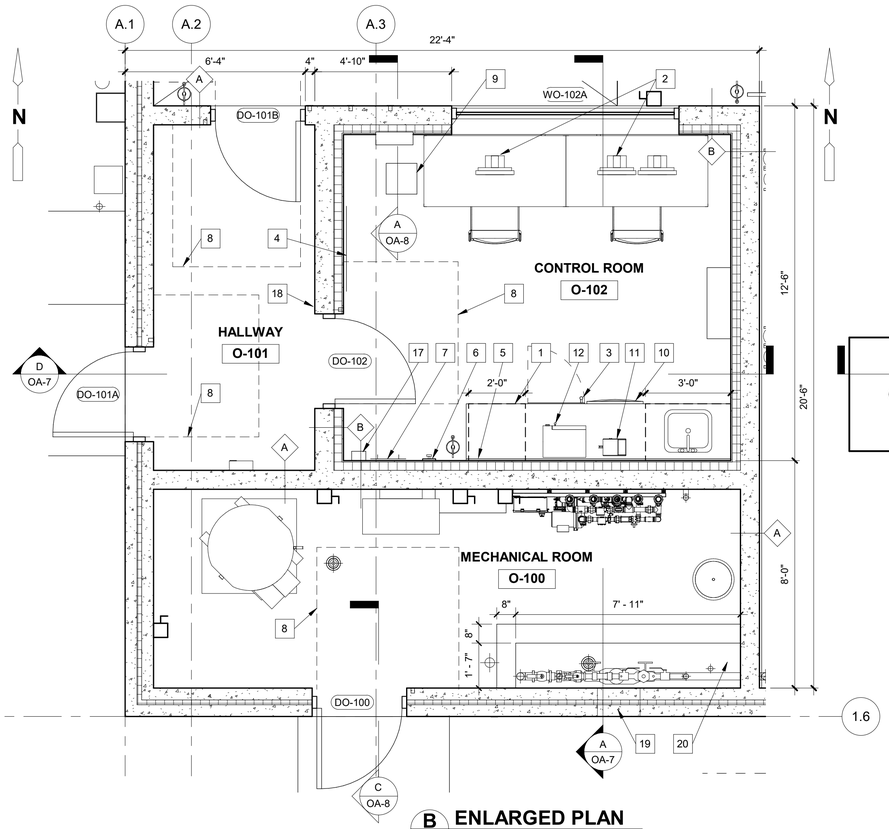


ELEVATION AND SECTION KEYNOTES (□):
1. GRAB BARS. REFER TO OA-2 AND SPECIFICATIONS.
2. PAINT PRECAST AND BLOCK WALLS.
3. SURFACE MOUNTED WET-RATED LED STRIP LIGHT. REFER TO ELECTRICAL DRAWINGS.
4. TPO ON CONCRETE. SLOPE TOWARD STAIRS.
5. CONTINUOUS EDGE FLASHING. LAP TPO PER MANUFACTURER REQUIREMENTS.
6. FREE STANDING PLASTIC WASTE RECEPTACLE.
7. SOLID WOOD WALL HUNG 18" STORAGE CABINET WITH STAINLESS STEEL HARDWARE.
8. WALL HUNG SINK WITH STAINLESS STEEL FAUCET. WRAP PIPES BELOW. REFER TO OA-2 AND PLUMBING DRAWINGS.
9. PROVIDE FLASHING 6" UP SIDE WALL.
10. FLOOR MOUNTED TANK TOILET. REFER TO PLUMBING DRAWINGS.
11. PAPER TOWEL ROLL DISPENSER
12. SOAP DISPENSER
13. STAINLESS STEEL SHELF
14. SANITARY NAPKIN/TAMPON VENDOR
15. COMBINATION TOILET PAPER, SEAT COVER DISPENSER, AND SANITARY NAPKIN TRASHCAN
16. COAT HOOK
17. MIRROR

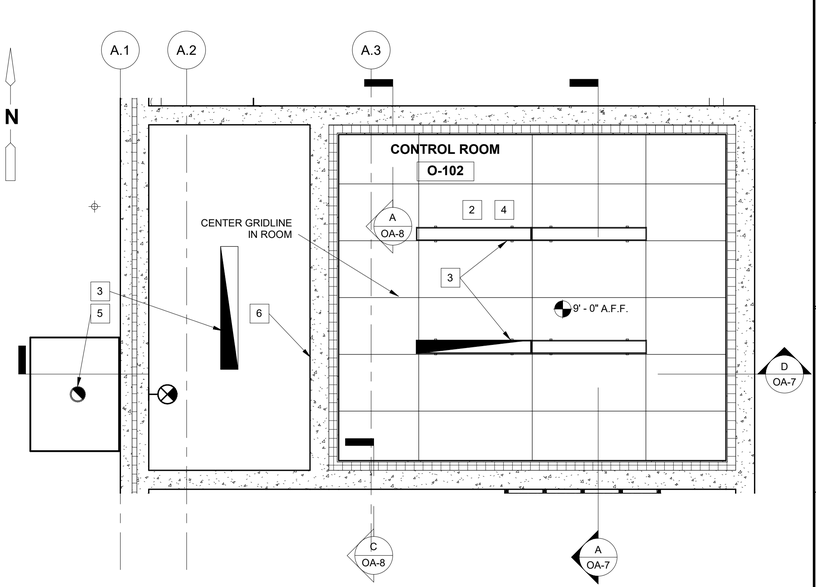
D TOILET ROOM CEILING DETAIL
OA-4 3/4" = 1'-0"



C TOILET ROOM SECTION
OA-3 3/8" = 1'-0"



B ENLARGED PLAN
OA-3 3/8" = 1'-0"



A CONTROL ROOM REFLECTED CEILING PLAN
OA-4 3/8" = 1'-0"

DOUGLAS C. SMITH
LICENSED
3581
3/1/24
KANSAS
PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/ALA
SHEET CHK'D BY: DCS
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19211 W. 64TH TERRACE
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913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ENLARGED PLANS AND ELEVATIONS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-4

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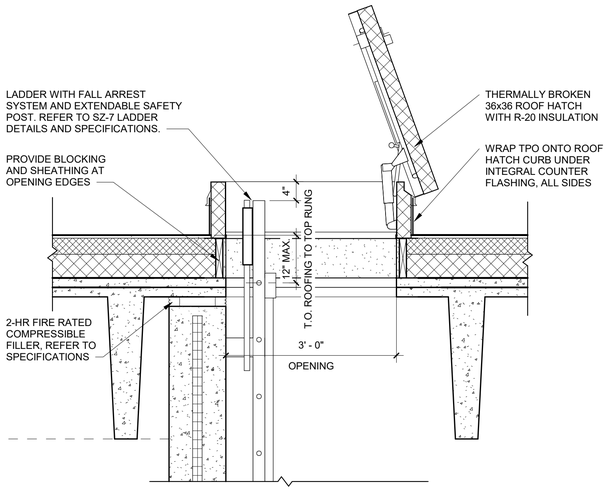
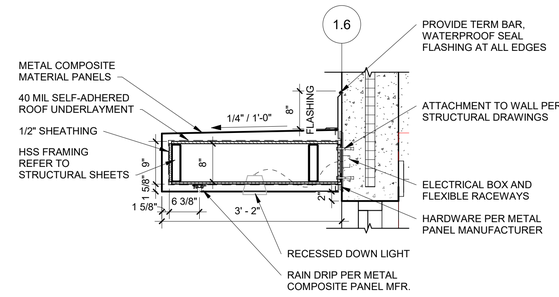
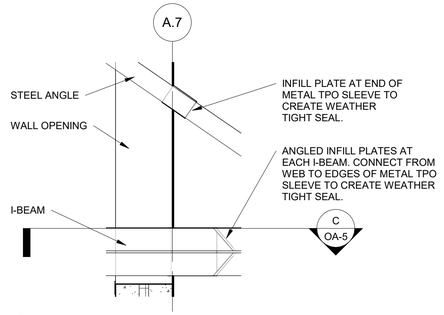


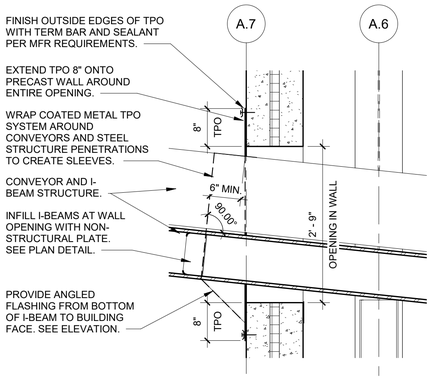
E ROOF HATCH
OA-8 3/4" = 1'-0"



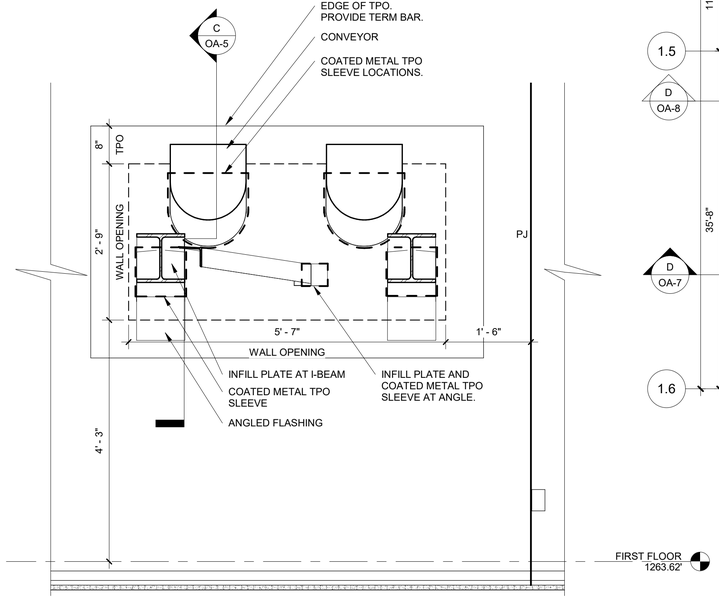
D CANOPY SECTION
OA-8 3/4" = 1'-0"



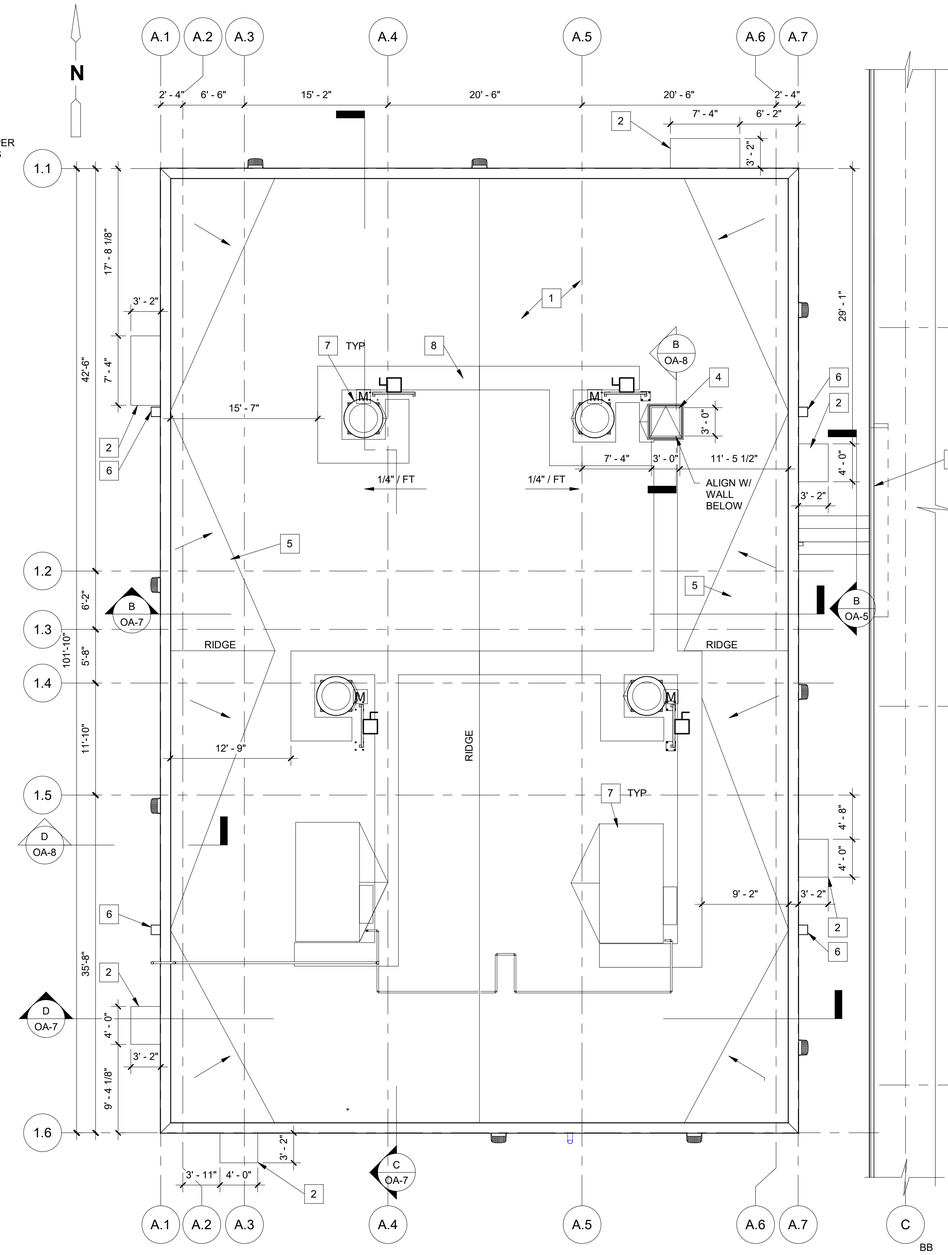
F PLAN DETAIL - INFILL PLATES
3/4" = 1'-0"



C SECTION AT CONVEYOR OPENING
OA-3 3/4" = 1'-0"



B ELEVATION AT CONVEYOR OPENING
OA-3 3/4" = 1'-0"



ROOF PLAN KEYNOTES (☐):
1. SINGLE PLY 60 MIL TPO MEMBRANE OVER ½" COVER BOARD, OVER TAPERED INSULATION, OVER RIGID INSULATION, OVER VAPOR BARRIER OVER ½" COVER BOARD. SYSTEM TO BE FULLY ADHERED. REFER TO SHEETS OA-10 AND OA-11 FOR ROOFING DETAILS.
2. ALUMINUM COMPOSITE PANEL CANOPY AT EXTERIOR DOORS. REFERENCE DETAIL D/OA-5. REFER TO STRUCTURAL SHEETS FOR FRAMING.
3. EXISTING BIOSOLIDS ROOF TO REMAIN. (NOT IN CONTRACT)
4. ROOF HATCH (3' X 3') ON INSULATED ROOF CURB. CENTER ON LADDER BELOW.
5. CRICKETS TO SLOPE AT ¼"/ FT.
6. COLLECTOR HEAD WITH DOWNSPOUTS. CONNECT DOWNSPOUTS TO UNDERGROUND DRAINAGE SYSTEM. REFER TO CIVIL DRAWINGS.
7. HVAC EQUIPMENT AND PIPING. REFER TO HVAC DRAWINGS.
8. PROVIDE FULLY ADHERED WALKWAY PADS TO ALL SERVICEABLE POINTS ON THE EQUIPMENT. PROVIDE A 2" GAP EVERY 10' (MAXIMUM) FOR DRAINAGE.

LEGEND

A	WALLTYPE
	2 HOUR BARRIER
FE	FIRE EXTINGUISHER
WO-XXX	WINDOW
LO-XXX	LOUVER
DO-XXX	DOOR
BB	BIOSOLIDS BARN

A ROOF #1 PLAN
OA-6 1/8" = 1'-0"

0 4' 8' 16'

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/AMH
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH 2024

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19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

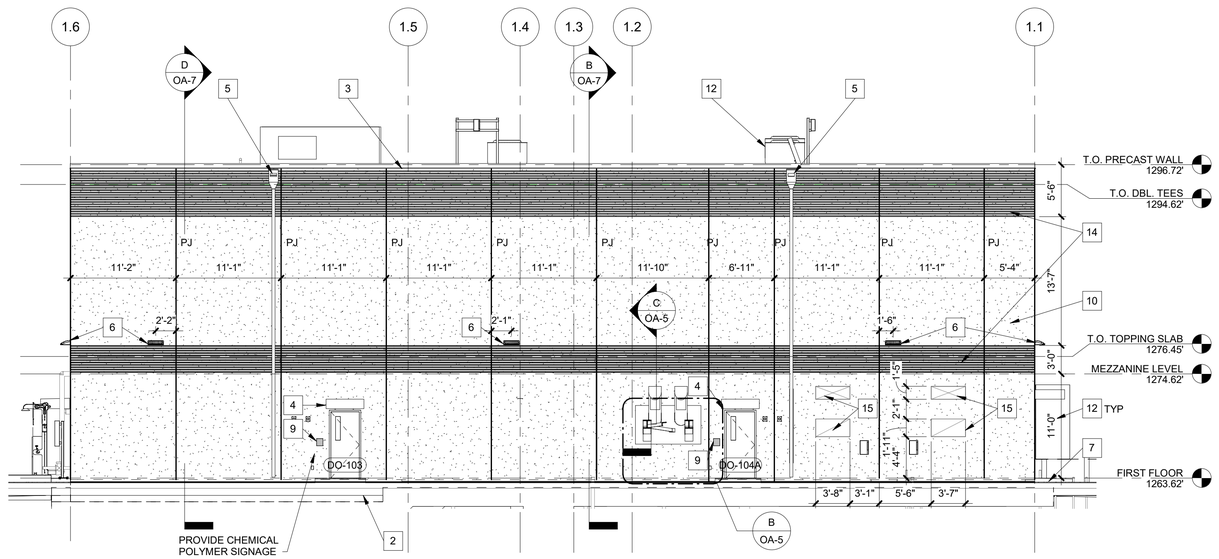
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ROOF PLANS AND SECTIONS

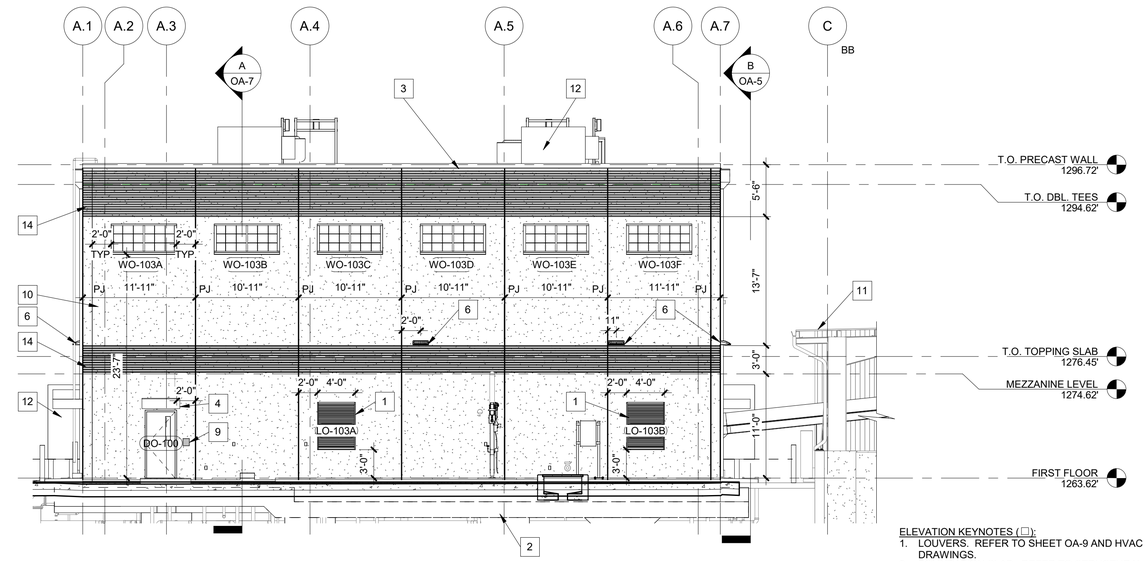
PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-5

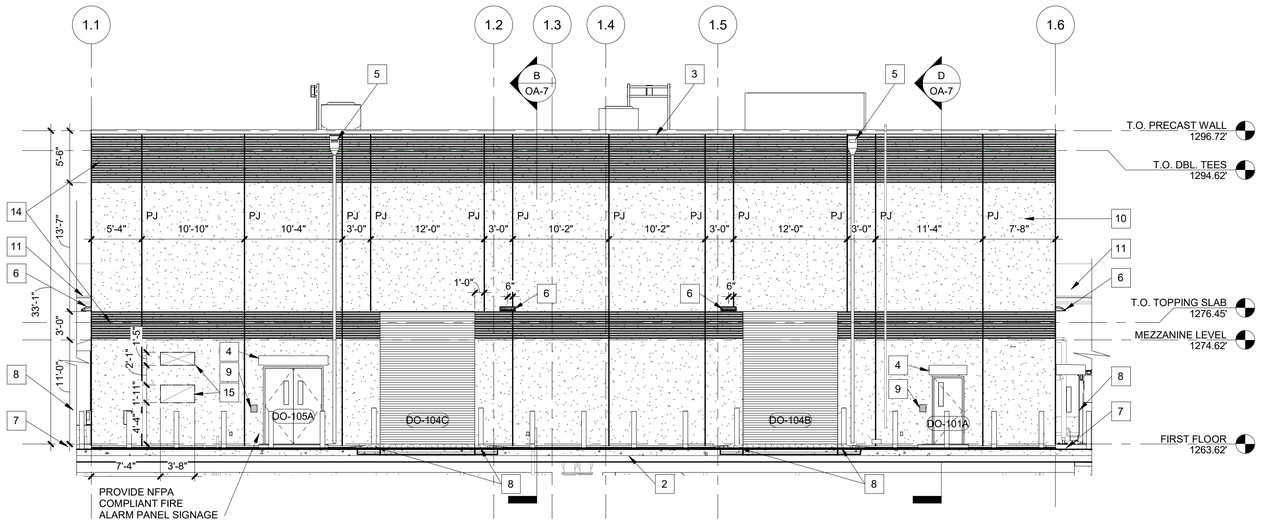
DOUGLAS C. SWIFT LICENSED 3561 3/1/24 KANSAS PROFESSIONAL ARCHITECT



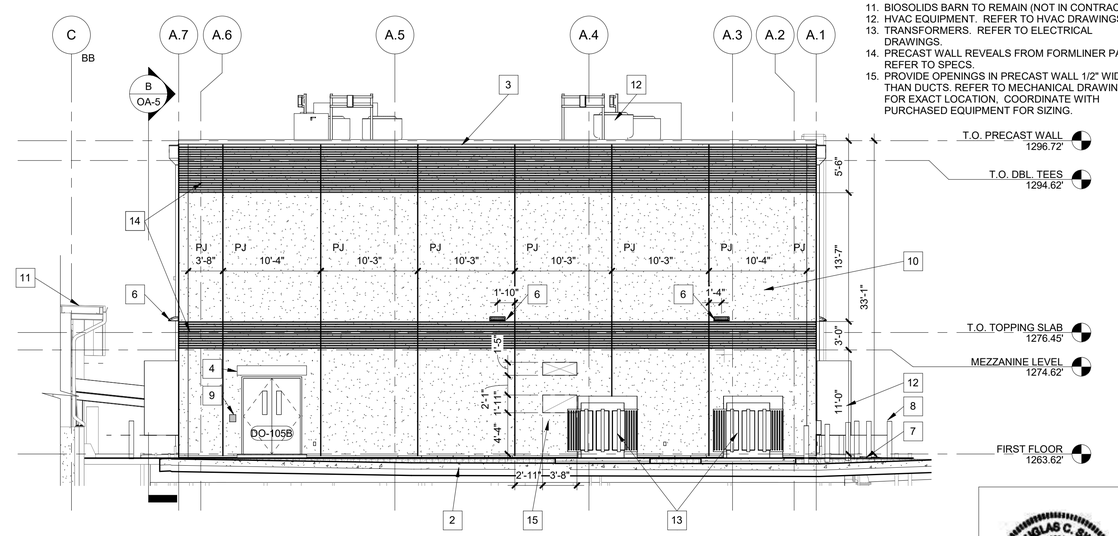
D EAST ELEVATION
OA-3 1/8" = 1'-0"



C SOUTH ELEVATION
OA-3 1/8" = 1'-0"



B WEST ELEVATION
OA-3 1/8" = 1'-0"



A NORTH ELEVATION
OA-3 1/8" = 1'-0"

ELEVATION KEYNOTES (□):
1. LOUVERS. REFER TO SHEET OA-9 AND HVAC DRAWINGS.
2. FOUNDATION SLAB. REFER TO STRUCTURAL DRAWINGS.
3. PREMANUFACTURED METAL COPING. PROVIDE 45 DEGREE WELDED CORNER SEAMS. PROVIDE EXPANSION JOINTS WITHIN 24" OF THE CORNERS. REFER TO E/OA-11.
4. ALUMINUM COMPOSITE PANEL CANOPY AT EXTERIOR DOORS. REFERENCE DETAIL D/OA-5. REFER TO STRUCTURAL SHEETS FOR FRAMING.
5. COLLECTOR HEAD WITH DOWNSPOUTS. CONNECT TO UNDERGROUND DRAINAGE SYSTEM. REFER TO CIVIL DRAWINGS.
6. LIGHT FIXTURES. REFER TO ELECTRICAL DRAWINGS.
7. REFER TO CIVIL PLANS FOR GRADES AND PAVEMENT ADJACENT TO THE BUILDING.
8. BOLLARDS. REFER TO CIVIL DRAWINGS.
9. SIGNAGE. REFER TO SHEET 0A-2.
10. EXTERIOR WALLS ARE PRECAST CONCRETE SANDWICH PANELS WITH AN INTERNAL LAYER OF RIGID INSULATION.
11. BIOSOLIDS BARN TO REMAIN (NOT IN CONTRACT).
12. HVAC EQUIPMENT. REFER TO HVAC DRAWINGS.
13. TRANSFORMERS. REFER TO ELECTRICAL DRAWINGS.
14. PRECAST WALL REVEALS FROM FORMLINER PANEL. REFER TO SPECS.
15. PROVIDE OPENINGS IN PRECAST WALL 1/2" WIDER THAN DUCTS. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION. COORDINATE WITH PURCHASED EQUIPMENT FOR SIZING.

DOUGLAS C. SWIFT LICENSED 3581 3/1/24 KANSAS PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/AMH
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH, 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

EAE ENVIRONMENTAL ADVISORS AND ENGINEERS, INC.
19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
EXTERIOR ELEVATIONS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-6

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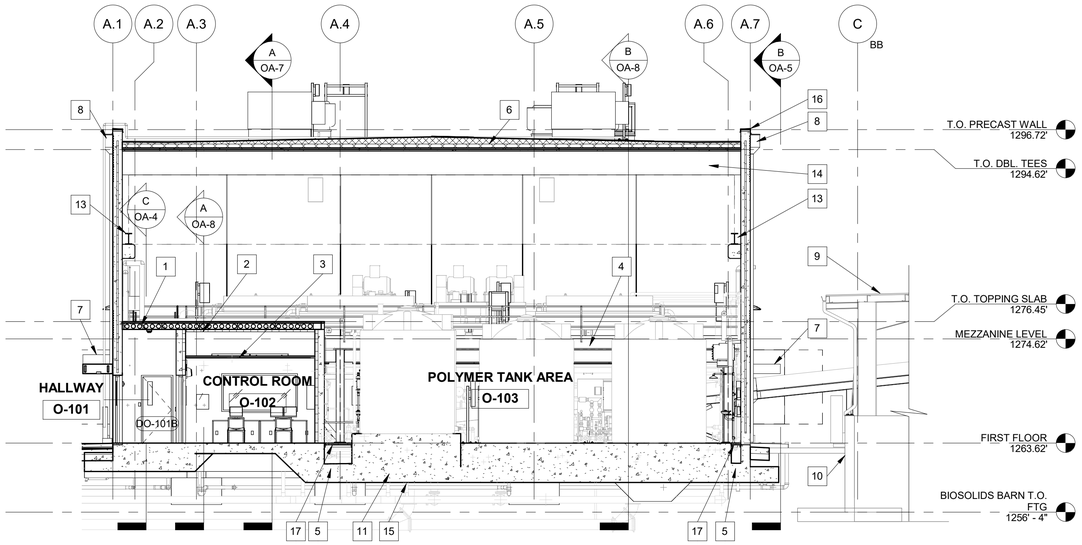
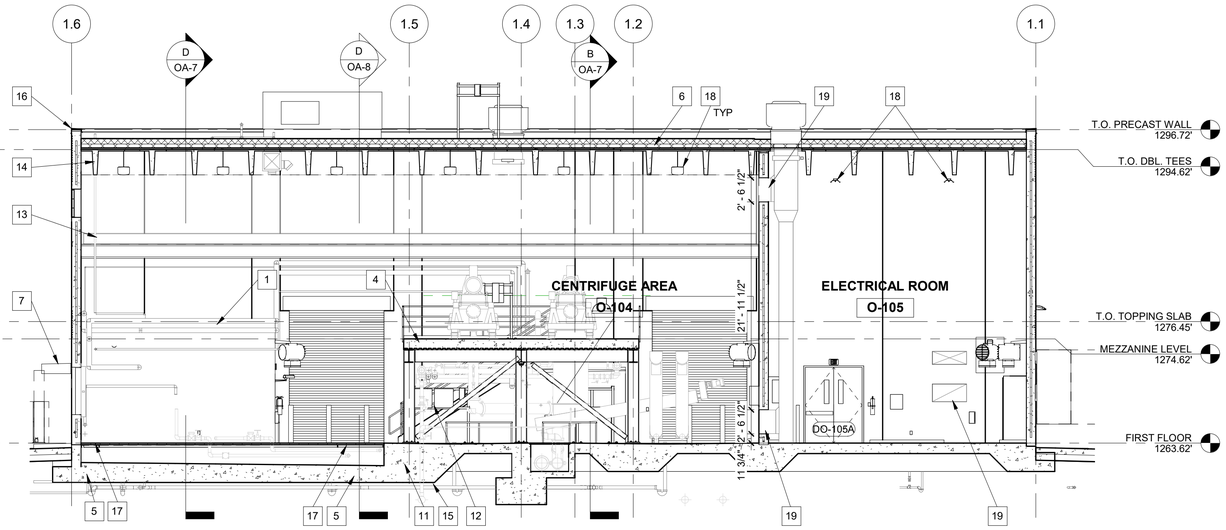


D E/W BUILDING SECTION

D / OA-3 — 1/8" = 1'-0"

0' 2' 4' 8'



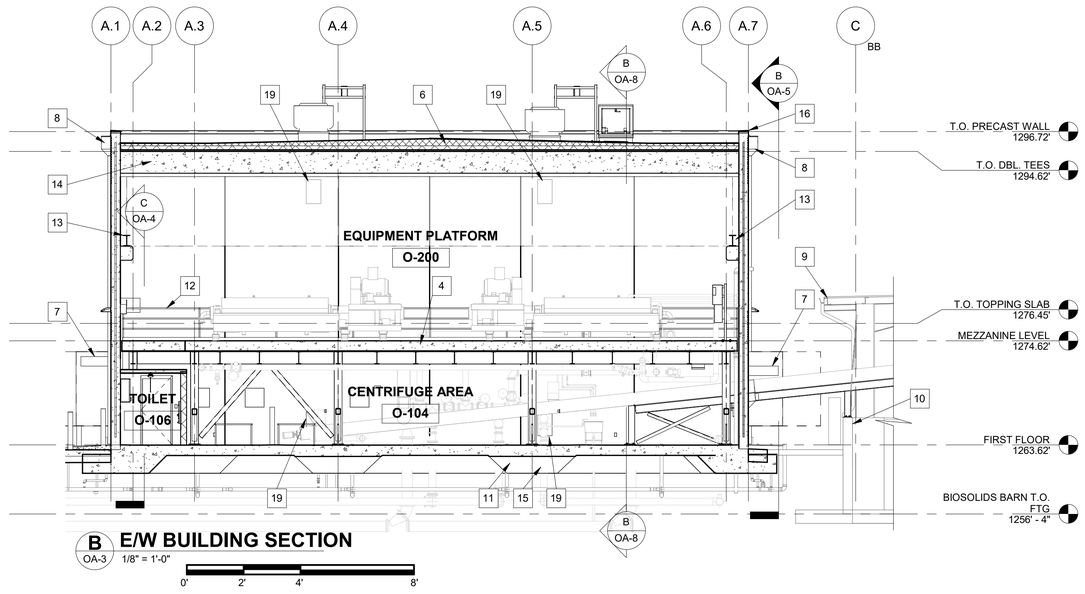
C N/S BUILDING SECTION

C / OA-3 — 1/8" = 1'-0"

0' 2' 4' 8'

BUILDING SECTION KEYNOTES (□):

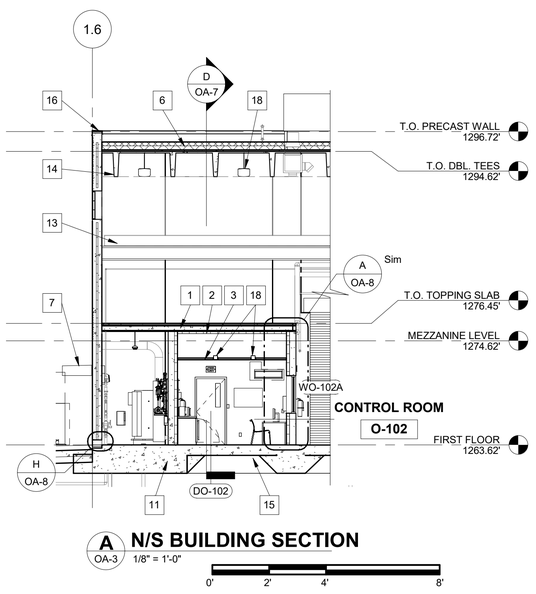
1. 2" CONCRETE TOPPING SLAB ON 8" HOLLOW CORE PLANKS. REFER TO STRUCTURAL DRAWINGS.
2. FASTEN RIGID INSULATION WITH AN R-30 RATING TO THE UNDERSIDE OF THE HOLLOW CORE SLABS.
3. SUSPENDED CEILING SYSTEM WITH ALUMINUM GRID AND 2'X4' ACOUSTIC CEILING TILES AT 9'-0" AFF.
4. MEZZANINE STRUCTURE. REFER TO STRUCTURAL DRAWINGS.
5. RECESSED FLOOR SLAB. REFER TO STRUCTURAL DRAWINGS.
6. ROOF. REFER TO SHEET OA-5
7. ALUMINUM COMPOSITE PANEL CANOPY AT EXTERIOR DOORS. REFER TO DETAIL D/OA-5. REFER TO STRUCTURAL SHEETS FOR FRAMING.
8. COLLECTOR HEAD WITH DOWNSPOUTS. CONNECT TO UNDERGROUND DRAINAGE SYSTEM. REFER TO CIVIL DRAWINGS.
9. EXISTING BIOSOLIDS ROOF AND DOWNSPOUTS TO REMAIN (NOT IN CONTRACT).
10. EXISTING BIOSOLIDS WALLS TO REMAIN
11. FOUNDATION SLAB. REFER TO STRUCTURAL DRAWINGS.
12. MEZZANINE STAIRS, GUARDRAILS AND HANDRAILS. REFER TO STRUCTURAL DRAWINGS
13. BRIDGE CRANE BEAM RESTING ON CONTINUOUS CORBEL. REFER TO STRUCTURAL DRAWINGS
14. DOUBLE TEE ROOF STRUCTURE. REFER TO STRUCTURAL DRAWINGS.
15. PROVIDE RIGID INSULATION (R-5 MINIMUM) UNDER SLAB.
16. PRE-FABRICATED METAL COPING
17. GRATING. REFER TO DETAILS ON SZ-10.
18. LIGHTING FIXTURES. REFER TO ELECTRICAL DRAWINGS.
19. PROVIDE OPENINGS IN PRECAST WALL 1/2" WIDER THAN DUCTS. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION, COORDINATE WITH PURCHASED EQUIPMENT FOR SIZING.



B E/W BUILDING SECTION

B / OA-3 — 1/8" = 1'-0"

0' 2' 4' 8'



A N/S BUILDING SECTION

A / OA-3 — 1/8" = 1'-0"

0' 2' 4' 8'

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CITY OF WICHITA, KS

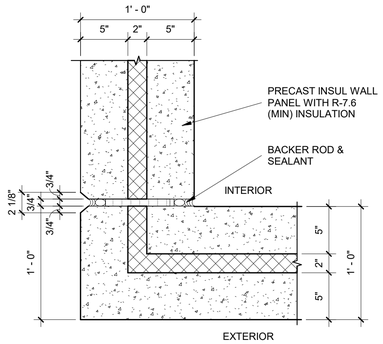
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING SECTIONS

PROJECT NO. 2395-267343
FILE NAME:

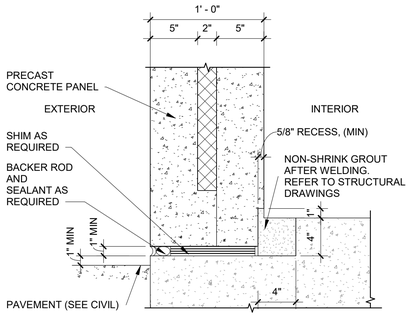
SHEET NO.
OA-7

DOUGLAS C. SMITH
LICENSED
3581
3/1/24
KANSAS
PROFESSIONAL ARCHITECT



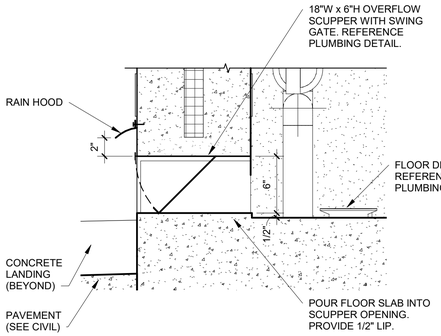
K INSUL. WALL PANEL CORNER - PLAN

1 1/2" = 1'-0"



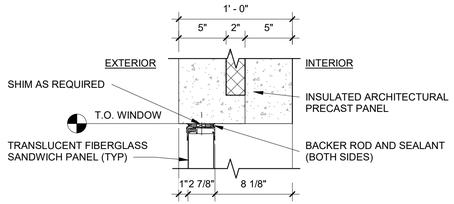
J WALL BASE - SECTION

1 1/2" = 1'-0"



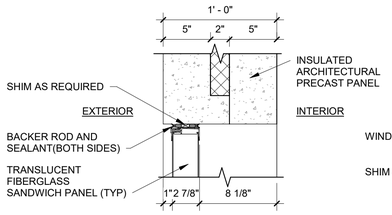
H OA-7 WALL OVERFLOW SCUPPER - SECTION

1 1/2" = 1'-0"



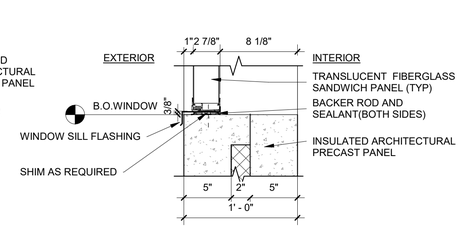
G TRANSLUCENT PANEL HEAD

1 1/2" = 1'-0"



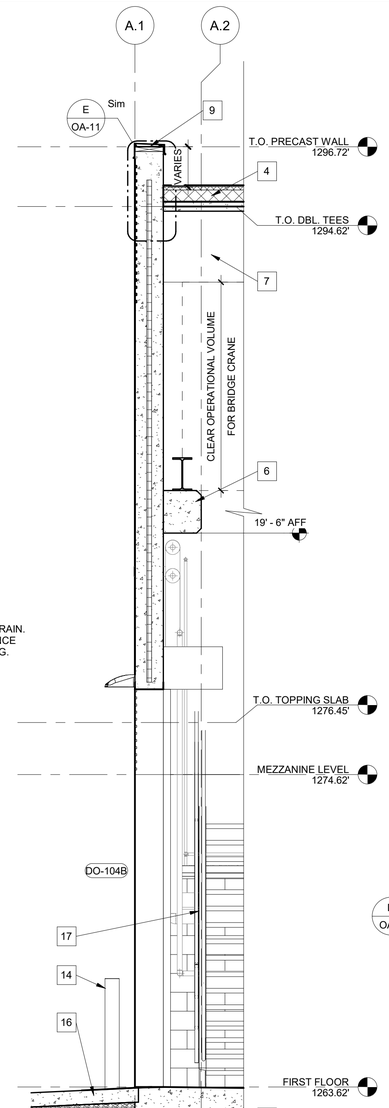
F TRANSLUCENT PANEL JAMB

1 1/2" = 1'-0"



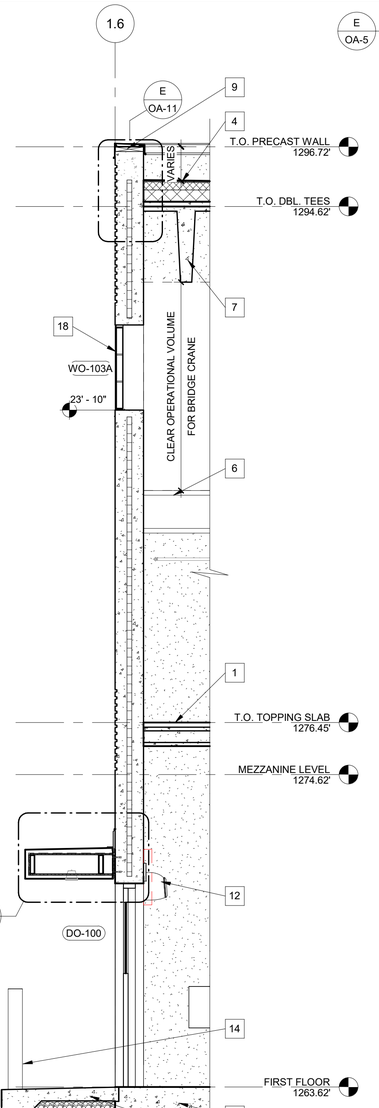
E TRANSLUCENT PANEL SILL

1 1/2" = 1'-0"



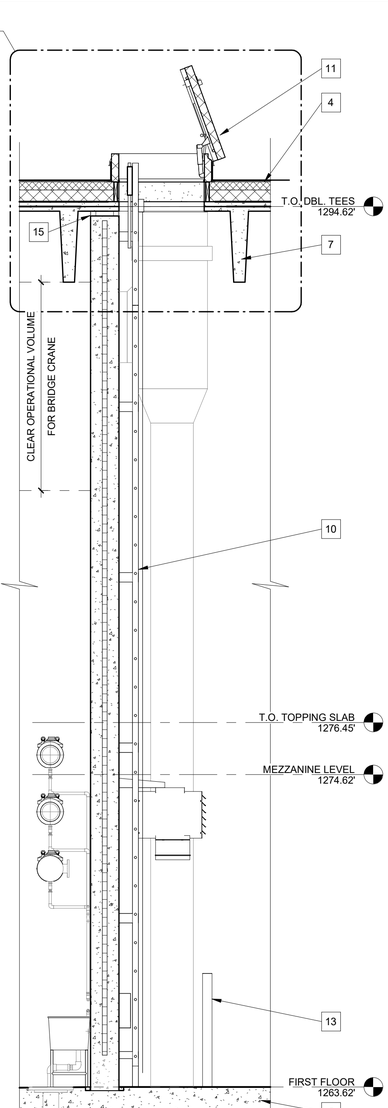
D OA-3 WALL SECTION

3/8" = 1'-0"



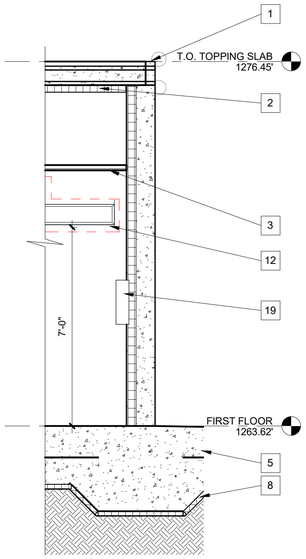
C OA-3 WALL SECTION

3/8" = 1'-0"



B OA-3 WALL SECTION

3/8" = 1'-0"



A OA-3 WALL SECTION

3/8" = 1'-0"

WALL SECTION KEYNOTES (□):

1. 2" CONCRETE TOPPING SLAB ON 8" HOLLOW CORE PLANKS. REFER TO STRUCTURAL DRAWINGS.
2. FASTEN RIGID INSULATION WITH AN R-30 RATING TO THE UNDERSIDE OF THE HOLLOW CORE SLABS.
3. SUSPENDED CEILING SYSTEM WITH ALUMINUM GRID AND 2'X4' ACOUSTIC CEILING TILES AT 9'-0" AFF.
4. ROOF. REFER TO SHEET OA-5
5. FOUNDATION SLAB. REFER TO STRUCTURAL DRAWINGS.
6. BRIDGE CRANE BEAM RESTING ON CONTINUOUS CORBEL. REFER TO STRUCTURAL DRAWINGS
7. DOUBLE TEE ROOF STRUCTURE. REFER TO STRUCTURAL DRAWINGS.
8. PROVIDE RIGID INSULATION (R-5 MINIMUM) UNDER SLAB.
9. PRE-FABRICATED METAL COPING
10. FIXED LADDER WITH OSHA COMPLIANT FALL ARREST SYSTEM AND EXTENDABLE LADDER SAFETY POST. REFER TO SPECIFICATIONS.
11. ROOF HATCH
12. AIR CONDITIONER UNIT. REFER TO ELECTRICAL DRAWINGS.
13. 4" DIAMETER x 4' TALL REMOVABLE BOLLARD WITH SLIP COVER. REFER TO DETAIL.
14. EXTERIOR CONCRETE FILLED BOLLARD. REFER TO CIVIL DRAWINGS.
15. 2-HOUR FIRE-RATED COMPRESSIBLE FILLER, REFER TO SPECIFICATIONS.
16. EXTERIOR DOOR LANDING, REFER TO STRUCTURAL DETAILS.
17. MEZZANINE STAIRS, GUARDRAILS AND HANDRAILS. REFER TO STRUCTURAL DRAWINGS
18. TRANSLUCENT WINDOW PANEL.
19. SECURITY ALARM PANEL. REFER TO ELECTRICAL DRAWINGS.

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
WALL SECTIONS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-8

DOOR SCHEDULE

DOOR NUMBER	ROOM NAME	EXT DOOR	SIZE		DOOR				FRAME			DETAILS			FIRE RATING (MIN)	HARDWARE SET
			WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	GLAZING	TYPE	MATERIAL	FINISH	HEAD	JAMB	THRESHOLD		
DO-100		*	3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	14.0
DO-101A	HALLWAY	*	3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	14.0
DO-101B	CENTRIFUGE AREA		3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	15.0
DO-102	CONTROL ROOM		3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	16.0
DO-103	POLYMER TANK AREA	*	3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	14.0
DO-104A	CENTRIFUGE AREA	*	3' - 0"	7' - 0"	D1	FRP	MFR	ISG	F1	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	14.0
DO-104B	CENTRIFUGE AREA	*	10' - 0"	14' - 0"	OH	SS	MFR	NA	NA	AG	MANF	G/OA-9	B/OA-9	A/OA-9	NA	19.0
DO-104C	CENTRIFUGE AREA	*	10' - 0"	14' - 0"	OH	SS	MFR	NA	NA	AG	MANF	G/OA-9	B/OA-9	A/OA-9	NA	19.0
DO-105A	ELECTRICAL ROOM	*	PR 3' - 0"	8' - 0"	D2	FRP	MFR	ISG	F2	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	18.0
DO-105B	ELECTRICAL ROOM	*	PR 3' - 0"	8' - 0"	D2	FRP	MFR	ISG	F2	FRP	MANF	H/OA-9	H/OA-9	C/OA-9	NA	18.0
DO-106	TOILET		3' - 0"	7' - 0"	F	FRP	MFR	NA	F1	FRP	MANF	J/OA-9	F/OA-9	C/OA-9	NA	17.0

FINISH SCHEDULE

ROOM NAME	ROOM NUMBER	FLOOR		WALL										CEILING		
				NORTH		EAST		SOUTH		WEST		BASE				
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	DETAIL	MATERIAL	FINISH	HEIGHT
MECHANICAL ROOM	O-100	CONC	CONC	CONC	PT	CONC	PT	CONC	PT	CONC	PT	NA	NA	DT	PT	EXPOSED
HALLWAY	O-101	CONC	CONC	CONC	PT	CONC	PT	CONC	PT	CONC	PT	NA	NA	DT	PT	EXPOSED
CONTROL ROOM	O-102	CONC	RS	GYP BD	PT	GYP BD	PT	GYP BD	PT	GYP BD	PT	RS	K/OA-9	ACP	MFR	9'-0"
POLYMER TANK AREA	O-103	CONC	CONC	CONC	PT	CONC	PT	CONC	PT	CONC	PT	NA	NA	DT	PT	EXPOSED
CENTRIFUGE AREA	O-104	CONC	CONC	CONC	PT	CONC	PT	NA	NA	CONC	PT	NA	NA	DT	PT	EXPOSED
ELECTRICAL ROOM	O-105	CONC	CONC	CONC	PT	CONC	PT	CONC	PT	CONC	PT	NA	NA	DT	PT	EXPOSED
TOILET	O-106	CONC	RS	CMU	PT	CMU	PT	CMU	PT	CONC	PT	RS	K/OA-9	PT	MFR/PT	8'-0"
EQUIPMENT PLATFORM	O-200	CONC	CONC	NA	NA	CONC	PT	NA	NA	CONC	PT	NA	NA	DT	PT	EXPOSED

LOUVER SCHEDULE

LOUVER NUMBER	ROOM NAME	R.O.		TYPE	PERFORMANCE	DEPTH	MATERIAL	FINISH	DETAIL			NOTES
		WIDTH	HEIGHT						HEAD	JAMB	SILL	
LO-103A	POLYMER TANK AREA	4' - 0"	5' - 0"	L2	EXTRUDED SIGHTPROOF LOUVER	1' - 0"	ALUM	SPEC	G/OA-8 SIM.	F/OA-8 SIM.	E/OA-8 SIM.	EXT. FACE TO BE 2" FROM EXT. OF BLDG
LO-103B	POLYMER TANK AREA	4' - 0"	5' - 0"	L2	EXTRUDED SIGHTPROOF LOUVER	1' - 0"	ALUM	SPEC	G/OA-8 SIM.	F/OA-8 SIM.	E/OA-8 SIM.	EXT. FACE TO BE 2" FROM EXT. OF BLDG

WINDOW SCHEDULE

WINDOW NUMBER	ROOM NAME	SIZE			FRAME			DETAILS		
		HEIGHT	WIDTH	TYPE	MATERIAL	FINISH	GLAZING	HEAD	JAMB	SILL
WO-102A	CONTROL ROOM	4' - 0"	8' - 0"	W2	ALUM	MFR	ISG	E/OA-9	E/OA-9	D/OA-9
WO-103A	EQUIPMENT PLATFORM	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8
WO-103B	EQUIPMENT PLATFORM	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8
WO-103C	POLYMER TANK AREA	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8
WO-103D	POLYMER TANK AREA	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8
WO-103E	POLYMER TANK AREA	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8
WO-103F	POLYMER TANK AREA	3' - 0"	6' - 11"	W1	ALUM	MFR	FIBER GLASS	G/OA-8	F/OA-8	E/OA-8

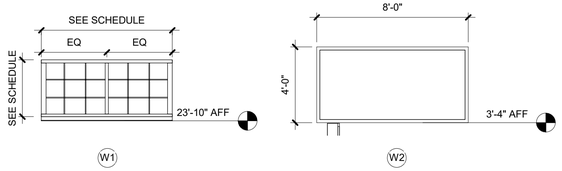
ARCHITECTURAL ABBREVIATIONS

ACP	ACOUSTICAL CEILING PANELS
AFF	ABOVE FINISHED FLOOR
AG	ANGLE GUIDES
ALUM	ALUMINUM
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
DBL	DOUBLE
DT	DOUBLE TEE
EP	EPOXY
FRP	FIBERGLASS REINFORCED PLASTIC
GYP BD	GYPSUM BOARD
HM	HOLLOW METAL
INSUL	INSULATION
ISG	INSULATED SAFETY GLASS
MFR	MANUFACTURER
NA	NOT APPLICABLE
NW	NO WORK
OH CLG	OVERHEAD COILING
PT	PAINT
RB	RUBBER
RFS	RAISED FLOOR SYSTEM
RO	ROUGH OPENING
RS	RESINOUS FLOORING
SCS	SUSPENDED CEILING SYSTEM
SC WD	SOLID CORE WOOD DOOR
SS	STAINLESS STEEL
WG	SAFETY GLASS
VCT	VINYL COMPOSITION TILE
VWC	VINYL WALL COVERING

WALL TYPES

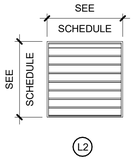
A: 8" PRECAST PANEL. REFER TO STRUCTURAL DRAWINGS.
B: 5/8" TYPE X GYPSUM BOARD ON 3.5" 25GA METAL FRAMING ON 8" PRECAST PANEL WALL. FILL STUD CAVITIES WITH R-13 GLASS FIBER INSULATION WITH VAPOR BARRIER. REFER TO STRUCTURAL DRAWINGS.
C: 8" PRE-CAST CONCRETE SANDWICH PANEL WITH R-13 RIGID INSULATION CENTERED WITHIN THE WALL. REFER TO STRUCTURAL DRAWINGS.
D: 8" CMU BLOCK WALL. REFER TO STRUCTURAL DRAWINGS.

WINDOW TYPES



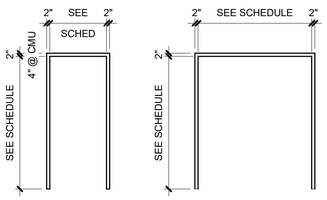
W1 W2

LOUVER TYPES



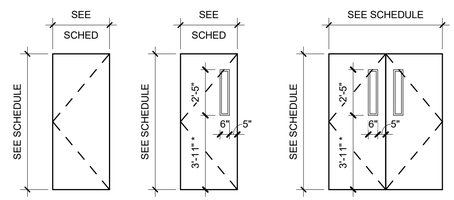
L2

FRAME TYPES

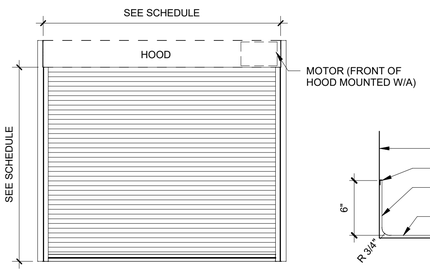


F1 F2

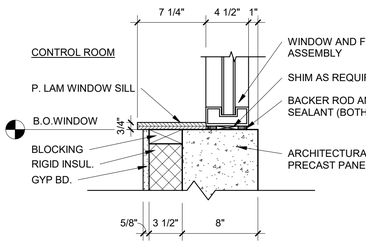
DOOR TYPES



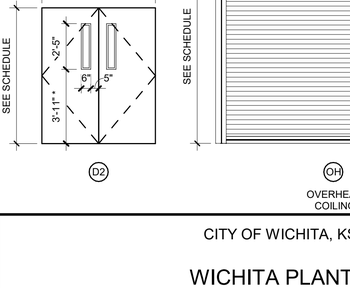
F D1 D2



OH
OVERHEAD COILING

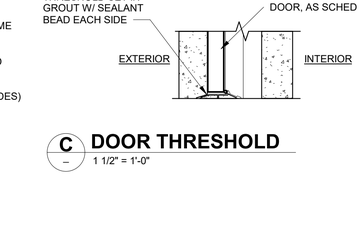


J DOOR HEAD - CMU
1 1/2" = 1'-0"



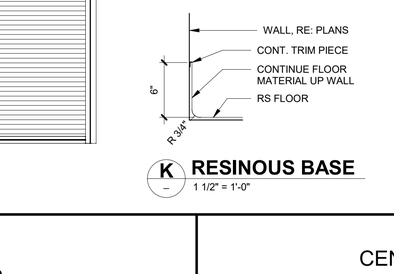
F DOOR JAMB - CMU
1 1/2" = 1'-0"

D INTERIOR WINDOW SILL
1 1/2" = 1'-0"



NOTE:
1. COORDINATE FINAL LOCATION OF DOOR WITH THE APPROVED PRECAST PANEL SYSTEM.

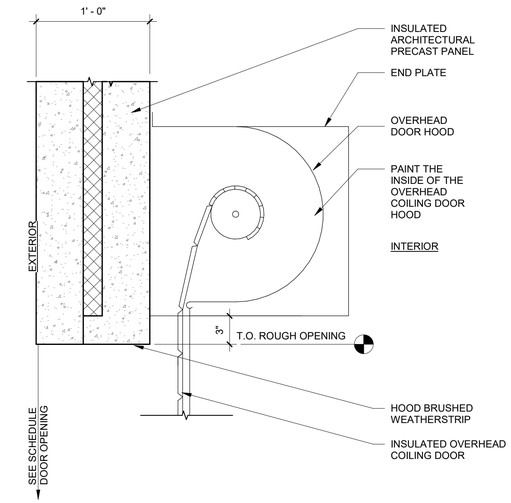
H DOOR HEAD/JAMB - PRECAST
1 1/2" = 1'-0"



E INT. WINDOW HEAD/JAMB
1 1/2" = 1'-0"

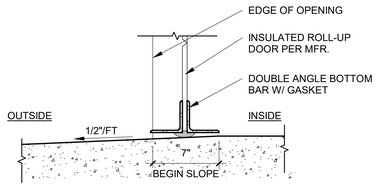
C DOOR THRESHOLD
1 1/2" = 1'-0"

K RESINOUS BASE
1 1/2" = 1'-0"



G OVERHEAD COILING DOOR HEAD
1 1/2" = 1'-0"

B OVERHEAD COILING DOOR JAMB
1 1/2" = 1'-0"



A OVERHEAD COILING DOOR THRESHOLD
1 1/2" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/ALA
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH, 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

EAE
ENVIRONMENTAL ADVISORS AND ENGINEERS, INC.
19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
SCHEDULES & DETAILS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-9

DOUGLAS C. SMITH LICENSED 3581 3/1/24 KANSAS PROFESSIONAL ARCHITECT

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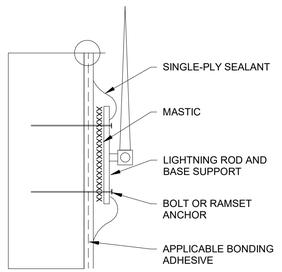
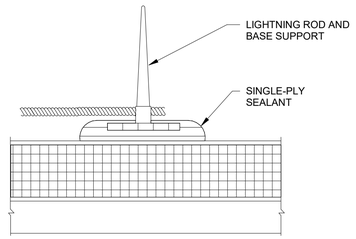


NOTES:

1. DETAIL MAY BE USED FOR ANY FASTENER PENETRATION (E.G., ACCESS LADDER, ANCHOR SUPPORT TO PARAPET).
2. MASTIC MUST BE UNDER CONSTANT COMPRESSION.
3. DETAIL UNACCEPTABLE FOR HORIZONTAL APPLICATION ON ROOF DECK.
4. COMPLY WITH ZONING ORDNANCE AND LOCAL CODES FOR MOUNTING A LIGHTNING SYSTEM.

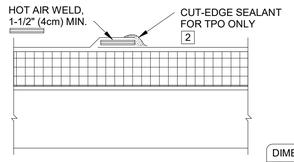
(H) LIGHTNING ROD AT PARAPET (VERTICAL ATTACHMENT)
NTS



NOTES:

1. CLEAN EXPOSED MEMBRANE SURFACE WITH WEATHERED MEMBRANE CLEANER AND ALLOW TO DRY.
2. APPLY TPO PRIMER TO THE MEMBRANE SURFACE PRIOR TO THE APPLICATION OF UNIVERSAL SINGLE-PLY SEALANT.
3. COMPLY WITH ZONING ORDNANCE AND LOCAL CODES FOR MOUNTING A LIGHTNING SYSTEM.

(G) LIGHTNING ROD AT DECK LEVEL
NTS



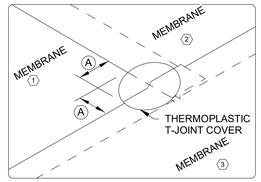
DIMENSIONS	cm		
A	2-1/4"	6	MIN.

NOTES:

1. WHEN USING 60-MIL TPO MEMBRANE, APPLY A 4-1/2" (11.5cm) DIAMETER "T-JOINT" COVER AT ALL FIELD SPLICE INTERSECTIONS.
2. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.

T-JOINT REQUIREMENTS

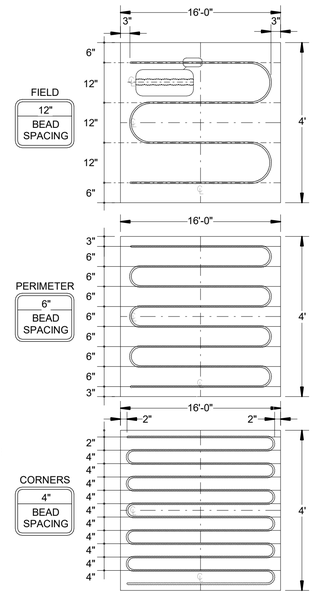
MEMBRANE	THICKNESS		
	45/50	60	80
PVC	N/A	N/A	YES
CLEANER	N/A	N/A	YES
TPO	N/A	YES	YES



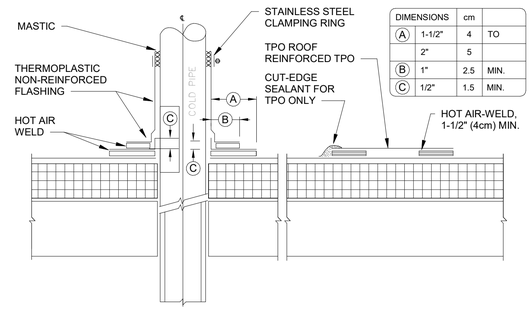
(F) MEMBRANE SPLICE
NTS

NOTES:

1. REFER TO SPECIFICATIONS FOR PRODUCT DATA SHEETS FOR APPROPRIATE BEAD SPACING BASED UPON THE BUILDING HEIGHT, WARRANTY TERM AND ACCEPTABLE SUBSTRATE.
2. THE SURFACE TO WHICH ADHESIVE IS TO BE APPLIED SHALL BE DRY, FREE OF FINS, PROTRUSIONS, SHARP EDGES, LOOSE AND FOREIGN MATERIALS, OIL AND GREASE. AREA SHOULD BE CLEANED WITH AN AIR BLOWER.
3. PREVIOUSLY UNEXPOSED ASPHALT OR RESIDUE, MUST BE PRIMED.
4. SEAL ALL GAPS IN THE CONCRETE DECK WITH A SUITABLE MATERIAL TO AVOID CONDENSATION ISSUES OR FILL WITH INSULATION ADHESIVE.
5. AT THE BEGINNING OF THE INSULATION ATTACHMENT PROCESS AND PERIODICALLY THROUGHOUT THE DAY, CHECK THE ADHESION OF BOARDS TO ENSURE A TIGHT BOND IS CREATED AND MAXIMUM CONTACT IS ACHIEVED.
6. WALK THE BOARDS INTO THE ADHESIVE AND ROLL USING A 30" WIDE, 150 POUND SEGMENTED STEEL ROLLER TO ENSURE FULL EMBEDMENT.
7. ONE PERSON TO BE DESIGNATED TO WALK AND ROLL IN ALL BOARDS. RELIEF CUTS MAY BE NECESSARY TO ALLOW LIFTED BOARD TO LAY FLAT. USE CONSTANT WEIGHT (55LBS MINIMUM FOR 5-15 MINUTES PER LIFTED AREA) TO ACHIEVE ADEQUATE ADHESION.



(E) INSULATION/COVER BOARD ATTACHMENT USING BEAD ADHESIVE
NTS

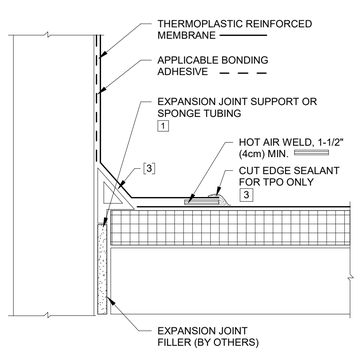


DIMENSIONS	cm		
A	1-1/2"	4	TO
	2"	5	
B	1"	2.5	MIN.
C	1/2"	1.5	MIN.

NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING FIELD-FABRICATED PIPE FLASHING.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C) WHEN USING PVC AND 160°F (71°C) WHEN USING TPO FLASHING.
3. THERMOPLASTIC NON-REINFORCED FLASHING WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (4cm) VERTICAL HOT AIR WELD.
4. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE ONLY.

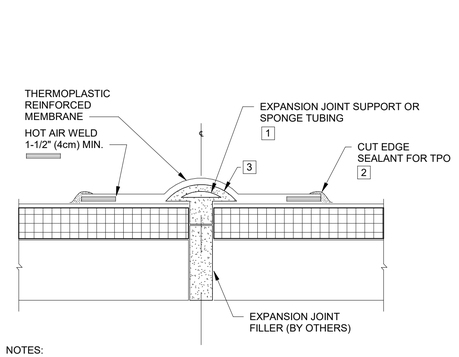
(D) FIELD FABRICATED PIPE FLASHING
NTS



NOTES:

1. WIDTH OF JOINT SHALL BE A MINIMUM OF 3/4" (2cm) AND SHALL NOT EXCEED 2" (7.5cm).
2. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
3. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT SUPPORT OR SPONGE TUBING.

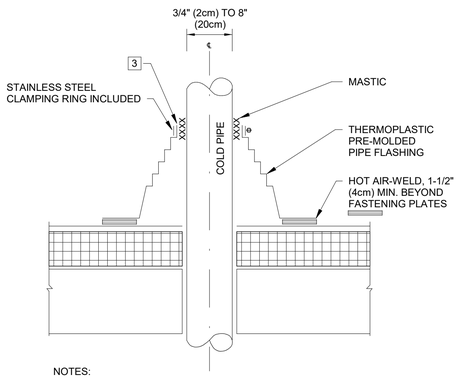
(C) DECK TO WALL EXPANSION DETAIL
NTS



NOTES:

1. WIDTH OF JOINT SHALL BE A MINIMUM OF 3/4" (2cm) AND SHALL NOT EXCEED 2" (7.5cm).
2. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
3. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT SUPPORT OR SPONGE TUBING.

(B) DECK-TO-DECK EXPANSION DETAIL
NTS



NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PRE-MOLDED PIPE FLASHING.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C) WHEN USING PVC AND 160°F (71°C) WHEN USING TPO FLASHING.
3. PRE-MOLDED PIPE FLASHING MUST HAVE INTACT RIB AT THE TOP EDGE REGARDLESS OF PIPE DIAMETER.

(A) PRE-MOLDED PIPE FLASHING
NTS

DOUGLAS C. SMITH
LICENSED
3581
3/1/24
KANSAS
PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/AMH
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
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DATE: MARCH, 2024

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Tel: (816) 444-8270

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19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ROOF DETAILS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-10

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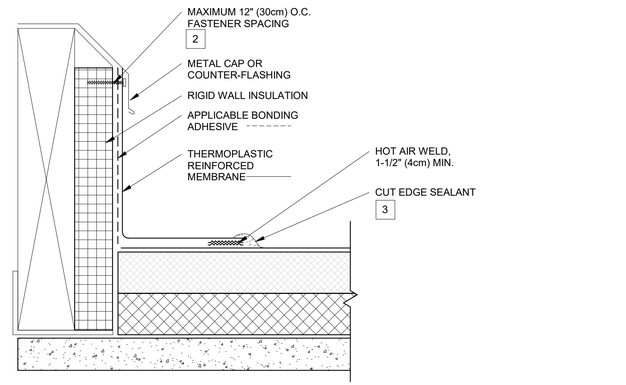
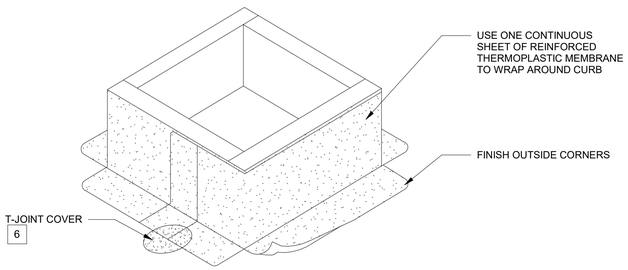
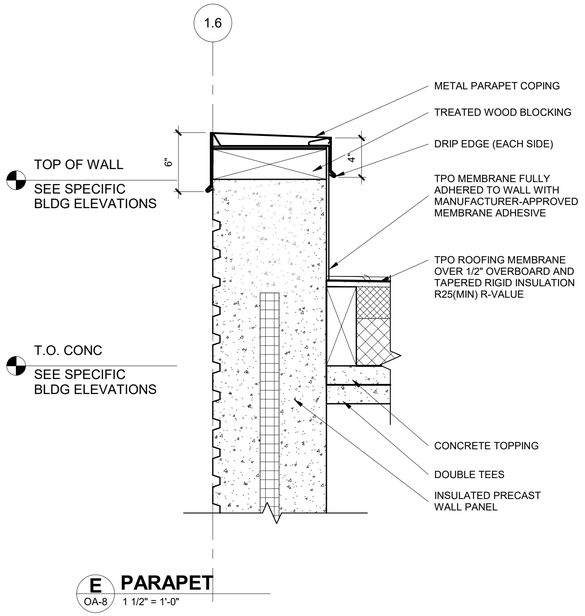


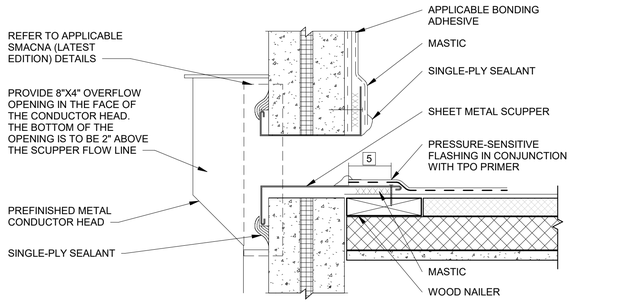


NOTES:
1. WHEN USING TPO MEMBRANE, BONDING ADHESIVE IS NOT REQUIRED WHEN THE FLASHING HEIGHT IS 12" (30cm) OR LESS AND THE MEMBRANE IS FASTENED "AS SHOWN" ON TOP OF THE CURB. WHEN TERMINATION BAR IS USED BENEATH THE COUNTER-FLASHING, BONDING ADHESIVE CAN BE ELIMINATED WHEN THE MEMBRANE HEIGHT IS 18" (46cm) OR LESS.
2. WHEN MECHANICAL FASTENERS ARE USED TO PENETRATE THE METAL COUNTER-FLASHING, USE EPDM WASHERS, APPLY WATER CUT-OFF MASTIC UNDER THE COUNTER-FLASHING OR CAULK THE FASTENER HEADS.
3. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
4. REFER TO SPECIFICATIONS FOR ACCEPTABLE FASTENERS AND PLATES.
5. MECHANICAL SECUREMENT MAY BE INSTALLED INTO THE VERTICAL SUBSTRATE.
6. WHEN USING 60 MIL THICK CURB FLASHING, THE INTERSECTIONS BETWEEN SPLICES MUST BE OVERLAID WITH A THERMOPLASTIC "T-JOINT" COVER.

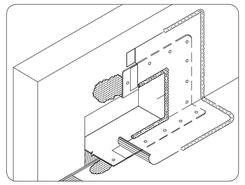
C CURB FLASHING WITH TPO OR PVC MEMBRANE
NTS



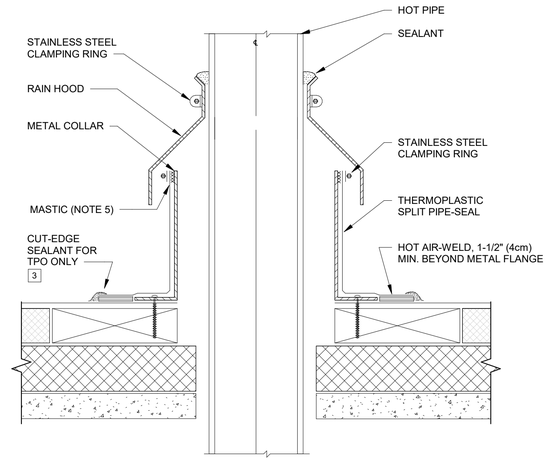
E PARAPET
OA-8 1 1/2" = 1'-0"



NOTES:
1. WOOD NAILERS ARE INSTALLED ONLY AT SCUPPERS TO SECURE METAL SLEEVE AND MUST EXTEND PAST THE WIDTH OF METAL SLEEVE FLANGE.
2. INSTALL WALL FLASHING PRIOR TO SCUPPER INSTALLATION.
3. METAL SCUPPER BOX MUST HAVE CONTINUOUS FLANGES WITH ROUNDED CORNERS. SOLDER ALL SCUPPER SEAMS WATER-TIGHT.
4. MASTIC UNDER SCUPPER FLANGE MUST BE UNDER CONSTANT COMPRESSION.
5. SCUPPER FLANGES MUST BE TOTALLY COVERED BY PRESSURE-SENSITIVE FLASHING WITH MINIMUM 2" (5cm) COVERAGE PAST NAIL HEAD.
6. UNIVERSAL SINGLE-PLY SEALANT IS REQUIRED AT FLASHING EDGES ON SCUPPER EDGE. TPO PRIMER MUST BE USED TO PREPARE SURFACES PRIOR TO THE APPLICATION OF SEALANT.

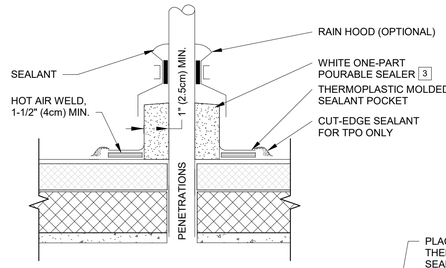


B SCUPPER AT DECK - TPO
NTS

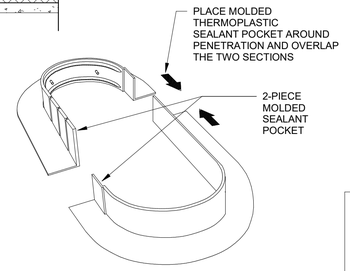


NOTES:
1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PIPE FLASHING.
2. TEMPERATURE OF THE METAL COLLAR MUST NOT EXCEED 160°F (71°C) WHEN USING TPO.
3. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE ONLY.
4. WATER CUT-OFF MASTIC MUST BE HELD UNDER CONSTANT COMPRESSION.

D HOT PIPE/FLUE FLASHING
NTS



NOTES:
1. TEMPERATURE OF PIPE MUST NOT EXCEED 160°F (71°C).
2. WHEN USING TPO MOLDED SEALANT POCKET, TPO PRIMER MUST BE APPLIED TO ALL INSIDE SURFACES AND PENETRATIONS PRIOR TO FILLING WITH SEALANT. WHEN USING PVC MOLDED SEALANT POCKET, CLEAN THE POCKET WITH PVC AND MANUFACTURER RECOMMENDED CLEANER. APPLY TPO PRIMER TO PENETRATION(S) ONLY.
3. FILL POCKET COMPLETELY WITH WHITE ONE-PART POURABLE SEALER UNTIL RIM IS COVERED WITH SEALANT. ENSURE ALL VOIDS ARE FILLED.
4. APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.



A MOLDED SEALANT POCKET
NTS

DOUGLAS C. SMITH LICENSED 3581 3/1/24 KANSAS PROFESSIONAL ARCHITECT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: DCS
DRAWN BY: JCF/AMH
SHEET CHK'D BY: DCS
CROSS CHK'D BY: ALA
APPROVED BY: DCS
DATE: MARCH, 2024

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Kansas City, MO 64114
Tel: (816) 444-8270

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19211 W. 64TH TERRACE
SHAWNEE, KANSAS 66218
913/ 599-4326

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ROOF DETAILS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OA-11

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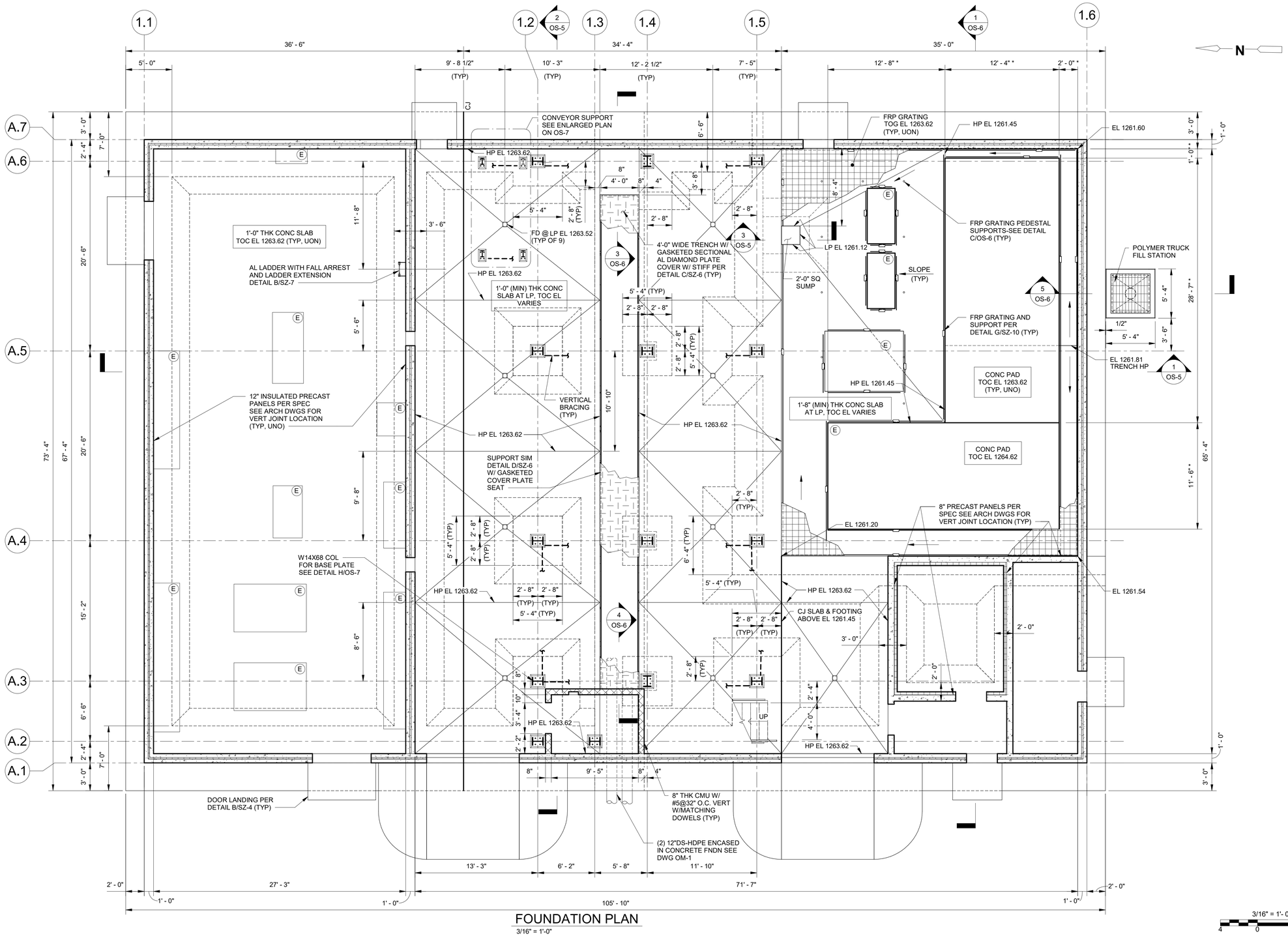
NOTES:

1. SEE S-1 TO S-5 FOR STRUCTURAL NOTES.
2. SEE CIVIL DRAWINGS FOR FINISHED GRADE ELEVATION AND SITE LAYOUT INFORMATION.
3. SEE ARCHITECTURAL DRAWINGS FOR RECAST WALL DIMENSIONS, ELEVATIONS, JOINTS AND LAYOUT.



FOUNDATION PLAN

3/16" = 1'-0"

3/16" = 1'- 0"
4 0 4 8

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

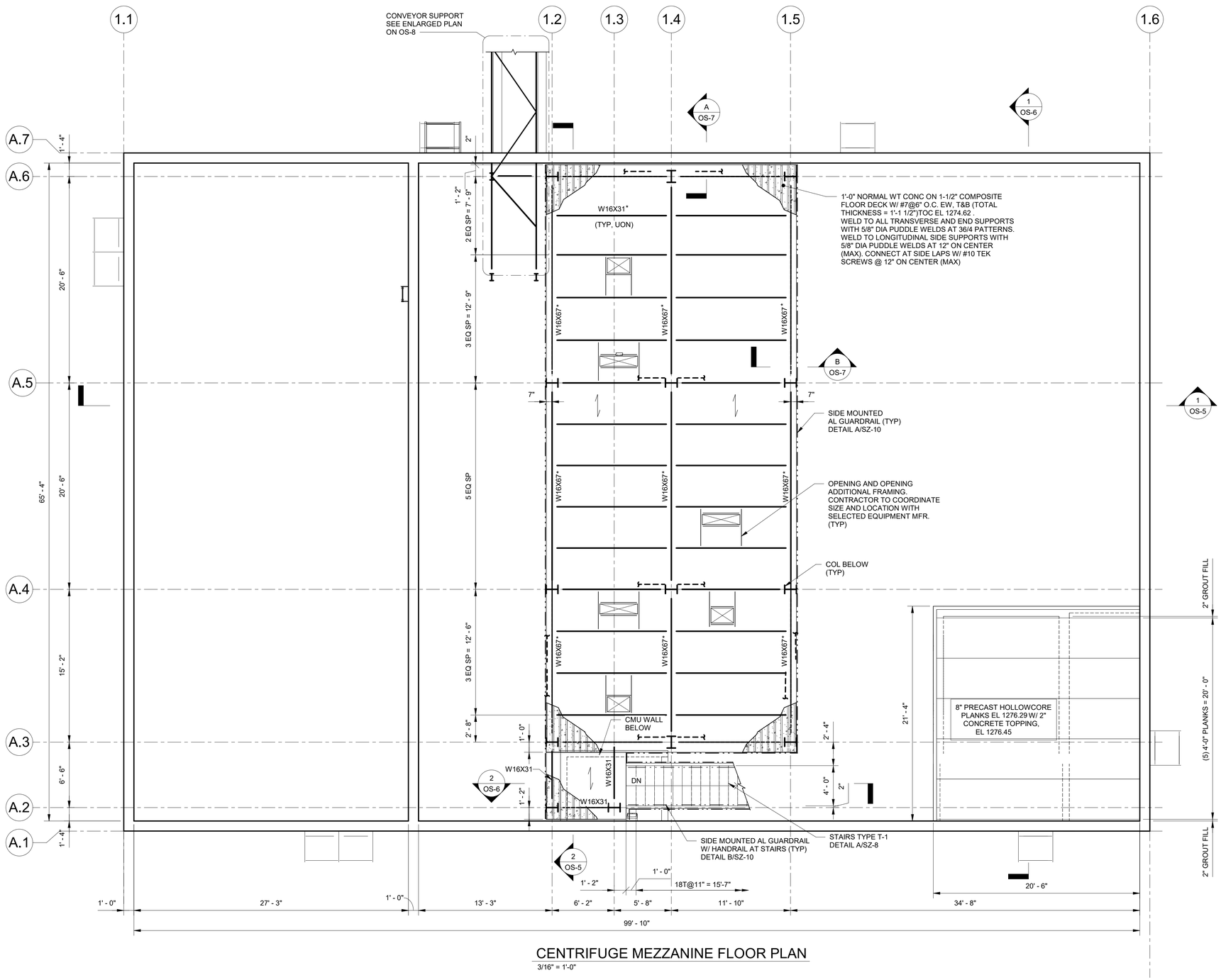
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
STRUCTURAL FOUNDATION PLAN

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-1



CENTRIFUGE MEZZANINE FLOOR PLAN

3/16" = 1'-0"

NOTES:

1. PLATFORM FRAMING IS PRELIMINARY. DO NOT FABRICATE AND ERECT PLATFORM UNTIL THE CENTRIFUGE SHOP DRAWINGS HAVE BEEN APPROVED AND CENTRIFUGE REACTIONS HAVE BEEN REVIEWED AND ADJUSTMENTS TO THE BEAM SPACING AND SIZE HAVE BEEN COMPLETED, IF REQUIRED BY THE ENGINEER.
2. THE CENTIFUGE PLATFORM AND CONVEYOR SUPPORT STEEL CONSTRUCTION SHALL BE HOT DIP GALVANIZED PER SPECIFICATION SECTION 051200.
3. CENTRIFUGES MAY REQUIRE EQUIPMENT PADS. IF REQUIRED, CONTRACTOR TO COORDINATE SIZE AND LOCATION WITH SELECTED EQUIPMENT MANUFACTURER.

HOLLOW-CORE PLANKS NOTES:

1. HOLLOW-CORE PLANKS NOTES SUPERIMPOSED DESIGN LOADS:
   MINIMUM LIVE LOAD 20 PSF
   SUPERIMPOSED DEAD LOAD 10 PSF
   MAX. 2" CONCRETE TOPPING 25 PSF
   COLLATERAL LOADS (HVAC, ELECT, PLUMBING) 15 PSF
2. DESIGN OF HOLLOW-CORE PLANKS FOR COMBINATIONS OF THESE LOADS SHALL BE THE RESPONSIBILITY OF THE HOLLOW-CORE PLANK MANUFACTURER.
3. THE HOLLOW-CORE PLANKS SHALL BE DESIGNED BY THE PRECAST MANUFACTURER TO ACT AS A DIAPHRAGM INDEPENDENT OF THE 2" CONCRETE TOPPING. THE LOADS USED FOR THE DESIGN OF THE PLANKS AND THEIR CONNECTIONS FOR DIAPHRAGM ACTION SHALL BE PER ROOF-DIAPHRAGM LOADING DIAGRAM.
4. THE HOLLOW-CORE PLANKS ADJACENT TO OPENINGS SHALL BE DESIGNED TO SUPPORT ALL LOADS FROM THE INTERRUPTED PLANKS.
5. THE HOLLOW-CORE PLANKS MANUFACTURER SHALL COORDINATE LOCATION OF ALL EMBEDDED ITEMS AND OPENINGS WITH THE GENERAL AND SUB-CONTRACTORS PRIOR TO FABRICATION.
6. ALL ITEMS EMBEDDED IN HOLLOW-CORE PLANKS SHALL BE GALV AND SUPPLIED BY THE HOLLOW-CORE PLANKS MANUFACTURER.

3/16" = 1'- 0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
CENTRIFUGE MEZZANINE FLOOR PLAN

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER
03/01/2024

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-2

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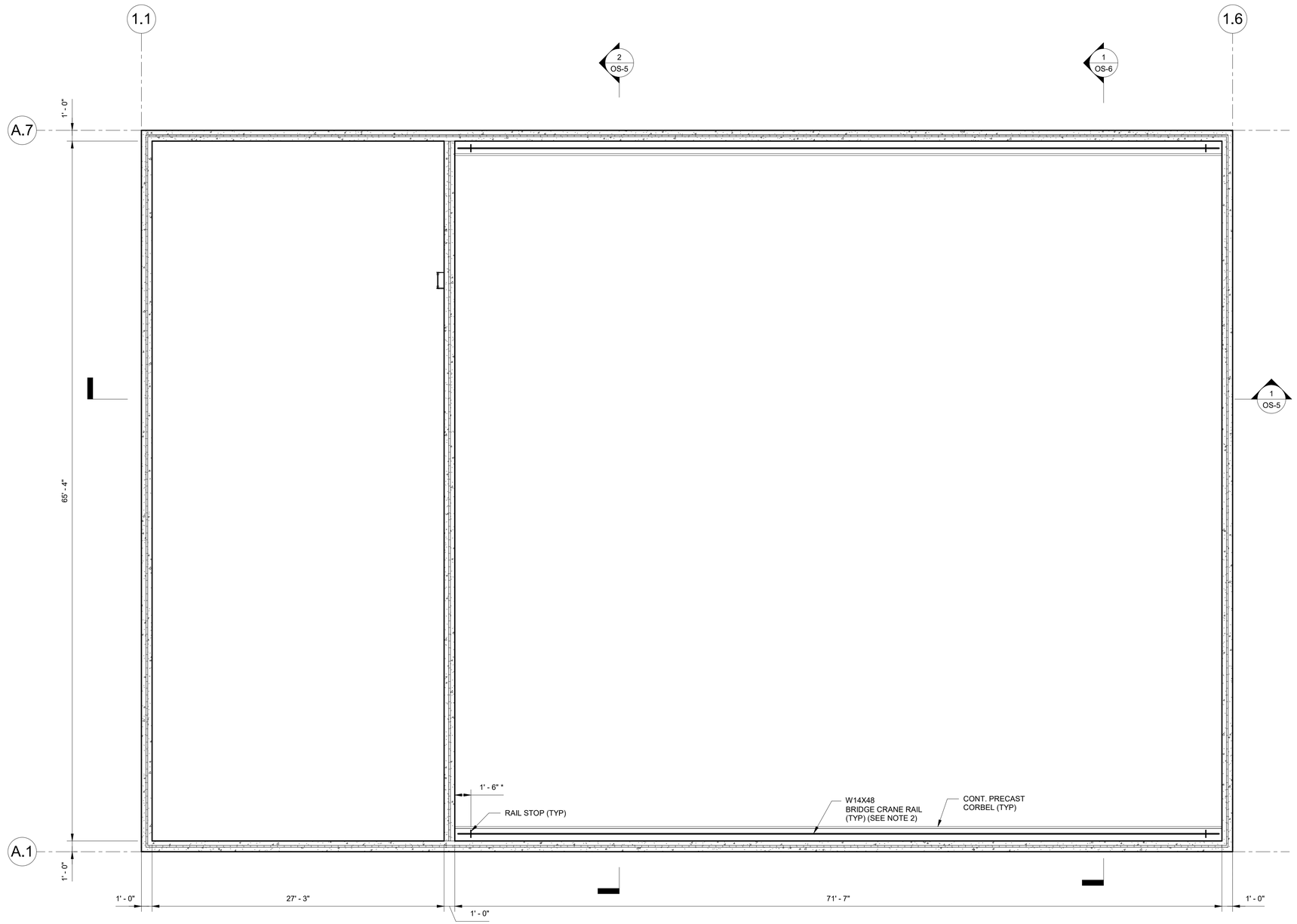
NOTES:

1. * DIMENSION TO BE COORDINATED WITH THE APPROVED BRIDGE CRANE MANUFACTURER.
2. CRANE STOP, RAIL, AND GIRDER SIZES SHOWN IN THIS DRAWING ARE PRELIMINARY AND SERVE AS MINIMUM DESIGN GUIDES. DO NOT FABRICATE OR ERECT MEMBERS UNTIL THE BRIDGE CRANE SHOP DRAWINGS AND REACTIONS HAVE BEEN APPROVED BY THE ENGINEER.

N

OVERHEAD CRANE TECHNICAL DATA	
SPAN	64'-0"
LIFTING HEIGHT	22'-6"
CAPACITY	20 TONS
TROLLEY WEIGHT	3730 lbs
BRIDGE WEIGHT	21273 lbs
CLASSIFICATION	CMAA Class C



GANTRY GIRDER LEVEL
3/16" = 1'-0"

3/16" = 1'- 0"
4 0 4 8

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER
03/01/2024

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APPROVED BY: J. MORRIS
DATE: MARCH 2024

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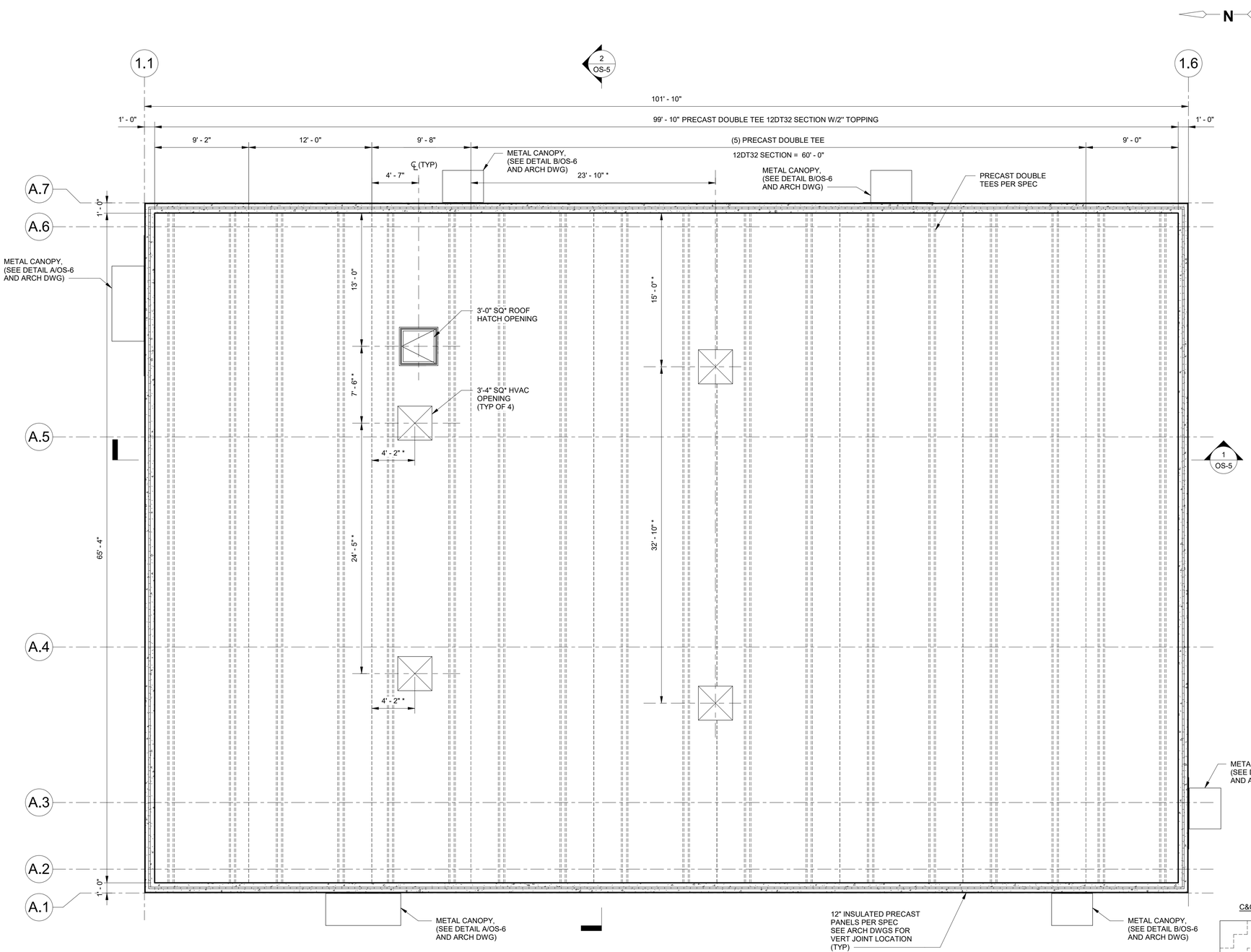
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
AT GANTRY GIRDER LEVEL

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-3



ROOF PLAN

3/16" = 1'-0"

3/16" = 1'- 0"
4 0 4 8

NOTES:

1. * INDICATES DIMENSION AND/OR INFORMATION TO BE COORDINATED BY THE CONTRACTOR WITH THE MANUFACTURER OF THE APPROVED EQUIPMENT PRIOR TO FABRICATION AND CONSTRUCTION.

PRECAST DOUBLE TEE NOTES:

1. THE PRECAST MANUFACTURER TO SIZE AND ARRANGE THE PRECAST DOUBLE TEES IN COORDINATION WITH THE JOINTS OF THE PRECAST INSULATED WALL PANELS TO AVOID OVERLAPPING OF THE SUPPORT CONNECTIONS AND THE VERTICAL JOINTS.

2. PRECAST DOUBLE TEE SUPERIMPOSED DESIGN LOADS:
   MINIMUM LIVE LOAD 20 PSF
   FLAT ROOF SNOW LOAD 18 PSF
   SUPERIMPOSED DEAD LOAD 10 PSF
   MAX. 2" CONCRETE TOPPING 25 PSF
   COLLATERAL LOADS (HVAC, ELECT, PLUMBING) 15 PSF

3. PRECAST DOUBLE TEE SHALL BE DESIGNED BY THE PRECAST MANUFACTURER TO ACT AS A DIAPHRAGM INDEPENDENT OF THE CONCRETE TOPPING. THE PLANKS SHALL TRANSFER THE LATERAL LOADS TO THE PRE- CAST CONCRETE WALLS. THE LOADS USED FOR THE DESIGN OF THE PRECAST DOUBLE TEE AND THEIR CONNECTIONS FOR DIAPHRAGM ACTION SHALL BE AS PER ROOF-DIAPHRAGM LOADING DIAGRAM.

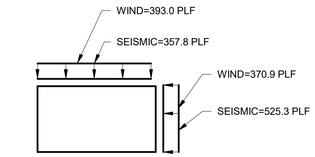
4. LOADINGS FOR THE PRECAST SHEAR WALL DESIGN:

   1. ALL LOADS ARE SERVICE LEVEL LOADS.

   2. ROOF DIAPHRAGM LOADING DIAGRAM.

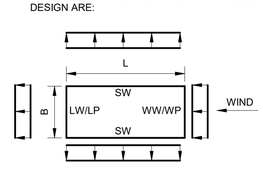
      A) WIND/SEISMIC DIAPHRAGM LOADS ARE REVERSIBLE.

      B) DIAPHRAGM LOADS INCLUDES 50% TRIBUTARY LOAD FROM WALL TO THE ROOF DIAPHRAGM PLUS LOAD ON PARAPET. PRECAST MANUF TO CALCULATE & INCLUDE LATERAL LOAD DUE TO WIND/SEISMIC IN THEIR PRECAST SHEAR WALL DESIGN.



3. SEISMIC COEFFICIENT TO CONSIDER IN THE SHEAR WALL DESIGN IS Cs =0.042

4. WIND MWFRS WALL PRESSURE TO CONSIDER IN THE SHEAR WALL DESIGN ARE:



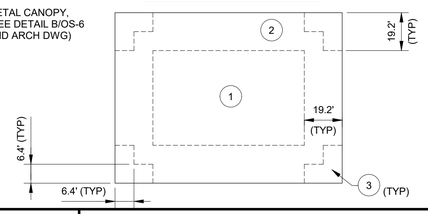
MWFRS WALL WIND PRESSURES		
DIRECTION / SURFACE	WIND PERPENDICULAR TO LENGTH (L)	WIND PERPENDICULAR TO WIDTH (B)
WINDWARD WALL (WW)	22.4 PSF	22.6 PSF
LEEWARD WALL (LW)	2.1 PSF	3.6 PSF
SIDE WALL (SW)	-1.0 PSF	-1.1 PSF
WINDWARD PARAPET (WP)	27.4 PSF	27.4 PSF
LEENARD PARAPET (LP)	-18.2 PSF	-18.2 PSF

NOTE: WIND PRESSURES PROVIDED ARE CALCULATED W/ -GCpi

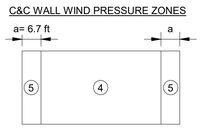
5. FOR WIND PRESSURES ON COMPONENTS AND CLADDING SEE TABLE AND DIAGRAMS.

COMPONENTS AND CLADDING LOADING		
COMPONENT	ZONE	MAX./MIN. WIND PRESSURES (PSF)
WALL PANEL	4	21.7/-23.3
WALL PANEL	5	21.7/-23.6
ROLL-UP DOOR	4	22.9/-24.5
SINGLE DOOR	4	25.1/-26.8
DOUBLE DOOR	4	24.4/-26.0
WINDOW	4	25.3/-26.9
WINDOW	5	25.3/-30.9
ROOF DOUBLE-T	1	13.6/-28.0
ROOF DOUBLE-T	2, 3	13.6/-35.3
ROOF HATCH	2	15.4/-51.5
ROOF MEMBRANE	1	15.4/-40.7
ROOF MEMBRANE	2, 3	15.4/-51.5

C&C ROOF WIND PRESSURE ZONES



C&C WALL WIND PRESSURE ZONES



03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: P. BALAKRISHNAN
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CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

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Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING STRUCTURAL
ROOF PLAN

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-4

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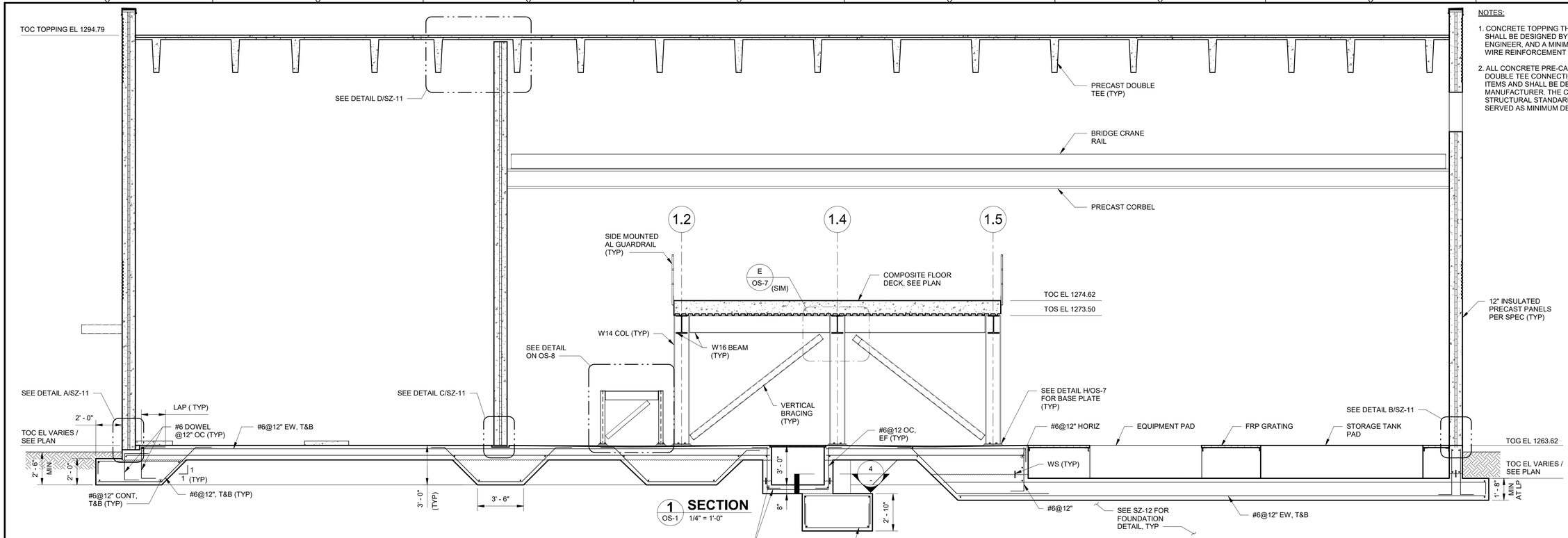
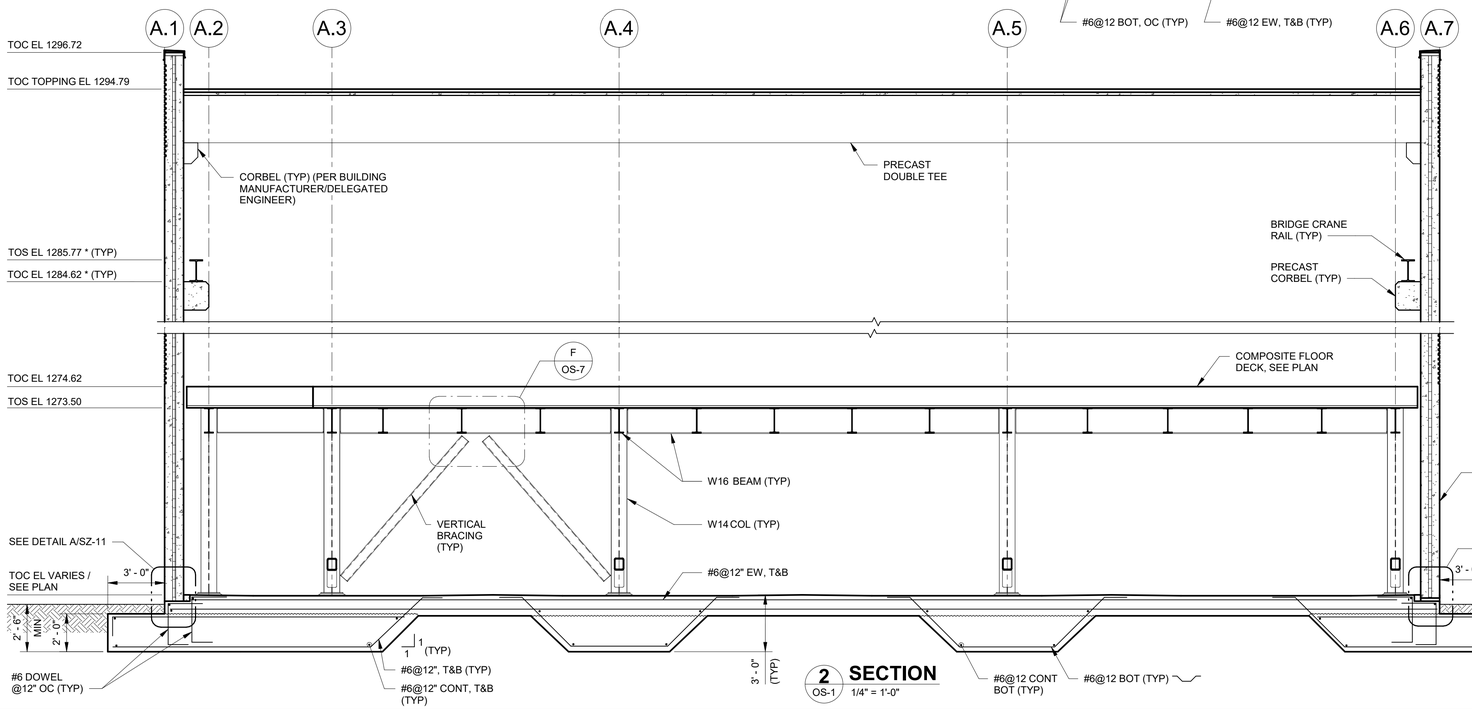
NOTES:

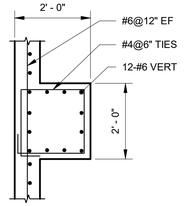
1. CONCRETE TOPPING THICKNESS AND REINFORCING SHALL BE DESIGNED BY THE BUILDING DELEGATED ENGINEER, AND A MINIMUM OF 2" THICK WITH WELDED WIRE REINFORCEMENT (WWR) 4x4- W1.4xW1.4.
2. ALL CONCRETE PRE-CAST HOLLOW-CORE PLANKS, AND DOUBLE TEE CONNECTIONS ARE DELEGATED DESIGN ITEMS AND SHALL BE DESIGNED BY BUILDING MANUFACTURER. THE CONNECTION DETAILS SHOWN IN STRUCTURAL STANDARD DRAWING SZ-11 SHALL BE SERVED AS MINIMUM DESIGN GUIDE



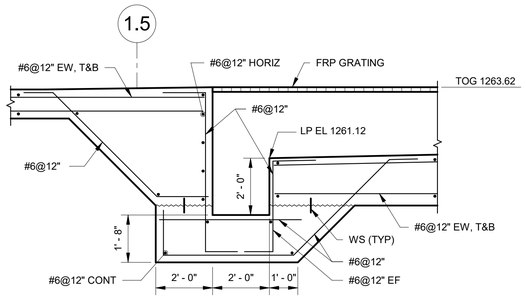
1 SECTION OS-1 1/4" = 1'-0"



2 SECTION OS-1 1/4" = 1'-0"



4 SECTION – 1/2" = 1'-0"



3 SECTION OS-1 3/8" = 1'-0"

3/8" = 1'- 0"
1/2" = 1'- 0"
1/4" = 1'- 0"

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING STRUCTURAL SECTIONS AND DETAILS I

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-5

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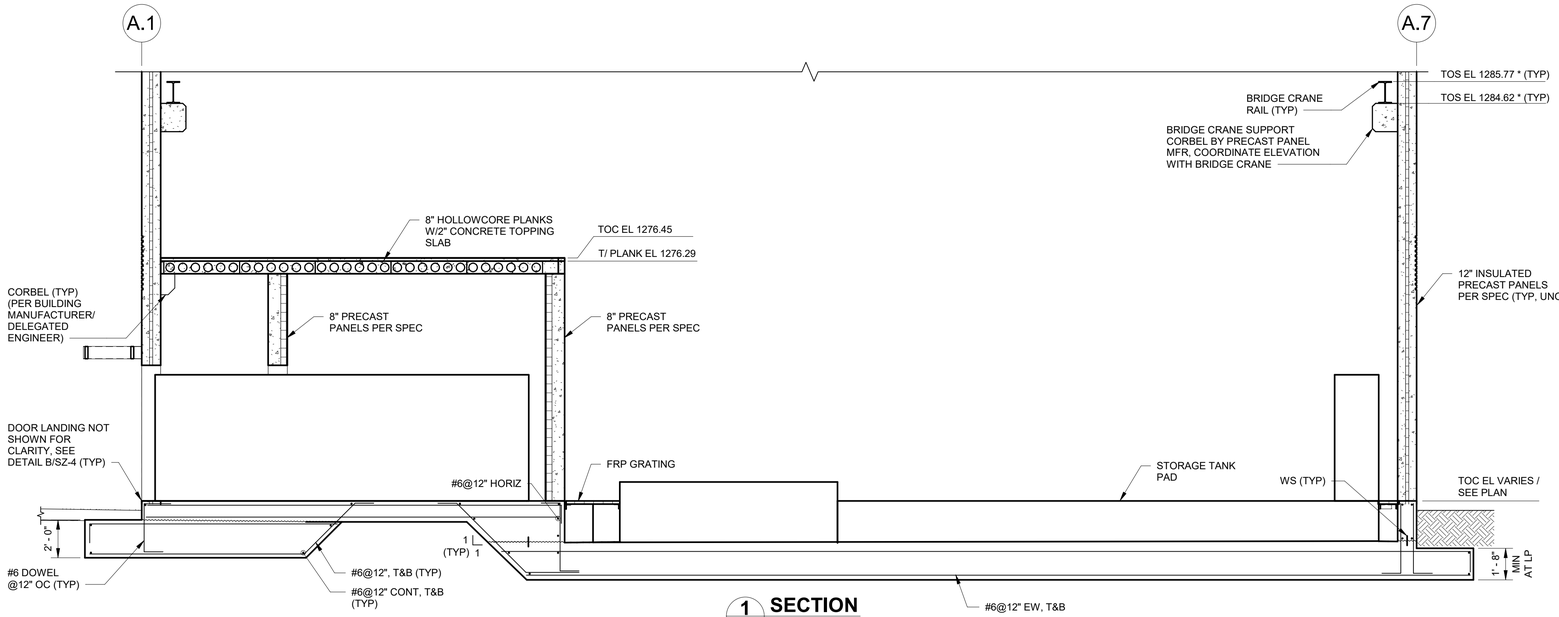
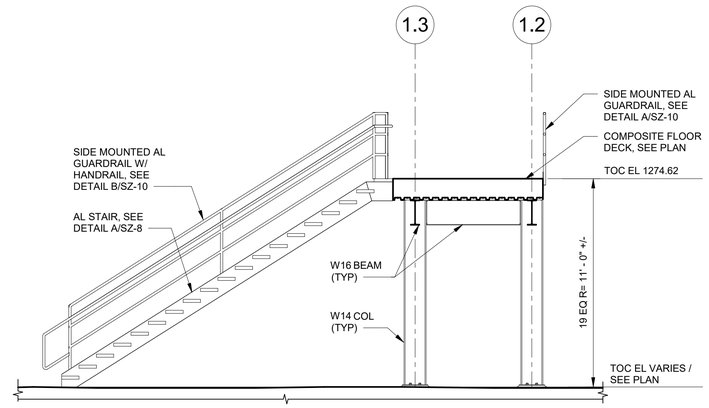
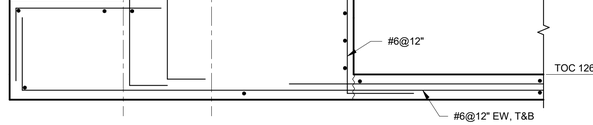


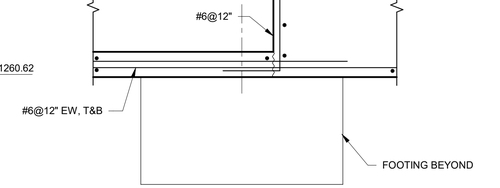
1 SECTION OS-1 1/4" = 1'-0"



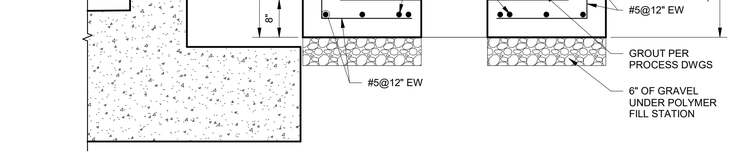
2 SECTION OS-2 1/4" = 1'-0"



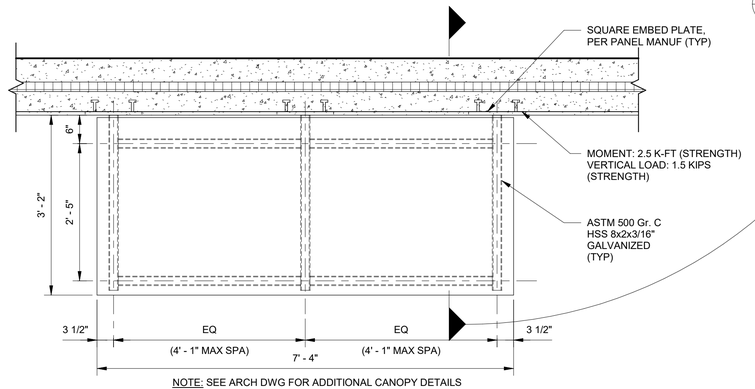
3 SECTION OS-1 1/2" = 1'-0"



4 SECTION OS-1 1/2" = 1'-0"

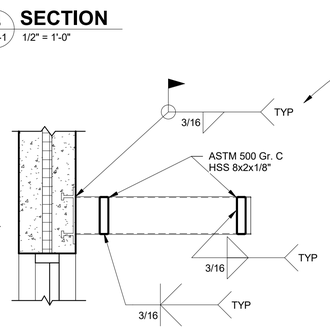


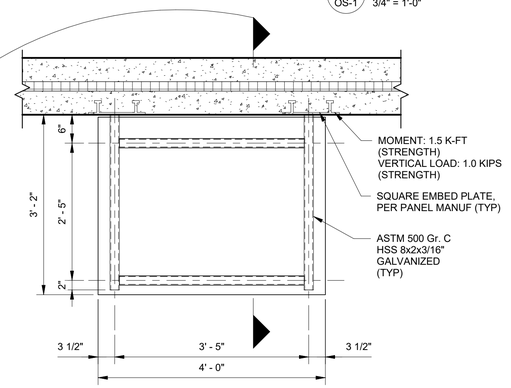
5 SECTION OS-1 3/4" = 1'-0"



NOTE: SEE ARCH DWG FOR ADDITIONAL CANOPY DETAILS

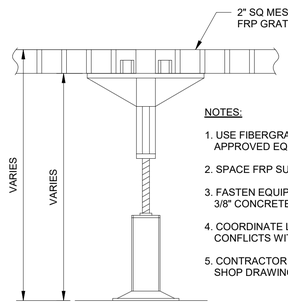
A DETAIL 3/4" = 1'-0"





NOTE: SEE ARCH DWG FOR ADDITIONAL CANOPY DETAILS

B DETAIL 3/4" = 1'-0"



NOTES:

1. USE FIBERGRATE PEDESTAL GRATING SUPPORTS OR APPROVED EQUAL.
2. SPACE FRP SUPPORTS AT A MAX OF 24" O.C.
3. FASTEN EQUIPMENT SUPPORT TO CONCRETE FLOOR WITH (4) 3/8" CONCRETE SCREWS WITH WASHERS.
4. COORDINATE LOCATION OF SUPPORTS SO THERE ARE NO CONFLICTS WITH PIPES FOR POLYMER PUMPS.
5. CONTRACTOR TO SUBMIT PEDESTAL LAYOUT IN GRATING SHOP DRAWINGS FOR REVIEW AND APPROVAL.

C DETAIL NTS

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

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: P. BALAKRISHNAN
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APPROVED BY: J. MORRIS
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING STRUCTURAL
SECTIONS AND DETAILS II

PROJECT NO. 2395-267343
FILE NAME: SW2000OS.RVT

SHEET NO.
OS-6

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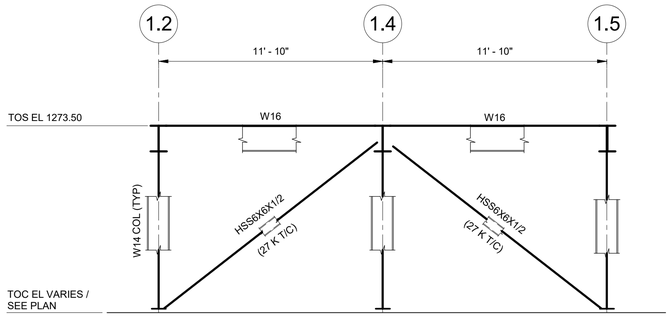
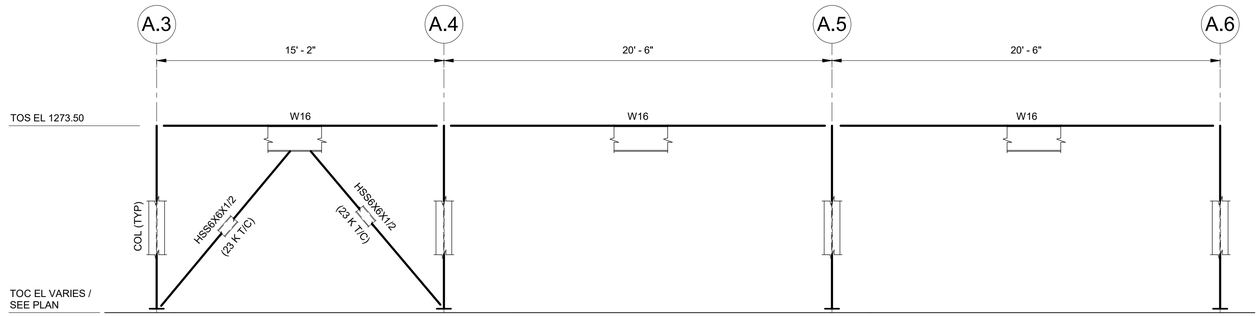


FRAMING ELEVATION A.3, A.4, A.5 & A.6

1/4" = 1'-0"



FRAMING ELEVATION 1.2 & 1.5

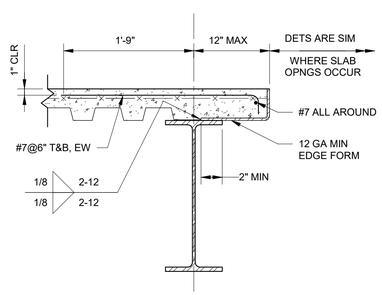
1/4" = 1'-0"

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE FOURTEENTH EDITION OF THE AISC STEEL CONSTRUCTION MANUAL.
2. MATERIAL FOR STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UON:

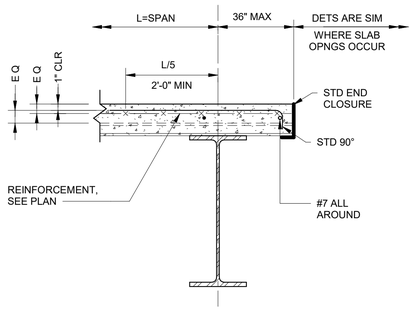
STRUCTURAL STEEL WIDE FLANGE SHAPES	ASTM A992
STRUCTURAL STEEL HSS TUBE	ASTM A500, GRADE B
ALL OTHER STRUCTURAL STEEL SHAPES, PLATES, AND BARS	ASTM A36

3. ALL BEAM CONNECTIONS SHALL BE AS SHOWN IN TABLE 10-1, PART 10 OF THE AISC MANUAL, UON. BEAM CONNECTIONS SHALL BE DESIGNED FOR ONE HALF OF THE MAXIMUM TOTAL UNIFORM LOAD TABULATED IN TABLE 3-6, PART 3 OF THE AISC MANUAL, OR FOR REACTION XX WHERE INDICATED ON THE DRAWINGS, PLUS AXIAL LOAD WHERE INDICATED ON THE DRAWINGS, UON. REACTIONS INDICATED ON DRAWINGS ARE SERVICE LEVEL REACTIONS.
4. BRACING CONNECTIONS SHALL BE DESIGNED FOR AXIAL LOADS SHOWN ON DRAWINGS. FOR VERTICAL BRACING, THE HORIZONTAL COMPONENT OF THE LOAD SHALL BE DEVELOPED IN THE CONNECTION TO THE BEAM, OR COLUMN BASE PLATE AND THE VERTICAL COMPONENT IN CONNECTION TO THE COLUMN. WHEN BRACING IS CONNECTED TO ONE MEMBER ONLY, THE CONNECTION SHALL DEVELOP THE FULL LOAD, BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS, UON. REACTIONS INDICATED ON DRAWINGS ARE SERVICE LEVEL REACTIONS.
5. BEAM TO COLUMN AND VERTICAL BRACING BOLTED CONNECTIONS SHALL BE PRETENSIONED WITH CLASS A SURFACE PREPARATION.
6. ALL CLIP ANGLES SHALL BE 3/8" MINIMUM THICKNESS.
7. FIELD CONNECTIONS SHALL BE BY ASTM A-325 HIGH STRENGTH BOLTS, UON. MINIMUM BOLT SIZE SHALL BE 3/4" DIAMETER IN 13/16" DIAMETER HOLES, UON.
8. DO NOT PAINT FAYING SURFACES OF SLIP CRITICAL CONNECTIONS. OMIT SHOP-APPLIED COATINGS ON SURFACES WITHIN 3-INCHES OF FIELD WELDS.
9. ALL STEEL CONSTRUCTION SHALL BE HOT-DIPPED GALVANIZED.



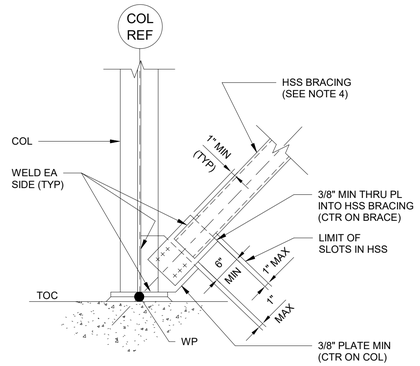
DECK SPAN PARALLEL TO BEAM

A DETAIL OS-2 — 1" = 1'-0"



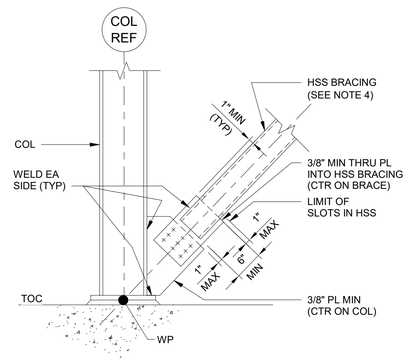
DECK SPAN PERPENDICULAR TO BEAM

B DETAIL OS-2 — 1" = 1'-0"



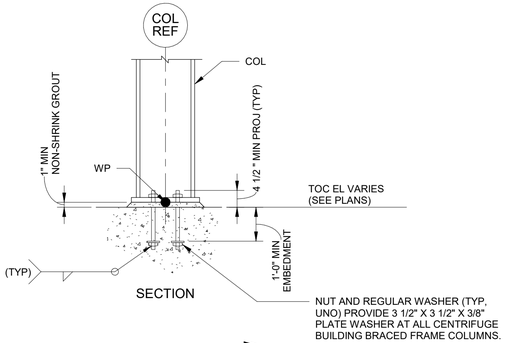
AT COLUMN WEB

C DETAIL – — NTS

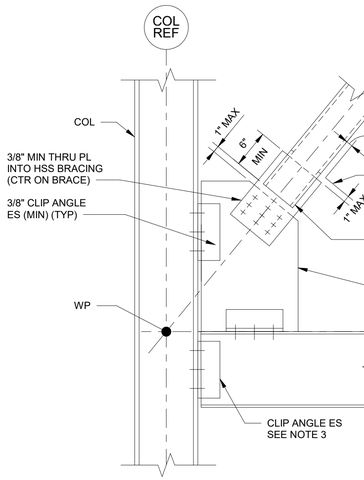


AT COLUMN FLANGE

D DETAIL – — NTS

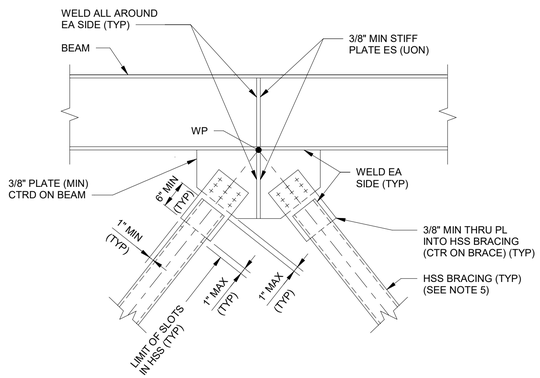


SECTION

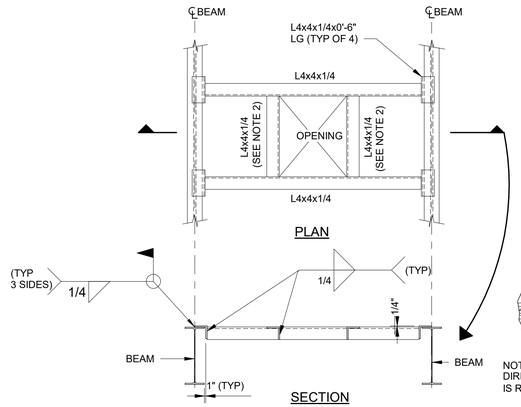


AT COLUMN FLANGE

E DETAIL – — NTS



F DETAIL – — NTS



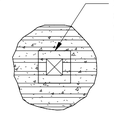
COMPOSITE DECK OPENING 12" AND LARGER (MAX 48")

NOTES:

1. SEE PLAN FOR OPENING SIZES & LOCATIONS.
2. COMPOSITE DECK NOT SHOWN FOR CLARITY

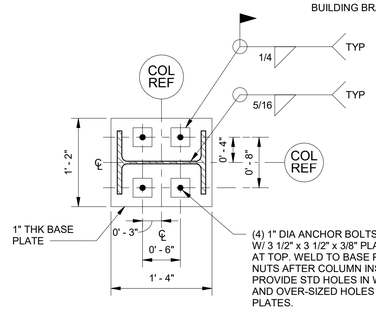
COMPOSITE DECK OPENING FRAMING

G DETAIL – — NTS



NOTE: FOR OPNGS < 6" IN BOTH DIRECTIONS, NO ADDITIONAL FRAMING IS REQUIRED.

COMPOSITE DECK OPENING 6" AND LARGER BUT LESS THAN 12"



PLAN @ W14 COL

H DETAIL – — NTS

1"= 1'
0.5 0 1

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

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: N. KRISHNAMOORTHI
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ELEVATIONS AND DETAILS

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-7

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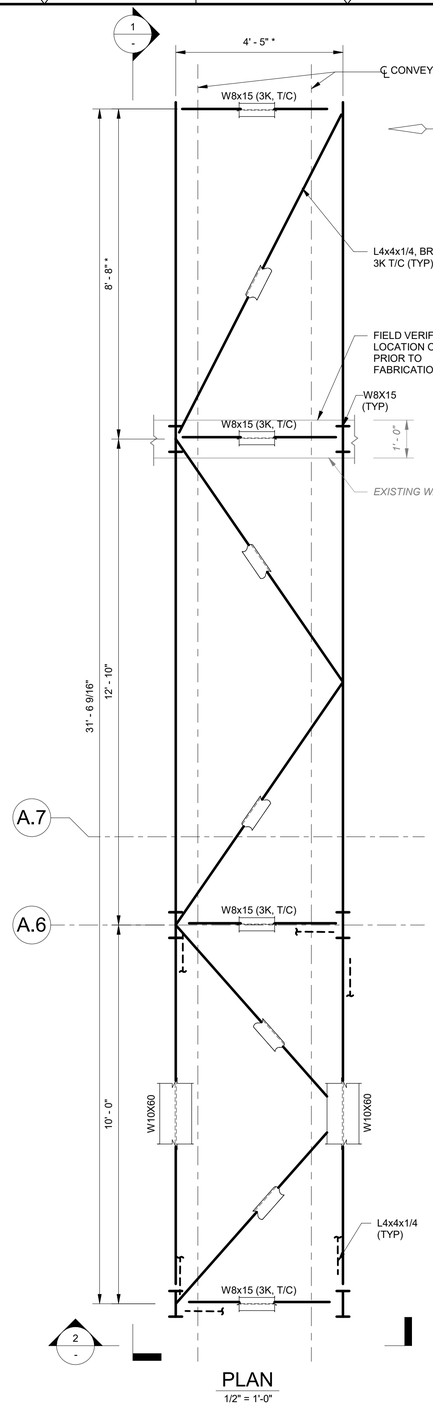
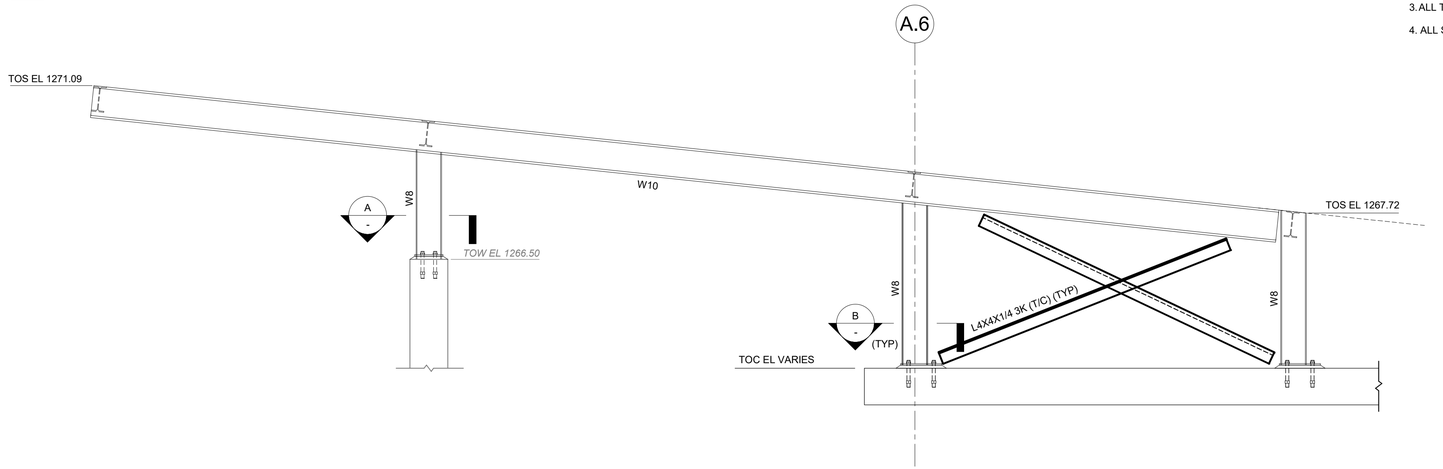
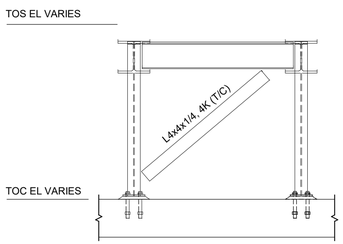


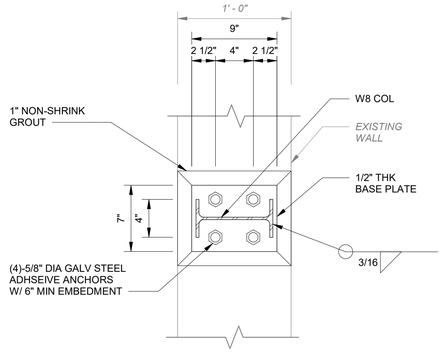
PLAN
1/2" = 1'-0"



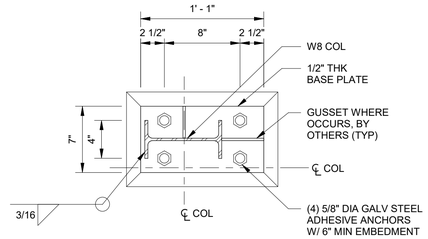
1 SECTION
1/2" = 1'-0"



2 SECTION
1/2" = 1'-0"



A DETAIL
1 1/2" = 1'-0"



B DETAIL
1 1/2" = 1'-0"

NOTES:

1. '*' INDICATES DIMENSION AND/OR INFORMATION TO BE COORDINATED BY THE CONTRACTOR WITH THE MANUFACTURER OF THE APPROVED EQUIPMENT PRIOR TO FABRICATION AND CONSTRUCTION.

2. CONTRACTOR TO HIRE A DELEGATE ENGINEER TO DESIGN AND DETAIL THE SUPPORT FRAME SHOWN ON THIS DRAWING. SIZES AND LOCATION ARE PRELIMINARY. CONTRACTOR TO SUBMIT REACTION TO FOUNDATION ENGINEER FOR ACCEPTANCE PRIOR TO FABRICATION.

3. ALL THE FORCES ARE SERVICE LEVEL.

4. ALL STEEL CONSTRUCTION SHALL BE HOT-DIPPED GALVANIZED.

JORDAN MORRIS
LICENSED
PE # 28780
KANSAS
PROFESSIONAL ENGINEER

03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. SIDDIQ
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING STRUCTURAL CONVEYOR FRAMING PLAN, SECTIONS AND DETAILS

PROJECT NO. 2395-267343
FILE NAME: SWZ000OS.RVT

SHEET NO.
OS-8

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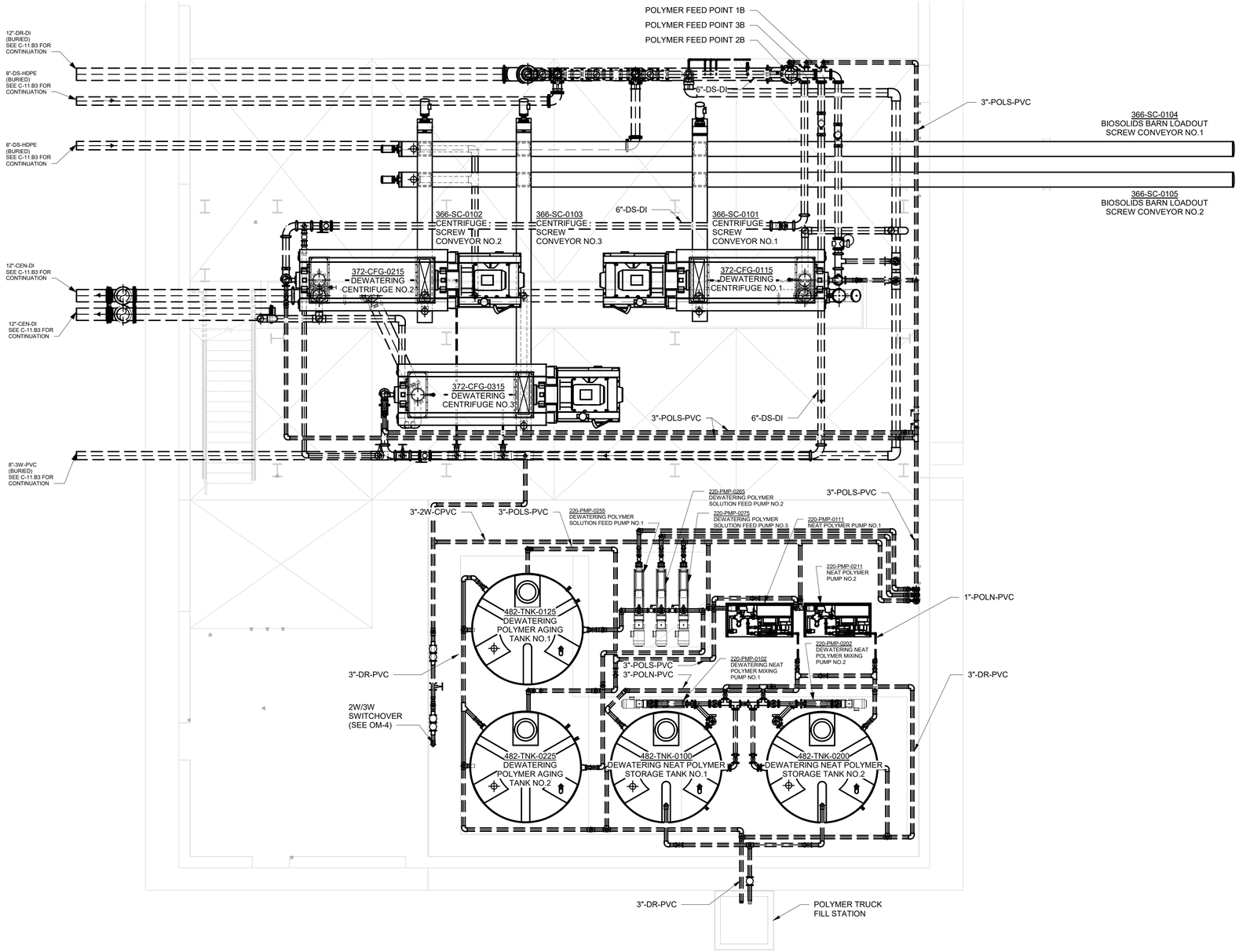

PROCESS MECHANICAL OVERALL PLAN

3/16" = 1'-0"

N

NOTES:

1. THE PHYSICAL LAYOUT SHOWN ON THE DRAWINGS IS BASED ON THE GEA MODEL 8000. IF A DIFFERENT APPROVED MANUFACTURER AND MODEL IS SUPPLIED, CONTRACTOR TO COORDINATE AND IDENTIFY MODIFICATIONS, IF NEEDED, TO FINAL GEOMETRY DURING THE SUBMITTAL REVIEW PROCESS FOR ENGINEERING APPROVAL. ADJUSTMENTS IN THE PIPING, LIQUIDS AND SOLIDS DISCHARGES, SUPPORT CONFIGURATION, ELECTRICAL, AND INSTRUMENTATION DESIGN MAY ALSO BE NECESSARY DEPENDING ON THE EQUIPMENT SELECTED. REFER TO SECTION 467633 FOR CENTRIFUGE PACKAGE DETAILS.
2. A SINGLE SUPPLIER SHALL BE RESPONSIBLE FOR THE POLYMER BULK TANKS, POLYMER SKIDS, AGING TANKS, FEED PUMPS, AND POLYMER TANK FILL STATION PER SECTION 463333.
3. PIPE SUPPORTS SHOWN ON THE DRAWINGS ARE SHOWN ONLY TO CONVEY THE INTENT OF THE DESIGN FOR A PARTICULAR LOCATION AND ARE NOT INTENDED TO REPRESENT A COMPLETE SYSTEM. ALL PIPE SUPPORTS, INCLUDING THOSE SHOWN CONCEPTUALLY, SHALL BE DESIGNED AND SUPPLIED PER SECTION 400507.
4. CONTRACTOR SHALL MAINTAIN DEWATERING OPERATIONS AT THE PLANT PER SECTION 013513.54 SPECIAL PROCEDURES FOR MOPO AND SEQUENCE OF CONSTRUCTION. SECTIONS 463333 AND 432357 OUTLINE TESTING OF THE CENTRIFUGES AND PUMPS THAT CAN BE COMPLETED PRIOR TO TESTING WITH SLUDGE.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
FIRST FLOOR AND MEZZANINE PLAN

PROJECT NO. 2395-267343
FILE NAME: MWZ002SM

SHEET NO.
OM-1

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NOTES:

1. CONNECTIONS TO THE CENTRIFUGES SHALL BE FLEXIBLE.
2. SCREW CONVEYORS, ASSOCIATED SUPPORTS, AND APPURTENANCES TO BE PROVIDED PER SPECIFICATION 411213.36. CONVEYOR DRAIN CONNECTIONS ON THE BIOSOLIDS BARN TRANSFER CONVEYORS SHALL BE FIELD ROUTED TO THE FLOOR DRAIN.

N

POLYMER FEED POINT 1B
POLYMER FEED POINT 3B
POLYMER FEED POINT 2B
3"-POLS-PVC
6"-DS-DI
6"-DS-DI
4 OM-6
6"-DS-DI
I MZ-4 TRAPEZE PIPE HANGER
8' - 3"
038-PLV-0101
6" MOTORIZED PLUG VALVE
6"-VENT-PVC
022-VLV-0106
BALL VALVE (BELOW, VERTICAL)
022-VLV-0102
MOTORIZED BALL VALVE (BELOW, VERTICAL)
4"-3W-PVC
3"-POLS-PVC
3 OM-6
POLYMER FEED POINT 1A
3 OM-5
3W FLUSH CONNECTION
038-PLV-0201
MOTORIZED PLUG VALVE
4 OM-5
5' - 5"
5 OM-6
6 OM-6
7' - 5"
022-VLV-0206
BALL VALVE (BELOW)
022-VLV-0202
MOTORIZED BALL VALVE (BELOW)
6"-DS-DI
POLYMER FEED POINT 2A
372-CFG-0215
DEWATERING CENTRIFUGE NO.2
372-CFG-0115
DEWATERING CENTRIFUGE NO.1
4' - 10"
5' - 6"
6"-VENT-PVC
3"-POLS-PVC
4"-3W-PVC
POLYMER FEED POINT 3A
372-CFG-0315
DEWATERING CENTRIFUGE NO.3
(3) 3"-POLS-PVC (STACKED)
3"-POLS-PVC
6"-DS-DI
4' - 8"
2 OM-5
3W FLUSH CONNECTION
038-PLV-0301
6" MOTORIZED PLUG VALVE
022-VLV-0306
BALL VALVE (BELOW, VERTICAL)
022-VLV-0302
MOTORIZED BALL VALVE (BELOW, VERTICAL)
PIPE HANGER (TYP) A MZ-3 D MZ-3
FROM DEWATERING POLYMER SOLUTION FEED PUMPS

PROCESS MECHANICAL CENTRIUGE AREA UPPER PLAN

3/8" = 1'-0"

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
ENLARGED MEZZANINE UPPER PLAN

PROJECT NO. 2395-267343
FILE NAME: MWZ002SM

SHEET NO.
OM-2

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NOTES:

1. CONNECTIONS TO THE CENTRIFUGES SHALL BE FLEXIBLE.
2. SCREW CONVEYORS, ASSOCIATED SUPPORTS, AND APPURTENANCES TO BE PROVIDED PER SPECIFICATION 411213.36. CONVEYOR DRAIN CONNECTIONS ON THE BIOSOLIDS BARN TRANSFER CONVEYORS SHALL BE FIELD ROUTED TO THE FLOOR DRAIN.

N

12"-DR-DI (BURIED) SEE C-11.B3 FOR CONTINUATION

8"-DS-HDPE (BURIED) SEE C-11.B3 FOR CONTINUATION

1 OM-5

2 OM-6

SAMPLE SINK

8"-DS-DI

8"-DS-HDPE (BURIED) SEE C-11.B3 FOR CONTINUATION

040-SDG-0112 SLIDE GATE

040-SDG-0113 SLIDE GATE

040-SDG-0111 SLIDE GATE

366-SC-0104 BIOSOLIDS BARN LOADOUT SCREW CONVEYOR NO.1

366-SC-0105 BIOSOLIDS BARN LOADOUT SCREW CONVEYOR NO.2

6"-DR-PVC

366-SC-0102 CENTRIFUGE SCREW CONVEYOR NO.2

366-SC-0101 CENTRIFUGE SCREW CONVEYOR NO.1

12"-CEN-DI SEE C-11.B3 FOR CONTINUATION

12"-CEN-DI SEE C-11.B3 FOR CONTINUATION

3 OM-6

PIPE SUPPORT (TYP) (SEE NOTE 3)

C MZ-7

12:-CEN-DI

1"-3W-CPVC

6"-DR-PVC (TYP)

366-SC-0103 CENTRIFUGE SCREW CONVEYOR NO.3

8"-3W-PVC (BURIED)

3"-3W-PVC (BURIED)

8"-3W-PVC (BURIED)

PROCESS MECHANICAL CENTRIUGE AREA LOWER PLAN

3/8" = 1'-0"

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

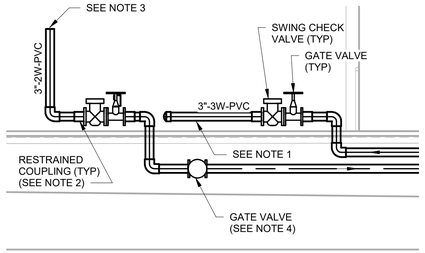
CENTRIFUGE BUILDING
PROCESS MECHANICAL
ENLARGED MEZZANINE LOWER PLAN

PROJECT NO. 2395-267343
FILE NAME:

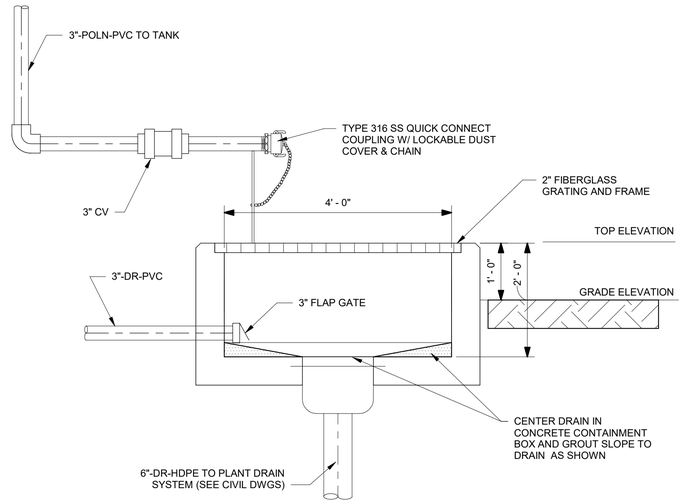
SHEET NO.
OM-3

NOTES:

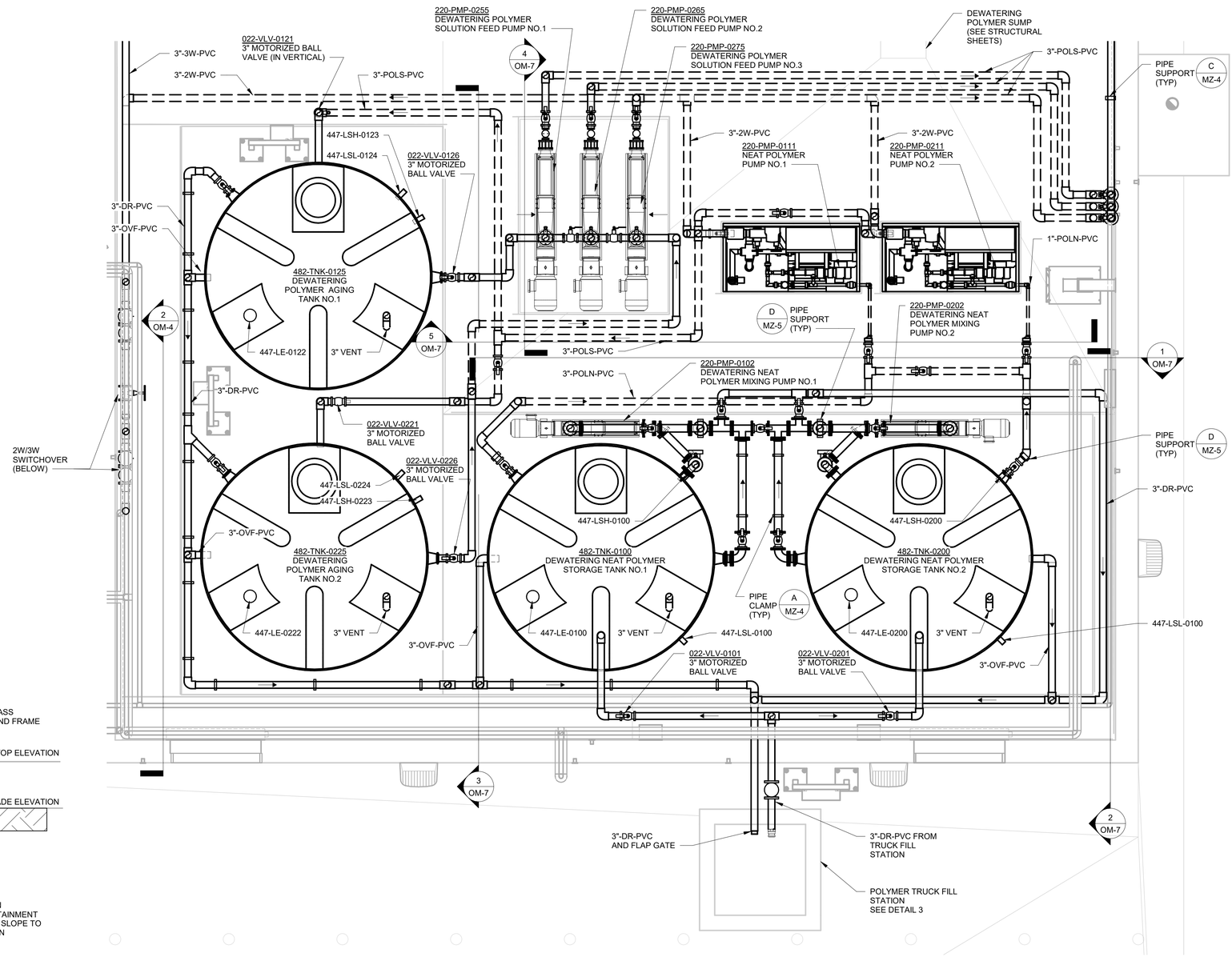
1. 3W CONNECTION IS NORMALLY CAPPED. REMOVE COUPLINGS ON THE ELBOW AND ROTATE THE ELBOW 180 DEGREES TO SWITCH FROM 3W TO 2W. CONTRACTOR TO USE UNION TYPE COUPLINGS.
2. EBAA 3800 SERIES 2000PV MEGALUG MECHANICAL JOINT RESTRAINT OR EQUAL.
3. CONTRACTOR SHALL FIELD ROUTE THE 2W PIPE CONNECTION TO CONNECT TO PLUMBING 2W CONNECTIONS. SEE OP-1.
4. SECTION OF GRATING ABOVE GATE VALVE TO BE REMOVABLE.



2 2W/3W SWITCHOVER
2 / OM-4 — 3/8" = 1'-0"



3 TRUCK FILL STATION
3 / OM-4 — 3/4" = 1'-0"



PROCESS MECHANICAL POLYMER AREA PLAN
3/8" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

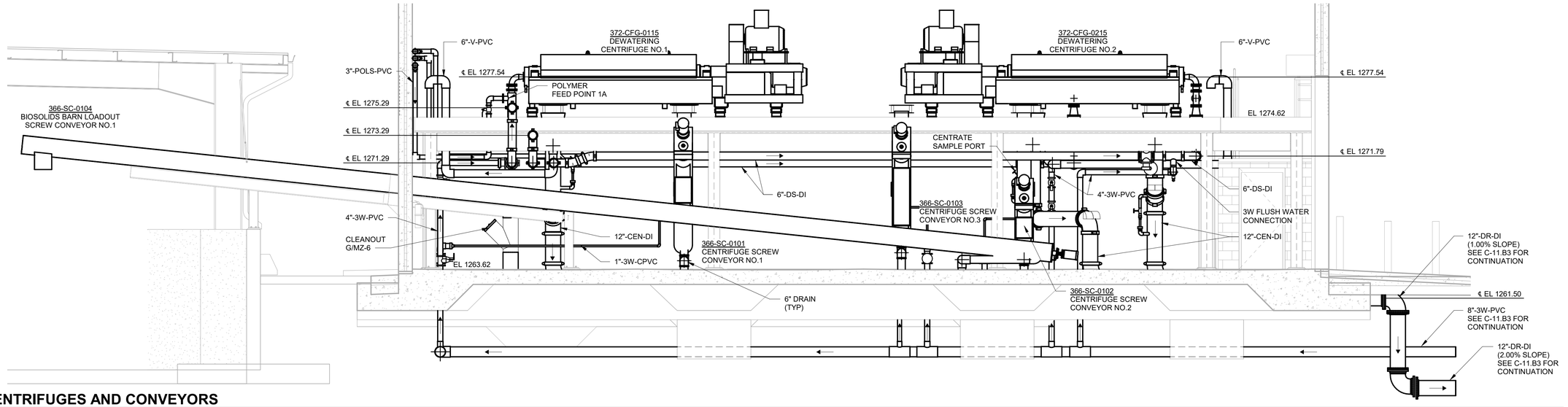
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

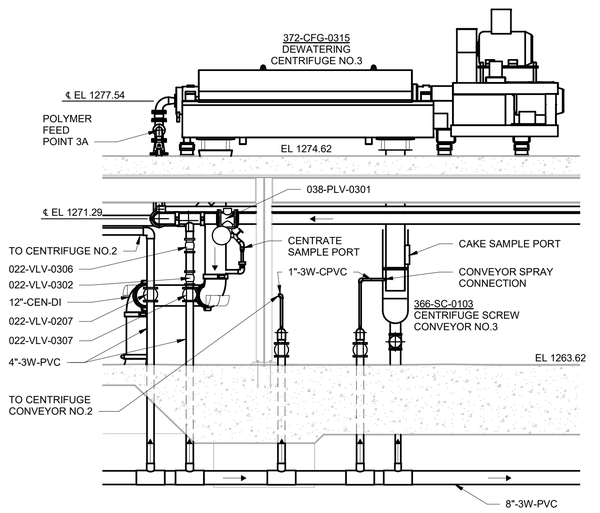
CENTRIFUGE BUILDING
PROCESS MECHANICAL
ENLARGED POLYMER AREA PLAN

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

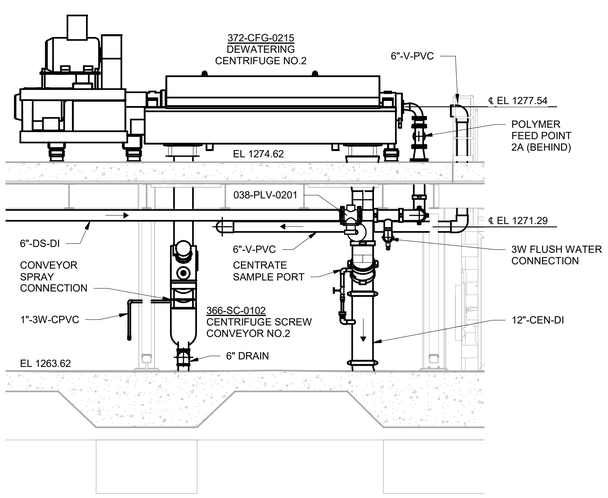
PROJECT NO. 2395-267343
FILE NAME: MWZ002SM
SHEET NO. OM-4



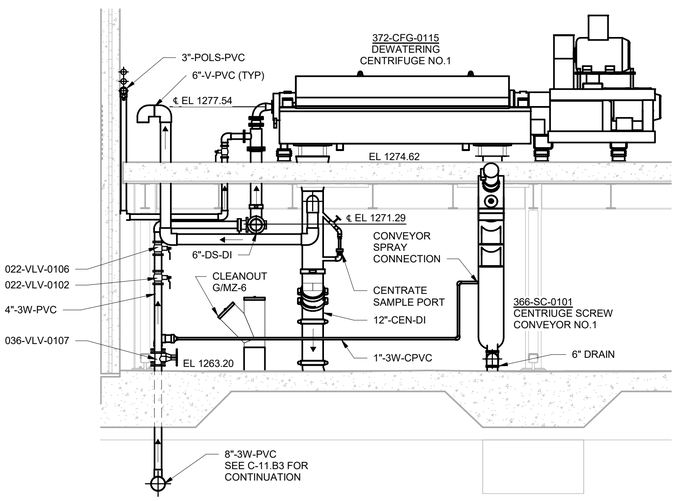
1 CENTRIFUGES AND CONVEYORS
OM-3 1/4" = 1'-0"



2 CENTRIFUGE 3
OM-2 1/4" = 1'-0"



3 CENTRIFUGE 2
OM-2 1/4" = 1'-0"



4 CENTRIFUGE 1
OM-2 1/4" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

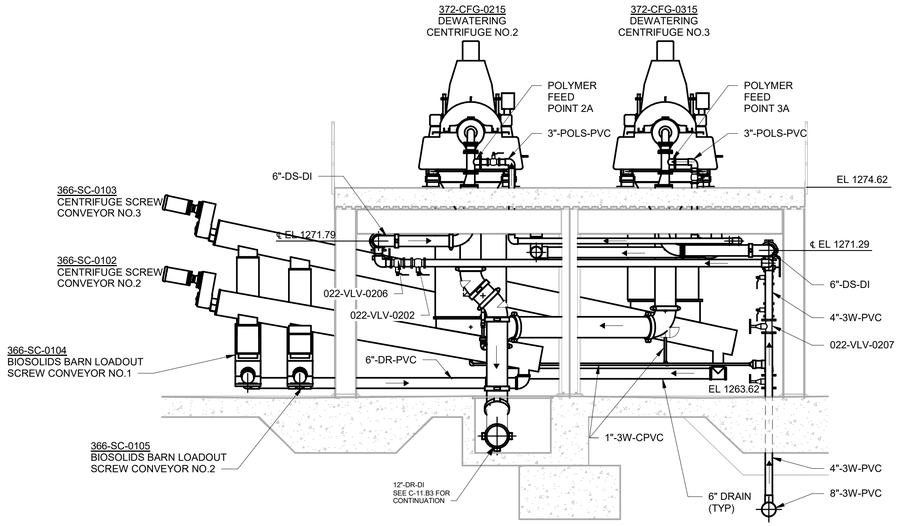
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
CENTRIFUGE MEZZANINE SECTIONS I

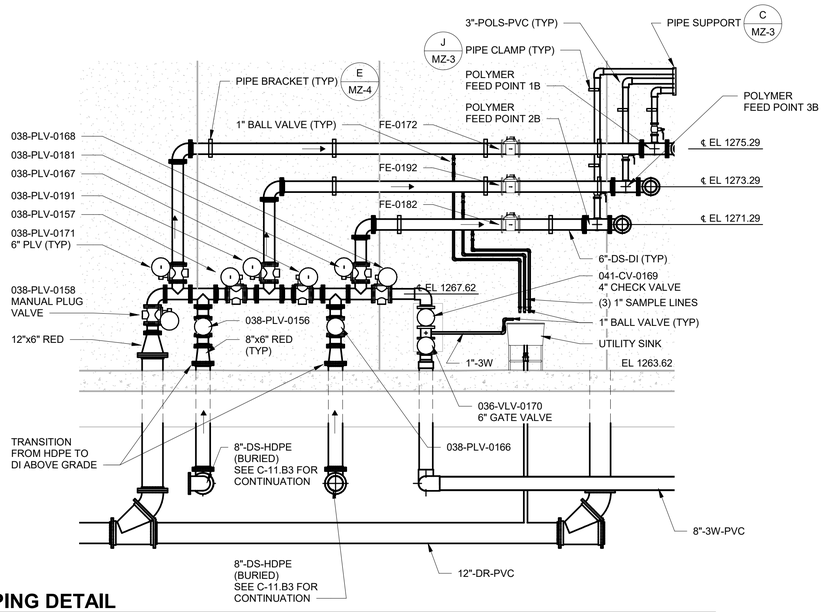
PROJECT NO. 2395-267343
FILE NAME: MWZ002SM

SHEET NO.
OM-5

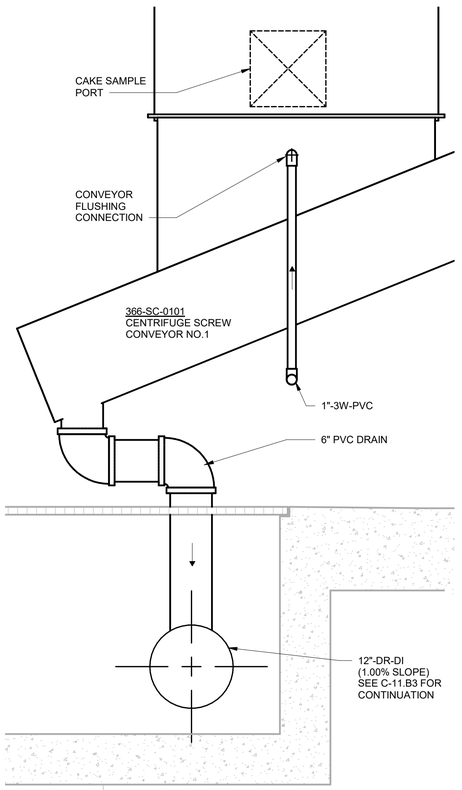
DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER



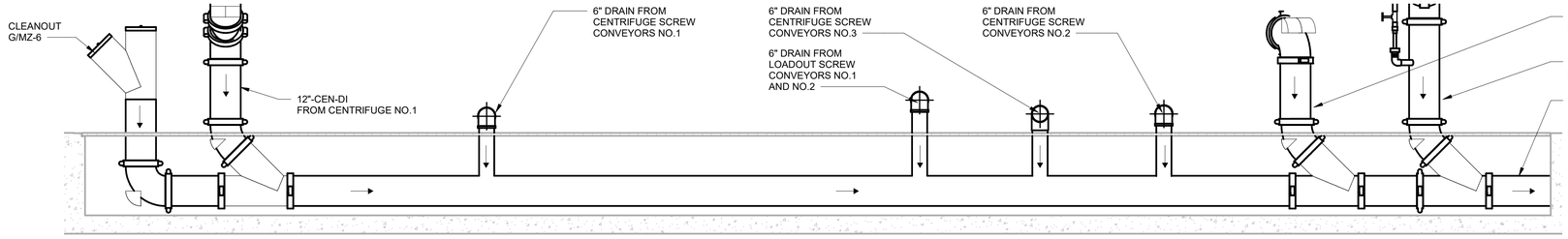
1 CENTRIFUGE 2 AND 3
OM-2 1/4" = 1'-0"



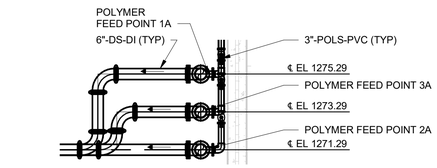
2 PIPING DETAIL
OM-3 1/4" = 1'-0"



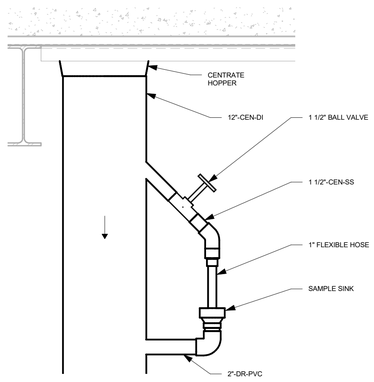
5 SOLIDS SAMPLE PORT
OM-2 1" = 1'-0"



3 PIPE TRENCH
OM-2 3/8" = 1'-0"



4 POLYMER CONNECTIONS
OM-2 1/4" = 1'-0"



6 CENTRATE SAMPLE PORT
OM-2 1" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
CENTRIFUGE MEZZANINE SECTIONS I

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OM-6

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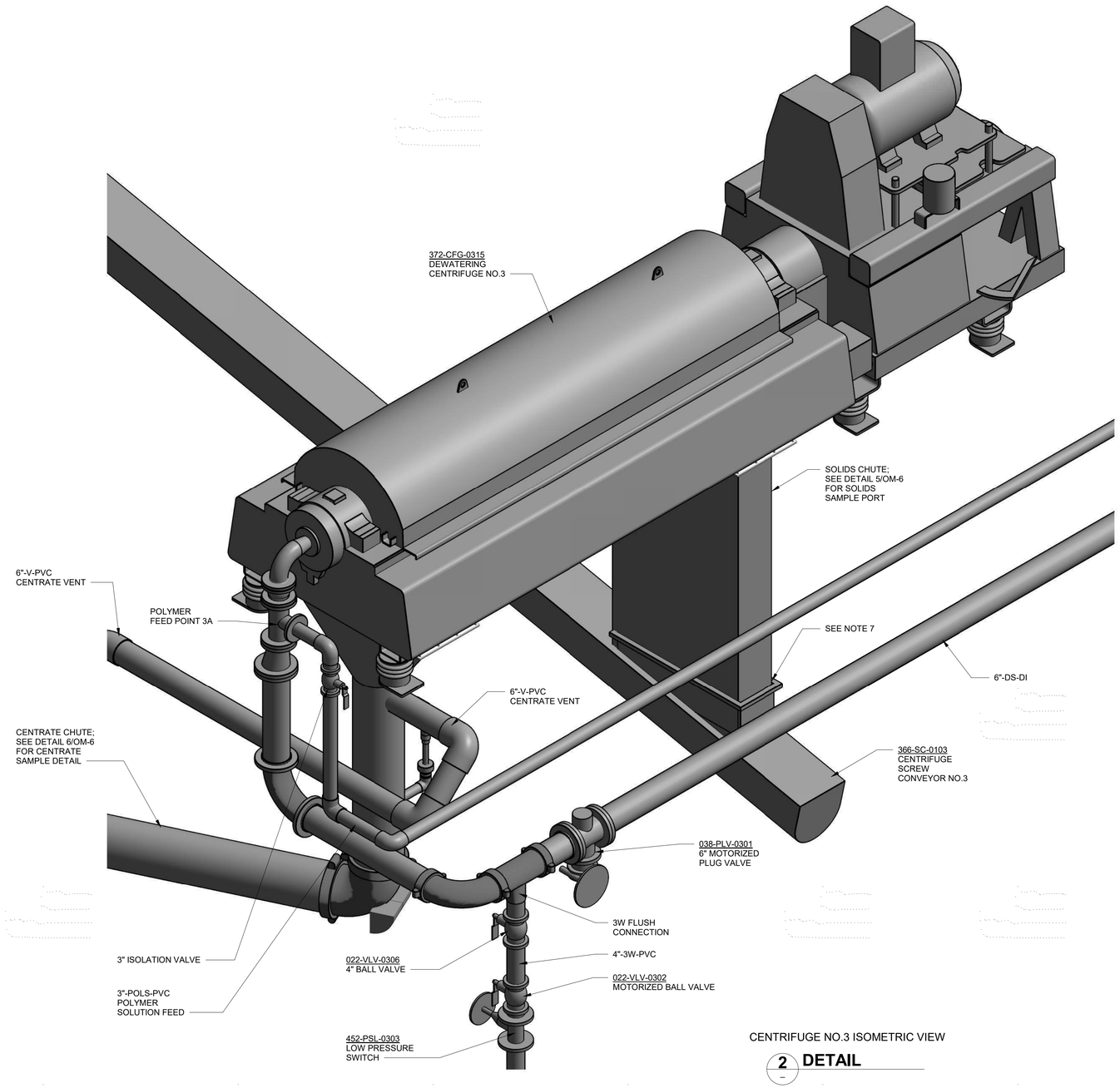

CENTRIFUGE NO.3 ISOMETRIC VIEW

2 DETAIL

NOTES:

1. CONTRACTOR TO DESIGN AND INSTALL PIPE SUPPORTS PER SECTION 400507.
2. THE CENTRIFUGE LAYOUT AND ASSOCIATED PIPING AND PENETRATIONS ARE DESIGNED BASED ON THE GEA WESTFALIA SERIES 8000 MODEL. IF A DIFFERENT CENTRIFUGE MANUFACTURER/MODEL IS SELECTED, CONTRACTOR SHALL COORDINATE WITH THE SELECTED MANUFACTURER AND REVISE THE PIPING LAYOUT AT NO ADDITIONAL COST TO THE OWNER. SUBMIT REVISED PIPING LAYOUT FOR ENGINEER'S APPROVAL.
3. CONTRACTOR SHALL NOT PROCEED WITH ANY CONSTRUCTION ACTIVITIY IN THIS AREA UNTIL THE CENTRIFUGE RELATED SUBMITTALS, INCLUDING, BUT NOT LIMITED TO, THE ASSOCIATED PROCESS MECHANICAL PIPING AND STRUCTURAL SLAB SUBMITTAL, ARE APPROVED BY THE ENGINEER. SEE SPECIFICATION SECTION 467633 FOR SUBMITTAL REQUIREMENTS AND PROCEDURES.
4. INSTALL CAKE SAMPLE PORT ON THE SOLIDS CHUTE.
5. FEED TUBE ASSEMBLY PROVIDED BY THE CENTRIFUGE MANUFACTURER. CONTRACTOR SHALL COORDINATE INSTALLATION AND SUPPORT WITH CENTRIFUGE MANUFACTURER.
6. CENTRIFUGE MANUFACTURER TO PROVIDE 316 SS CLOG RESISTANT SPRAY NOZZLES ON THE CENTRATE HOPPER AND CAKE DISCHARGE CUTE. SPRAY NOZZLES SHOULD BE IKEUCHI USA OR EQUAL.
7. INSTALL A 3W CONNECTION AND SPRAY NOZZLE TO THE SOLIDS CHUTE BELOW THE SOLIDS SAMPLE CHUTE.
8. INCLUDE FLEXIBLE CONNECTIONS BETWEEN THE CENTRIFUGE AND THE SOLIDS CHUTE AND CENTRATE CHUTE.

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

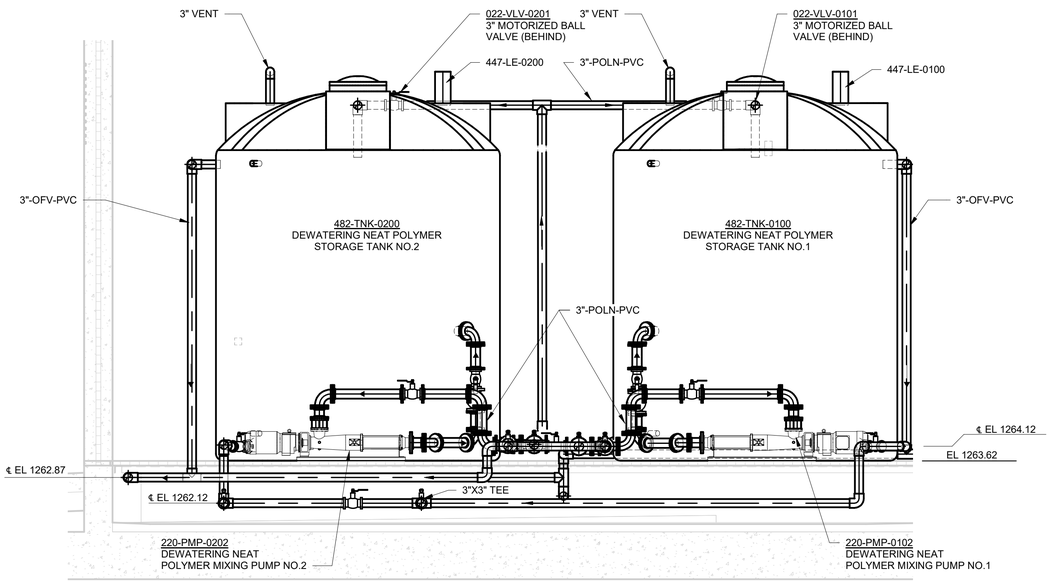
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

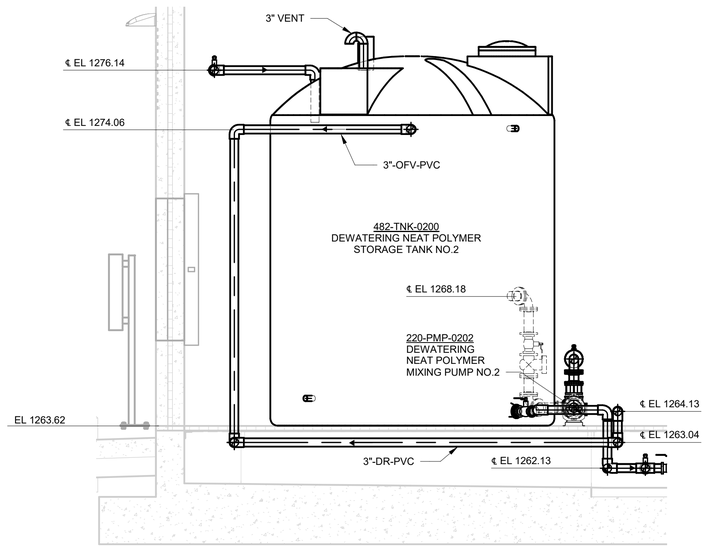
CENTRIFUGE ISOMETRIC VIEW

PROJECT NO. 2395-267343
FILE NAME:

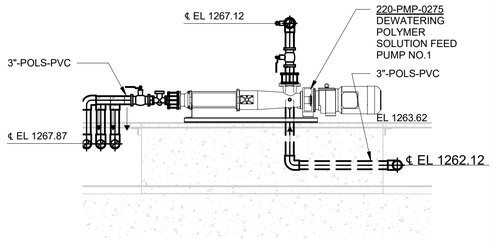
SHEET NO.
OM-6A



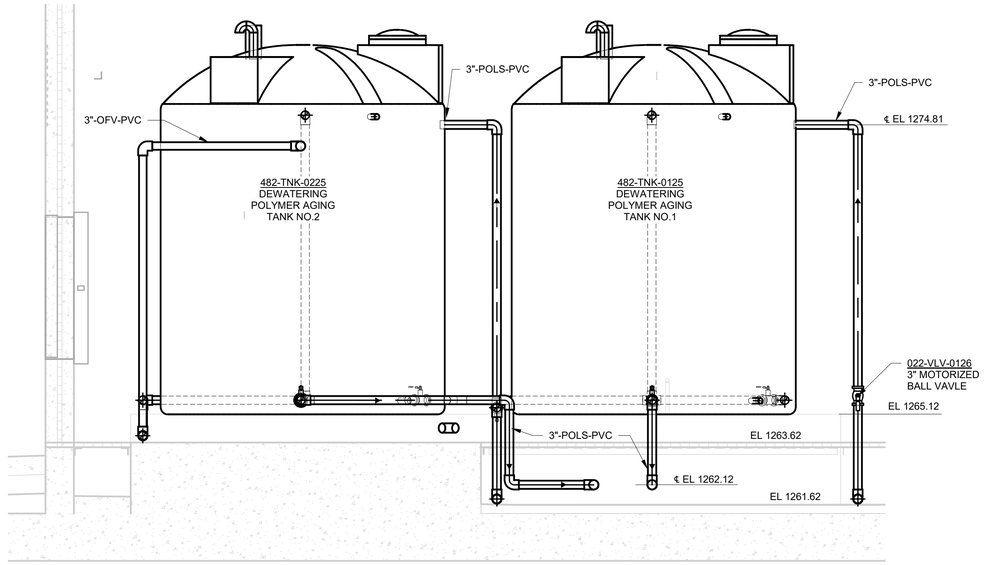
1 DEWATERING NEAT POLYMER STORAGE TANKS
OM-4 3/8" = 1'-0"



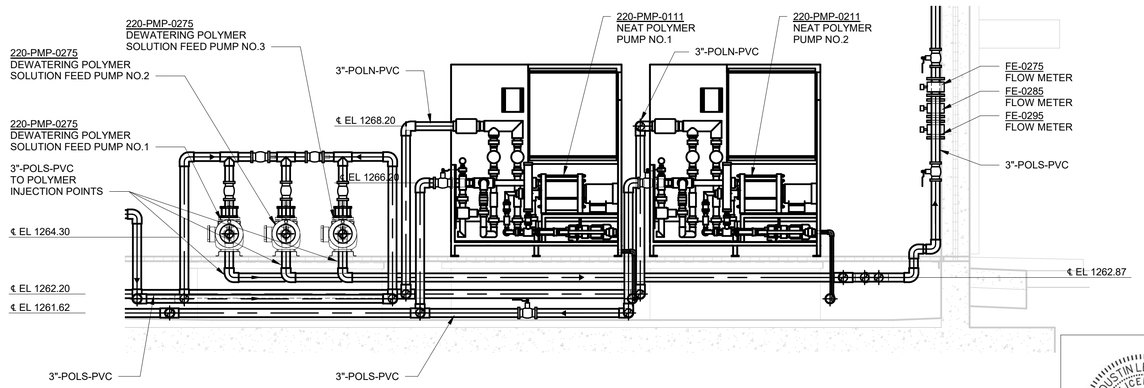
2 DEWATERING NEAT POLYMER STORAGE TANK AND PUMP
OM-4 3/8" = 1'-0"



4 POLYMER SOLUTION FEED PUMPS
OM-4 3/8" = 1'-0"



3 DEWATERING POLYMER AGING TANKS
OM-4 3/8" = 1'-0"



5 DEWATERING POLYMER SOLUTION FEED PUMP AND NEAT POLYMER PUMP SKILDS
OM-4 3/8" = 1'-0"

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

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CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
POLYMER AREA SECTIONS

PROJECT NO. 2395-267343
FILE NAME: MWZ002SM

SHEET NO.
OM-7

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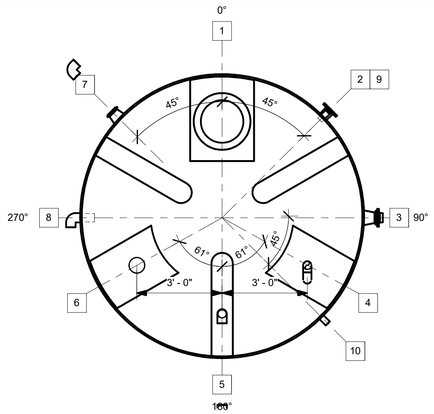


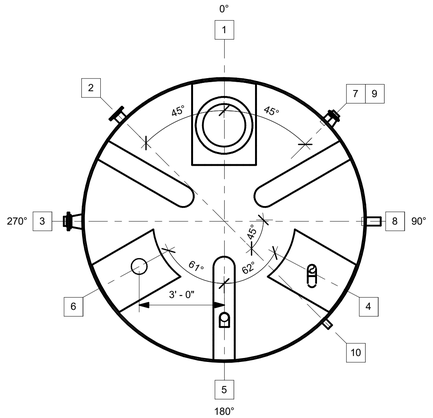
NEAT POLYMER STORAGE TANK NO.1

3/8" = 1'-0"

482-TNK-0100

DEWATERING NEAT POLYMER STORAGE TANK NO.1

STORAGE TANKS NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
1	2' - 0"	TOP MANWAY
2	0' - 3"	INLET FROM MIXING PUMP
3	0' - 3"	OUTLET TO MIXING PUMP
4	0' - 3"	VENT
5	0' - 3"	TANK INLET (FILL)
6	0' - 6"	RADAR LEVEL
7	0' - 3"	TANK OUTLET
8	0' - 3"	TANK OVERFLOW
9	0' - 2"	LEVEL SWITCH HIGH
10	0' - 2"	LEVEL SWITCH LOW



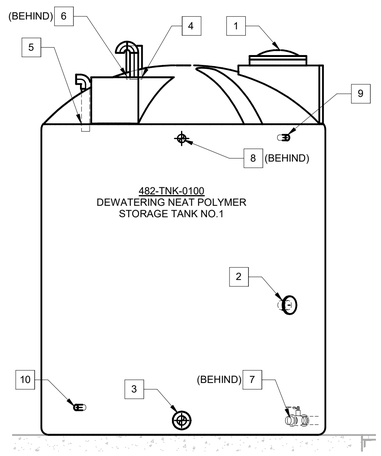
NEAT POLYMER STORAGE TANK NO.2

3/8" = 1'-0"

482-TNK-0200

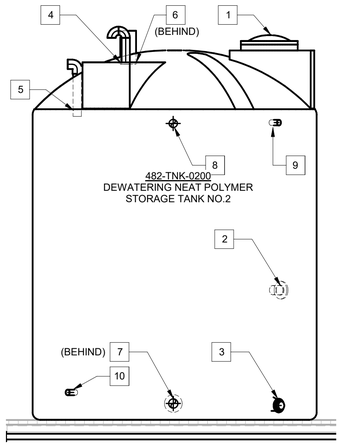
DEWATERING NEAT POLYMER STORAGE TANK NO.2

STORAGE TANKS NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
1	2' - 0"	TOP MANWAY
2	0' - 3"	INLET FROM MIXING PUMP
3	0' - 3"	OUTLET TO MIXING PUMP
4	0' - 3"	VENT
5	0' - 3"	TANK INLET (FILL)
6	0' - 6"	RADAR LEVEL
7	0' - 3"	TANK OUTLET
8	0' - 3"	TANK OVERFLOW
9	0' - 2"	LEVEL SWITCH HIGH
10	0' - 2"	LEVEL SWITCH LOW



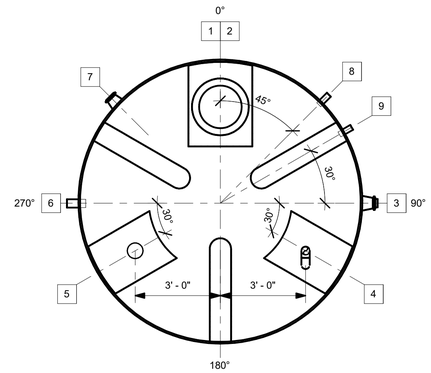
5 NEAT POLYMER STORAGE TANK NO.1

3/8" = 1'-0"



4 NEAT POLYMER STORAGE TANK NO.2

3/8" = 1'-0"



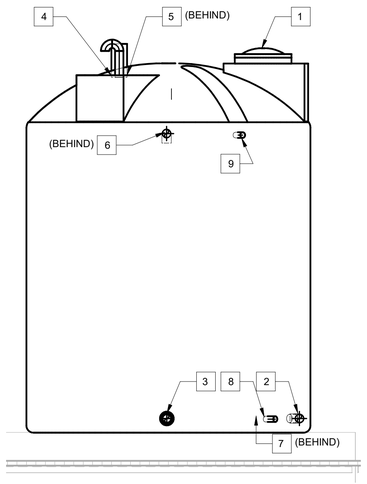
POLYMER AGING TANKS

3/8" = 1'-0"

482-TNK-0125, 482-TNK-0225

DEWATERING POLYMER AGING TANKS NO.1 AND NO.2

AGING TANKS NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
1	2'-0"	TOP MANWAY
2	0'-2"	TANK INLET
3	0'-3"	TANK OUTLET
4	0'-3"	VENT
5	0'-6"	RADAR LEVEL
6	0'-3"	TANK OVERFLOW
7	0'-3"	TANK DRAIN
8	0'-2"	LEVEL SWITCH LOW
9	0'-2"	LEVEL SWITCH HIGH



6 POLYMER AGING TANKS

3/8" = 1'-0"

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. CRAIG
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: E. HERONEMUS
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
PROCESS MECHANICAL
POLYMER AREA TANK DETAILS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OM-8

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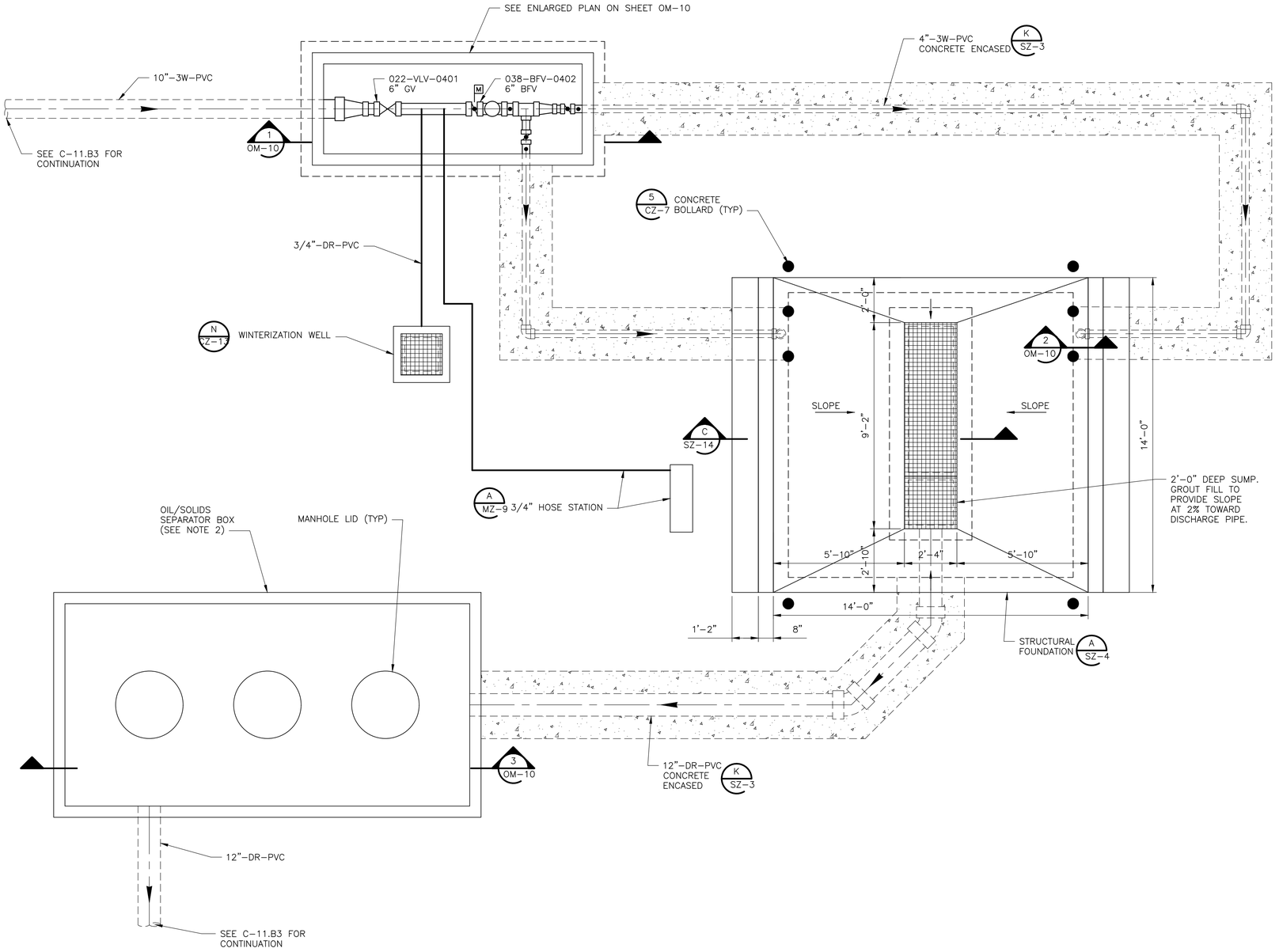
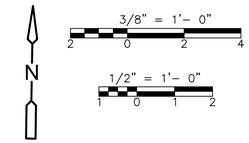


PLAN
3/8" = 1'-0"



NOTES:

1. CONTRACTOR TO PROVIDE AN OIL SOLIDS SEPARATOR BOX CAPABLE OF HANDLING FLOW OF 800GPM WITH A HIGH SOLIDS CONCENTRATION. THE BOX SHALL BE CONSTRUCTED OF CONCRETE AND HAVE HATCH OR MANHOLE ACCESS TO EACH CHAMBER OF THE SEPARATOR. THE BOX SHALL BE RATED FOR H-20 LOADING.
2. OIL SOLIDS SEPARATOR TO BE SIZED FOR 800GPM WITH A HIGH SOLIDS CONTENT FROM THE TRUCKWASH STATION. THE SEPARATOR SHALL BE DESIGNED FOR H20 LOAD RATING. THE SEPARATOR SHALL HAVE THREE DISTINCT COMPARTMENTS CAPABLE OF BEING CLEANED OUT BY A VAC-TRUCK. SEE SECTION 3 ON OM-9 FOR ILLUSTRATIVE DESIGN INTENT OF THE SEPARATOR. CONTRACTOR TO SUBMIT PRODUCT INFORMATION FOR APPROVAL BY ENGINEER.

BID ALTERNATE NO.2:

TRUCK WASH CONSTRUCTION (AREA O): FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, AND INCIDENTALS FOR INSTALLING THE TRUCK WASH PIPING AND NOZZLES, VALVE VAULT, OIL/SOLIDS SEPARATOR BOX, AND ASSOCIATED CONTROLS, ELECTRICAL, PIPING, SITE/CIVIL, AND GRADING IMPROVEMENTS, AND APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIRUGE BUILDING
TRUCK WASH PLAN
BID ALT. NO.2

PROJECT NO. 2395-267343
FILE NAME: OM001CBTW

SHEET NO.
OM-9

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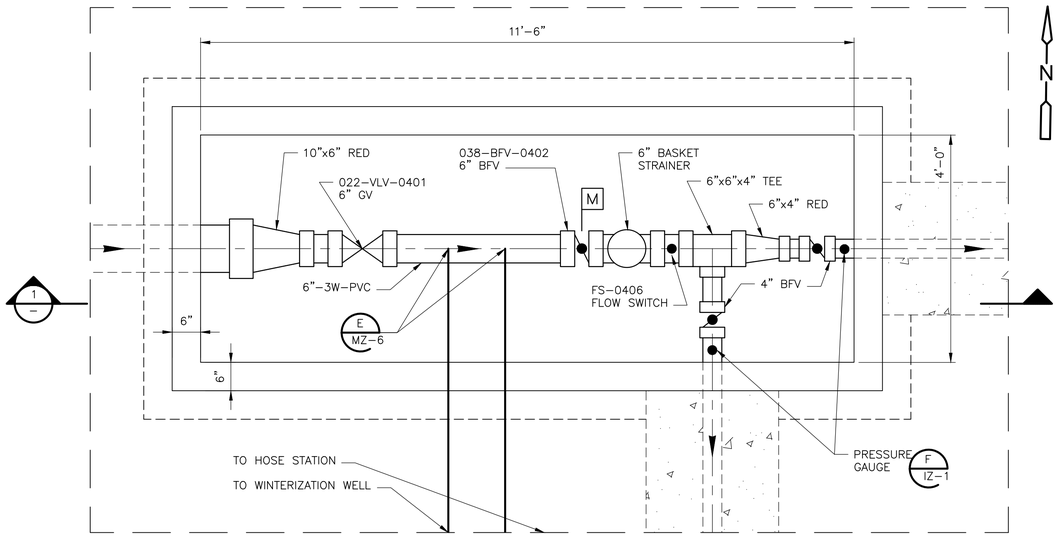
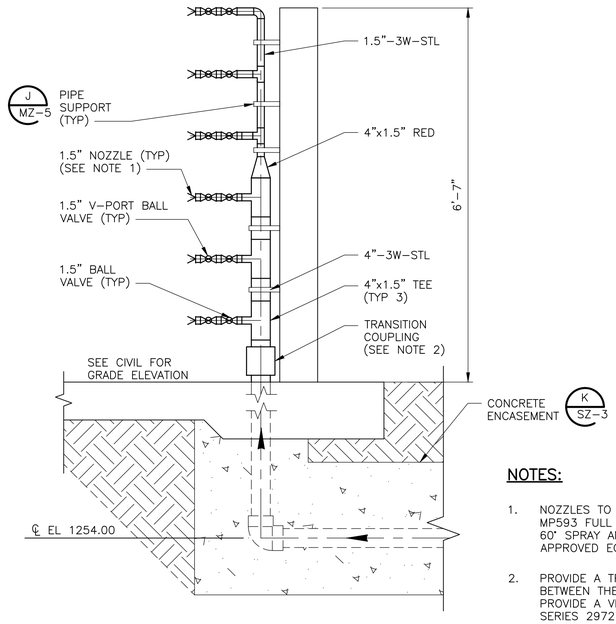


VALVE VAULT ENLARGED PLAN

PLAN

3/4" = 1'-0"

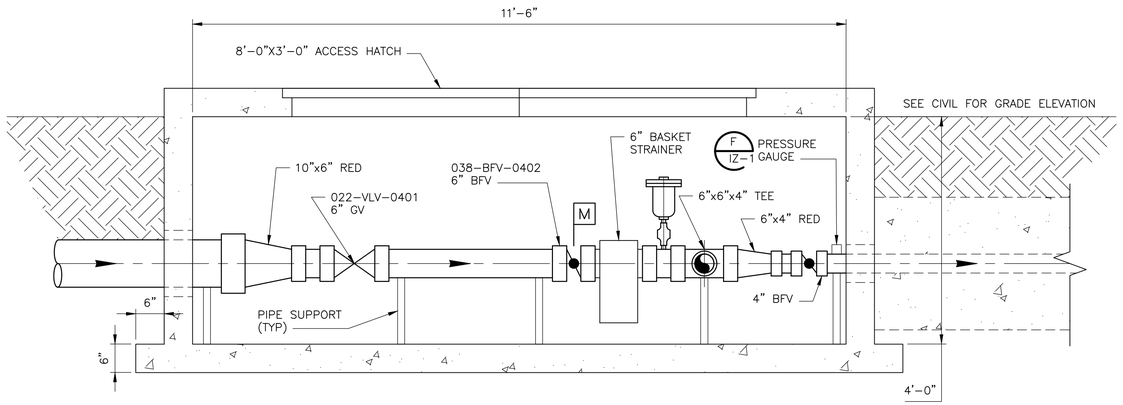


SECTION 2

3/4" = 1'-0" OM-9

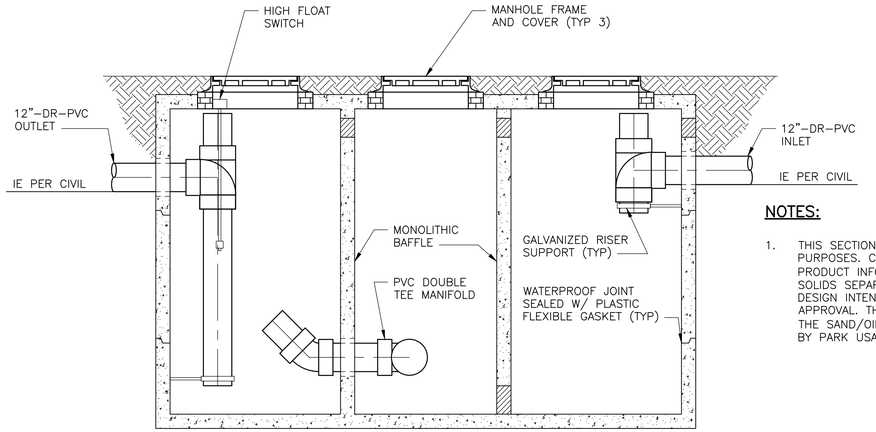
NOTES:

1. NOZZLES TO BE BETE MAXIPRESS (R) MP593 FULL CONE NOZZLES WITH A 60° SPRAY ANGEL OR ENGINEER APPROVED EQUAL.
2. PROVIDE A TRANSITION COUPLING BETWEEN THE PVC AND STEEL PIPING. PROVIDE A VICTAULIC AQUAMINE SERIES 2972 COUPLING OR ENGINEER APPROVED EQUAL.



SECTION 1

3/4" = 1'-0" OM-9



NOTES:

1. THIS SECTION IS FOR ILLUSTRATIVE PURPOSES. CONTRACTOR TO SUBMIT PRODUCT INFORMATION FOR AN OIL/SOLIDS SEPARATOR MEETING THE DESIGN INTENT FOR ENGINEER APPROVAL. THE SEPARATOR SHOWN IS THE SAND/OIL INTERCEPTOR SO-8000 BY PARK USA.

SECTION 3

3/8" = 1'-0" OM-9

3/8" = 1'- 0"

2 0 2 4

3/4" = 1'- 0"

1 0 1 2

BID ALTERNATE NO.2:

TRUCK WASH CONSTRUCTION (AREA O): FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, AND INCIDENTALS FOR INSTALLING THE TRUCK WASH PIPING AND NOZZLES, VALVE VAULT, OIL/SOLIDS SEPARATOR BOX, AND ASSOCIATED CONTROLS, ELECTRICAL, PIPING, SITE/CIVIL, AND GRADING IMPROVEMENTS, AND APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. MALLOY
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
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Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIRUGE BUILDING
TRUCK WASH
ENLARGED PLAN AND SECTION
BID ALT. NO.2

PROJECT NO. 2395-267343
FILE NAME: OM009CBTW-NEW

SHEET NO.
OM-10

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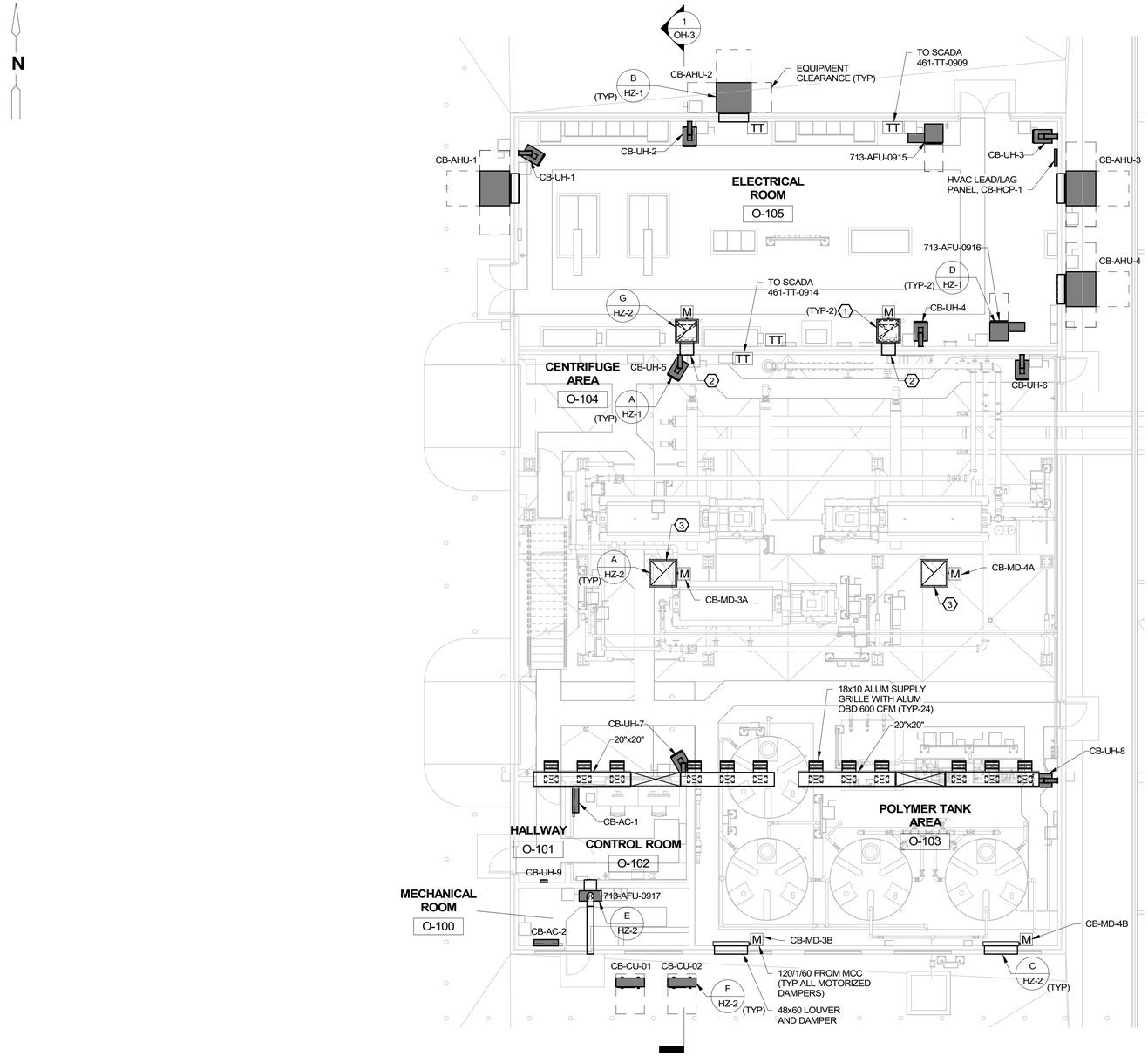

FLOOR PLAN

1/8" = 1'-0"

NOTES:

1. MOUNT UNIT HEATERS 8'-0" AFF.
2. ALL DUCTWORK, SLEEVES, AND SUPPORTS SHALL BE ALIMUNUM CONSTRUCTED ACCORDING TO SMACNA EXCEPT EXHAUST ASSOCIATED WITH EF-1 AND EF-2 SHALL BE TYPE 304 STAINLESS STEEL.
3. MOTORIZED DAMPERS SHALL BE LOW LEAKAGE, AIR FOIL BLADES, OBD, ALUMINUM CONSTRUCTION WITH STAINLESS STEEL LINKAGES, RUSKIN MODEL CD50-CE OR APPROVED EQUAL.
4. DAMPER ACTUATORS SHALL BE MANUFACTURED BY BELIMO, NEMA 4X, 120 VOLT, TWO POSITION, SIZED FOR DOUBLE THE REQUIRED DAMPER TORQUE.
5. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

KEYED NOTES:

1. FIRE WRAP EXHAUST DUCTS AND SUPPORTS FROM WALL PENETRATIONS TO ROOF CURB CAPS WITH 3M FIRE BARIER 2 HOUR DUCT WRAP. SEE DETAIL G/HX-2.
2. 30x30 EXHAUST DUCT 2,900 CFM HIGH (BELOW STRUCTURE), DOWN TO 30x18 4,400 CFM LOW (12" AFF).
3. 34x34 SCREENED EXHAUST INLET 7,300 CFM.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
CENTRIFUGE BUILDING
FLOOR PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OH-1

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N

1
OH-3

724-FAN-0925

724-FAN-0930

724-FAN-0935

724-FAN-0940

777-MAU-0902

777-MAU-0911

ROOF PLAN
1/8" = 1'-0"

NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

REV. NO.	DATE	DRWN	CHKD	REMARKS

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
CENTRIFUGE BUILDING
ROOF PLAN

R. CARDO J. AZCARATE
LICENSED
17087
KANSAS
PROFESSIONAL ENGINEER
2024-Mar-01

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OH-2

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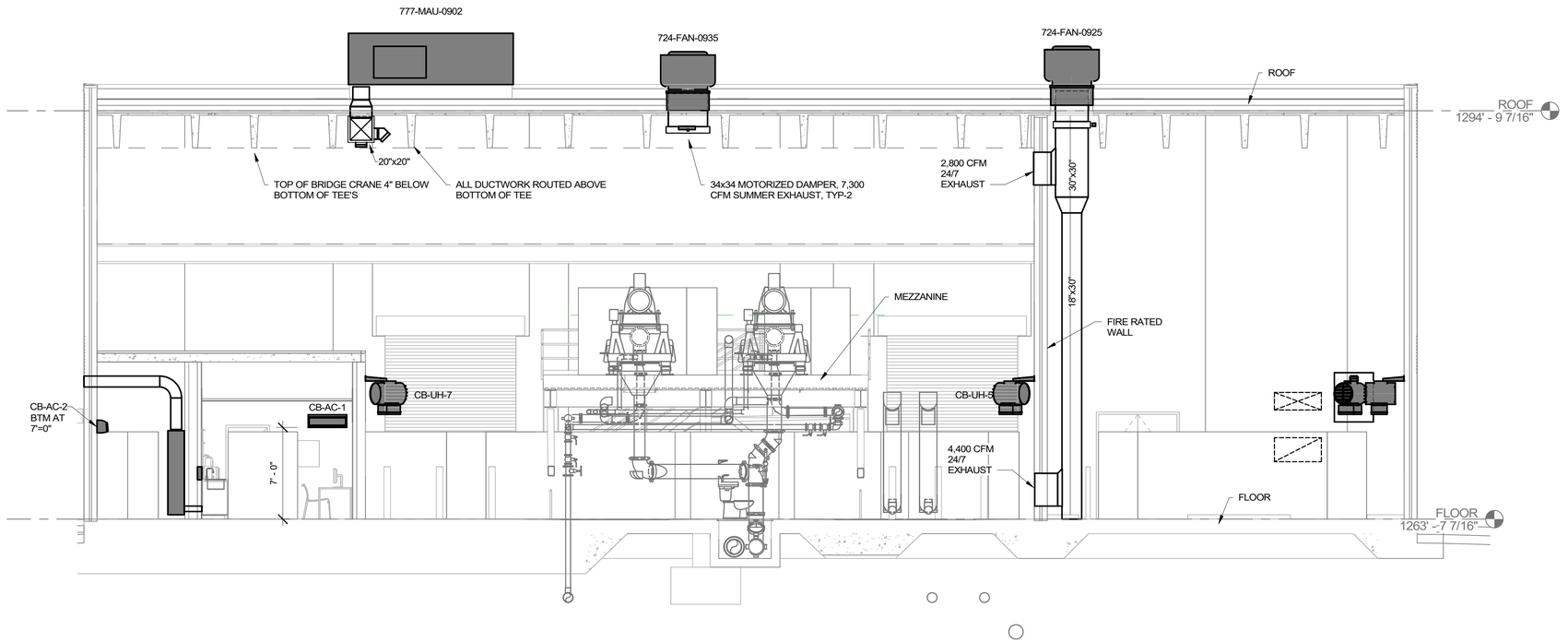
NOTES:

1. FIRE WRAP EXHAUST DUCTS AND SUPPORTS ASSOCIATED WITH EF-0925 AND EF-0930 FROM WALL PENETRATIONS TO ROOF CURB CAPS WITH 3M FIRE BARRIER 2 HOUR DUCT WRAP. SEE DETAIL G/HX-2.
2. MOUNT UNIT HEATERS 8'-0" AFF.
3. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.



SECTION
3/16" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

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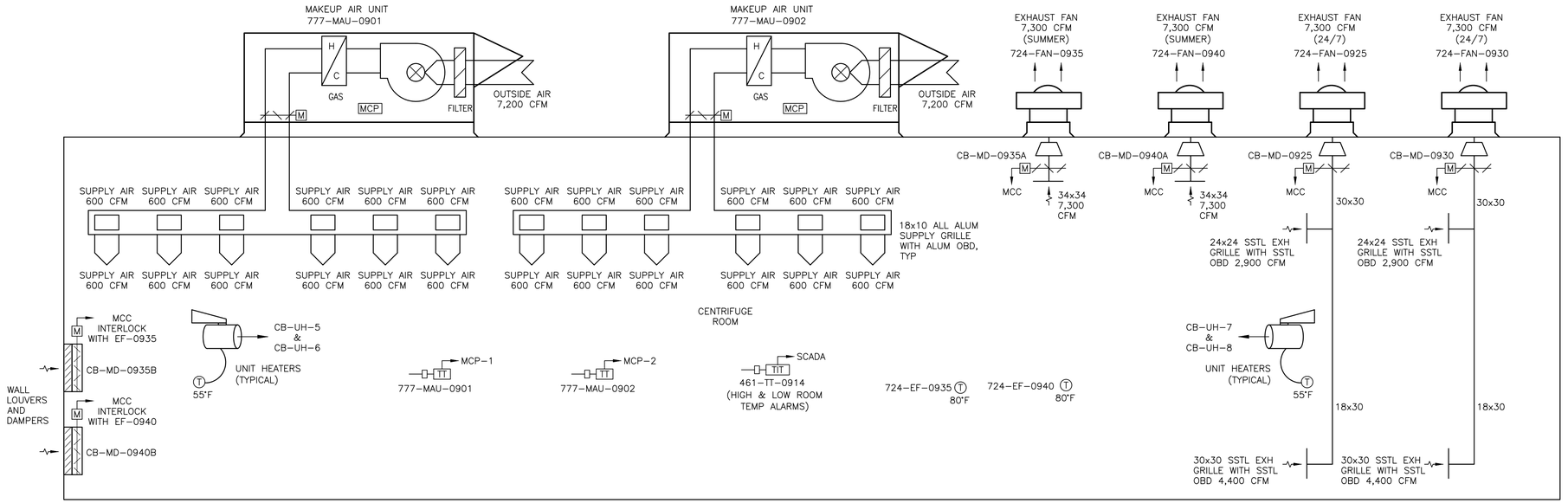
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
CENTRIFUGE BUILDING
SECTIONS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OH-3



CENTRIFUGE ROOM SCHEMATIC

NTS

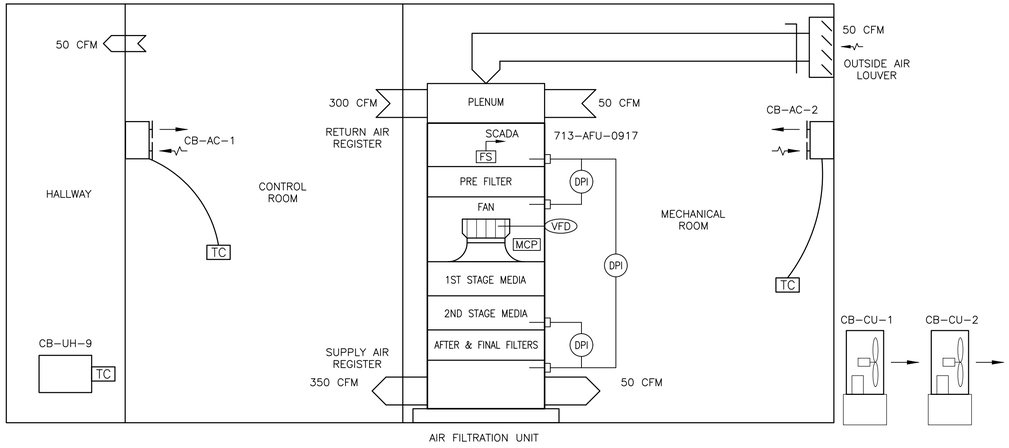
SEQUENCE OF OPERATION:

GENERAL:

1. THE CENTRIFUGE ROOM IS VENTILATED BY 6+ AIR CHANGES PER HOUR (ACH) SUPPLIED BY GAS FIRED MAKEUP AIR UNITS (MAU'S) THAT OPERATE 24/7 AND 6+ ACH ROOF MOUNTED EXHAUST FANS (EF'S) THAT OPERATE 24/7, THE ROOM ALSO HAS ELECTRIC UNIT HEATERS (UH'S) CONTROLLED BY THERMOSTATS. THE MAU'S ARE CONTROLLED BY THE INTEGRAL MANUFACTURERS CONTROL PANELS (MCP'S) WITH ROOM MOUNTED TEMPERATURE OVERRIDES. IN SUMMER THE CENTRIFUGE ROOM HAS ADDITIONAL 6+ ACH THERMOSTATICALLY CONTROLLED EF'S WITH INTERLOCKED, DAMPERED, LOUVER WALL INTAKES.
2. THE ELECTRICAL ROOM IS COOLED BY AIR-COOLED, DX REFRIGERANT, WALL MOUNTED AIR HANDLING UNITS (AHU'S). THE ELECTRICAL ROOM IS HEATED BY ELECTRIC UNIT HEATERS CONTROLLED BY THERMOSTATS. THE AHU'S ARE CONTROLLED BY THE INTEGRAL MCP'S. THE AHU'S ARE SIZED FOR N+1 REDUNDANCY WITH 3-DUTY AND 1-BACKUP CONTROLLED BY THE MANUFACTURERS THERMOSTATS AND A LEAD/LAG CONTROLLER. THE ELECTRICAL ROOM HAS 2 AIR FILTRATION UNITS (AFU'S) THAT CIRCULATE ROOM AIR 24/7 FOR H2S REMOVAL.
3. THE CONTROL ROOM IS COOLED AND HEATED BY A WALL MOUNTED VARIABLE REFRIGERANT FLOW (VRF) MINI SPLIT SYSTEM WITH A OUTSIDE STAND MOUNTED CONDENSING UNIT (CU) CONTROLLED BY THE MANUFACTURERS THERMOSTAT. THE CONTROL ROOM HAS 1 AFU THAT OPERATES 24/7 FOR H2S REMOVAL DRAWING IN 50 CFM OF OUTSIDE AIR. THE HALLWAY IS PRESSURIZED AND VENTILATED AT 50 CFM THRU W WALL GRILLE BETWEEN THE CONTROL ROOM AND THE HALLWAY. THE HALLWAY IS HEATED BY 1 WALL MOUNTED ELECTRIC HEATER WITH INTEGRAL THERMOSTAT. THE MECHANICAL ROOM IS COOLED AND HEATED BY 1 WALL MOUNTED VRF MINI SPLIT SYSTEM AND 1 OUTSIDE STAND MOUNTED CU CONTROLLED BY THE MANUFACTURERS THERMOSTAT.

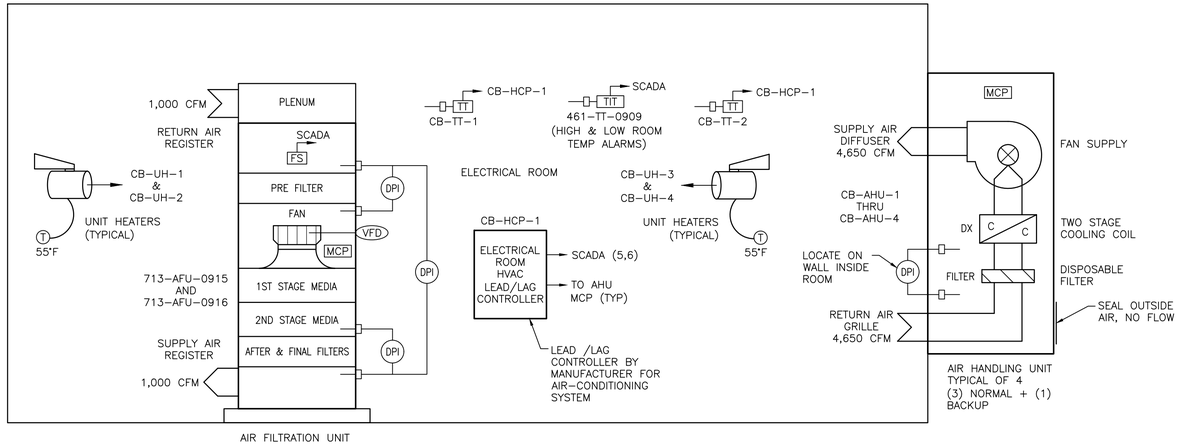
GENERAL NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.



CENTRIFUGE CONTROL ROOM SCHEMATIC

NTS



CENTRIFUGE ELECTRICAL ROOM SCHEMATIC

NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
SCHEMATICS

PROJECT NO. 2395-267343
FILE NAME: OH-4

SHEET NO.
OH-4

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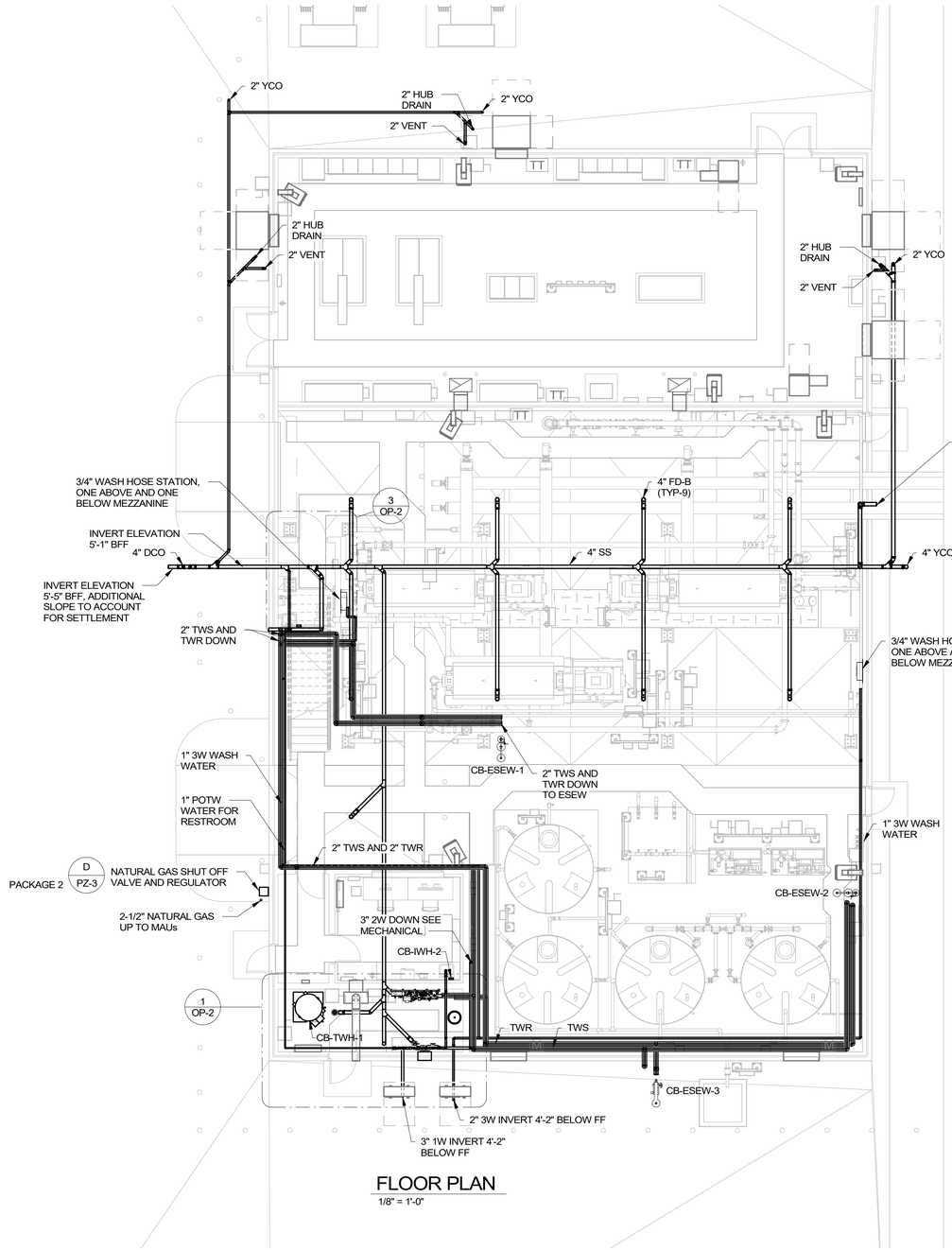

FLOOR PLAN
1/8" = 1'-0"

NOTES:

1. SANITARY SEWER SHALL BE COMBINATION WASTE AND VENT, SCHEDULE 40 PVC WITH SOLVENT WELD DRAINAGE FITTINGS
2. FLOOR DRAINS SHALL BE EXTRA HEAVY DUTY GRATE, TYPE 316 STAINLESS STEEL, ZURN MODEL Z1736 OR APPROVED EQUAL.
3. FLOOR CLEANOUTS SHALL BE EXTRA HEAVY DUTY, STAINLESS STEEL, ZURN MODEL Z1400 OR APPROVED EQUAL.
4. TEPID WATER SHALL BE TYPE L HARD COPPER WITH SWEAT FITTINGS. INSULATE WITH 3" OF MOLDED FIBERGLASS AND PVC JACKETING.
5. 3W WATER PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT FITTINGS.
6. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
7. NEW GAS PRESSURE REGULATORS SHALL BE EQUAL TO FISHER TYPE 99

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER
21-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
CENTRIFUGE BUILDING
FLOOR PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OP-1

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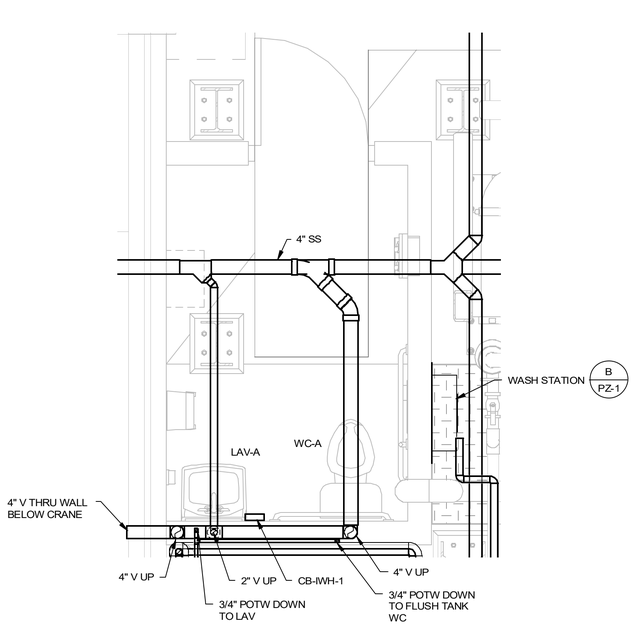
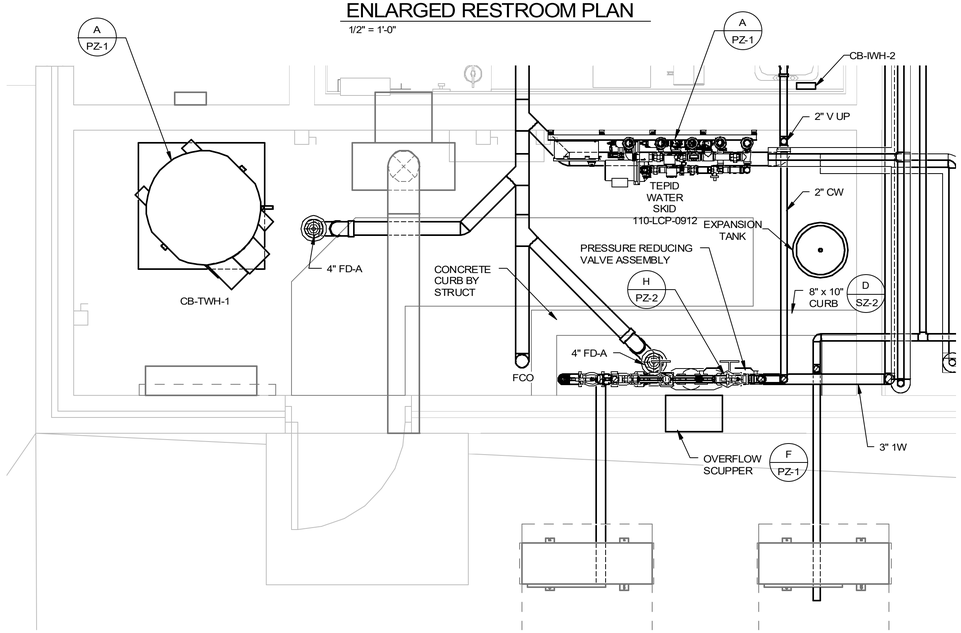


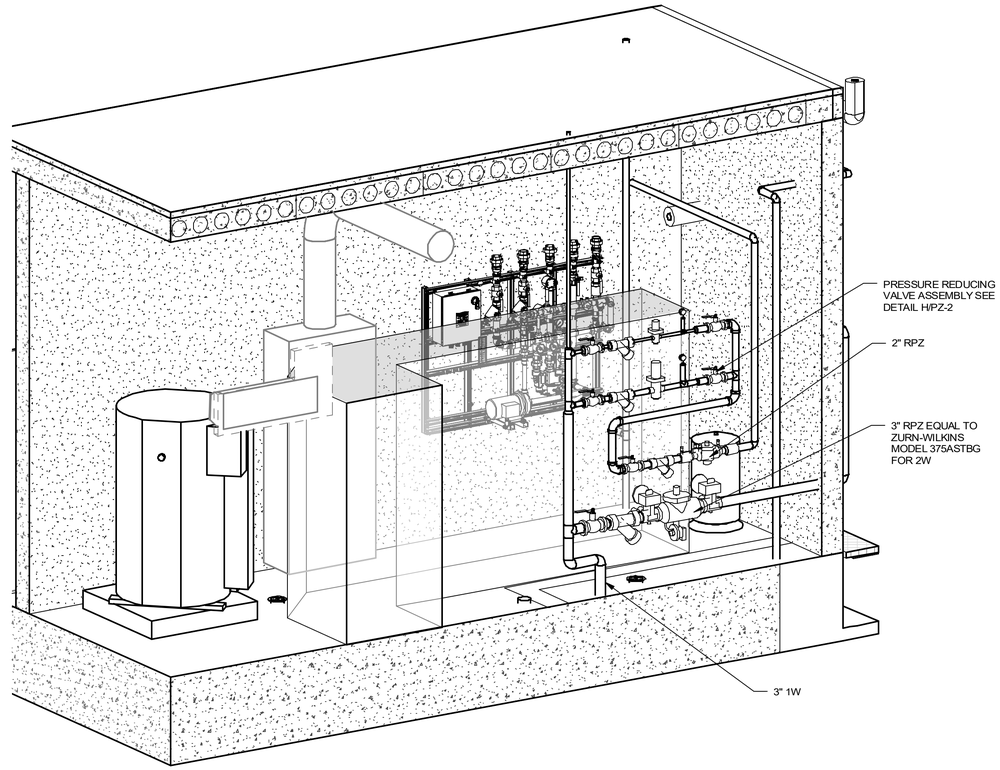
ENLARGED RESTROOM PLAN

1/2" = 1'-0"



ENLARGED PLAN

1/2" = 1'-0"



3D ISO MECH ROOM

NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
CENTRIFUGE BUILDING
ENLARGED PLANS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OP-2

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

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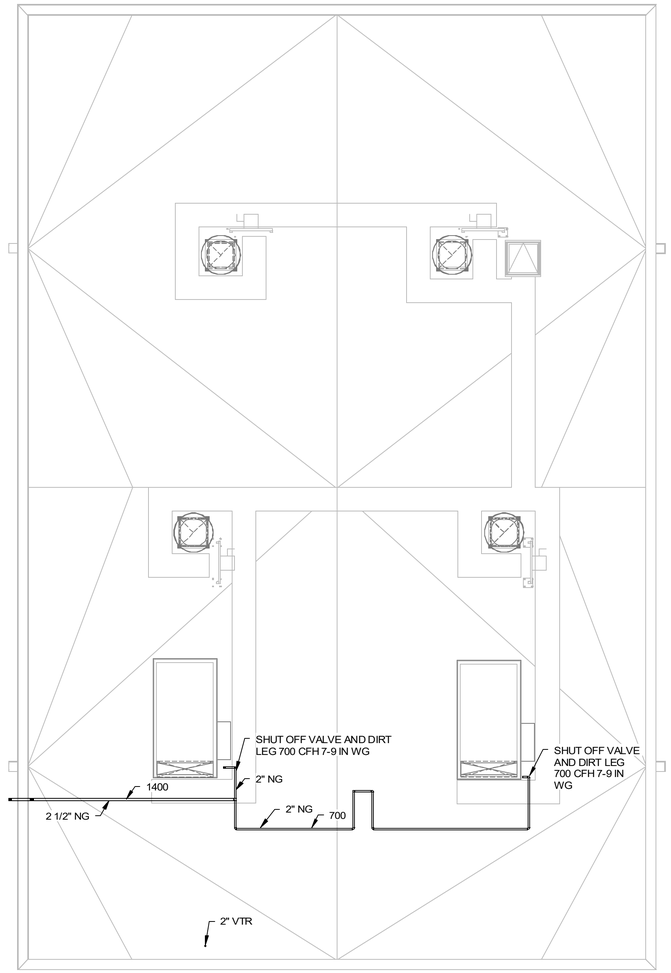

ROOF PLAN
1/8" = 1'-0"

NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE CENTRIFUGE BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
CENTRIFUGE BUILDING
ROOF PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OP-3

REFERENCE CODES AND STANDARDS

THE FIRE ALARM SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

- NFPA 1, FIRE CODE 2018
- NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS 2016
- NFPA 70, NATIONAL ELECTRIC CODE 2017
- NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE 2016
- NFPA 101, LIFE SAFETY CODE 2012
- NFPA 170, STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS 2015
- NFPA 820, STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES, 2016
- INTERNATIONAL BUILDING CODE (IBC) 2012
- INTERNATIONAL FIRE CODE (IFC) 2012
- FIRE ALARM EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- CITY OF WICHITA, KANSAS - CODE OF ORDINANCES
  - -TITLE 15: FIRE PREVENTION
  - - TITLE 18: BUILDING CODE

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM AND VOICE EVAC
FAA	FIRE ALARM ANNUNCIATOR PANEL
NAC	ALARM NOTIFICATION EXTENDER PANEL
ANT	ANTENNA
PIV	POST INDICATOR VALVE
SPD	SURGE PROTECTION DEVICE
SS	SURGE SUPPRESSOR
S/P	SMOKE DETECTOR PHOTOELECTRIC
S/D	SMOKE DETECTOR IN DUCT
F	MANUAL PULL STATION
AIM	ADDRESSABLE INPUT MONITOR MODULE
AOM	ADDRESSABLE OUTPUT CONTROL MODULE
TS	TAMPER SWITCH
FS	WATER FLOW SWITCH
W/CD	COMBINATION HORN/STROBE WALL MOUNT CD: CANDELA RATING
W	HORN WALL MOUNT
CD	VISIBLE ONLY (STROBE) WALL MOUNT CD: CANDELA RATING
CD	VISIBLE ONLY (STROBE) CEILING MOUNT CD: CANDELA RATING
JB	FIRE ALARM JUNCTION BOX
Re	END OF LINE RESISTOR

SCOPE OF WORK

FURNISH AND INSTALL A NEW ADDRESSABLE AUTOMATIC AND MANUAL FIRE DETECTION AND ALARM SYSTEM THROUGHOUT INDICATED WWTF FACILITIES, AS SHOWN ON DRAWINGS.
ALL WIRING TO BE CLASS B FOR NOTIFICATION APPLIANCE CIRCUITS, INITIATING DEVICE CIRCUITS, AND SIGNALING LINE CIRCUITS.
AUTOMATIC FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION.

MAXIMUM NUMBER OF CONDUCTORS IN ELECTRICAL METALLIC TUBING

TYPE LETTERS	CONDUCTOR SIZE AWG/KCMIL	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4
THNN	14	22	35	61	84	138	241	364	476	608
	12	16	26	45	61	101	176	266	347	443
	10	10	16	28	38	63	111	167	219	279
THWN	8	6	9	16	16	36	64	96	126	161

PERCENT AREA OF CONDUIT			PERCENT REDUCTION PER-NUMBER 18 AWG TWISTED SHIELDED PAIRS								
TRADE SIZE (IN)	INTERNAL DIAMETER (IN)	TOTAL AREA 100% (IN^2)	OVER 2 WIRES 40% (IN^2)	1	2	3	4	5	6	7	8
3/4	0.824	0.533	0.213	19%	38%	57%	76%	95%	X	X	X
1	1.049	0.864	0.346	12%	24%	36%	47%	60%	72%	84%	96%
1-1/4	1.380	1.496	0.598	7%	14%	21%	28%	35%	42%	49%	56%
1-1/2	1.610	2.036	0.814	5%	10%	15%	20%	25%	30%	35%	40%
2	2.067	3.356	1.342	3%	3%	9%	12%	15%	18%	21%	24%

CONDUIT WIRE FILL CHART

CONDUIT SIZE (IN)	MAXIMUM CONDUCTORS		
	#18 AWG	#16 AWG	#14 AWG
1/2	19	19	13
3/4	34	26	24
1	55	43	39
1-1/4	1-1/4	76	69
1-1/2	132	104	94
2	216	169	154

FIRE ALARM CONDUIT SCHEDULE

SYMBOLS	DESCRIPTION	CONDUIT SIZE
—SLC—	SLC CABLE	E-3/4"
—SLC,P—	SLC AND POWER CABLES	E-3/4"
— A —	AUDIO CABLE	E-3/4"
— A,V—	AUDIO AND STROBE CABLE	E-3/4"
— 2V —	TWO STROBE CABLE	E-3/4"
—2A,2V—	TWO AUDIO AND TWO STROBE CABLE	E-1"
–4A,SYN,P–	FOUR AUDIO SYNCH AND POWER CABLE	E-1"
— SYN,P—	SYNCH AND POWER CALBE	E-3/4"
— P,PNL—	POWER, PANEL CABLE	E-3/4"
— IDC—	IDC CABLE	E-3/4"
— ANT—	ANTENNA CABLE	E-3/4"

FIRE ALARM WIRE SCHEDULE

CABLE TAG	CRKT ABBR	CIRCUIT TYPE	CABLE IN CONDUIT
D	SLC	SIGNAL LINE CIRCUIT+SPR	FPLR #14-4 THHN/THWN
A-N	A	AUDIO CIRCUIT	FPLR #14-2 SHIELDED THHN/THWN
V-N	V	VISUAL CIRCUIT	FPLR #14-4 THHN/THWN
D	SYN	SYNCHRONIZATION WIRE	FPLR #16-4 THHN/THWN
P	P	24VDC AUX POWER	FPLR #14-2 THHN/THWN
-	PNL	PANEL CIRCUIT	FPLR #16-4 & 16-2 THHN/THWN
D	IDC	INITIATING DEVICE CIRCUIT	FPLR #14-2 THHN/THWN
-	ANT	ANTENNA COAX	50-ohm mini RG-8X

ABBREVIATIONS

AC	ABOVE CEILING
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALM	ALARM
ANN	ANNUNCIATOR
BTV	BUTTERFLY VALVE
cD	CANDELA RATING
dBA	DECIBEL A SCALE
DET	DETECTOR
E	EXISTING TO REMAIN
EMT	ELECTRIC METAL TUBING
EOL	END OF LINE
EPO	EMERGENCY POWER OFF
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FBO	FURNISHED BY OTHERS
FCC	FIRE COMMAND CENTER
FTR	FIRE ALARM TRANSPONDER
HT	HEIGHT
JB	JUNCTION BOX
MAX	MAXIMUM
MIN	MINIMUM
N	NEW
N/A	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NDU	NETWORK DISPLAY UNIT
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NPU	NETWORK PROCESSING UNIT
NTS	NOT TO SCALE
OS&Y	OUTSIDE SCREW AND YOKE
Re	RESISTOR
RDU	REMOTE DISPLAY UNIT
RMC	RIGID METALLIC CONDUIT
SCC	STATUS COMMAND CENTER
SLC	SIGNALING LINE CIRCUIT
SMK	SMOKE
SUPV	SUPERVISORY
TRBL	TROUBLE
TS	TAMPER SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VCC	VOICE COMMAND CENTER
W	WATTAGE
W/	WITH
W/O	WITHOUT
WF	WATERFLOW
WG	WIRE GUARD
WP	WEATHERPROOF

GENERAL NOTES

1. NEW CLASS B, ADDRESSABLE FIRE ALARM SYSTEM SHALL BE PROVIDED.
2. EQUIPMENT THAT IS LISTED, LABELED, OR BOTH SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING.
3. ALL CONDUIT SHALL BE IN MINIMUM 3/4" UNLESS NOTED OTHERWISE.
4. PULL ALL CONDUCTORS SPLICE FREE; CONDUCTORS MUST BE CONTINUOUS FROM DEVICE TO DEVICE. THE USE OF WIRE NUTS, CRIMPED CONNECTORS, OR TWISTING OF CONDUCTORS IS PROHIBITED.
5. ALL CONDUCTORS SHALL BE COPPER.
6. CONDUIT FOR THE FIRE ALARM SYSTEM SHALL BE COMPLETELY INDEPENDENT OF ALL OTHER WIRING.
7. SILENCING OF AUDIBLE DEVICES SHALL NOT DE-ACTIVATE FLASHING STROBES UNTIL ALARM CONDITION IS CLEARED.
8. ALL CONDUITS SHALL BE ROUTED PERPENDICULAR AND PARALLEL TO BUILDING STRUCTURE. CONCEAL CONDUIT AS MUCH AS POSSIBLE. USE EXPOSED CONDUITS ONLY IN UNFINISHED SPACES AND ELECTRICAL/MECHANICAL ROOMS.
9. IN UNFINISHED AREAS, ALL CONDUIT, JUNCTION/BACK BOXES, COVERS, AND COUPLINGS, WHEN PROVIDED, MUST BE FACTORY PAINTED RED.
10. CONTRACTOR SHALL FIELD DETERMINE EXACT LOCATIONS OF THE FIRE ALARM DEVICES BASED ON ACTUAL FIELD CONDITIONS. COORDINATE WITH OTHER TRADES.
11. AUDIBLE ALARM SHALL PRODUCE A SOUND THAT EXCEEDS THE PREVAILING EQUIVALENT SOUND LEVEL IN THE ROOM OR SPACE BY AT LEAST 15dBA OR EXCEEDS ANY MAXIMUM SOUND LEVEL A DURATION OF 60 SECONDS BY 5dBA, WHICHEVER IS LOUDER.
12. SOUND LEVELS FOR ALARM SIGNALS SHALL NOT EXCEED 110dBA.
13. PROVIDE SURGE PROTECTION DEVICE (SPD) FOR ALL SIGNALING LINE CIRCUITS, INDICATING DEVICE CIRCUITS, OR NOTIFICATION APPLIANCE CIRCUITS THAT LEAVE OR ENTER A FACILITY'S EXTERIOR ENCLOSURE.
14. PROVIDE SPD ON ALL 120 VAC CIRCUITS TO CONTROL PANELS, SUBPANELS, TRANSMITTERS, AMPLIFIER PANELS, AND BOOSTER PANELS. SPD MUST HAVE BOTH A UL 1449 AND UL 1283 LISTING AND MUST BE LOCATED IN AN ADJACENT HINGED TERMINAL BOX.
15. METAL BOXES SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH PARTS I, IV, V, VI, VII, AND X OF ARTICLE 250 AS APPLICABLE, EXCEPT AS PERMITTED IN SECTION 250.112(I) NEC.
16. CABLE SPLICES AND TERMINATIONS OF POWER-LIMITED FIRE ALARM CONDUCTORS MUST BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT (110.3(B) AND 300.15).
17. THE LOCATION OF THE BRANCH-CIRCUIT OVER-CURRENT DEVICE MUST BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT(760.121(B)).
18. FIRE ALARM CIRCUITS MUST BE IDENTIFIED AT TERMINAL AND JUNCTION LOCATIONS (NEC 760-30).
19. THE BATTERIES FOR THE FACP SYSTEM SHALL HAVE SUFFICIENT CAPACITY TO OPERATE THE SYSTEMS FOR A MINIMUM OF 24 HOURS UNDER SUPERVISORY CONDITION AND ALL ALARM DEVICES FOR AN ADDITIONAL 15 MINUTES.
20. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT START UNTIL DETAILED PLANS AND SPECIFICATIONS HAVE BEEN APPROVED BY AHJ.
21. SMOKE DETECTOR(S) SHALL NOT BE INSTALLED UNTIL THE CLEANUP OF ALL TRADES IS COMPLETED AND FINAL (NFPA 72 SECTION 17.7.2.3).
22. BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION, THE INSTALLING CONTRACTOR SHALL FURNISH A STATEMENT TO AHJ TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND COMPLETELY TESTED IN ACCORDANCE MANUFACTURER'S SPECIFICATIONS AND APPROPRIATE NFPA REQUIREMENTS. (NFPA 72 SECTION 7.5.2).
23. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE AHJ.

JARON JOHN GASS LICENSED 30090 KANSAS PROFESSIONAL ENGINEER

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: P. VELDENIAN
DRAWN BY: G. LUISI
SHEET CHK'D BY: J. J. GASS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: J. J. GASS
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
FIRE ALARM
ABBREVIATIONS, SYMBOLS AND NOTES

PROJECT NO. 2395-267343
FILE NAME: FWZ000OF.rvt

SHEET NO.
OF-1

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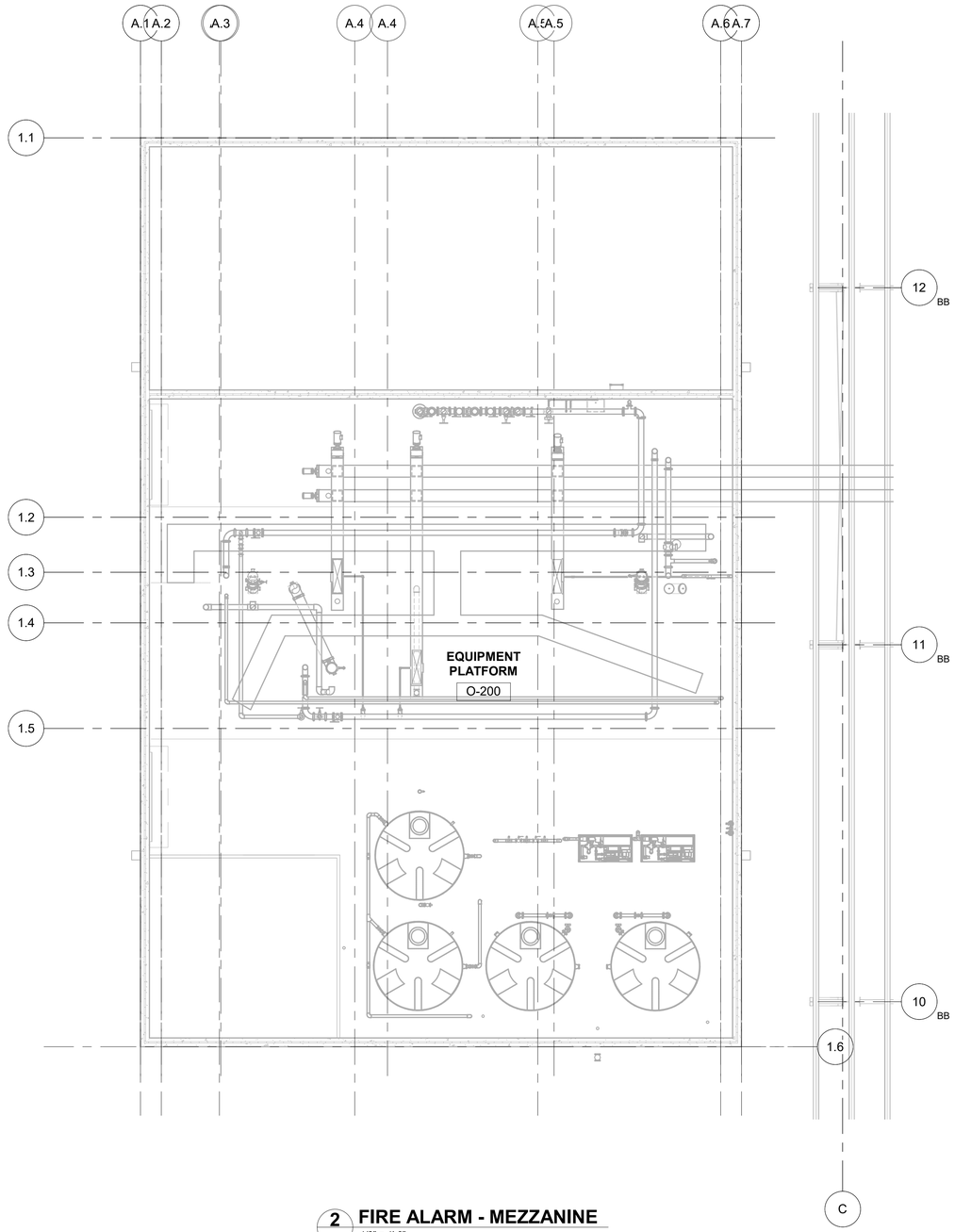
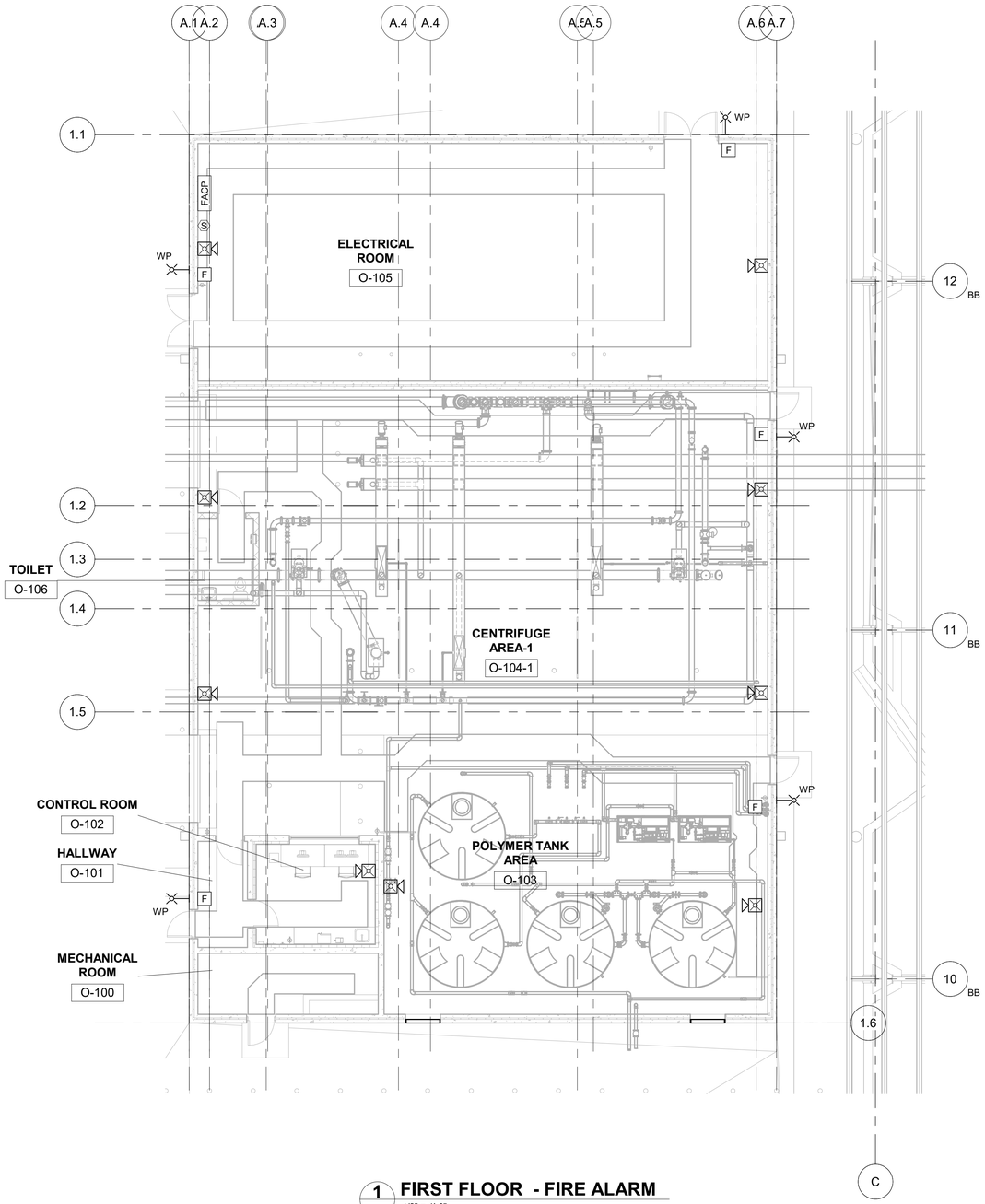


2 FIRE ALARM - MEZZANINE
1/8" = 1'-0"



1 FIRST FLOOR - FIRE ALARM
1/8" = 1'-0"

JARRON JOHN GASS LICENSED 30090 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

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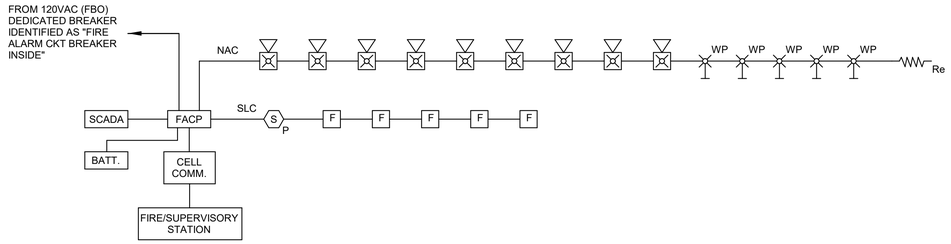
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
FIRE ALARM PLANS

PROJECT NO. 2395-267343
FILE NAME: FWZ000OF.rvt

SHEET NO.
OF-2



FIRE ALARM SYSTEM RISER DIAGRAM - CENTRIFUGE BUILDING

A DETAIL
NTS

SYSTEM INPUTS					ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE AUDIBLE ALARM INDICATOR	DISPLAY AND PRINT CHANGE OF STATUS AND TIME OF INIATING EVENT	TRANSMIT F.A. SIGNAL TO CONTROL STATION	INITIATE F.A. HORN AND STROBE NOTIFICATION APPLIANCES	TRANSMIT F.A. SUPERVISORY SIGNAL TO CONTROL STATION	TRANSMIT F.A. TROUBLE SIGNAL TO CONTROL STATION	SHUT DOWN HVAC FAN	ACTIVATE EXTERIOR STROBE AT FIRE DEPARTMENT RESPONSE POINT	SEND ALARM SIGNAL TO SCADA	SEND TROUBLE SIGNAL TO SCADA	SEND SUPERVISORY SIGNAL TO SCADA
					A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
GENERAL FIRE ALARM SYSTEM	TYPICAL ALL LOCATIONS WHERE APPLIED		1	MANUAL PULL STATION	●	●					●	●	●	●				●	●		
			2	SMOKE DETECTOR	●	●						●	●	●				●	●		
			3	DUCT SMOKE DETECTOR			●	●				●			●		●				●
			4	SPRINKLER WATER FLOW	●	●					●	●	●	●	●				●		
			5	SPRINKLER VALVE ASSEMBLY SUPERVISORY SWITCH			●	●				●			●						●
			6	FIRE ALARM SYSTEM AC POWER FAILURE					●	●		●				●				●	
			7	FIRE ALARM SYSTEM LOW BATTERY					●	●		●				●				●	
			8	FIRE ALARM SYSTEM OPEN CIRCUIT					●	●		●				●				●	
			9	FIRE ALARM SYSTEM GROUND FAULT					●	●		●				●				●	
			10	FIRE ALARM SYSTEM BATTERY DISCONNECT					●	●		●				●				●	
			11	NOTIFICATION APPLIANCES SHORT CIRCUIT					●	●		●				●				●	
			12	CELLULAR FIRE ALARM COMMUNICATOR CHANNEL FAILURE			●	●							●						●
					A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q

FIRE ALARM SYTEM INPUT/OUPUT MATRIX

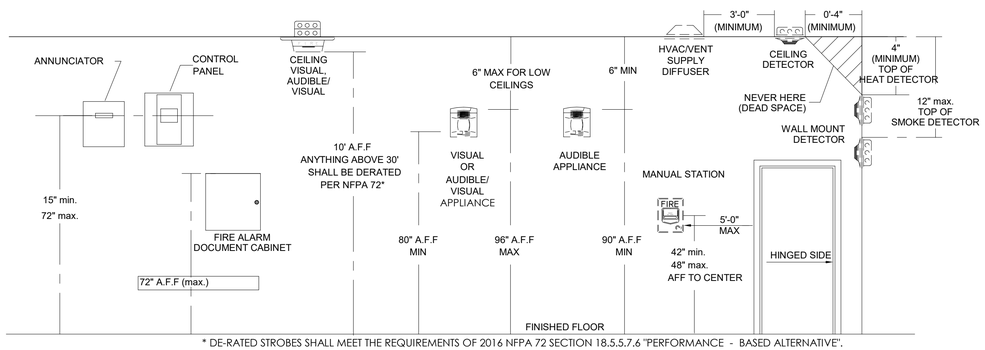
B DETAIL
NTS

SYSTEM OUTPUTS

		REQUIRED FIRE SAFETY CONTROL	
CONTROL UNIT ANNUNCIATOR	NOTIFICATION		SUPPLEMENTARY

. PER NFPA 72 2016 EDITION, SECTION 17.6.3.1.3.1 SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING OR, IF ON A SIDEWALL, BETWEEN THE CEILING AND 12in (300mm) DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR.

. PER NFPA 72 2016 EDITION, SECTION 18.5.5.7.2. TWO GROUPS OF VISUALNOTIFICATION APPLIANCES, WHERE VISUAL APPLIANCES OF EACH GROUP ARE SYNCHRONIZED, IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW. THIS SHALL INCLUDE SYNCHRONIZATION OF STROBES OPERATED BY SEPARATE SYSTEMS.



* DE-RATED STROBES SHALL MEET THE REQUIREMENTS OF 2016 NFPA 72 SECTION 18.5.5.7.6 "PERFORMANCE - BASED ALTERNATIVE".

FIRE ALARM EQUIPMENT MOUNTING ELEVATIONS

C DETAIL
NTS

JARRON JOHN GASS
LICENSED
30090
KANSAS
PROFESSIONAL ENGINEER

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CROSS CHK'D BY: M. MALLOY
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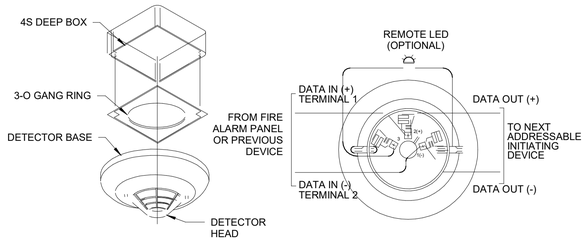
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
FIRE ALARM
OVERALL SYSTEM MATRIX AND DIAGRAMS

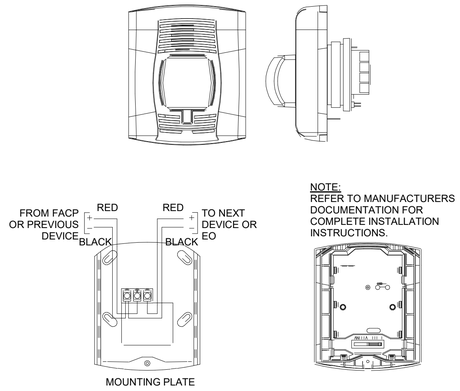
PROJECT NO. 2395-267343
FILE NAME: FWZ000OF.rvt

SHEET NO.
OF-3



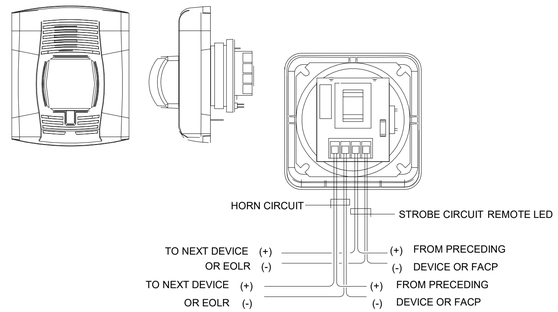
SMOKE DETECTOR

A DETAIL
NTS



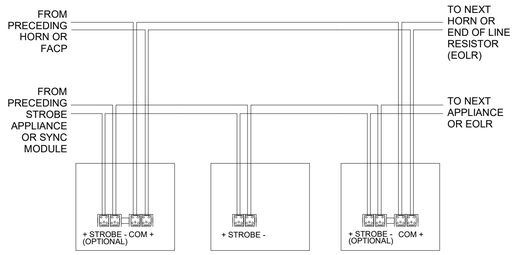
WALL MOUNT STROBE WIRING

B DETAIL
NTS



WALL MOUNT HORN/ STROBE

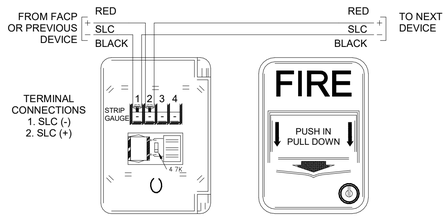
C DETAIL
NTS



HORN/STROBE STROBE HORN/STROBE

HORN/ STROBE AND STROBE WIRING

D DETAIL
NTS



NOTE:
REFER TO MANUFACTURERS DOCUMENTATION FOR COMPLETE INSTALLATION INSTRUCTIONS.

ADDRESSABLE MANUAL FIRE ALARM BOX WIRING

E DETAIL
NTS

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CROSS CHK'D BY: M. MALLOY
APPROVED BY: J.J. GASS
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
FIRE ALARM
DETAILS

PROJECT NO. 2395-267343
FILE NAME: FWZ000OF.rvt

SHEET NO.
OF-4

JARRON JOHN GASS LICENSED 30090 KANSAS PROFESSIONAL ENGINEER

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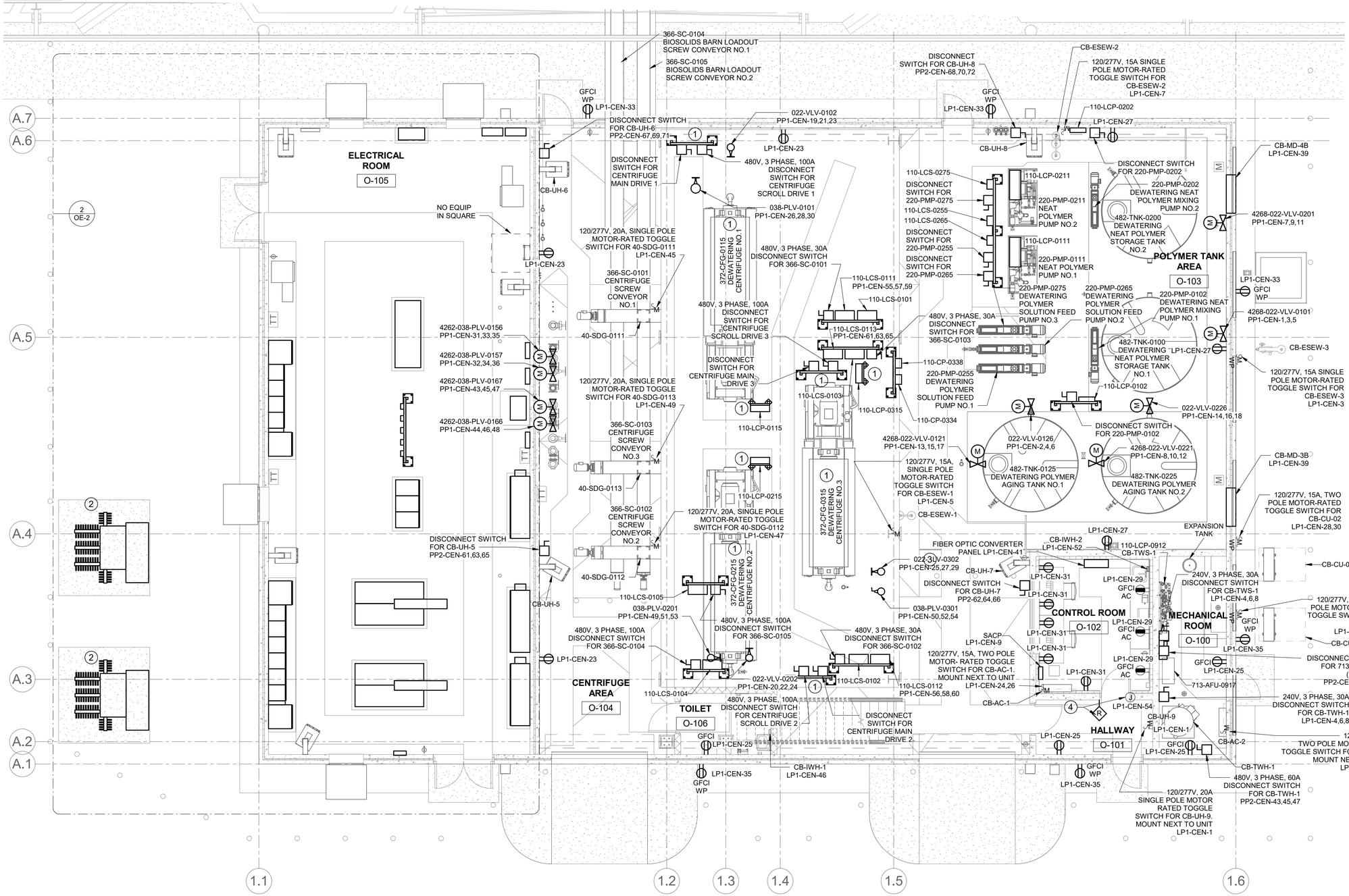

CENTRIFUGE BUILDING ELECTRICAL POWER

PLAN

3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES ON SHEETS OE-11 & OE-12 AND ONE-LINE SHEETS OE-7 AND OE-8 FOR ADDITIONAL CIRCUIT INFORMATION.
3. COORDINATE LOCATION OF POWER CIRCUITS FOR MOTORIZED VALVES WITH PROCESS EQUIPMENT AND DEVICES.

KEY NOTES:

(1) EQUIPMENT LOCATED ON PLATFORM.

(2) REFER TO CENTRIFUGE BUILDING STRUCTURAL FOUNDATION PLAN AND DETAILS FOR CONCRETE PAD REQUIREMENTS.

(3) COORDINATE EXACT LOCATION OF FIBER OPTIC CONVERTER PANEL WITH INSTALLER.

(4) PROVIDE 2-#12, 1-#12G IN 3/4"C TO JUNCTION BOX AT DOOR FOR ELECTRIC DOOR STRIKE AND CARD READER. REFER TO DOOR CONTROL ACCESS DETAIL Y ON SHEET EZ-4 FOR ELECTRICAL REQUIREMENTS.

N

0 4' 8' 16'

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

REV. NO.	DATE	DRWN	CHK'D	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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KANSAS CERTIFICATE OF AUTHORITY #E-1057

CITY OF WICHITA, KS

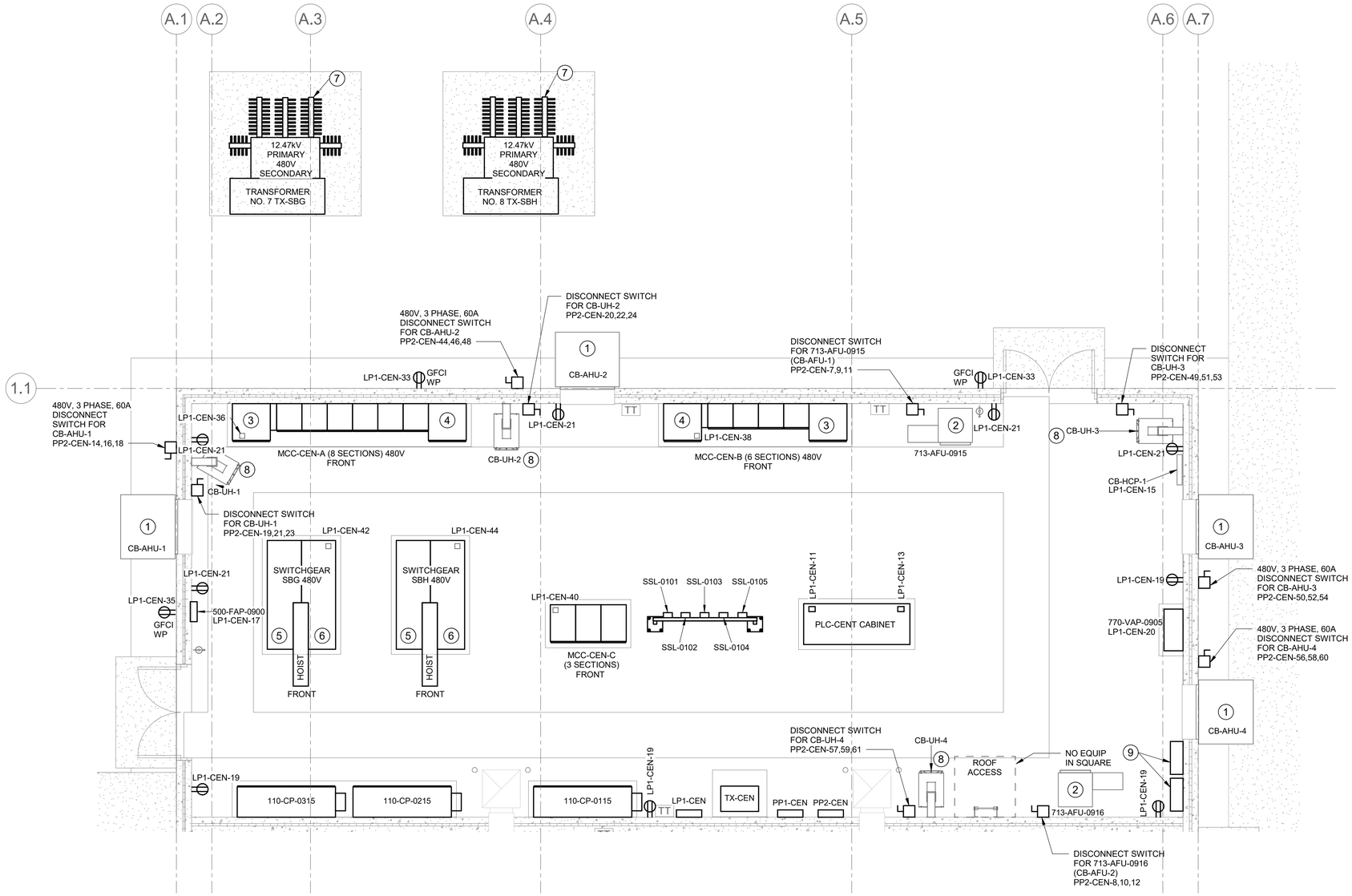
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ELECTRICAL POWER PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-1

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024



CENTRIFUGE BUILDING ELECTRICAL ROOM ENLARGED

PLAN

1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES ON SHEETS OE-11 & OE-12 AND ONE-LINE SHEETS OE-7 AND OE-8 FOR ADDITIONAL CIRCUIT INFORMATION.

KEY NOTES:

1. EXTERIOR WALL MOUNTED A/C UNITS.
2. AIR FILTRATION UNIT.
3. 2,000A MAIN BREAKER SECTION.
4. 2,000A TIE BREAKER SECTION.
5. MAIN 2,500AT BREAKER SECTION.
6. DISTRIBUTION 2,000AF SECTION.
7. REFER TO CENTRIFUGE BUILDING STRUCTURAL FOUNDATION PLAN AND DETAILS FOR CONCRETE PAD REQUIREMENTS.
8. UNIT HEATER.
9. PROVIDE TWO 1150 W INVERTERS FOR EMERGENCY LIGHTING CIRCUITS, ASSURANCE LIGHTING CATALOG # SI-1150-SDT, OR APPROVED EQUAL.

N

0 2' 4' 8'

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

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DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ENLARGED ELECTRICAL
POWER PLAN

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-2

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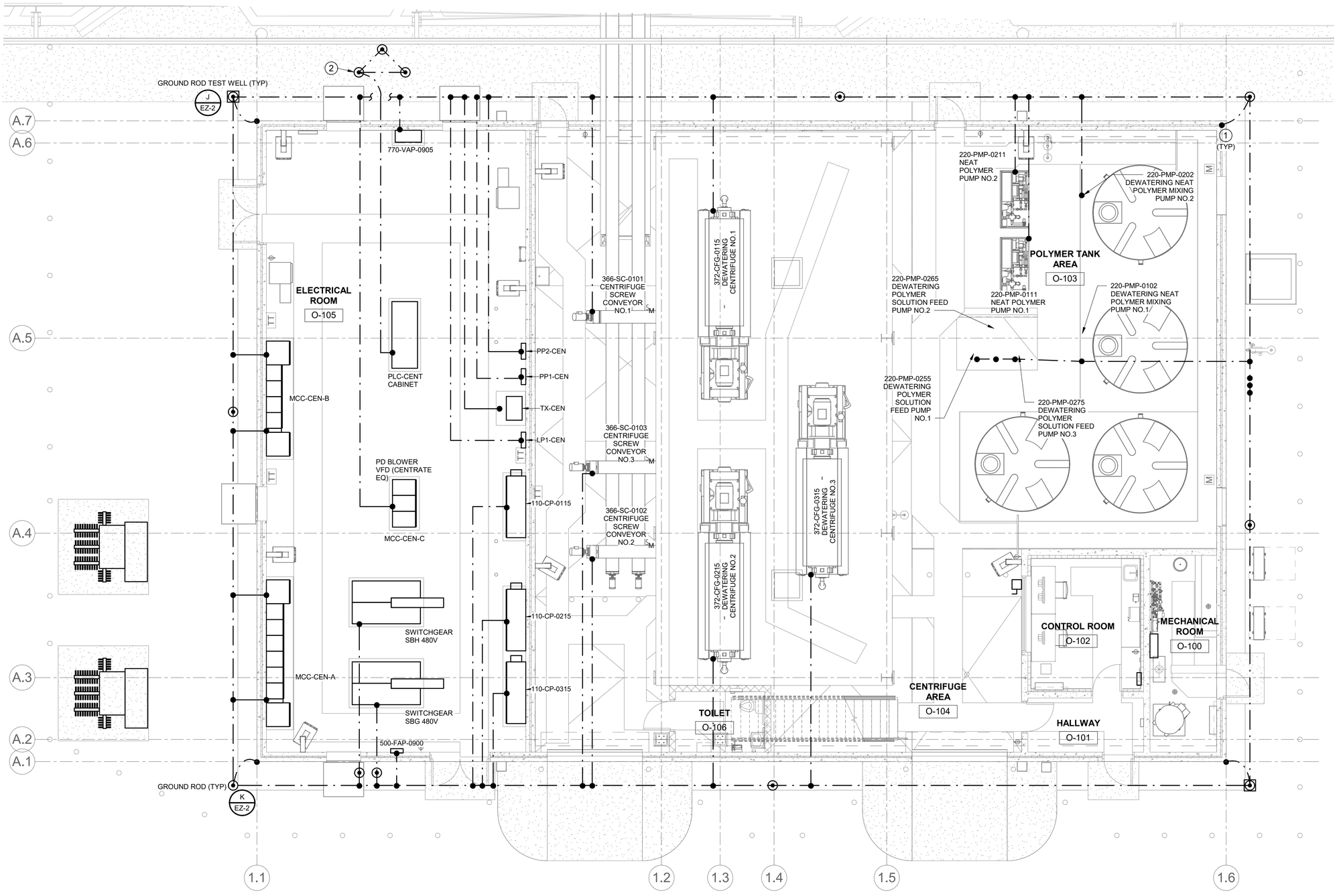

CENTRIFUGE BUILDING ELECTRICAL GROUNDING

PLAN

3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. GROUNDING IS SHOWN DIAGRAMMATICALLY. CONTRACTOR SHALL FOLLOW REQUIREMENTS OF SPECIFICATIONS AND USE BEST JUDGEMENT FOR EXACT ROUTING.
3. PROVIDE LIGHTNING PROTECTION SYSTEM FOR BUILDING. REFER TO SPECIFICATION 264113 FOR REQUIREMENTS.

KEY NOTES:

(1) BOND #4/0 COPPER CONDUCTOR TO STRUCTURAL STEEL.

(2) PROVIDE GROUNDING TRIAD FOR PLC-CENT CABINET.

N

0 4' 8' 16'

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

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ELECTRICAL GROUNDING PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-3

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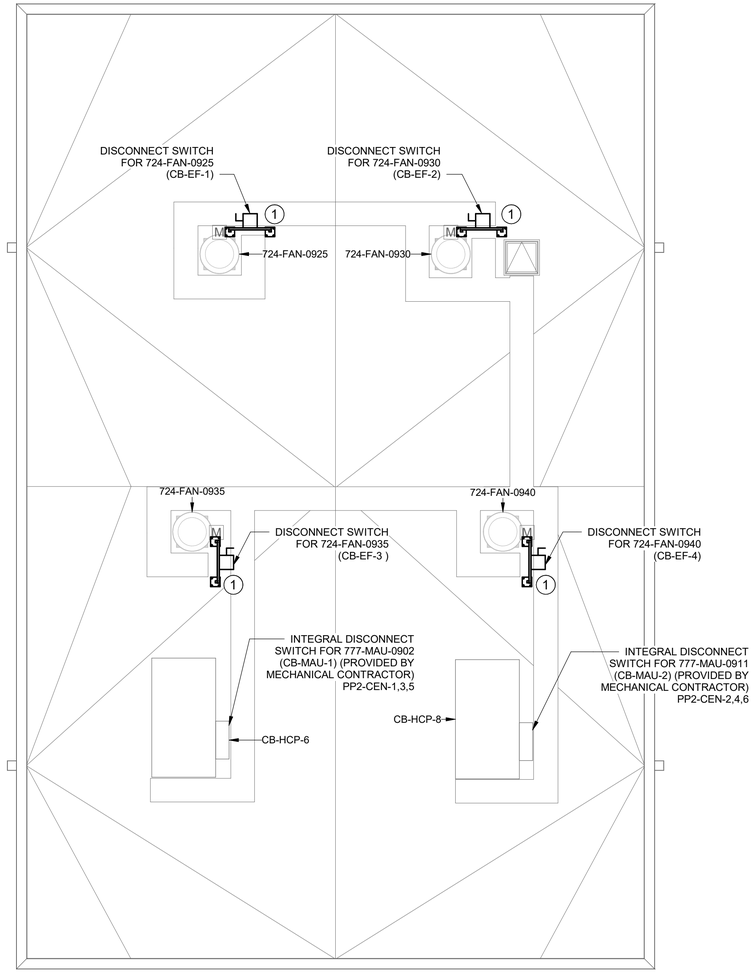
GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES ON SHEETS OE-11 & OE-12 AND ONE-LINE SHEETS OE-7 AND OE-8 FOR ADDITIONAL CIRCUIT INFORMATION.

KEY NOTES:

(1) REFER TO EQUIPMENT STRUCTURAL SUPPORT DETAIL A ON SHEET GS-2 FOR MOUNTING DETAILS.



ELECTRICAL ROOF PLAN

PLAN

1/8" = 1'-0"

N

0 4' 8' 16'

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

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER

Craig Brewster

03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. JONES
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
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Independence, Missouri 64055
(816) 373-7400
www.CUSTOMENGR.com
KANSAS CERTIFICATE OF AUTHORITY #E-1957

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
ELECTRICAL ROOF PLAN

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-4

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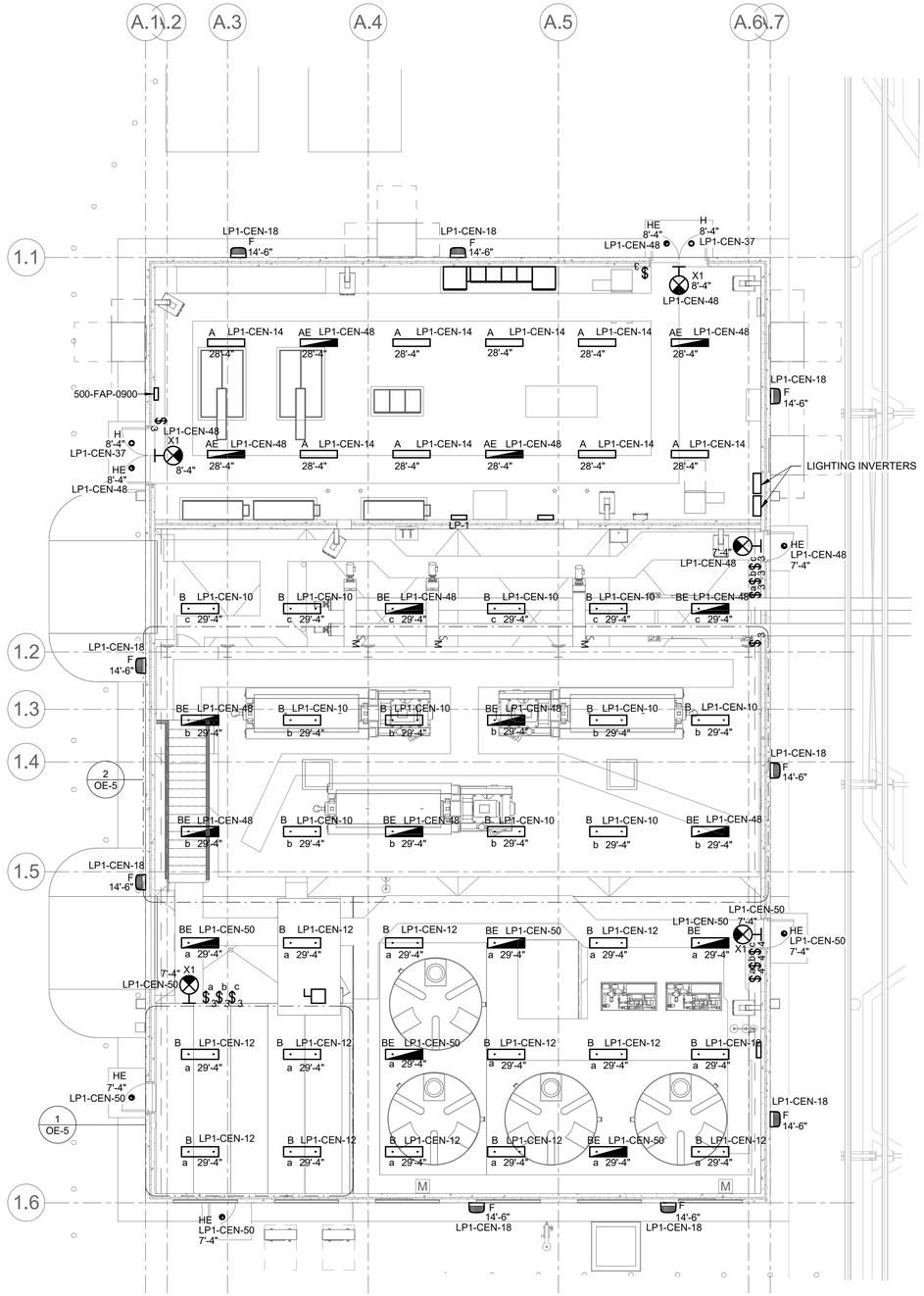


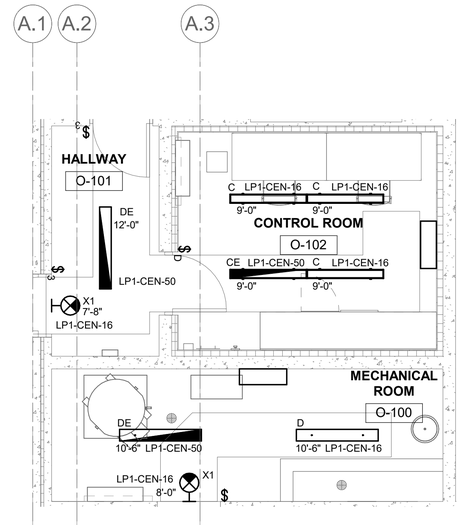
CENTRIFUGE BUILDING LIGHTING PLAN

PLAN

1/8" = 1'-0"

0 4' 8' 16'

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

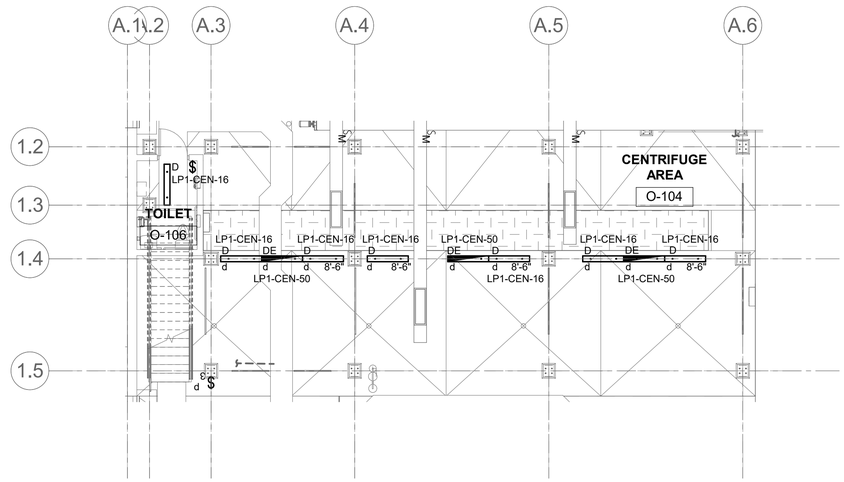


1 MECHANICAL AND CONTROL ROOM LIGHTING PLAN

OE-5 1/4" = 1'-0"

0 2' 4' 8'

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



2 LIGHTING PLAN UNDER PLATFORM

OE-5 1/8" = 1'-0"

0 4' 8' 16'

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

N

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. REFER TO SHEET OE-13 FOR LIGHT FIXTURE SCHEDULE.
3. COORDINATE EXACT LIGHT FIXTURE LOCATIONS WITH ALL PROCESS EQUIPMENT, ELECTRICAL AND MECHANICAL EQUIPMENT, AND ARCHITECTURAL AND STRUCTURAL ELEMENTS.
4. CONNECT ALL EMERGENCY AND EXIT FIXTURES TO INVERTERS IN ELECTRICAL ROOM.
5. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES ON SHEETS OE-11 & OE-12 FOR ADDITIONAL CIRCUIT INFORMATION.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CUSTOM ENGINEERING
MECHANICAL & CONTROLS ENGINEERING
12760 East 40 Highway
Independence, Missouri 64055
816.350.1473
www.CUSTOMENGINEERING.com
KANSAS CERTIFICATE OF AUTHORITY #E-1057

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
LIGHTING PLAN

GRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME: EWZ0010E.RVT

SHEET NO.
OE-5

XREFs: [CDMS_2234] Images: []
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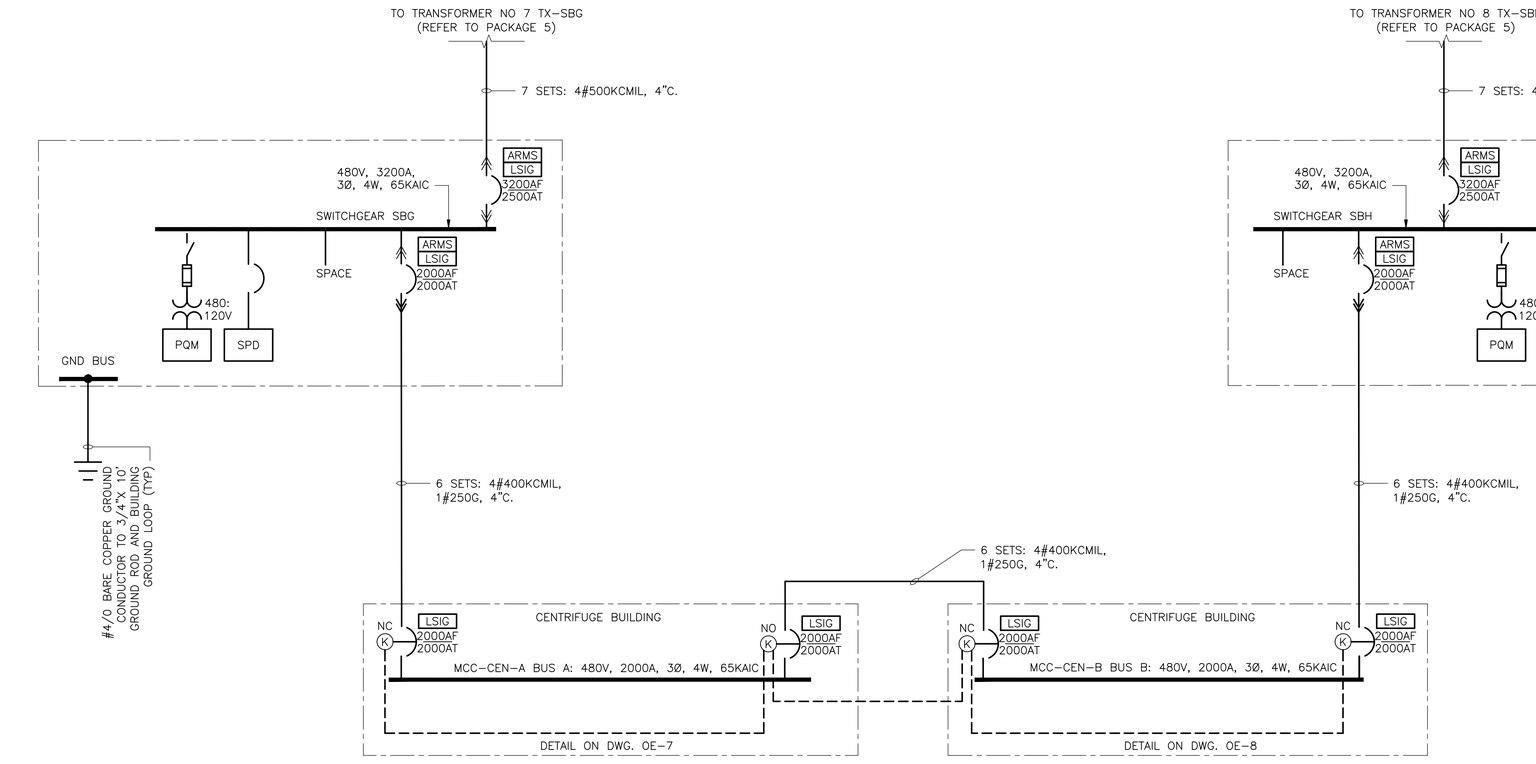
GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. CONDUIT AND CABLE SHALL BE SAME ON LOAD SIDE OF THE DISCONNECT SWITCH OR STARTER AS SHOWN ON THE LINE SIDE, UNLESS OTHERWISE NOTED.
3. SWITCHGEAR IS PROVIDED IN PACKAGE 5 AND INSTALLED IN THIS PACKAGE 4. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, ACCESSORIES AND CONDUIT AS PART OF THIS PACKAGE 4.

ABBREVIATIONS:

ARMS ARC FLASH REDUCTION MAINTENANCE SWITCH

LSIG LONG TIME SHORT TIME INSTANTANEOUS GROUND CIRCUIT BREAKER



ELECTRICAL DISTRIBUTION MODIFICATION

ONE LINE DIAGRAM

NTS

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R.LARKEY
DRAWN BY: R.ROBINS
SHEET CHK'D BY: C.BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C.BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CUSTOM ENGINEERING
Architecture & Electrical Engineering
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Independence, Missouri 64055
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KANSAS CERTIFICATE OF AUTHORITY #E-1991

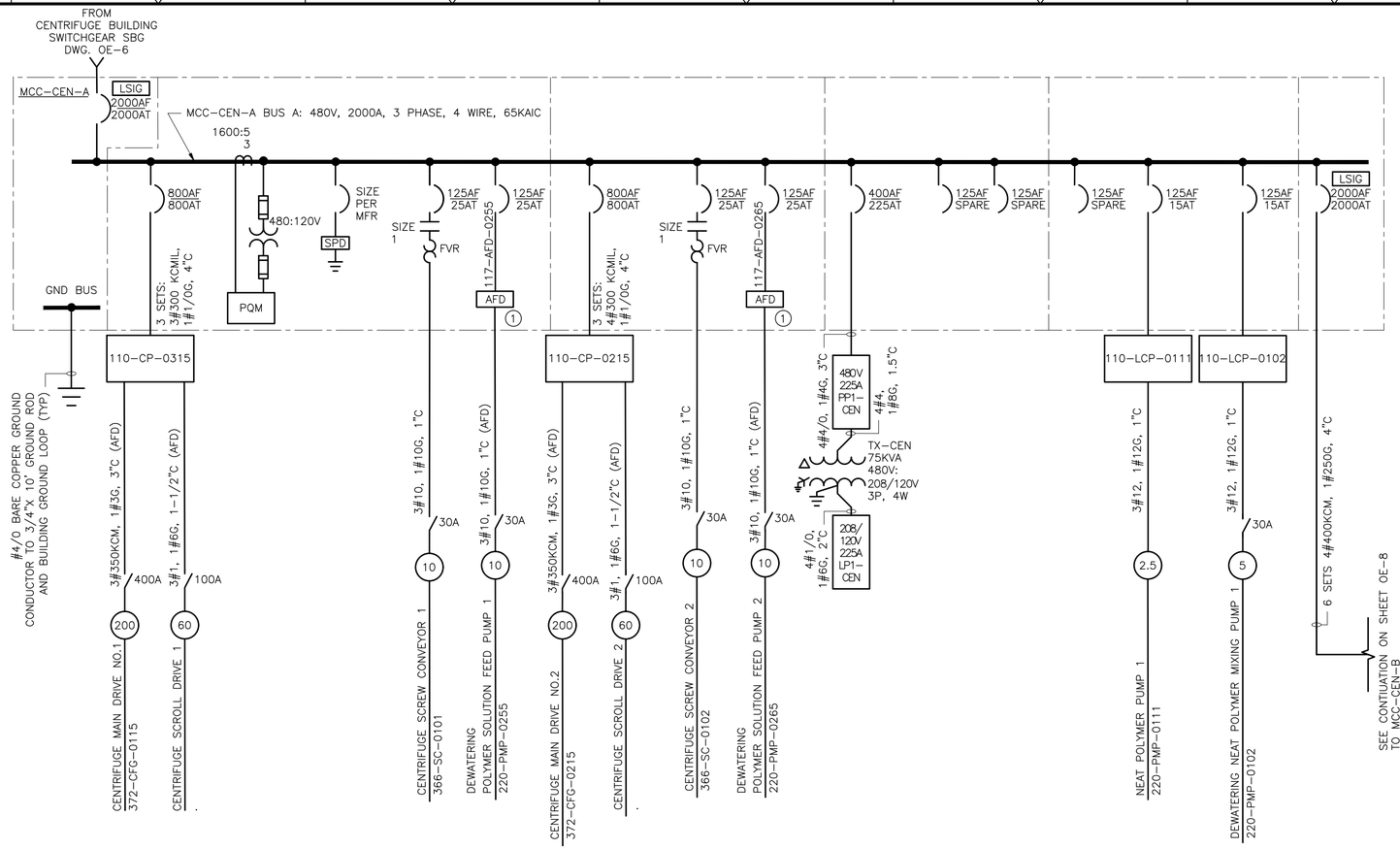
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL MODIFICATION
ONE-LINE DIAGRAM

PROJECT NO. 2395-267343
FILE NAME: E006OEOL.DWG

SHEET NO.
OE-6



MCC-CEN-A

ONE LINE DIAGRAM

CENTRIFUGE BUILDING

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. CONDUIT AND CABLE SHALL BE SAME ON LOAD SIDE OF THE DISCONNECT SWITCH OR STARTER AS SHOWN ON THE LINE SIDE, UNLESS OTHERWISE NOTED.

KEY NOTES:

(1) PROVIDE DV/DT FILTER ON THE OUTPUT OF VFD.

ABBREVIATIONS:

LSIG LONG TIME SHORT TIME INSTANTANEOUS GROUND CIRCUIT BREAKER

XREFs: [CDMS_2234] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. ROBINS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CUSTOM ENGINEERING
12700 East 40 Highway
Independence, Missouri 64055
(816)350.1470

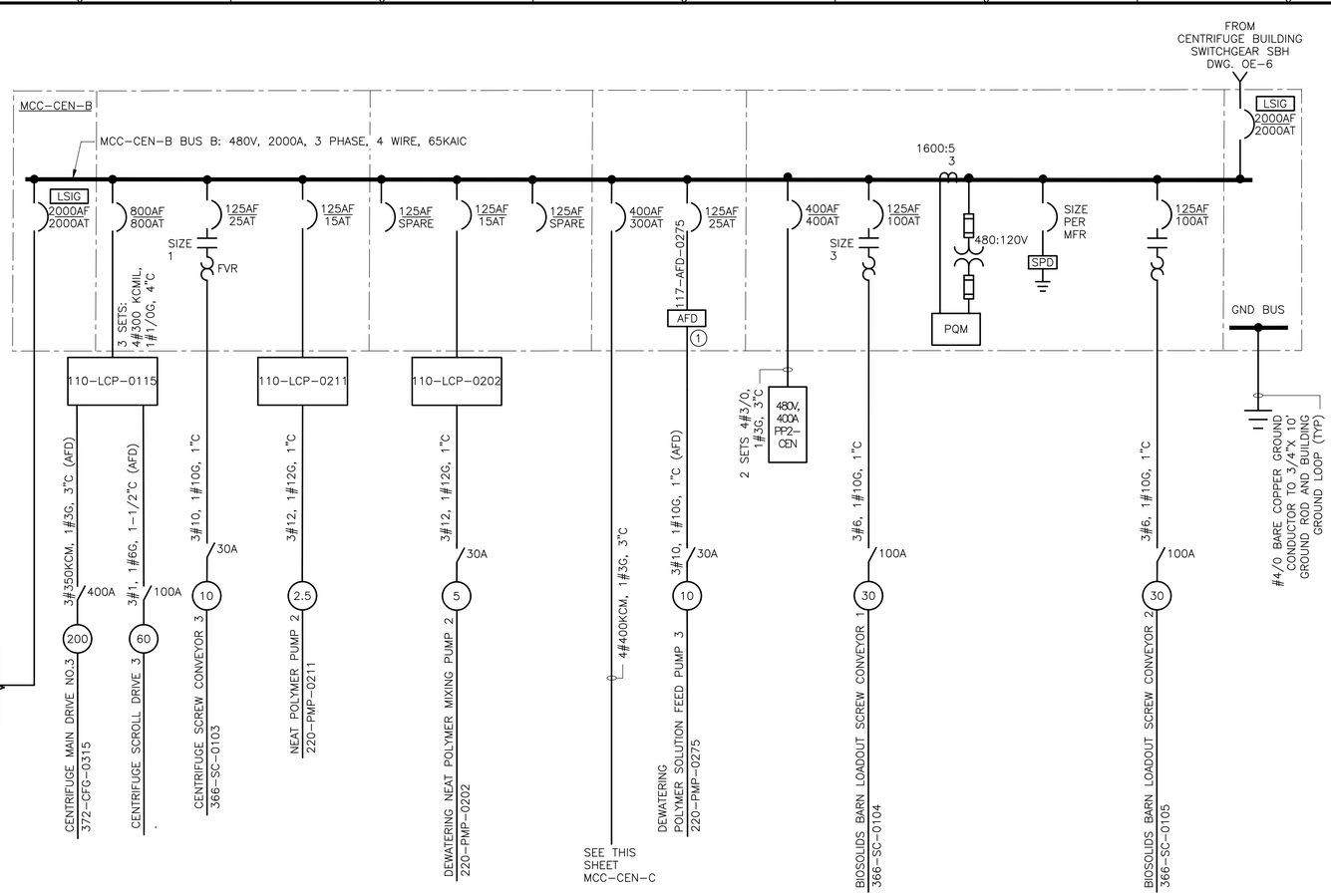
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
MCC-CEN-A
ONE-LINE DIAGRAM

PROJECT NO. 2395-267343
FILE NAME: OE007OEOL.DWG

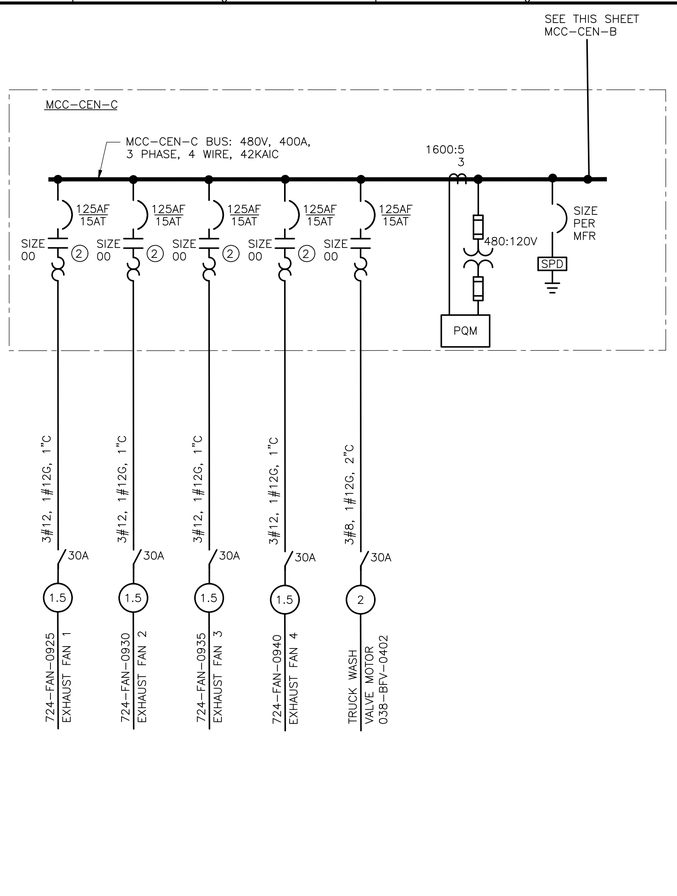
SHEET NO.
OE-7



MCC-CEN-B

ONE LINE DIAGRAM

CENTRIFUGE BUILDING



MCC-CEN-C

ONE LINE DIAGRAM

CENTRATE STORAGE TANK

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND AND GENERAL NOTES ON SHEET E-1, E-2 & E-3.
2. CONDUIT AND CABLE SHALL BE SAME ON LOAD SIDE OF THE DISCONNECT SWITCH OR STARTER AS SHOWN ON THE LINE SIDE, UNLESS OTHERWISE NOTED.

KEY NOTES:

(1) PROVIDE DV/DT FILTER ON THE OUTPUT OF VFD.

(2) PROVIDE CT IN MCC TO INDICATE LOSS OF POWER FOR THIS CIRCUIT. CT SHALL CONNECT AND COMMUNICATE STATUS TO SCADA SYSTEM.

ABBREVIATIONS:

LSIG LONG TIME SHORT TIME INSTANTANEOUS GROUND CIRCUIT BREAKER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: R. ROBINS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CUSTOM ENGINEERING
12760 East 40 Highway
Independence, Missouri 64055
816.350.1470

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL
MCC-CEN-B AND MCC-CEN-C
ONE-LINE DIAGRAM

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME: OE008OEOL.DWG
SHEET NO.
OE-8

XREFs: [CDMS_2234] Images: []
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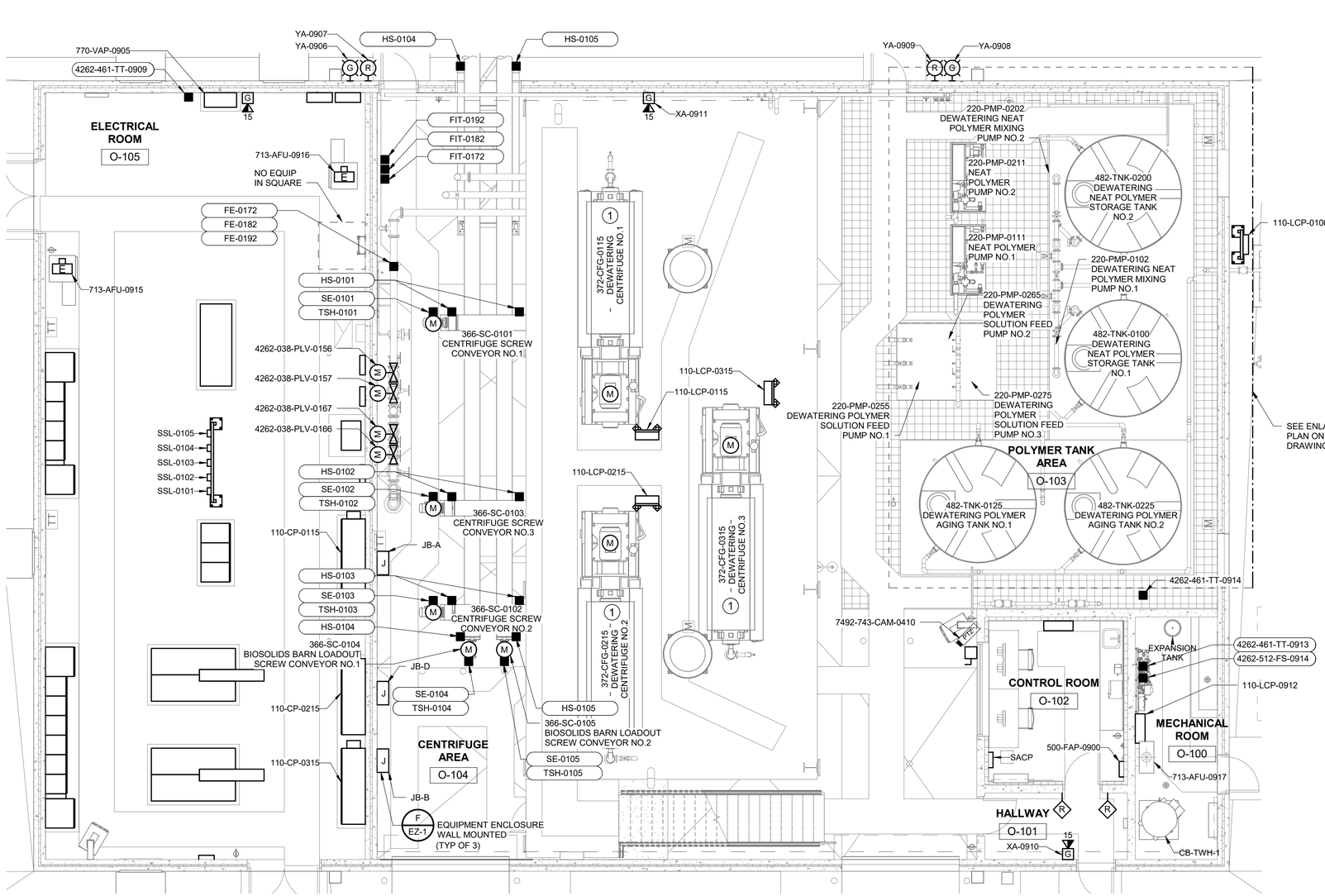
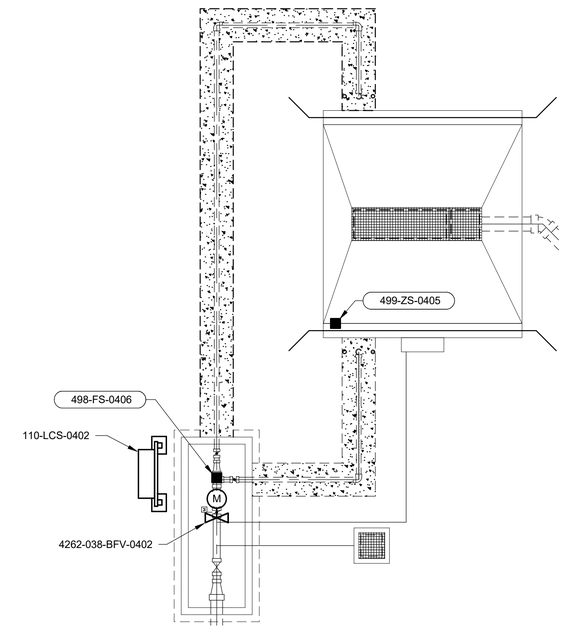
KEY NOTES:

1. CENTRIFUGES, LOCAL CONTROL PANELS AND ASSOCIATED INSTRUMENTATION ARE VENDOR PACKAGED ITEMS.



INSTRUMENTATION AND CONTROLS
PLAN
3/16" = 1'-0"



TRUCK WASH AREA
INSTRUMENTATION AND CONTROLS
PLAN
3/16" = 1'-0"

INDIRA PJETROVIC LICENSED 03/01/2024 - 21918 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. BYRD
DRAWN BY: SUBHANI
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
INSTRUMENTATION AND CONTROLS PLAN I

PROJECT NO. 2395-267343
FILE NAME: EWZ001OE

SHEET NO.
OE-9

ISSUED FOR BID

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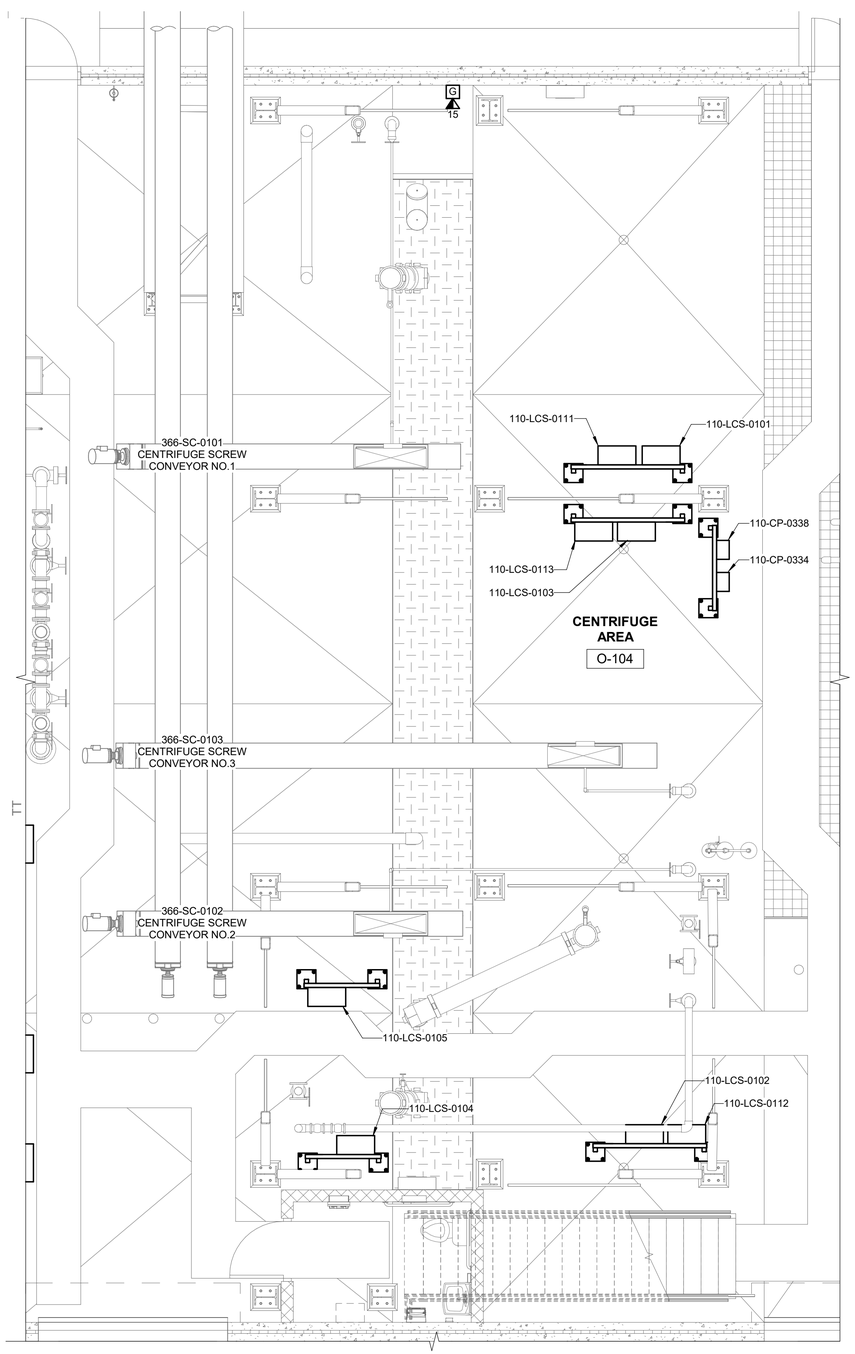
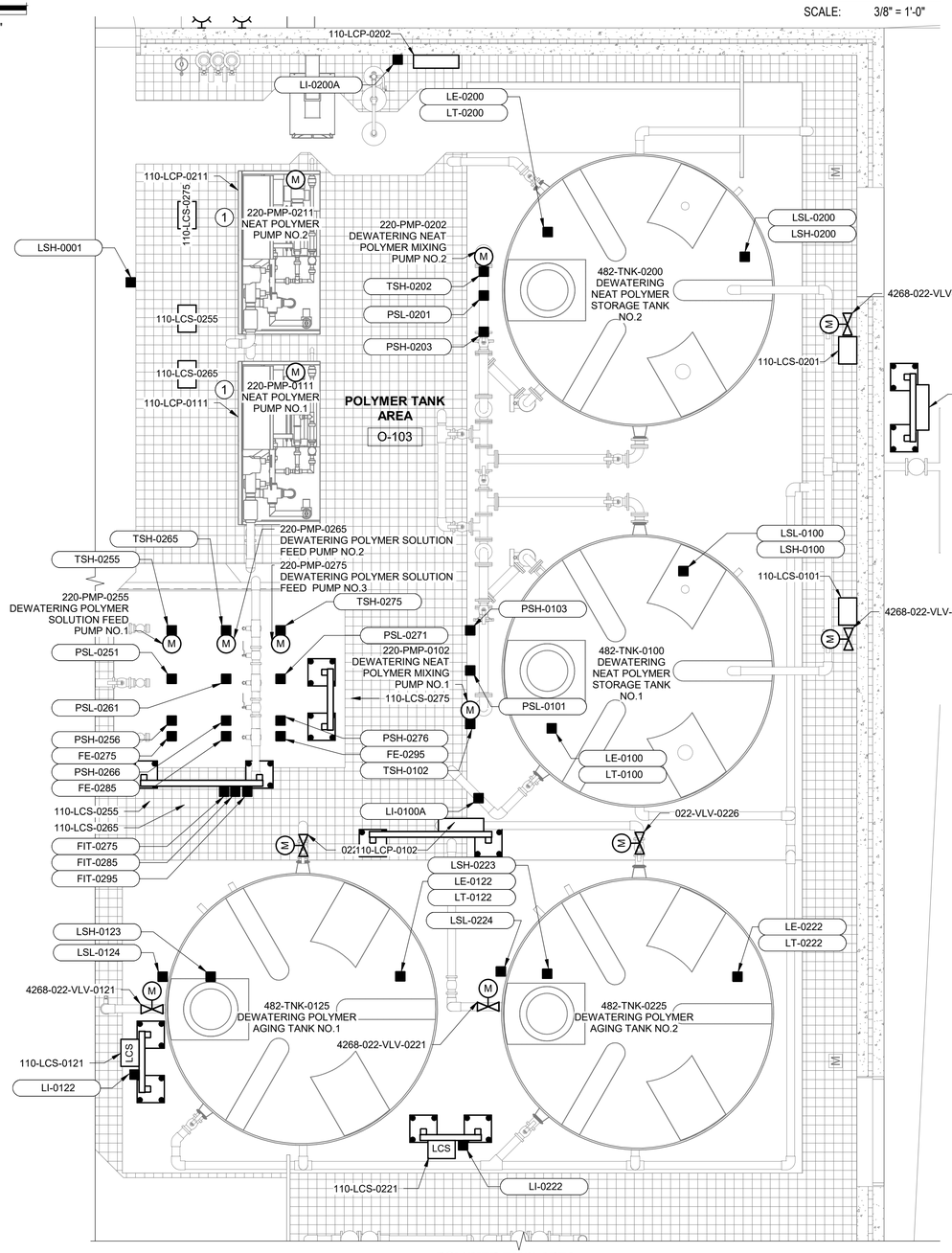


CENTRIFUGE LAYDOWN AREA
INSTRUMENTATION AND CONTROLS
PLAN
1/4" = 1'-0"



POLYMER TANK AREA
ENLARGED INSTRUMENTATION AND CONTROLS PLAN
PLAN
3/8" = 1'-0"

KEY NOTES:

1. NEAT POLYMER PUMPS AND LOCAL CONTROL PANELS ARE VENDOR PACKAGED ITEMS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. BYRD
DRAWN BY: SUBHANI
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
INSTRUMENTATION AND CONTROLS PLAN II

PROJECT NO. 2395-267343
FILE NAME: EWZ001OE

SHEET NO.
OE-10

INDIRA PJETROVIC
LICENSED
03/01/2024
21916
KANSAS
PROFESSIONAL ENGINEER

ISSUED FOR BID

CENTRIFUGE PANELBOARD ID: PP1-CEN

VOLTAGE : 480 / 277 V — LOCATION : CENTRIFUGE BLDG ELECTRICAL ROOM
PHASE / WIRE : 3 PHASE, 4 WIRE — ENCLOSURE : NEMA 12
RATED AMPERAGE : 225 AMPS. — MOUNTING : WALL
MAIN : 225 M.C.B.
A.I.C. (RMS SYM. AMPS.) : 42 kA

CKT. #	LOAD DESCRIPTION	CKT. VA	BREAKER AMPS.	BREAKER P	PHASE LOADS VA A	PHASE LOADS VA B	PHASE LOADS VA C	BREAKER P	BREAKER AMPS.	CKT. VA	LOAD DESCRIPTION	CKT. #
1		582			1164	-	-			582		2
3	MOTORIZED VALVE 4268-022-VLV-0101	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-022-VLV-0126	4
5		582			-	-	1164			582		6
7		582			1164	-	-			582		8
9	MOTORIZED VALVE 4268-022-VLV-0201	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-022-VLV-0221	10
11		582			-	-	1164			582		12
13		582			1164	-	-			582		14
15	MOTORIZED VALVE 4268-022-VLV-0121	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-022-VLV-0226	16
17		582			-	-	1164			582		18
19		582			1164	-	-			582		20
21	MOTORIZED VALVE 4268-022-VLV-0102	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-022-VLV-0202	22
23		582			-	-	1164			582		24
25		582			1164	-	-			582		26
27	MOTORIZED VALVE 4268-022-VLV-0302	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-038-PLV-0101	28
29		582			-	-	1164			582		30
31		582			1164	-	-			582		32
33	MOTORIZED VALVE 4268-038-PLV-0156	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-038-PLV-0157	34
35		582			-	-	1164			582		36
37		11853			24628	-	-			12775		38
39	208/120V PANEL BOARD LP1-CEN VIA 75KVA TRANSFORMER	13241	115	3	-	26016	-	3	50	12775	CRANE	40
41		12023			-	-	24798			12775		42
43		582			1164	-	-			582		44
45	MOTORIZED VALVE 4268-038-PLV-0167	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-038-PLV-0166	46
47		582			-	-	1164			582		48
49		582			1164	-	-			582		50
51	MOTORIZED VALVE 4268-038-PLV-0201	582	20	3	-	1164	-	3	20	582	MOTORIZED VALVE 4268-038-PLV-0301	52
53		582			-	-	1164			582		54
55		400			800	-	-			400		56
57	110-LCS-0111	400	20	3	-	800	-	3	20	400	110-LCS-0112	58
59		400			-	-	800			400		60
61		400			400	-	-			0		62
63	110-LCS-0113	400	20	3	-	400	-	3	20	0	SPARE	64
65		400			-	-	400			0		66
67		0			0	-	-			0		68
69	SPARE	0	20	3	-	0	-	3	20	0	SPARE	70
71		0			-	-	0			0		72
73	SPACE	0		1	0	-	-			0		74
75	SPACE	0		1	-	0	-	3	20	0	SPARE	76
77	SPACE	0		1	-	-	0			0		78
79	SPACE	0		1	0	-	-			0		80
81	SPACE	0		1	-	0	-	3	30	0	SPD	82
83	SPACE	0		1	-	-	0			0		84
					35140	36528	35310					

TOTAL CONNECTED KVA : 107.0 — TOTAL DEMAND KVA : 107.0
TOTAL CONNECTED AMPERES : 128.7 — TOTAL DEMAND AMPERES : 128.7

CENTRIFUGE PANELBOARD ID: PP2-CEN

VOLTAGE : 480 / 277 V — LOCATION : CENTRIFUGE BLDG ELECTRICAL ROOM
PHASE / WIRE : 3 PHASE, 4 WIRE — ENCLOSURE : NEMA 12
RATED AMPERAGE : 400 AMPS. — MOUNTING : WALL
MAIN : 400 M.C.B.
A.I.C. (RMS SYM. AMPS.) : 42 kA

CKT. #	LOAD DESCRIPTION	CKT. VA	BREAKER AMPS.	BREAKER P	PHASE LOADS VA A	PHASE LOADS VA B	PHASE LOADS VA C	BREAKER P	BREAKER AMPS.	CKT. VA	LOAD DESCRIPTION	CKT. #
1		4462			8924	-	-			4462		2
3	777-MAU-0902 (CB MAU 1)	4462	20	3	-	8924	-	3	20	4462	777-MAU-0911 (CB MAU 2)	4
5		4462			-	-	8924			4462		6
7		1275			2550	-	-			1275		8
9	713-AFU-0915 (CB AFU 1)	1275	20	3	-	2550	-	3	20	1275	713-AFU-0916 (CB AFU 2)	10
11		1275			-	-	2550			1275		12
13		293			8792	-	-			8499		14
15	CB AFU 3	293	40	3	-	8792	-	3	40	8499	CB AHU 1	16
17		293			-	-	8792			8499		18
19		1292			2584	-	-			1292		20
21	CB UH 1	1292	20	3	-	2584	-	3	20	1292	CB UH 2	22
23		1292			-	-	2584			1292		24
25		0			0	-	-			0		26
27	SPARE	0	20	3	-	0	-	3	20	0	SPARE	28
29		0			-	-	0			0		30
31		0			0	-	-			0		32
33	SPARE	0	20	3	-	0	-	3	20	0	SPARE	34
35		0			-	-	0			0		36
37		0			0	-	-			0		38
39	SPARE	0	20	3	-	0	-	3	20	0	SPARE	40
41		0			-	-	0			0		42
43	ELECTRIC WATER HEATER CB-TWH-1 (CB-EWH-1)	12000			20499	-	-			8499		44
45		12000	60	3	-	20499	-	3	40	8499	CB AHU 2	46
47		12000			-	-	20499			8499		48
49		1292			9791	-	-			8499		50
51	CB UH 3	1292	20	3	-	9791	-	3	40	8499	CB AHU 3	52
53		1292			-	-	9791			8499		54
55		1292			9791	-	-			8499		56
57	CB UH 4	1292	20	3	-	9791	-	3	40	8499	CB AHU 4	58
59		1292			-	-	9791			8499		60
61		2125			4250	-	-			2125		62
63	CB UH 5	2125	20	3	-	4250	-	3	20	2125	CB UH 7	64
65		2125			-	-	4250			2125		66
67		2125			4250	-	-			2125		68
69	CB UH 6	2125	20	3	-	4250	-	3	20	2125	CB UH 8	70
71		2125			-	-	4250			2125		72
73	SPACE	0			0	-	-			0		74
75	SPACE	0			-	0	-	3	20	0	SPARE	76
77	SPACE	0			-	-	0			0		78
79	SPACE	0			0	-	-			0		80
81	SPACE	0			-	0	-	3	30	0	SPD	82
83	SPACE	0			-	-	0			0		84
					71431	71431	71431					

TOTAL CONNECTED KVA : 214.3 — TOTAL DEMAND KVA : 182.3
TOTAL CONNECTED AMPERES : 257.8 — TOTAL DEMAND AMPERES : 219.3

GENERAL NOTES:

1. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED ON THIS SHEET.

KEY NOTES:

(1) 3 - #10, 1 - #10G IN 1" C.
(2) 3 - #8, 1 - #10G IN 1" C.
(3) 3 - #6, 1 - #10G IN 1-1/4" C.
(4) 3 - #4, 1 - #10G IN 1-1/2" C.
(5) SIZE CONDUCTORS PER ONE LINE ON SHEET OE-7.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. JONES
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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Tel: (816) 444-8270

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KANSAS CERTIFICATE OF AUTHORITY #E-1667

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL PANELBOARD SCHEDULES

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-11

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GENERAL NOTES:

1. PROVIDE #12 CONDUCTORS IN 3/4" CONDUIT FOR ALL CIRCUITS UNLESS OTHERWISE NOTED ON THIS SHEET.

KEY NOTES:

(1) 2 - #10, 1 - #10G IN 1" C.
(2) 2 - #8, 1 - #10G IN 1" C.
(3) 3 - #10, 1 - #10G IN 1" C.

CENTRIFUGE PANELBOARD ID : LP1-CEN

VOLTAGE :	208 / 120 V	LOCATION :	CENTRIFUGE BLDG ELECTRICAL ROOM
PHASE / WIRE :	3 PHASE, 4 WIRE	ENCLOSURE :	NEMA 12
RATED AMPERAGE :	225 AMPS.	MOUNTING :	WALL
MAIN :	225 M.C.B.		
A.I.C. (RMS SYM. AMPS.) :	22 kA		

CKT. #	LOAD DESCRIPTION	CKT. VA	BREAKER AMPS.	P	PHASE LOADS VA A	B	C	P	BREAKER AMPS.	CKT. VA	LOAD DESCRIPTION	CKT. #	
1	CB UH 9	1003	20	1	1028	-	-	1	15	25	CB EF 5	2	
3	CB-ESEW-3	80	15	1	-	1120	-			1040		4	
5	CB-ESEW-1	80	15	1	-	-	1120	3	20	1040	CB-TWS-1 (110-LCP-0912)	6	(3)
7	CB-ESEW-2	80	15	1	1120	-	-			1040		8	
9	SECURITY ACCESS CONTROL PANEL	1000	20	1	-	1511	-	1	20	511	LTG CENTRIFUGE LAYDOWN	10	(1)
11	PLC-CENT RECEPT	1000	20	1	-	-	1949	1	20	949	LTG POLYMER TANK AREA	12	(1)
13	PLC-CENT RECEPT	1000	20	1	1584	-	-	1	20	584	LTG ELECTRICAL ROOM	14	
15	CB-HCP-1 IN ELEC RM	500	20	1	-	1030	-	1	20	530	LTG CONTROL/HALL/MECH/MEZZ	16	(1)
17	500-FAP-0900 (FIRE ALARM PNL)	800	20	1	-	-	1205	1	20	405	EXTERIOR BUILDING WALL PACKS	18	(1)
19	ELEC RM RECEPT	720	20	1	1920	-	-	1	20	1200	770-VAP-0905 IN ELEC RM	20	
21	ELEC RM RECEPT	900	20	1	-	900	-	1	20	0	SPARE	22	
23	CENTRIFUGE RM RECEPT	540	20	1	-	-	1580	2	15	1040	CB-CU-01 (CB-AC-1)	24	(1)
25	MECH/HALL/BATH RECEPT	720	20	1	1760	-	-			1040		26	
27	POLYMER TANK RM RECEPT	540	20	1	-	1580	-	2	15	1040	CB-CU-02 (CB-AC-2)	28	(1)
29	CONTROL ROOM RECEPT	540	20	1	-	-	1580			1040		30	
31	CONTROL ROOM RECEPT	900	20	1	1100	-	-	1	20	200	EXTERIOR CAMERAS BIOSOLIDS BARN	32	(1)
33	EXTERIOR RECEPT	900	20	1	-	1100	-	1	20	200	EXTERIOR CAMERAS CENTRIFUGE	34	
35	EXTERIOR RECEPT	720	20	1	-	-	1720	1	20	1000	MCC-CEN-A (120V)	36	
37	EXTERIOR CANOPY DOWNLIGHTS	63	20	1	1063	-	-	1	20	1000	MCC-CEN-B (120V)	38	
39	MOTOR DAMPERS CB-MD-3B AND -4B	200	20	1		1200		1	20	1000	MCC-CEN-C (120V)	40	
41	FIBER CONVERTER ENCLOSURES	500	20	1			1500	1	20	1000	SWITCHGEAR SBG (120V)	42	
43	TRUCK WASH PHOTO EYE/RECEP|T	500	20	1	1500			1	20	1000	SWITCHGEAR SBH (120V)	44	
45	SLIDE GATE 040-SDG-0111	1000	20	1		3400		1	20	2400	CB-IWH-1 WATER HEATER-RESTROOM	46	(2)
47	SLIDE GATE 040-SDG-0112	1000	20	1			1869	1	20	869	EMERGENCY LIGHTING VIA INVERTER	48	(1)
49	SLIDE GATE 040-SDG-0113	1000	20	1	1778			1	20	778	EMERGENCY LIGHTING VIA INVERTER	50	(1)
51	SPARE	0	20	1		2400		1	20	2400	CB-IWH-2 WATER HEAT-CONTROL RM	52	(2)
53	SPARE	0	20	1			500	1	20	500	CONT RM DOOR STRIKE/CARD READ	54	
55	SPARE	0	20	1	0			1	20	0	SPARE	56	
57	SPARE	0	20	1		0		1	20	0	SPARE	58	
59	SPARE	0	20	1			0	1	20	0	SPARE	60	
61	SPARE	0	20	1	0			1	20	0	SPARE	62	
63	SPACE	0		1		0		1		0	SPACE	64	
65	SPACE	0		1			0	1		0	SPACE	66	
67	SPACE	0		1	0			1		0	SPACE	68	
69	SPACE	0		1		0		1		0	SPACE	70	
71	SPACE	0		1			0	1		0	SPACE	72	
73	SPACE	0		1	0			1		0	SPACE	74	
75	SPACE	0		1		0		1		0	SPACE	76	
77	SPACE	0		1			0	1		0	SPACE	78	
79	SPACE	0		1	0			3	30	0	SPD	80	(3)
81	SPACE	0		1	-	0	-			0	SPD	82	
83	SPACE	0		1	-	-	0			0	SPD	84	
					12853	14241	13023						

TOTAL CONNECTED KVA : 40.1
TOTAL CONNECTED AMPERES : 111.4

TOTAL DEMAND KVA : 42.5
TOTAL DEMAND AMPERES : 117.9

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A.JONES
DRAWN BY: M.CAYETANO
SHEET CHK'D BY: C.BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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KANSAS CERTIFICATE OF AUTHORITY #E-1007

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ELECTRICAL PANELBOARD SCHEDULES

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
OE-12

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER OR APPROVED EQUAL	DESCRIPTION	CATALOG/SERIES NUMBER	BATTERY	LAMP		VOLTAGE	TOTAL WATTS	MOUNTING	FIXTURE FINISH	NOTES
					TYPE	LUMENS					
A	H.E. WILLIAMS OR APPROVED EQUAL	1 FT X 4 FT UTILITY FIXTURE WITH REFLECTOR. PROVIDE 11,500 LUMENS, 4000K. UL DAMP LOCATION RATED.	80-4-L115-8-40-DRV-120	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	11,500	120	73	PENDANT MOUNT AT HEIGHT PER PLANS	WHITE	ELECTRICAL ROOM
B	H.E. WILLIAMS OR APPROVED EQUAL	1X4 ENCLOSED AND GASKETED LED FIXTURE WITH FIBERGLASS OUTER HOUSING AND CLEAR ACRYLIC LENS. 10,000 LUMENS, 4000K, IP66 RATED.	EGL2-4-L107/840-HIA-DRV-120	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	10,000	120	73	PENDANT MOUNT AT HEIGHT PER PLANS	WHITE	PROCESS ROOM
C	METALUMEN OR APPROVED EQUAL	6 INCH X 4 FOOT RECESSED LED RAIL, 2435 LUMENS, 4000K. PROVIDE LED DIMMING DRIVER.	S6-1L40K-4-G-MB-W-L3-1-T-1	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	3000	120	25	RECESSED	WHITE	CONTROL ROOM
D	HE WILLIAMS OR APPROVED EQUAL	1X4 ENCLOSED AND GASKETED LED FIXTURE WITH FIBERGLASS OUTER HOUSING AND FROSTED UV POLYCARBONATE LENS. RATED FOR 40 DEGREE C, 8,100 LUMENS, 4000K, IP66 RATED.	96-4-L81-840-PCFR-DRV-UNV	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	8100	120	65	SURFACE OR PENDANT MOUNT AT HEIGHT PER PLANS	WHITE	MECHANICAL ROOM, UNDER PLATFORM, RESTROOM AND HALLWAY
D1	HE WILLIAMS OR APPROVED EQUAL	1X4 ENCLOSED AND GASKETED LED FIXTURE WITH FIBERGLASS OUTER HOUSING AND FROSTED UV POLYCARBONATE LENS. RATED FOR 40 DEGREE C, 8,100 LUMENS, 4000K, IP66 RATED. PROVIDE INTEGRAL 10W EMERGENCY BATTERY PACK.	96-4-L81-840-PCFR-EM/10W-DRV-UNV	90 MIN EMERGENCY BATTERY PACK 10W	LED	8100	120	65	SURFACE OR PENDANT MOUNT AT HEIGHT PER PLANS	WHITE	FERRIC STORAGE EXTERIOR CANOPY
F	LSI LIGHTING OR APPROVED EQUAL	EXTERIOR BUILDING PERIMETER WALL MOUNTED FIXTURE. RATED -40 T0 + 50 DEGREE C, IP65 RATED. TYPE 3 DISTRIBUTION WITH NO UPLIGHT COMPONENT, 6000 LUMENS, 4000K. PROVIDE INTEGRAL PHOTOCELL.	XWM-3-LED-6L-40-UE	N/A	LED	6000	120	45	WALL MOUNT AT HEIGHT PER PLANS	COORDINATE FINISH WITH ARCHITECT AND OWNER	EXTERIOR LIGHTING NOT CLASSIFIED
H	HE WILLIAMS OR APPROVED EQUAL	6 INCH ROUND DOWNLIGHT. 2,000 LUMENS, 4000K, MEDIUM DISTRIBUTION, WET LOCATION RATED WITH FLUSH LENS. PROVIDE MOUNTING HARDWARE.	6AR-L20-80-40-DIM-UNV-L-M-OF-CS-WET/CC-N	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	2000	120	21	RECESSED	COORDINATE FINISH WITH ARCHITECT AND OWNER	EXTERIOR CANOPIES AT DOORS
X1	H.E. WILLIAMS	LED EXIT SIGN WITH TWO LAMP HEADS. PROVIDE UNIVERSAL MOUNTING OPTION. PROVIDE SELF DIAGNOSTICS.	EXIT/EM/LED-G-WHT-HL-SDT-D DRHL-T-WHT-HL-MV	EMERGENCY BACKUP VIA 90 MIN INVERTER PER PLANS	LED	45 EA.	120	3	WALL OR SURFACE AT 7'-8" AFF, U.O.N.	WHITE WITH RED LETTERS. SEE PLANS FOR ARROWS AND FACES.	EXIT SIGN WITH LED LAMPS

FIXTURE SCHEDULE NOTES:
1. ALL INTERIOR LAMPS SHALL BE APPROXIMATELY 4000K, U.N.O.
2. ALL EXTERIOR LAMPS SHALL BE APPROXIMATELY 4000K, U.N.O.
3. ALL EXTERIOR FIXTURES SHALL HAVE COLD WEATHER LED DRIVERS.
4. ALL EXTERIOR FIXTURES SHALL BE CONTROLLED VIA TIMECLOCK OR PHOTOCELL ON AND PHOTOCELL OFF AS INDICATED ON DRAWINGS.
5. FIXTURES DESIGNATED WITH "E" ON THE DRAWINGS SHALL CONNECT TO AN INVERTER PER PLANS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. JONES
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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KANSAS CERTIFICATE OF AUTHORITY #E-1667

CITY OF WICHITA, KS

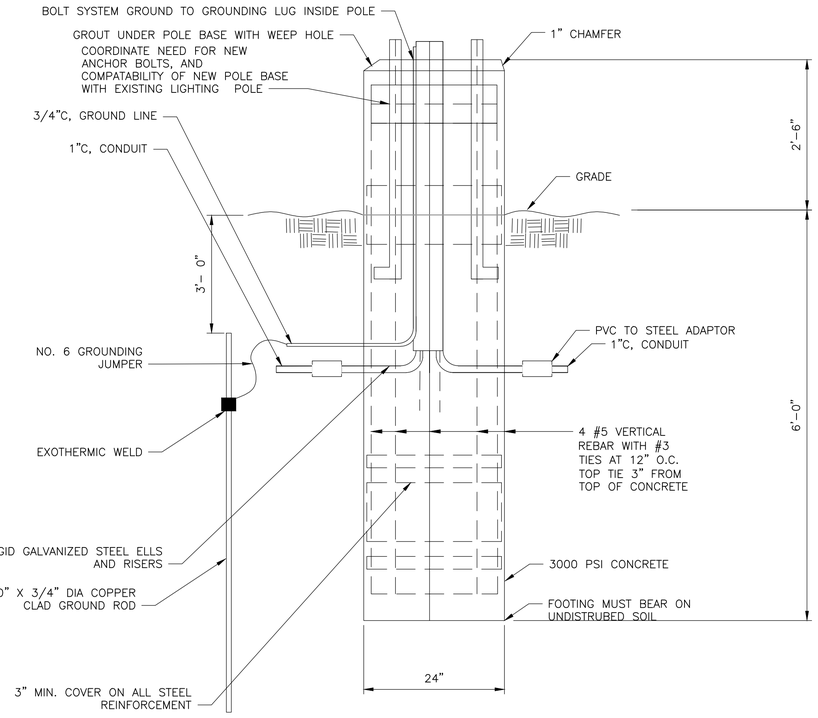
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

CENTRIFUGE BUILDING
LIGHT FIXTURE SCHEDULE

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME:

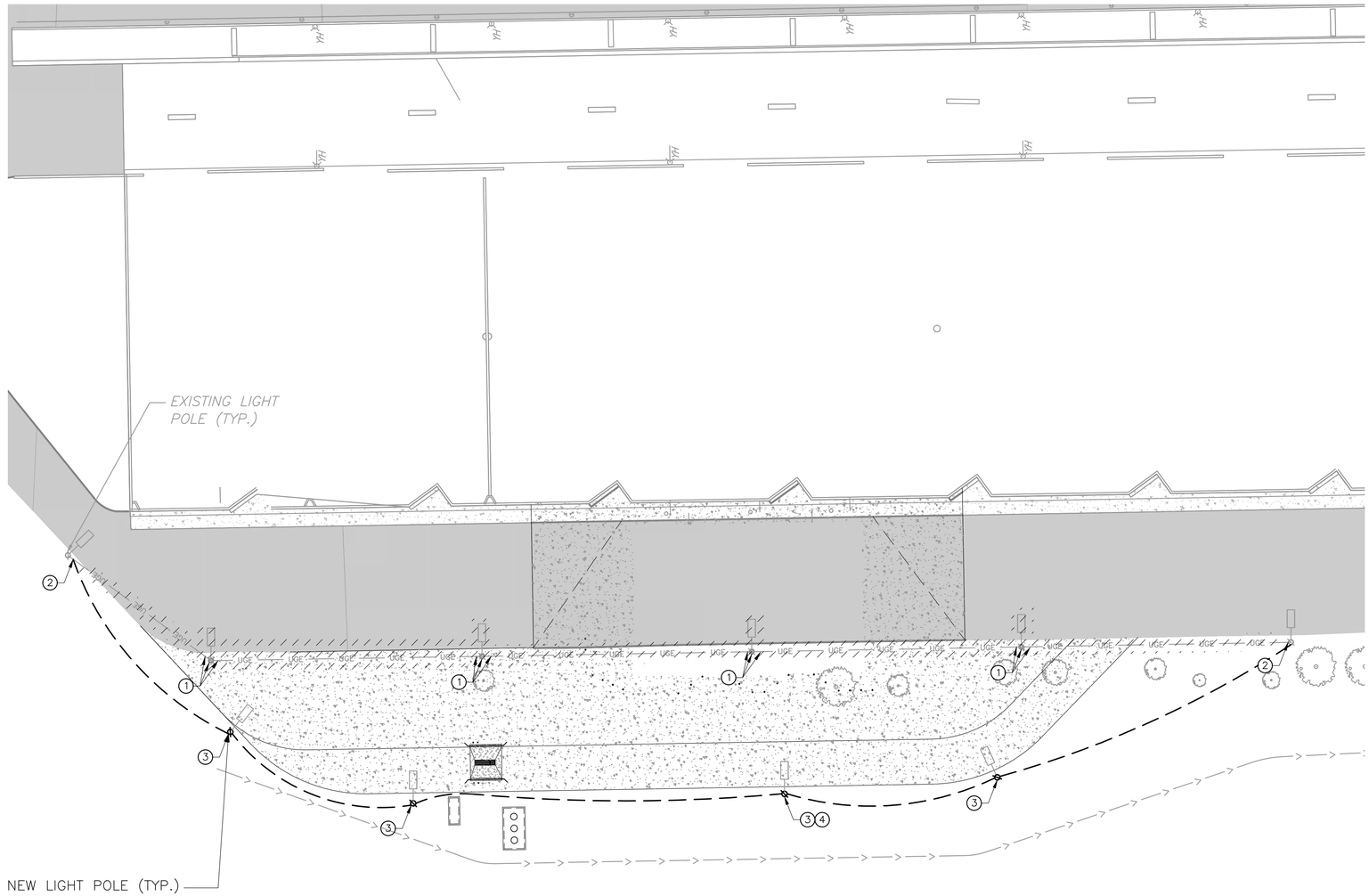
SHEET NO.
OE-13



POLE FOUNDATION AND CONDUITS DETAIL

DETAIL A

NTS



MODIFIED LIGHTING SITE PLAN

PLAN

1" = 30'

15 0 30

KEY NOTE:

1. REMOVE AND SAVE EXISTING LIGHT POLE AND LIGHT FIXTURE. REMOVE EXISTING LIGHT POLE BASE, WIRING, AND CONDUITS IN BETWEEN.
2. INTERCEPT EXISTING CONDUIT STUBUP TO EACH POLE. SPLICE NEW WIRING WITH EXISTING AND EXTEND TO THE RELOCATED LIGHTS. PROVIDE 4#10. #10G, 1"C TO EACH RELOCATED LIGHT POLE.
3. PROVIDE NEW LIGHT POLE BASE PER DETAIL A ON THIS DRAWING, AND RE-INSTALL THE EXISTING LIGHT POLE AND LIGHT FIXTURE.
4. INSTALL NEW LIGHT POLE BASE AWAY FROM FUTURE CENTRATE PIPE ROUTE. REFER TO CIVIL DRAWING C-11.B3

GENERAL NOTES:

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION. PROVIDE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. REFER TO CIVIL DRAWINGS FOR EXISTING CONDITIONS AND PLANNED MODIFICATIONS.
3. COORDINATE COMPATIBILITY OF NEW POLE BASE WITH EXISTING LIGHT POLE, PROVIDE NEW GALVANIZED ANCHOR BOLTS TO MATCH EXISTING AS NEEDED.

INDIRA PJETROVIC LICENSED 03/01/2024 - 21916 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. RUIZ
DRAWN BY: T. RUIZ
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

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Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SITE LIGHTING PLAN

PROJECT NO. 2395-267343
FILE NAME: OE-14.DWG

SHEET NO.
OE-14

ISSUED FOR BID

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CABINET INTRUSION — ZS 0801
CABINET TEMPERATURE — TT 0802
24VDC FAIL — JS 0803
120VAC FAIL — JS 0804

PLC–CENT

(NOTE 4)

ETHERNET

PLC | OIT | AFD

110–CP–0115
CENTRIFUGE NO. 1
CONTROL PANEL

AFD

(DIV. 46)

(E–STOP)

110–LCP–0115
CENTRIFUGE NO. 1
LOCAL OIT PANEL
OIT

(DIV. 46)

461 TE–0115A 46
430 VE–0115A 46

372–CFG–0115
DEWATERING CENTRIFUGE NO. 1

461 TE–0115B 46
430 VE–0115B 46

DEWATERING POLYMER FEED POINT 1B (NOTE 3)

DEWATERING POLYMER FEED POINT 1A (NOTE 3)

PI–1
6"–DS–DI
FROM DEWATERING CENTRIFUGE FEED PUMPS (NOTE 2)

3/4"–SA–SS

038–PLV–0101

6"x4"

430 ST–0115 46
461 TSH–0115A 46
430 WSH–0115A 46
MAIN DRIVE

461 TSH–0115B 46
430 WSH–0115B 46
SCROLL DRIVE

022–VLV–0106
022–VLV–0102

452 PSL–0103

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 1 (NOTE 2)

4"–3W–PVC

036–VLV–0107

8"x4"

SAMPLE ACCESS

SOLIDS CHUTE

VENT
3"–V–PVC

CENTRATE CHUTE

SPRAY NOZZLE

1"–3W–CPVC

036–SV–0112

3"x1"
4"x3"

OI–3
8"–3W–PVC
FROM 3W SYSTEM (NOTE 2)

8"–3W–DI

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 1

12"–CEN–DI

8"x6"
PI–1
TO DIGESTED SLUDGE HEADER

DI | HDPE

12"–DR–DI
12"–DR–HDPE
TO PLANT 2 INFLUENT

(VENDOR PROVIDED)

OI–4
TO INCLINED SCREW CONVEYOR NO. 1

1"–3W–DI

OI–4
TO INCLINED SCREW CONVEYOR NO. 1

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. COORDINATE SLUDGE FEED, POLYMER FEED AND WATER CONNECTION SIZES, CLEAN–IN–PLACE, BOWL, COVER FLUSH, ANY OTHER PLANT WATER DEMANDS WITH SELECTED CENTRIFUGE AND PUMP MANUFACTURERS.
3. POLYMER FEED POINTS:
   – "A" CONNECTS WITHIN 10 LF OF CENTRIFUGE
   – "B" CONNECTS 20–80 LF UPSTREAM OF CENTRIFUGE
4. REFER TO SPECIFICATIONS FOR THE LIST OF IO SIGNALS WHICH WILL BE COMMUNICATED FROM THE VENDOR CONTROL PANEL TO THE PLANT PLC.

KATHLEEN M. BUECHLER — LICENSED — 5/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING CENTRIFUGE NO. 1

PROJECT NO. 2395–267343
FILE NAME: I001CBPI.DWG

SHEET NO.
OI-1

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PRESSURE

PLC–CENT

(NOTE 4)

ETHERNET

PLC | OIT | AFD

110–CP–0215
CENTRIFUGE NO. 2
CONTROL PANEL

AFD

(DIV. 46)

(E–STOP)

110–LCP–0215
CENTRIFUGE NO. 2
LOCAL OIT PANEL
OIT

(DIV. 46)

372–CFG–0215
DEWATERING CENTRIFUGE NO. 2

461 TE–0215A 46
430 VE–0215A 46
461 TE–0215B 46
430 VE–0215B 46

DEWATERING POLYMER FEED POINT 2A (NOTE 3)

DEWATERING POLYMER FEED POINT 2B (NOTE 3)

PI–1
6"–DS–DI
FROM DEWATERING CENTRIFUGE FEED PUMPS (NOTE 2)

038–PLV–0201

6"x4"

3/4"–SA–SS

022–VLV–0206

022–VLV–0202

430 ST–0215 46
461 TSH–0215A 46
430 WSH–0215A 46
MAIN DRIVE

461 TSH–0215B 46
430 WSH–0215B 46
SCROLL DRIVE

SAMPLE ACCESS

SOLIDS CHUTE

VENT
3"–V–PVC

CENTRATE CHUTE

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 2

452 PSL–0203

4"–3W–PVC

022–VLV–0207

SPRAY NOZZLE

1"–3W–CPVC

036–SV–0212

3"x1"

3"x3"

452 PIT–0105

8"x4"

8"–3W–PVC
FROM 3W SYSTEM (NOTE 2)

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 2

12"–CEN–DI

OI–3
TO CENTRIFUGE NO. 3

DI HDPE

12"–DR–DI
(VENDOR PROVIDED)

12"–DR–HDPE
TO PLANT 2 INFLUENT

1"–3W–DI

OI–4
TO INCLINED SCREW CONVEYOR NO. 2

OI–4
TO INCLINED SCREW CONVEYOR NO. 2

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. COORDINATE SLUDGE FEED, POLYMER FEED AND WATER CONNECTION SIZES AND CLEAN–IN–PLACE, BOWL AND COVER FLUSH, AND ANY OTHER PLANT WATER DEMANDS WITH SELECTED CENTRIFUGE AND PUMP MANUFACTURERS.
3. POLYMER FEED POINTS:
   – "A" CONNECTS WITHIN 10 LF OF CENTRIFUGE
   – "B" CONNECTS 20–80 LF UPSTREAM OF CENTRIFUGE
4. REFER TO SPECIFICATIONS FOR THE LIST OF IO SIGNALS WHICH WILL BE COMMUNICATED FROM THE VENDOR CONTROL PANEL TO THE PLANT PLC.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING CENTRIFUGE NO. 2

PROJECT NO. 2395–267343
FILE NAME: I002CBPI.DWG

SHEET NO.
OI-2

KATHLEEN M. BUECHLER
LICENSED
18883
3/1/24
KANSAS
PROFESSIONAL ENGINEER

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PLC–CENT

(NOTE 4)

ETHERNET

110–CP–0315
CENTRIFUGE NO. 3
CONTROL PANEL

PLC | OIT | AFD | AFD

(DIV. 46)

(E–STOP)

110–LCP–0315
CENTRIFUGE NO. 3
LOCAL OIT PANEL
OIT

(DIV. 46)

372–CFG–0315
DEWATERING CENTRIFUGE NO. 3

461 TE–0315A 46
430 VE–0315A 46
461 TE–0315B 46
430 VE–0315B 46

DEWATERING POLYMER FEED POINT 3B (NOTE 3)

DEWATERING POLYMER FEED POINT 3A (NOTE 3)

PI–1
6"–DS–DI
FROM DEWATERING CENTRIFUGE FEED PUMPS (NOTE 2)

3/4"–SA–SS

038–PLV–0301

6"x4"

022–VLV–0306
022–VLV–0302
022–VLV–0307

452 PSL–0303

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 3

OI–2
8"–3W–PVC
FROM 3W SYSTEM (NOTE 2)

OI–7
3"–POLS–PVC
FROM DEWATERING POLYMER SOLUTION FEED PUMP NO. 3

8"x4"
4"x3"
3"x1"

1"–3W–CPVC

036–SV–0312

430 ST–0315 46
461 TSH–0315A 46
430 WSH–0315A 46
MAIN DRIVE

430 WSH–0315B 46
461 TSH–0315B 46
SCROLL DRIVE

SAMPLE ACCESS

SOLIDS CHUTE

VENT
3"–V–PVC

CENTRATE CHUTE

SPRAY NOZZLE

12"–CEN–DI

8"–3W–PVC
OI–1
TO CENTRIFUGE NO. 1

DI HDPE

12"–DR–DI
(VENDOR PROVIDED)

12"–DR–HDPE
TO PLANT 2 INFLUENT

OI–4
TO CENTRIFUGE SCREW CONVEYOR NO. 3

1"–3W–DI

OI–4
TO CENTRIFUGE SCREW CONVEYOR NO. 3

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. COORDINATE SLUDGE FEED, POLYMER FEED AND WATER CONNECTION SIZES AND CLEAN–IN–PLACE, BOWL AND COVER FLUSH, AND ANY OTHER PLANT WATER DEMANDS WITH SELECTED CENTRIFUGE AND PUMP MANUFACTURERS.
3. POLYMER FEED POINTS:
   – "A" CONNECTS WITHIN 10 LF OF CENTRIFUGE
   – "B" CONNECTS 20–80 LF UPSTREAM OF CENTRIFUGE
4. REFER TO SPECIFICATIONS FOR THE LIST OF IO SIGNALS WHICH WILL BE COMMUNICATED FROM THE VENDOR CONTROL PANEL TO THE PLANT PLC.

KATHLEEN M. BUECHLER
LICENSED
19852
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
DEWATERING CENTRIFUGE NO. 3

PROJECT NO. 2395–267343
FILE NAME: 1003CBPI.DWG

SHEET NO.
OI-3

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TYP. OF LOOP NOS. 0111, 0112 & 0113

FAULT | OPENED | CLOSED | IN REMOTE | OPEN | CLOSE

TYP. OF LOOP NOS. 0101, 0102 & 0103

IN REMOTE | RUNNING FORWARD | RUNNING REVERSE | HIGH TEMPERATURE | LOW SPEED | FAULT | E-STOP | FORWARD COMMAND | REVERSE COMMAND

TYP. OF LOOP NOS. 0104 & 0105

IN REMOTE | RUNNING | HIGH TEMPERATURE | LOW SPEED | FAULT | E-STOP | START/STOP COMMAND

PLC-CENT

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4269 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

110-LCS-0111

OSC HS 0111A | LOR HS 0111B | OPENED ZLO 0111 | CLOSED ZLC 0111

(TYP. OF 3) (DIV. 41)

132-MS-0101

MS — CENTRIFUGE SCREW CONVEYOR NO. 1 REVERSING MOTOR STARTER

(DIV. 26) (IN MCC) (TYP. OF 3)

110-LCS-0101

LOR HS 0101A | FORWARD HS 0101B | REVERSE HS 0101C | STOP HS 0101D | E-STOP HS 0101E | FAULT XA 0101 | RUNNING FORWARD YR 0101A | RUNNING REVERSE YR 0101B

(TYP. OF 3) (DIV. 26)

132-MS-0104

MS — BIOSOLIDS BARN LOADOUT SCREW CONVEYOR NO. 1 MOTOR STARTER

(DIV. 26) (IN MCC) (TYP. OF 2)

110-LCS-0104

LOR HS 0104A | START HS 0104B | STOP HS 0104C | E-STOP HS 0104D | FAULT XA 0104 | RUNNING YR 0104

(TYP. OF 2) (DIV. 26)

OI-1 FROM DEWATERING CENTRIFUGE NO. 1

PULL CORD 431 HS-0101 41 | UPS 513 SSL-0101 41 | 513 SE-0101 41

M 461 TSH-0101 41

366-SC-0101

CENTRIFUGE SCREW CONVEYOR NO. 1

040-SDG-0111 SLIDE GATE

6"-DR-DI

OI-1 FROM 3W SYSTEM — 1"-3W-DI

OI-2 FROM DEWATERING CENTRIFUGE NO. 2

PULL CORD 431 HS-0102 41 | UPS 513 SSL-0102 41 | 513 SE-0102 41

M 461 TSH-0102 41

366-SC-0102

CENTRIFUGE SCREW CONVEYOR NO. 2

040-SDG-0112 SLIDE GATE

6"-DR-DI

OI-2 FROM 3W SYSTEM — 1"-3W-DI

OI-3 FROM DEWATERING CENTRIFUGE NO. 3

PULL CORD 431 HS-0103 41 | UPS 513 SSL-0103 41 | 513 SE-0103 41

M 461 TSH-0103 41

366-SC-0103

CENTRIFUGE SCREW CONVEYOR NO. 3

040-SDG-0113 SLIDE GATE

6"-DR-DI

OI-3 FROM 3W SYSTEM — 1"-3W-DI

DRY CAKE CHUTE

DRY CAKE CHUTE

DRY CAKE CHUTE

PULL CORD 431 HS-0104 41 | UPS 513 SSL-0104 41 | 513 SE-0104 41

M 461 TSH-0104 41

DRY CAKE CHUTE → TO BIOSOLIDS BARN

366-SC-0104

BIOSOLIDS BARN LOADOUT SCREW CONVEYOR NO. 1

6"-DR-DI

DRY CAKE CHUTE

DRY CAKE CHUTE

DRY CAKE CHUTE

PULL CORD 431 HS-0105 41 | UPS 513 SSL-0105 41 | 513 SE-0105 41

M 461 TSH-0105 41

DRY CAKE CHUTE → TO BIOSOLIDS BARN

366-SC-0105

BIOSOLIDS BARN LOADOUT SCREW CONVEYOR NO. 2

6"-DR-DI

12"-DR-DI → TO PLANT 2 INFLUENT

KATHLEEN M. BUECHLER — LICENSED — 19852 — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM BIOSOLIDS CONVEYORS

PROJECT NO. 2395-267343
FILE NAME: I004CBPI.DWG

SHEET NO.
OI-4

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TYP. OF LOOP NOS. 0101 & 0201

LEVEL HIGH

FAULT
OPENED
CLOSED
IN REMOTE
OPEN
CLOSE

TYP. OF LOOP NOS. 0100 & 0200

LEVEL
HIGH LEVEL
LOW LEVEL

TYP. OF LOOP NOS. 0102 & 0202

IN REMOTE
RUNNING
FAULT
LOW PRESSURE
HIGH PRESSURE
E-STOP
START/STOP COMMAND
STATOR HIGH TEMPERATURE
MOTOR HIGH TEMPERATURE

PLC-CENT

110-LCS-0101

OSC HS 0101A
LOR HS 0101B
OPENED ZLO 0101A
CLOSED ZLC 0101A

(TYP. OF 2)

OPENED/CLOSED INDICATION (TYP. OF 2)

(DIV. 40*)

BEACON

110-LCP-0100
TRUCK FILL STATION PANEL

UPS

ACK HS 0100A
TEST HS 0100B
LI 0100
LI 0200
LAHH 0100
LAHH 0200
ZLC 0101B
ZLO 0101B
ZLC 0201B
ZLO 0201B

(DIV. 26)

110-LCP-0102
MS
DEWATERING NEAT POLYMER STORAGE TANK MIXING PUMP NO. 1 LOCAL CONTROL PANEL

(TYP. OF 2)

(DIV. 26)

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4268 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. FLAP GATE CHECK VALVE.

UPS
447 LI-0100A
447 LT-0100
447 LSH-0100
447 LE-0100

TO ATMOSPHERE

TRUCK FILL STATION
3"-POLN-PVC
022-VLV-0101

482-TNK-0100
DEWATERING NEAT POLYMER STORAGE TANK NO. 1

3"-POLN-PVC

UPS
447 LSL-0100

452 PI-0101
452 PSL-0101

461 46 TSH-0102A
461 46 TSH-0102B

3"-POLN-PVC
3"x2 1/2"
2"x3"
3"-POLN-PVC

452 PI-0103
452 PSH-0103

3"-POLN-PVC
OI-6
TO DEWATERING POLYMER SYSTEM NO. 1

220-PMP-0102
DEWATERING NEAT POLYMER MIXING PUMP NO. 1

452 PI-0201
452 PSL-0201

461 46 TSH-0202A
461 46 TSH-0202B

452 PI-0203
452 PSH-0203

OI-7
3"-DR-PVC
FROM DEWATERING POLYMER TANK DRAIN

(NOTE 2)

DEWATERING CONTAINMENT BOX OUTSIDE BUILDING

3"-OVF-PVC

3"-POLN-PVC
3"x2 1/2"
2"x3"
3"-POLN-PVC

220-PMP-0202
DEWATERING NEAT POLYMER MIXING PUMP NO. 2

6"-DR-PVC

3"-DR-PVC

UPS
447 LI-0200A
447 LT-0200
447 LSH-0200
447 LE-0200

TO ATMOSPHERE

022-VLV-0201

3"-POLN-PVC

482-TNK-0200
DEWATERING NEAT POLYMER STORAGE TANK NO. 2

UPS
447 LSL-0200

447 LSH-0001

3"-OVF-PVC

3"-POLN-PVC
OI-6
TO DEWATERING POLYMER SYSTEM NO. 2

3"-DR-PVC
TO PLANT 2 INFLUENT

POLYMER AREA CONTAINMENT

CONTINUED TO OI-6

TO DRAIN

DEWATERING POLYMER SUMP

KATHLEEN M. BUECHLER
LICENSED
PROFESSIONAL ENGINEER
KANSAS
DATE 3/1/24

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING NEAT POLYMER STORAGE

PROJECT NO. 2395-267343
FILE NAME: I005CBPI.DWG

SHEET NO.
OI-5

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TYP. OF LOOP NOS.
0111 & 0211

POLYMER LOW FLOW
2W LOW FLOW
IN REMOTE
RUNNING
FAULT
START/STOP COMMAND
SPEED FEEDBACK
SPEED SETPOINT

PLC–CENT

NOTES:
1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4268 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. COORDINATE POLYMER SYSTEM CONNECTION SIZES WITH SELECTED MANUFACTURER.
3. PROTECTED WATER IS PRIMARY SOURCE OF PROCESS WATER FOR POLYMER SYSTEM. PLANT WATER IS BACKUP WATER SOURCE.

AFD
110–LCP–0111
DEWATERING POLYMER SYSTEM NO. 1
LOCAL CONTROL PANEL
(DIV. 46)

OI–5
FROM NEAT POLYMER STORAGE TANK NO. 1

3"–POLN–PVC
3"x1"
1"–POLN–PVC
1/2"–POLN–PVC
3"–POLS–PVC

220–PMP–0111
NEAT POLYMER PUMP NO. 1

498 FSL–0112 46
452 PI–0113 46
452 PI–0114 46
MIXER NO. 1

OI–7
TO DEWATERING AGING TANK NO. 1 AND NO. 2

498 FSL–0015 46
3"–2W–PVC
022–VLV–0016
498 FE–0017
DEWATERING POLYMER SYSTEM NO. 1
(VENDOR PROVIDED)
(NOTE 2)

2"–POLS–PVC

3"–POLN–PVC

452 PI–0105
3"–3W–PVC
FROM 3W SYSTEM

AFD
110–LCP–0211
DEWATERING POLYMER SYSTEM NO. 2
LOCAL CONTROL PANEL
(DIV. 46)

OI–5
FROM NEAT POLYMER STORAGE TANK NO. 2

3"–POLN–PVC
3"x1"
1"–POLN–PVC
1/2"–POLN–PVC
3"–POLS–PVC

220–PMP–0211
NEAT POLYMER PUMP NO. 2

498 FSL–0212 46
452 PI–0213 46
452 PI–0214 46
MIXER NO. 2

452 PI–0106
3"–2W–PVC
FROM PROTECTED WATER SUPPLY
(NOTE 3)

498 FSL–0025 46
3"–2W–PVC
022–VLV–0026
498 FE–0027
DEWATERING POLYMER SYSTEM NO. 2
(VENDOR PROVIDED)
(NOTE 2)

CONTINUED FROM OI–5
POLYMER AREA CONTAINMENT
CONTINUED TO OI–7

KATHLEEN M. BUECHLER
LICENSED
0000
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING POLYMER SYSTEMS

PROJECT NO. 2395–267343
FILE NAME: I006CBPI.DWG
SHEET NO.
OI-6

TYP. OF LOOP NOS. 0121 & 0221
TYP. OF LOOP NOS. 0122 & 0222
TYP. OF LOOP NOS. 0123 & 0223
TYP. OF LOOP NOS. 0124 & 0224
TYP. OF LOOP NOS. 0126 & 0226
TYP. OF LOOP NOS. 0255, 0265 & 0275
TYP. OF LOOP NOS. 0275, 0285 & 0295

FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE
LEVEL
HIGH LEVEL
LOW LEVEL
FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE
IN REMOTE, RUNNING, FAULT, HIGH PRESSURE, LOW PRESSURE, START/STOP COMMAND, SPEED FEEDBACK, SPEED SETPOINT, E-STOP, STATOR HIGH TEMPERATURE, MOTOR HIGH TEMPERATURE
FLOW

PLC–CENT

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4268 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. COORDINATE POLYMER FEED PIPE SIZING WITH SELECTED CENTRIFUGE MANUFACTURER.

UPS – 447 LI–0122
447 LT–0122
447 LE–0122
UPS – 447 LSH–0123

110–LCS–0121
OSC HS 0121A | LOR HS 0121B | OPENED ZLO 0121 | CLOSED ZLC 0121
(TYP. OF 2) (DIV. 46)

482–TNK–0125
DEWATERING POLYMER AGING TANK NO. 1

022–VLV–0121
3"–POLS–PVC
3"–OVF–PVC
UPS – 447 LSL–0124
022–VLV–0126

UPS – 447 LI–0222
447 LT–0222
447 LE–0222
UPS – 447 LSH–0223

OI–6 FROM DEWATERING POLYMER SYSTEM NO. 1 AND NO. 2
3"–POLS–PVC
3"–DR–PVC
022–VLV–0221
482–TNK–0225
DEWATERING POLYMER AGING TANK NO. 2
3"–OVF–PVC
UPS – 447 LSL–0224
022–VLV–0226
3"–POLS–PVC

117–AFD–0255
DEWATERING POLYMER SOLUTION FEED PUMP NO. 1 ADJUSTABLE FREQUENCY DRIVE
(TYP. OF 3) (DIV. 26)

110–LCS–0255
LOR HS 0255A | START HS 0255B | STOP HS 0255C | E-STOP HS 0255D | FAULT XA 0255 | RUNNING YR 0255
(TYP. OF 3) (DIV. 26)

452 PSL–0251, 452 PI–0251, 461 TSH–0255A 4.3, 461 TSH–0255B 4.3, 452 PI–0256, 452 PSH–0256
3"–POLS–PVC, 3"x2 1/2", 2"x3"
220–PMP–0255
DEWATERING POLYMER SOLUTION FEED PUMP NO. 1
438 FIT–0275 – UPS, 438 FE–0275
3"x2 1/2", 2 1/2"x3", 3"–POLS–PVC
OI–1 TO DEWATERING POLYMER FEED POINT 1A
OI–1 TO DEWATERING POLYMER FEED POINT 1B

452 PSL–0261, 452 PI–0261, 461 TSH–0265A 4.3, 461 TSH–0265B 4.3, 452 PI–0266, 452 PSH–0266
220–PMP–0265
DEWATERING POLYMER SOLUTION FEED PUMP NO. 2
438 FIT–0285 – UPS, 438 FE–0285
OI–2 TO DEWATERING POLYMER FEED POINT 2A
OI–2 TO DEWATERING POLYMER FEED POINT 2B

452 PSL–0271, 452 PI–0271, 461 TSH–0275A 4.3, 461 TSH–0275B 4.3, 452 PI–0276, 452 PSH–0276
220–PMP–0275
DEWATERING POLYMER SOLUTION FEED PUMP NO. 3
438 FIT–0295 – UPS, 438 FE–0295
OI–3 TO DEWATERING POLYMER FEED POINT 3A
OI–3 TO DEWATERING POLYMER FEED POINT 3B

3"–DR–PVC
OI–5 TO POLYMER DRAIN

CONTINUED FROM OI–6
POLYMER AREA CONTAINMENT

KATHLEEN M. BUECHLER LICENSED PROFESSIONAL ENGINEER 3/1/24 KANSAS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING POLYMER SOLUTION FEED PUMP STATION

PROJECT NO. 2395–267343
FILE NAME: I007CBPI.DWG
SHEET NO. OI–7

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PLC–CENT

TEMPERATURE
TEMPERATURE
VENT SYSTEM FAIL (MAU NO. 1)
VENT SYSTEM FAIL (MAU NO. 2)
VENT SYSTEM FAIL (EXHAUST FAN NO. 1)
VENT SYSTEM FAIL (EXHAUST FAN NO. 2)
VENT SYSTEM FAIL (EXHAUST FAN NO. 3)
VENT SYSTEM FAIL (EXHAUST FAN NO. 4)
FIRE ALARM
SYSTEM TROUBLE
SUPERVISORY
AIR FILTRATION UNIT FAIL
WATER HEATER TEMPERATURE LOW
RECIRCULATION NO FLOW
AIR FILTRATION UNIT FAIL
TYP. OF LOOP NOS. 0916 & 0917
DOOR ALARM ×7

I/O TERMINAL BOX
BIOSOLIDS BUILDING

MS
132–MS–0901
EXHAUST FAN MOTOR STATER
(NOTE 2)
(IN MCC)
(DIV. 26)
(TYP. OF 4)

461 TT–0909 23
CENTRIFUGE ELECTRICAL ROOM

500–FAP–0900
FIRE ALARM CONTROL PANEL
ES
(DIV. 28)

713–AFU–0915
AIR FILTRATION UNIT NO. 1
(DIV. 23)

713–AFU–0916
AIR FILTRATION UNIT NO. 2
(DIV. 23)

FAIL
770–VAP–0905
VENTILATION ALARM PANEL
ES
FAIL
(DIV. 26)

ELECTRICAL ROOM

M
724–FAN–0925
EXHAUST FAN NO. 1

461 TT–0914 23
POLYMER AREA

M
724–FAN–0930
EXHAUST FAN NO. 2

M
724–FAN–0935
EXHAUST FAN NO. 3

M
724–FAN–0940
EXHAUST FAN NO. 4

713–AFU–0917
AIR FILTRATION UNIT NO. 3
(DIV. 23)
CONTROL ROOM

777–MAU–0902
MAKEUP AIR UNIT NO. 1
FAIL
(DIV. 23)

XA 0910 26
HORN/ BEACON
SOUTH HALLWAY INTERIOR DOOR

XA 0911 26
HORN/ BEACON
CENTRIFUGE ROOM

777–MAU–0911
MAKEUP AIR UNIT NO. 2
(DIV. 23)

110–LCP–0912
TEPID WATER SKID
LOCAL CONTROL PANEL
(DIV. 23)

461 TT–0913 23
512 FS–0914 23

CENTRIFUGE BUILDING

YA 0906 26
GO BEACON
NORTHEAST EXTERIOR DOOR

YA 0907 26
NO–GO BEACON
NORTHEAST EXTERIOR DOOR

YA 0908 26
GO BEACON
SOUTHEAST EXTERIOR DOOR

YA 0909 26
NO–GO BEACON
SOUTHEAST EXTERIOR DOOR

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. CURRENT TRANSFORMER (CT) PROVIDED IN MCC FOR INDICATION OF LOSS OF POWER. DRY CONTACT IS WIRED TO VENTILLATION ALARM PANEL.

KATHLEEN M. BUECHLER — LICENSED — 23993 — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: S. SHRI VIDYA
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270
KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM CENTRIFUGE BUILDING MISCELLANEOUS - I

PROJECT NO. 2395–267343
FILE NAME: I008CBPI.DWG
SHEET NO.
OI-8

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TRUCK DETECTED

FAULT
OPENED
CLOSED
IN REMOTE
POSITION FEEDBACK
POSITION SETPOINT

TRUCK WASH FLOW

HIGH LEVEL

PLC–CENT

110–LCS–0402
HOA HS 0402A
OPENED ZLO 0402
CLOSED ZLC 0402
(DIV. 26)

UPS
499 ZS–0405
TRUCK DETECTOR (NOTE 2)

1 1/2"–3W–STL
(V–PORT) ×6
4"x1 1/2"
4"–3W–STL
PVC STL

VALVE BOX

452 PI–0407
498 FS–0406
038–BFV–0403
6"x4"
452 PI–0408

FROM 3W SUPPLY
10"–3W–PVC
10"x6"
022–VLV–0401
6"–3W–PVC
038–BFV–0402
6"x4"
038–BFV–0404
4"–3W–PVC

1 1/2"–3W–STL
(V–PORT) ×6
4"x1 1/2"
4"–3W–STL
PVC STL

447 LSH–0410 46 (NOTE 3)
OIL/SOLIDS SEPARATOR
12"–DR–PVC
TO PLANT DRAIN (PACKAGE 2 SCOPE SHEET AI–1)

3/4"–3W–PVC
TO HOSE STATION

3/4"–3W–PVC
TO WINTERIZATION BOX

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. TRUCK DETECTOR SHALL BE PHOTOELECTRIC SENSOR, EATON, MODEL E51, 120VAC NO–NC DRY OUTPUT CONTACT, NEMA 4X OR EQUAL. PROVIDE SURFACE MOUNTING HARDWARE AS REQUIRED.
3. FLOAT LEVEL SWITCH TO BE PROVIDED BY OIL / SOLIDS SEPARATOR SUPPLIER. PROVIDE MOUNTING HARDWARE AS REQUIRED.

KATHLEEN M. BUECHLER
LICENSED
19052
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: S. SHRI VIDYA
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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Kansas City, MO 64114
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KMB ENGINEERING

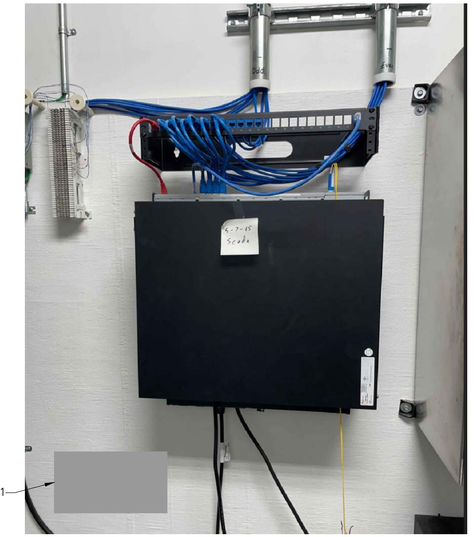
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM TRUCK WASH

PROJECT NO. 2395–267343
FILE NAME: I009CBPI.DWG

SHEET NO.
OI-9



INTERFACE NETWORK CABINET

PHOTOGRAPH 1

NTS E-1.B3

NOTES:

1. FIELD LOCATE INTERFACE NETWORK CABINET.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: S. SHRI VIDYA
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

BIOSOLIDS BUILDING
INTERFACE NETWORK CABINET

KATHLEEN M. BUECHLER — LICENSED — 25151 — 3/11/24 — KANSAS — PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I010CBPI.DWG

SHEET NO.
OI-10

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N

3/16" = 1'- 0"
4 0 4 8

REMOVE SECTIONAL DOOR, ALUMINUM STOREFRONT FRAME AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

REMOVE O.C. DOOR AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

REMOVE DOOR, FRAME AND ALL ASSOCIATED PARTS. SURFACES TO BE PATCHED AND REPAINTED TO MATCH ADJACENT SURFACES

REMOVE FAN AND FLAPPER ASSEMBLY AND ALL ASSOCIATED PARTS. PREPARE ADJACENT SURFACES FOR NEW WORK

REMOVE PORTION OF FLOOR AS REQUIRED FOR PROCESS PIPING

EXISTING ELECTRICAL EQUIPMENT AREA

REMOVE DOOR, FRAME AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

REMOVE WINDOW, FRAME AND PORTION OF WALL AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

EXISTING MOTOR CONTROL AREA

EXISTING DEWATERING CENTRIFUGE FEED PUMP ROOM

SEE PROCESS DRAWINGS FOR ADDITIONAL DEMOLITION

REMOVE SECTIONAL DOOR, REMAINING STOREFRONT FRAME AND GLAZING AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

PREPARE EXISTING CMU OPENING FOR NEW WORK

REMOVE SECTIONAL DOOR, REMAINING STOREFRONT FRAME AND GLAZING AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

REMOVE STUD WALLS, INSULATION AND ASSOCIATED ACCESSORIES

REMOVE DOOR, FRAME AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

EXISTING MECHANICAL ROOM

REMOVE O.C. DOOR, EXISTING STOREFRONT AND ALL ASSOCIATED PARTS AS REQUIRED FOR NEW WORK. PREPARE ADJACENT SURFACES FOR NEW WORK

EXISTING EQUIPMENT AREA

EXISTING ELECTRICAL ROOM P-101

EXISTING PLC ROOM

EXISTING PLC ROOM, TO BE COMPLETED AS PART OF PACKAGE 2 WORK

REMOVE FAN AND FLAPPER ASSEMBLY AND ALL ASSOCIATED PARTS. PREPARE ADJACENT SURFACES FOR NEW WORK

EXISTING LOADING AREA

LOWER LEVEL FLOOR PLAN
3/16" = 1'-0"

GENERAL NOTES:
1. PATCH AND REPAIR WALL SURFACES WHERE PIPING HAS BEEN REMOVED. PATCHING SHALL MATCH ADJACENT SURFACES.

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT 03.01.2024

CDM Architects Inc.
1515 Poydras St.
Suite 1130
New Orleans, LA 70112

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C.THROOP
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING ARCHITECTURAL FLOOR PLAN - DEMOLITION

PROJECT NO. 2395-267343
FILE NAME: AWOOPSPL.DWG

SHEET NO.
PD-101

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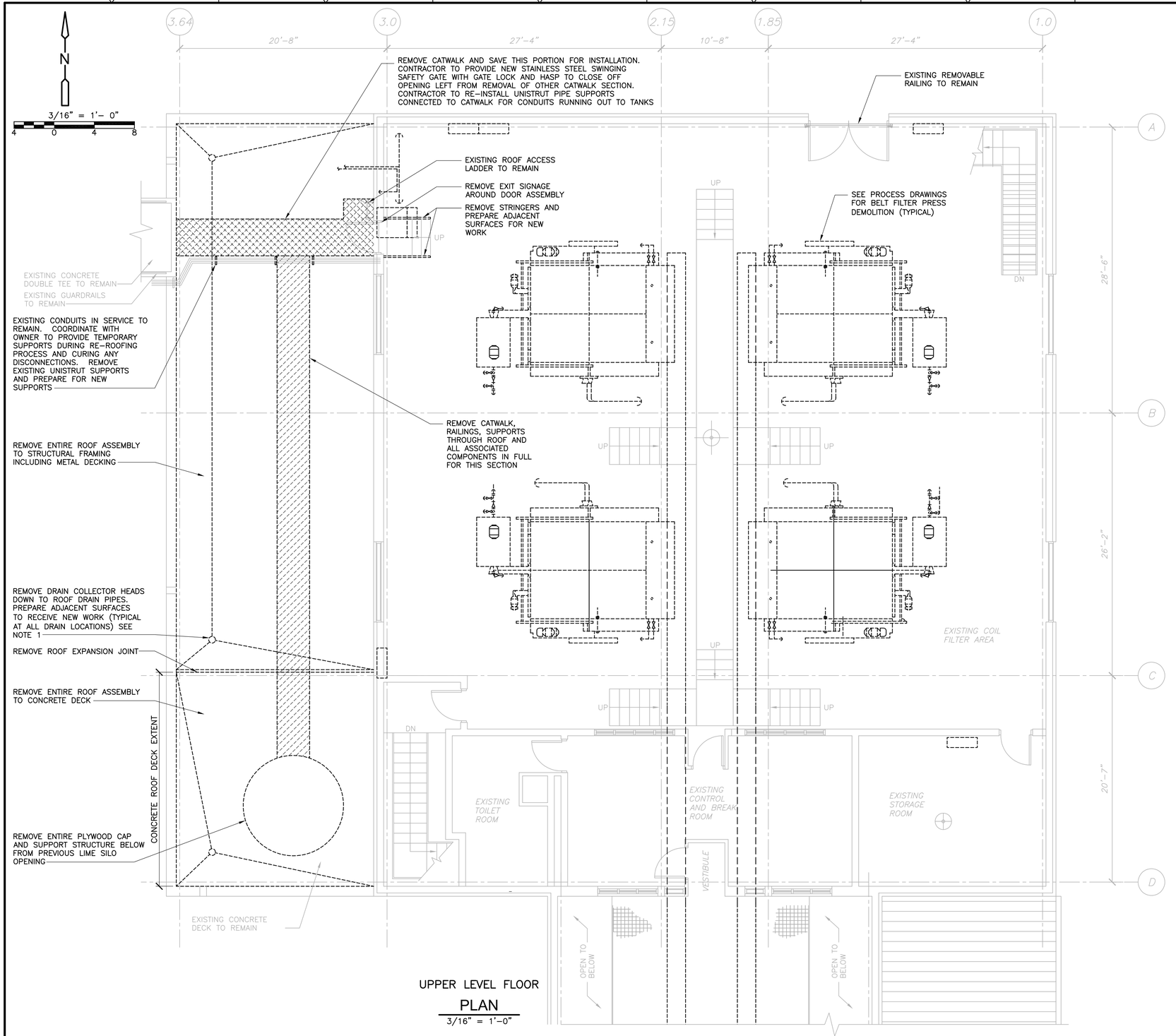

UPPER LEVEL FLOOR
PLAN
3/16" = 1'-0"

SHEET NOTES:

1. CONTRACTOR TO EVALUATE ROOF DRAIN LINES AND REUSE TO THE EXTENT POSSIBLE, REPLACING THE ROOFTOP DRAIN PAN ASSEMBLY AND CONNECTIONS. ALERT OWNER IF ADDITIONAL CORROSION ISSUES ARE FOUND IN ROOF DRAIN LINES BEYOND ROOF TOP ASSEMBLY COMPONENTS.
2. CONTRACTOR TO PROVIDE WEATHER PROTECTION FOR BUILDING AND EQUIPMENT WITHIN THE FACILITY AT THE END OF EACH WORKDAY DURING ROOF REPLACEMENT ACTIVITIES.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C. THROOP
DATE: MARCH 2024

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8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

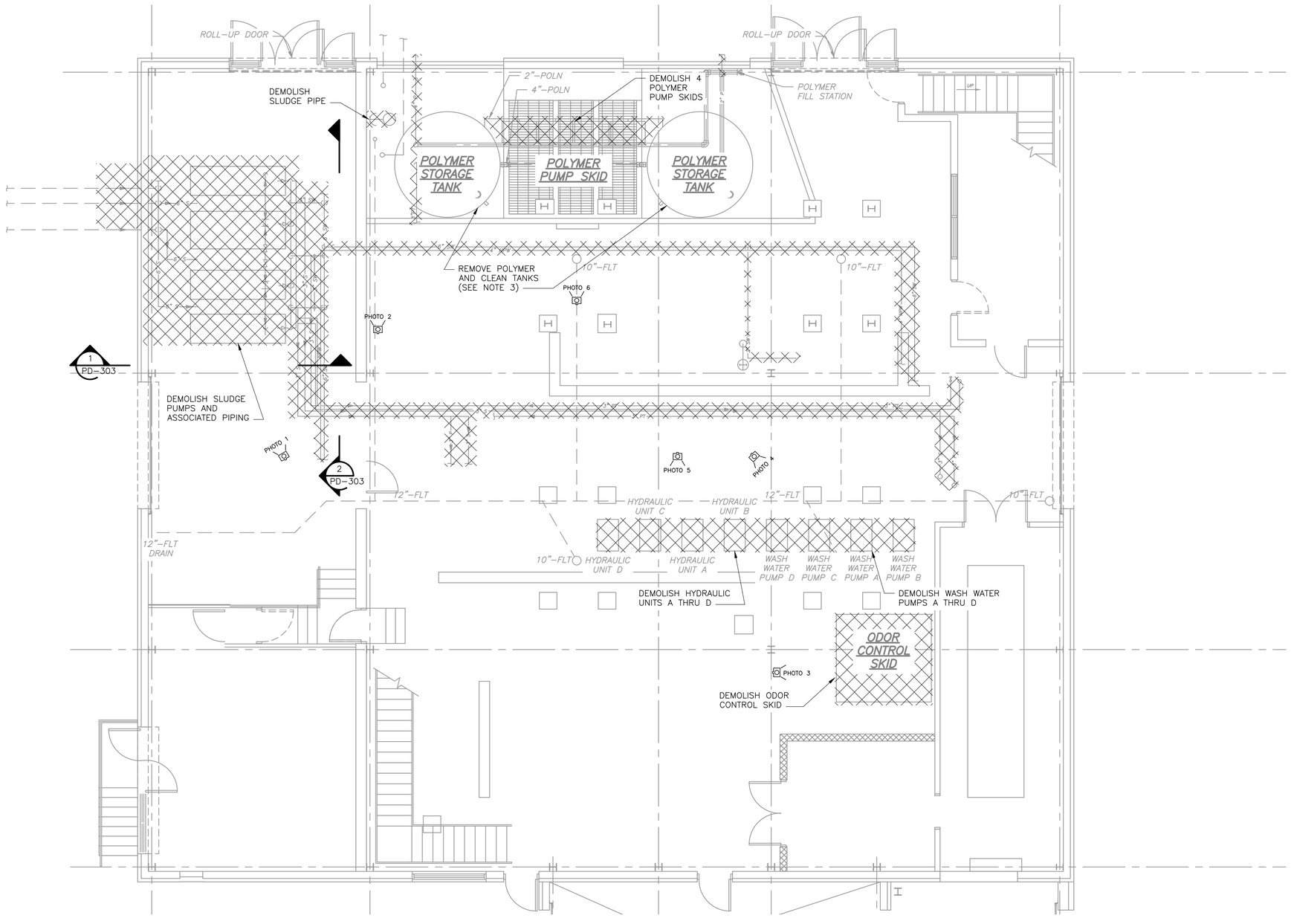
DEWATERING SUPPORT BUILDING
ARCHITECTURAL
UPPER LEVEL PLAN - DEMOLITION

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
05.01.2024

CDM Architects Inc.
1515 Poydras St.
Suite 1130
New Orleans, LA 70112

PROJECT NO. 2395-267343
FILE NAME: AW01PSPL.DWG

SHEET NO.
PD-102



PLAN
3/16" = 1'-0"

N

3/16" = 1'- 0"
4 0 4 8

GENERAL DEMOLITION NOTES:

1. THE DEMOLITION, MODIFICATION OR ALTERATION OF EXISTING BUILDINGS, EQUIPMENT, PIPING, AND STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL REGULATIONS AND CODES. DEMOLITION, REPLACEMENT, AND/OR RELOCATION MAY BE SHOWN ON INDIVIDUAL DRAWINGS NOT INCLUDED IN THE DEMOLITION DRAWINGS.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING THE EXISTING UTILITIES, STRUCTURES, PIPING, VALVES, AND OTHER ITEMS NOT DESIGNATED TO BE DEMOLISHED.
3. FOR EQUIPMENT TO BE REMOVED, REMOVE ALL ELECTRICAL CONDUITS AND SEPARATELY MOUNTED STARTS AND DISCONNECTS SERVING THAT EQUIPMENT, TAKING THE ITEMS BACK TO A POINT WHERE CONDUIT IS EMBEDDED IN THE STRUCTURE OR WHERE CONNECTION IS MADE TO ELECTRICAL EQUIPMENT TO REMAIN IN PLACE. CAP OR PLUG ALL CONDUIT, ALL OPENINGS, AND ELECTRICAL BOXES WHERE CONDUIT IS REMOVED. ALSO PROVIDE REMOVABLE COVERS WHERE REMOVAL OF OTHER ITEMS LEAVES A VISIBLE OPENING.
4. COORDINATE DEMOLITION FOR NEW WORK TO BE CONNECTED TO EXISTING PIPING. LIMIT OF NEW WORK AND DEMOLITION SHOWN ON PLAN IS APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE EXACT LIMITS OF DEMOLITION (AS APPROVED BY THE ENGINEER) TO MAKE THE APPROPRIATE CONNECTS OF NEW TO EXISTING. USING EXISTING FLANGED ENDS OF PIPE, COUPLINGS OR FLANGE ADAPTORS AS APPROVED BY THE ENGINEER.
5. CONTRACTOR SHALL REPAIR ALL FLOOR, WALL, AND CEILING SYSTEMS AND EQUIPMENT AFFECTED BY DEMOLITION ACTIVITIES AND RESTORE SURFACES TO AN AS NEW CONDITION THROUGH PATCHING, FILLING HOLES, TOUGH-UP PAINT, ETC.
6. LOCATION OF EXISTING EQUIPMENT UTILITIES HAVE BEEN TAKEN FROM PREVIOUS CONTRACT DRAWINGS AND MAY NOT COMPLETELY OR ACCURATELY SHOW ALL EXISTING CONDITIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS CLEARANCES, ETC., PRIOR TO BIDDING AND COMMENCING WORK.
7. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT. SALVAGE ITEMS AS REQUIRED BY OWNER AND TRANSPORT TO LOCATION DESIGNATED BY OWNER. ALL ITEMS WHICH OWNER DOES NOT WISH TO SALVAGE SHALL BE CONTRACTOR'S RESPONSIBILITY FOR DISPOSAL.
8. GROUT OR FILL ALL ANCHOR BOLT HOLES.
9. SEE GENERAL DRAWINGS FOR AREA CLASSIFICATIONS WITH SPECIAL ATTENTION TO AREAS HAVING POTENTIAL EXPLOSIVE HAZARDS. CONTRACTOR RESPONSIBLE FOR PLANNING AND CARRYING OUT ALL PROPER SAFETY REQUIREMENTS.

LEGEND:

PHOTO # — VIEW CAN BE FOUND IN PICTURES ON DEMOLITION PHOTOGRAPH SHEETS PD-305 THRU PD-307

NOTES:

1. REFER TO SPECIFICATION SECTION 013513.24 FOR CONSTRUCTION SEQUENCING AND MAINTENANCE OF PLANT OPERATION.
2. WHERE REQUIRED FOR EQUIPMENT DEMOLITION, DISCONNECT ELECTRICAL WIRING. REMOVE OBSOLETE WIRING BACK TO SOURCE AND EXPOSED CONDUIT. PROTECT WIRING AND CONDUIT THAT IS TO BE REUSED.
3. POLYMER TANKS, FILL STATION, MOTORIZED VALVES, AND ASSOCIATED INSTRUMENTATION TO BE CLEANED AND REFURBISHED TO SERVICE SUPPLEMENTAL CARBON. EQUIPMENT AND INSTRUMENTATION TAGGING, AND ALL CODING ASSOCIATED WITH THE EXISTING POLYMER SYSTEM TO BE CONVERTED TO THE APPROPRIATE SUPPLEMENTAL CARBON CONVENTION.
4. SEE SHEET PD-304 FOR TEMPORARY DEWATERING PLAN.
5. EXISTING CHEMICAL MIXERS IN EXISTING POLYMER TANKS TO BE REMOVED AND MIXER OPENING TO BE COVERED. CONTRACTOR TO SELECT MIXER OPENING COVER AND ACCOMPANYING GASKET TO BE CHEMICALLY COMPATIBLE WITH SUPPLEMENTAL CARBON.
6. EXISTING POLYMER TANKS TO BE CLEANED THOROUGHLY. CONTRACTOR TO ALSO CLEAN THE AREA INSIDE THE CONTAINMENT. CLEANING SHALL CONSIST OF AN INTERIOR POWER WASH TO REMOVE ALL RESIDUAL POLYMER.
7. EXISTING POLYMER TANKS TO BE INSPECTED TO ENSURE THERE IS NO STRESS ON PIPING CONNECTIONS.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING LOWER LEVEL DEMOLITION PLAN

PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-301

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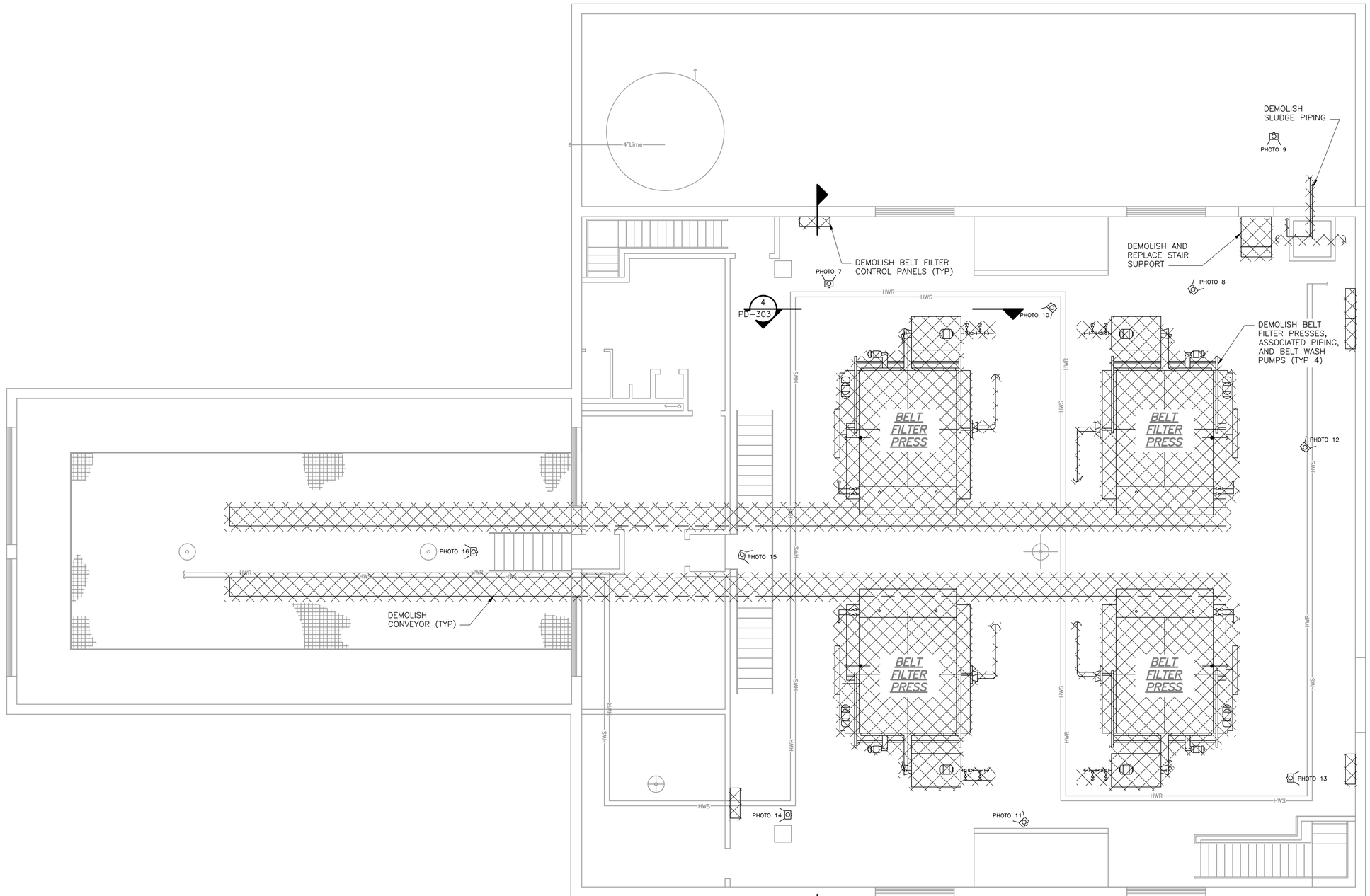


PLAN
3/16" = 1'-0"

3
PD-303

N
3/16" = 1'- 0"
4 0 4 8

GENERAL DEMOLITION NOTES:

1. THE DEMOLITION, MODIFICATION OR ALTERATION OF EXISTING BUILDINGS, EQUIPMENT, PIPING, AND STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL REGULATIONS AND CODES. DEMOLITION, REPLACEMENT, AND/OR RELOCATION MAY BE SHOWN ON INDIVIDUAL DRAWINGS NOT INCLUDED IN THE DEMOLITION DRAWINGS.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING THE EXISTING UTILITIES, STRUCTURES, PIPING, VALVES, AND OTHER ITEMS NOT DESIGNATED TO BE DEMOLISHED.
3. FOR EQUIPMENT TO BE REMOVED, REMOVE ALL ELECTRICAL CONDUITS AND SEPARATELY MOUNTED STARTS AND DISCONNECTS SERVING THAT EQUIPMENT, TAKING THE ITEMS BACK TO A POINT WHERE CONDUIT IS EMBEDDED IN THE STRUCTURE OR WHERE CONNECTION IS MADE TO ELECTRICAL EQUIPMENT TO REMAIN IN PLACE. CAP OR PLUG ALL CONDUIT, ALL OPENINGS, AND ELECTRICAL BOXES WHERE CONDUIT IS REMOVED. ALSO PROVIDE REMOVABLE COVERS WHERE REMOVAL OF OTHER ITEMS LEAVES A VISIBLE OPENING.
4. COORDINATE DEMOLITION FOR NEW WORK TO BE CONNECTED TO EXISTING PIPING. LIMIT OF NEW WORK AND DEMOLITION SHOWN ON PLAN IS APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE EXACT LIMITS OF DEMOLITION (AS APPROVED BY THE ENGINEER) TO MAKE THE APPROPRIATE CONNECTS OF NEW TO EXISTING. USING EXISTING FLANGED ENDS OF PIPE, COUPLINGS OR FLANGE ADAPTORS AS APPROVED BY THE ENGINEER.
5. CONTRACTOR SHALL REPAIR ALL FLOOR, WALL, AND CEILING SYSTEMS AND EQUIPMENT AFFECTED BY DEMOLITION ACTIVITIES AND RESTORE SURFACES TO AN AS NEW CONDITION THROUGH PATCHING, FILLING HOLES, TOUGH-UP PAINT, ETC.
6. LOCATION OF EXISTING EQUIPMENT UTILITIES HAVE BEEN TAKEN FROM PREVIOUS CONTRACT DRAWINGS AND MAY NOT COMPLETELY OR ACCURATELY SHOW ALL EXISTING CONDITIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS CLEARANCES, ETC., PRIOR TO BIDDING AND COMMENCING WORK.
7. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT. SALVAGE ITEMS AS REQUIRED BY OWNER AND TRANSPORT TO LOCATION DESIGNATED BY OWNER. ALL ITEMS WHICH OWNER DOES NOT WISH TO SALVAGE SHALL BE CONTRACTOR'S RESPONSIBILITY FOR DISPOSAL.
8. GROUT OR FILL ALL ANCHOR BOLT HOLES.
9. SEE GENERAL DRAWINGS FOR AREA CLASSIFICATIONS WITH SPECIAL ATTENTION TO AREAS HAVING POTENTIAL EXPLOSIVE HAZARDS. CONTRACTOR RESPONSIBLE FOR PLANNING AND CARRYING OUT ALL PROPER SAFETY REQUIREMENTS.

LEGEND:

PHOTO # VIEW CAN BE FOUND IN PICTURES ON DEMOLITION PHOTOGRAPH SHEETS PD-305 AND PD-306

NOTES:

1. REFER TO SPECIFICATION SECTION 013513.24 FOR CONSTRUCTION SEQUENCING AND MAINTENANCE OF PLANT OPERATION.
2. WHERE REQUIRED FOR EQUIPMENT DEMOLITION, DISCONNECT ELECTRICAL WIRING. REMOVE OBSOLETE WIRING BACK TO SOURCE AND EXPOSED CONDUIT. PROTECT WIRING AND CONDUIT THAT IS TO BE REUSED.

BID ALTERNATE NO.1:

DEWATERING SUPPORT BUILDING BELT FILTER PRESS DEMOLITION (AREA P): FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, DEMOLITION, TRANSPORTATION, AND INCIDENTALS FOR DEMOLISHING THE BELT FILTER PRESSES AND CONVEYORS, AND ASSOCIATED CONTROLS, ELECTRICAL, PIPING, HVAC, AND APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

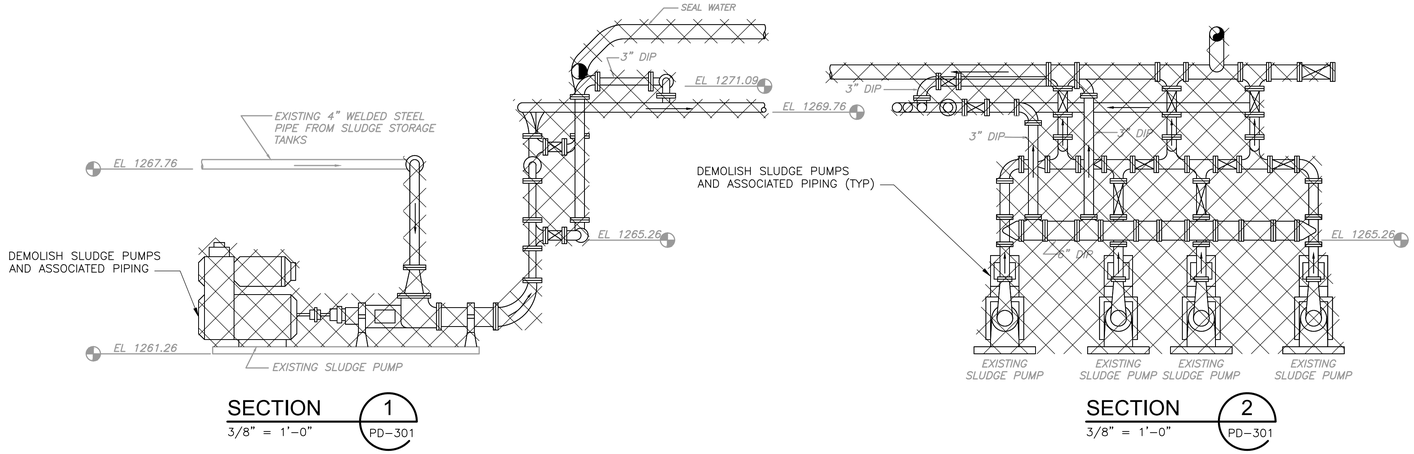
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING UPPER LEVEL DEMOLITION PLAN BID ALT. NO.1

PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-302

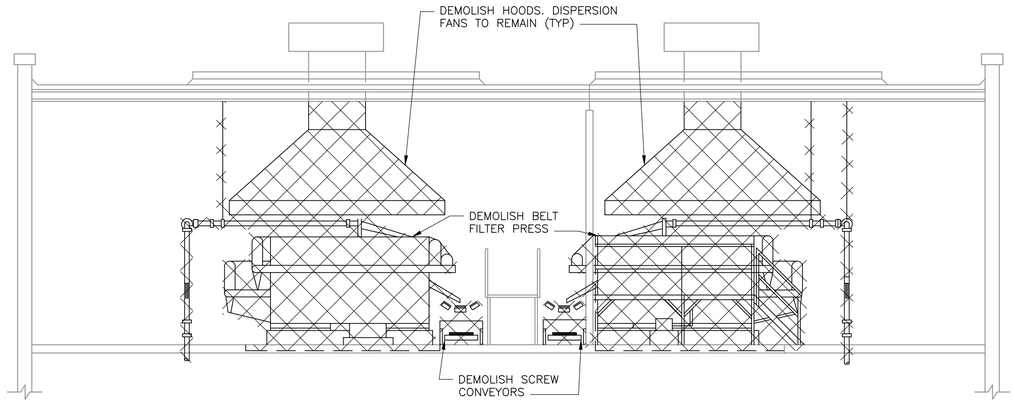


SECTION 1
3/8" = 1'-0"
PD-301

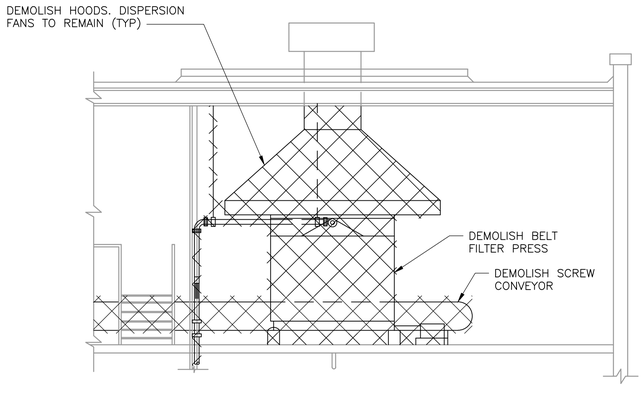
SECTION 2
3/8" = 1'-0"
PD-301

NOTES:

1. REFER TO SPECIFICATION SECTION 013513.24 FOR CONSTRUCTION SEQUENCING AND MAINTENANCE OF PLANT OPERATION.



SECTION 3
3/8" = 1'-0"
PD-302



SECTION 4
3/8" = 1'-0"
PD-302

BID ALTERNATE NO.1:

DEWATERING SUPPORT BUILDING BELT FILTER PRESS DEMOLITION (AREA P): FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, DEMOLITION, TRANSPORTATION, AND INCIDENTALS FOR DEMOLISHING THE BELT FILTER PRESSES AND CONVEYORS, AND ASSOCIATED CONTROLS, ELECTRICAL, PIPING, HVAC, AND APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING LOWER LEVEL AND UPPER LEVEL DEMOLITION SECTIONS BID ALT. NO.1

PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-303

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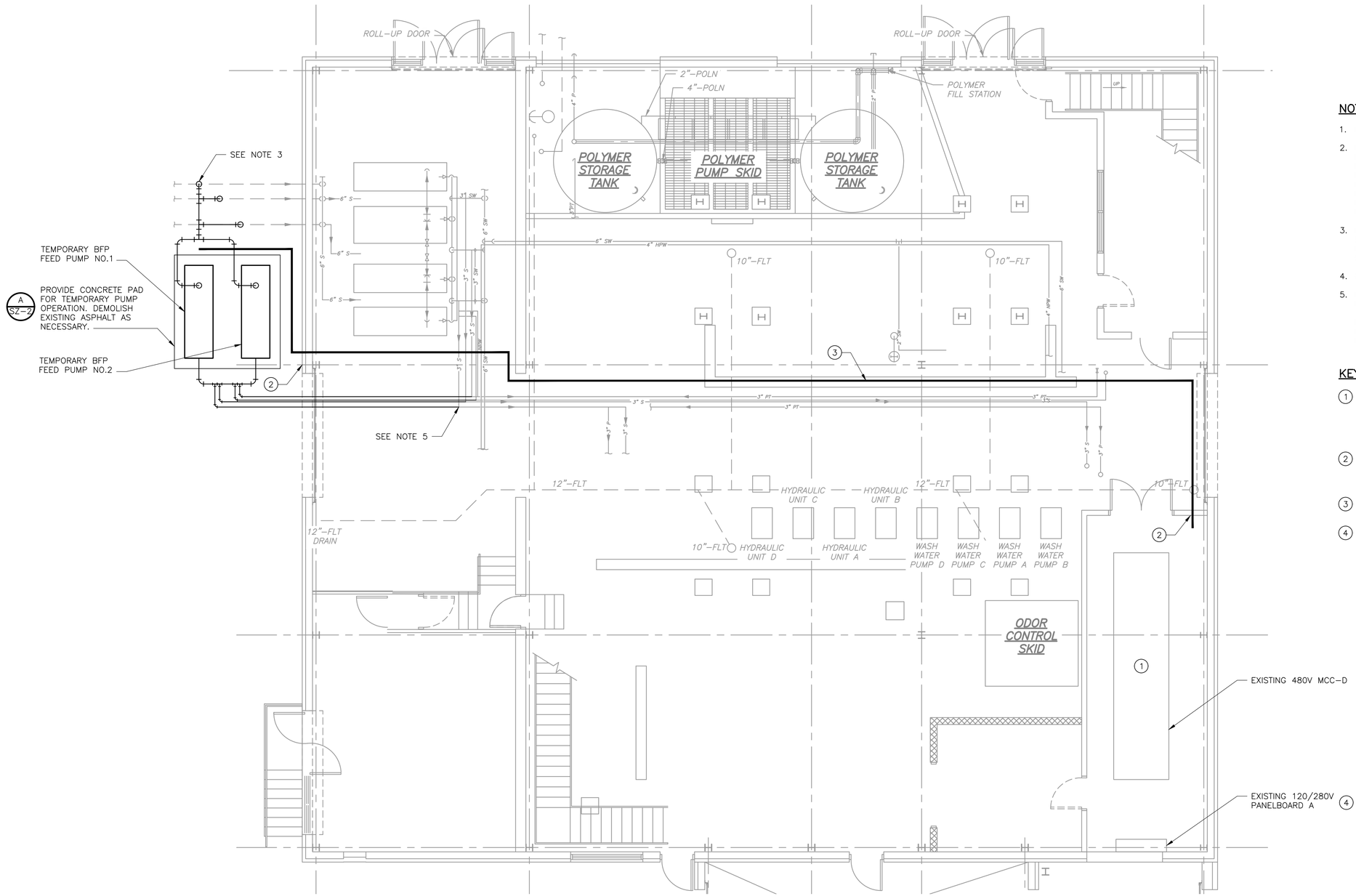

PLAN
3/16" = 1'-0"

NOTES:

1. REFER TO NOTES ON SHEET PD-301.
2. PROPOSED ROUTING OF TEMPORARY PIPING AND CONDUIT FOR TEMPORARY DEWATERING IS SHOWN. SUBMIT FINAL ROUTING OF TEMPORARY PIPING TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED PIPE SUPPORTS OF TEMPORARY PIPING, ELECTRICAL AND CONTROL WIRING ROUTING. TEMPORARY PIPING SHALL BE INSULATED AND HEAT TRACED. AFTER DECOMMISSIONING OF TEMPORARY BELT FILTER FEED PUMPS, REMOVE ALL TEMPORARY PIPING AND FULLY RESTORE SITE TO PRE-CONSTRUCTION CONDITION.
3. BURIED DIGESTED SLUDGE LINES (TYP OF 3) ARE TO BE INSTALLED UNDER SEPARATE CONTRACT (PACKAGE 2). WILL BE PROVIDED WITH A BLIND FLANGE LOCATED AT GRADE FOR TEMPORARY CONNECTION TO SUCTION SIDE OF BELT FILTER FEED PUMPS.
4. CITY TO PROVIDE TWO PUMPS FOR TEMPORARY DEWATERING PROCESS.
5. FIELD ROUTE TEMPORARY DISCHARGE PIPING. FOUR SEPARATE TEMPORARY HOSES, TIE INTO THE EXISTING BELT FILTER PRESS FEED LINES. UTILIZE THE EXISTING MAG METERS TO FACILITATE AN EQUAL FLOW SPLIT TO THE FOUR BELT FILTER PRESSES. UTILIZE EXISTING PRESSURE SWITCHES TO PROTECT THE PUMP FROM LOWE PRESSURE ON THE SUCTION AND HIGH PRESSURE ON THE DISCHARGE.

KEYED NOTES:

(1) SET UP POWER FOR TEMPORARY SLUDGE PUMPING WITH 480V NORMAL POWER COMING FROM THE EXISTING 800AMP, 480V, 3 PHASE, 3 WIRE MCC-D LOCATED IN THE DEWATERING SUPPORT BUILDING ELECTRICAL ROOM. MCC-D IS BEING REPLACED AS PART OF THIS PROJECT. THE CONTRACTOR CAN USE THE EXISTING MCC-D OR THE NEW ONE TO POWER THE PUMPS AND APPURTENANCES.

(2) CONTRACTOR SHALL CORE DRILL WALL FOR POWER, CONTROL, AND SIGNAL CONDUITS PENETRATION FOR TEMPORARY FEEDER CONNECTION AND SEAL TIGHT AROUND THE CONDUIT. AFTER THE TEMPORARY FEED IS NOT REQUIRED, CONTRACTOR SHALL REMOVE THE CONDUIT AND FILL THE HOLE.

(3) PROPOSED PVC CONDUIT ROUTE FOR TEMPORARY POWER, CONTROL, AND SIGNAL. PROVIDE TEMPORARY CONDUIT GUARD AT TRAFFIC PATH.

(4) CONTRACTOR TO PROVIDE TEMPORARY POWER FOR HEAT TRACE FROM SPARE BREAKERS IN EXISTING PANELBOARD A. VERIFY PANEL NOT OVERLOADED PRIOR TO ADDITION. SEE NOTE 3 FOR PROPOSED CONDUIT ROUTE.

AUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING TEMPORARY DEWATERING PLAN

PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-304

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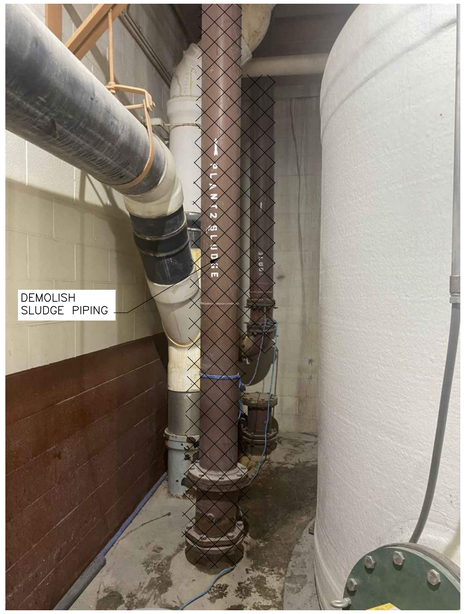
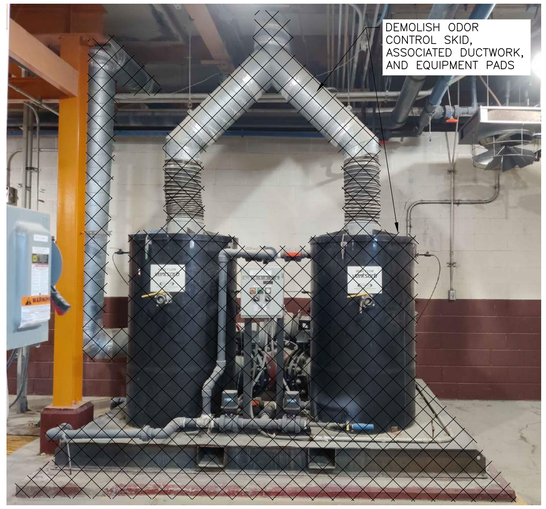
PHOTOGRAPH 1
NTS PD-301



PHOTOGRAPH 2
NTS PD-301



PHOTOGRAPH 3
NTS PD-301

PHOTOGRAPH 4
NTS PD-301

PHOTOGRAPH 5
NTS PD-301

PHOTOGRAPH 6
NTS PD-301

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

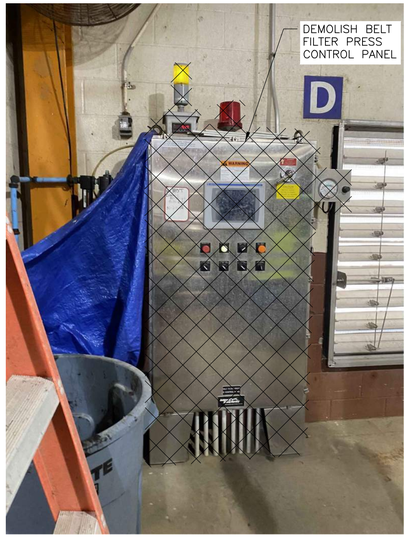
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING DEMOLITION PHOTOGRAPHS I

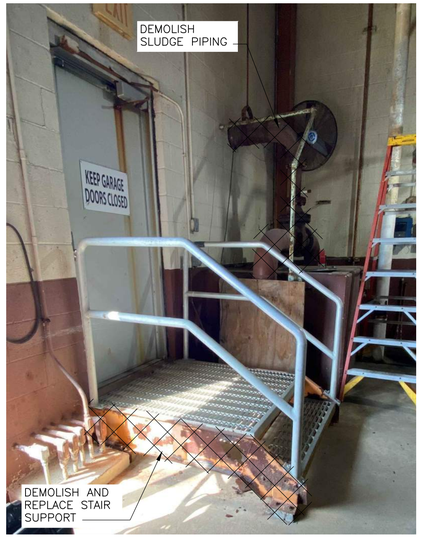
DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-305

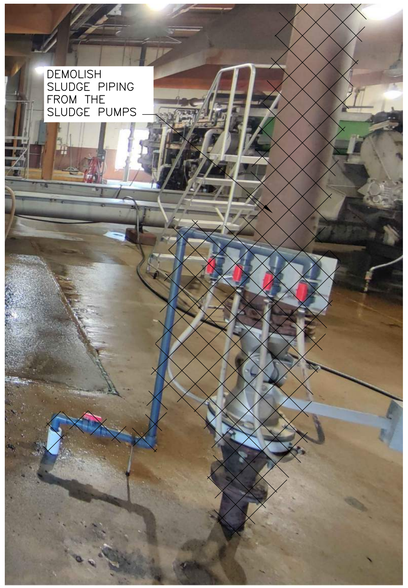


PHOTOGRAPH 7
NTS PD-302



PHOTOGRAPH 8
NTS PD-302

PHOTOGRAPH 9
NTS PD-302



PHOTOGRAPH 10
NTS PD-302

PHOTOGRAPH 11
NTS PD-302

PHOTOGRAPH 12
NTS PD-302

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
DEMOLITION PHOTOGRAPHS II

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

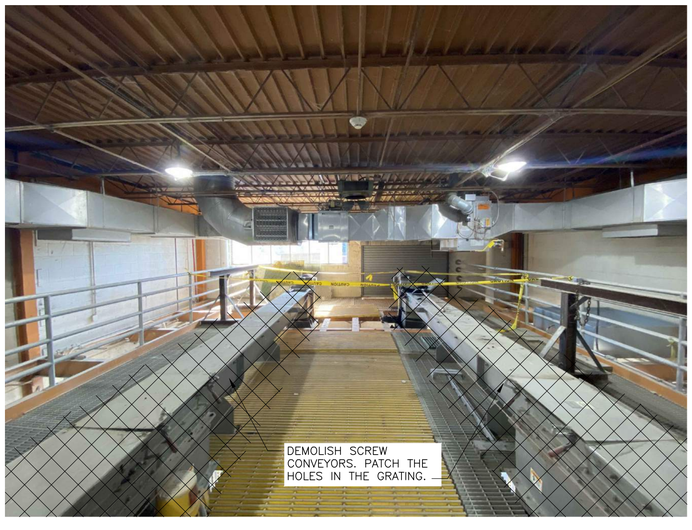
PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-306

PHOTOGRAPH 13
NTS PD-302

PHOTOGRAPH 14
NTS PD-302

PHOTOGRAPH 15
NTS PD-302



PHOTOGRAPH 16
NTS PD-302

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
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Kansas City, MO 64114
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CITY OF WICHITA, KS

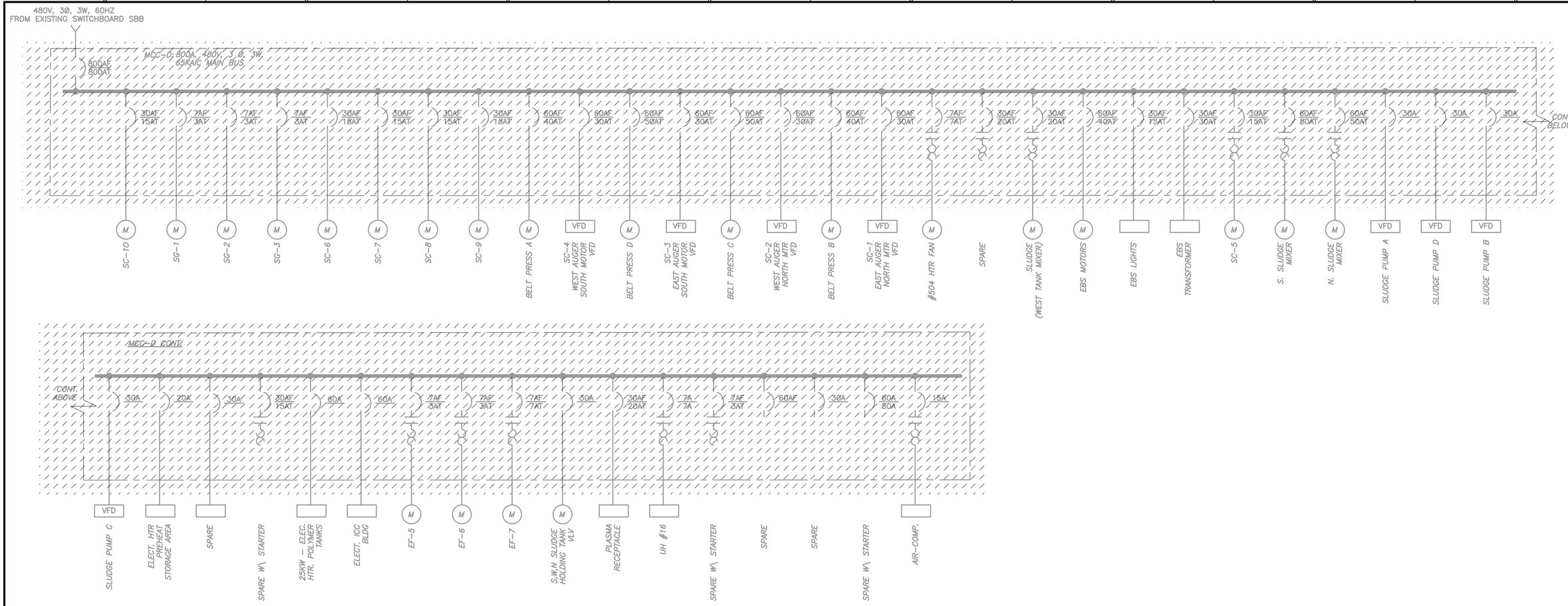
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
DEMOLITION PHOTOGRAPHS III

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

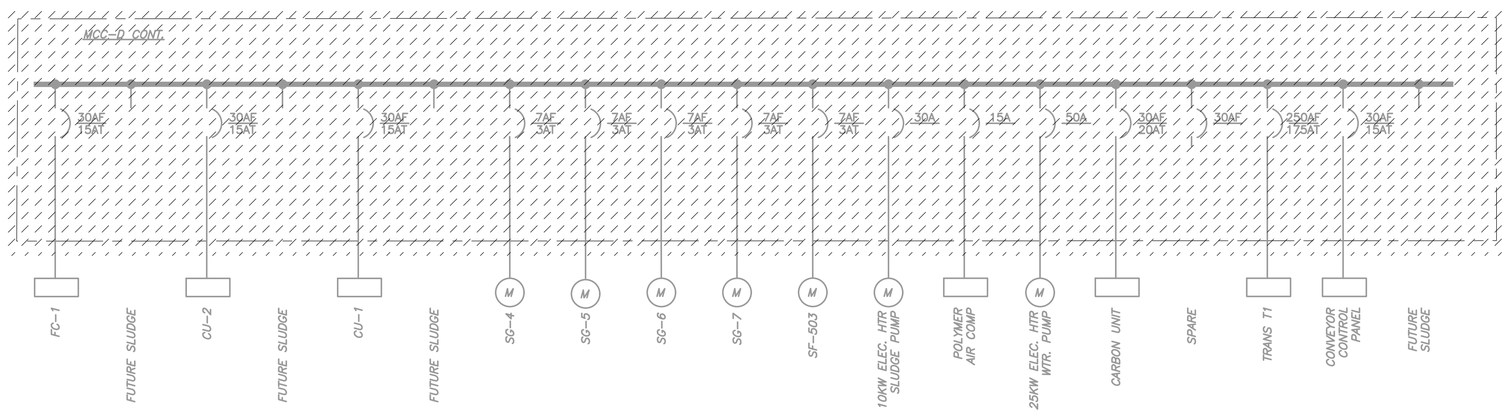
PROJECT NO. 2395-267343
FILE NAME: PD301DWPS

SHEET NO.
PD-307



FRONT MCC-D ONE LINE DEMO DIAGRAM

MOTOR CONTROL CENTER



REAR MCC-D ONE LINE DEMO DIAGRAM

MOTOR CONTROL CENTER

GENERAL DEMOLITION NOTES:

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION. PROVIDE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. CONTRACTOR SHALL COORDINATE SEQUENCE OF DEMOLITION WITH THE OWNER PRIOR TO ANY AND ALL ELECTRICAL WORK ASSOCIATED WITH EXISTING EQUIPMENT AND SYSTEMS.
3. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
4. ALL LOADS FED FROM EXISTING MCC-D ARE EXISTING TO REMAIN. PULL BACK AND RETAIN ALL EXISTING CONDUCTORS TO PULL-BOX ABOVE MCC FOR RECONNECT TO NEW MCC INSTALLED IN THIS CONTRACT.
5. REFER TO PROCESS MECHANICAL SHEETS FOR CONSTRUCTION SEQUENCING.

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS
			C. BREWSTER	

DESIGNED BY: M. BASS
DRAWN BY: M. BASS
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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CUSTOM ENGINEERING
12760 East 40 Highway
Independence, Missouri 64055
816.350.1473

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
MCC-D DEMOLITION ONE-LINE DIAGRAM

PROJECT NO. 2395-267343
FILE NAME: PD601DWPS
SHEET NO.
PD-601

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MCC–D DEMOLITION – FRONT

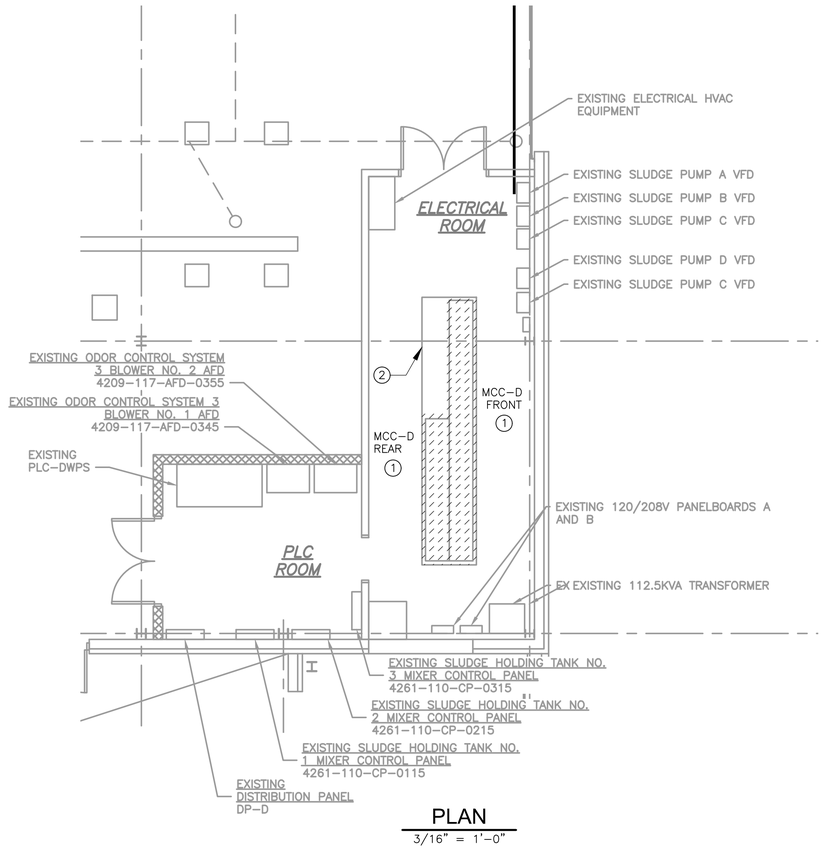
PHOTO #1

NTS

MCC–D DEMOLITION – REAR

PHOTO #2

NTS



PLAN

3/16" = 1'–0"

N

3/16" = 1'– 0"

4 0 4 8

GENERAL DEMOLITION NOTES:

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION. PROVIDE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. CONTRACTOR SHALL COORDINATE SEQUENCE OF DEMOLITION WITH THE OWNER PRIOR TO ANY AND ALL ELECTRICAL WORK ASSOCIATED WITH EXISTING EQUIPMENT AND SYSTEMS.
3. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
4. ALL LOADS FED FROM EXISTING MCC–D ARE EXISTING TO REMAIN. PULL BACK AND RETAIN ALL EXISTING CONDUCTORS TO PULL–BOX ABOVE MCC FOR FUTURE INSTALLATION.
5. REFER TO PROCESS MECHANICAL SHEETS FOR CONSTRUCTION SEQUENCING.

KEY NOTES:

(1) DEMOLISH EXISTING MCC–D. PULL BOX ABOVE AND ALL EXISTING FEEDERS TO REMAIN. PULL BACK ALL FEEDERS TO PULLBOX AND PROTECT FOR INSTALLATION OF NEW MCC–D. SEE SHEET PD–601 FOR DEMOLITION ONE–LINE DIAGRAM.

(2) EXISTING 4" CONCRETE HOUSEKEEPING PAD TO REMAIN.

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER

Craig Brewster

03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C.BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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Tel: (816) 444-8270

CUSTOM ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ELECTRICAL ROOM DEMOLITION PLAN

PROJECT NO. 2395–267343
FILE NAME: PD602DWPS

SHEET NO.
PD-602

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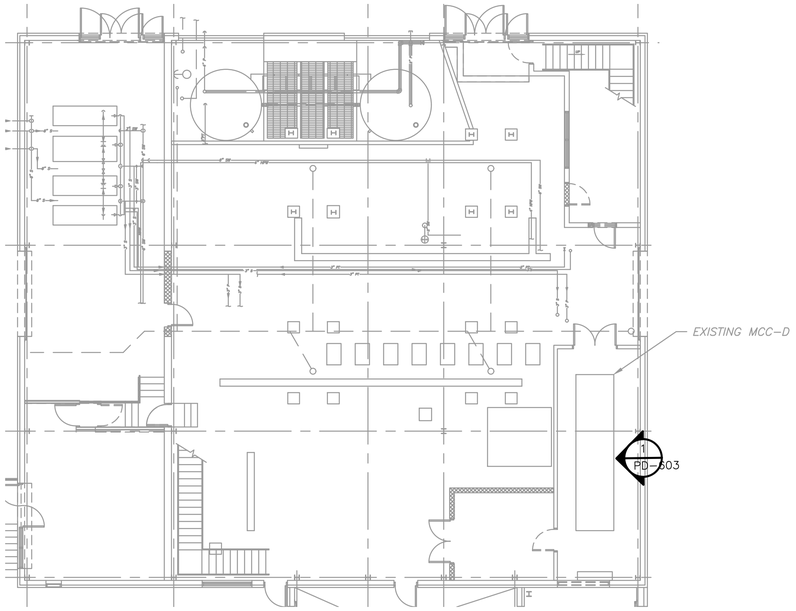
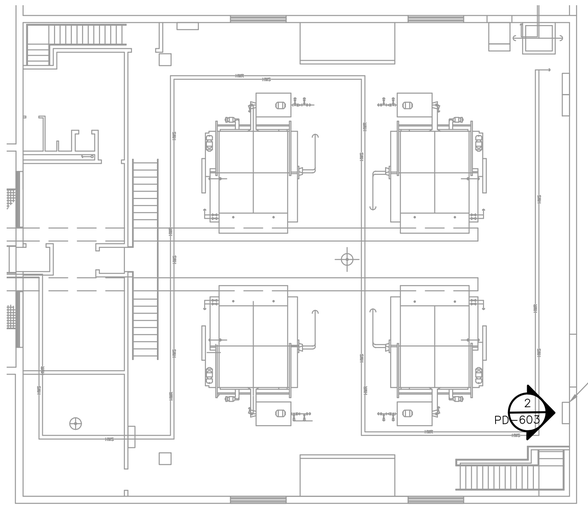


DEWATERING SUPPORT BUILDING LOWER LEVEL
PLAN
3/32" = 1'-0"

MCC-D CONVEYOR MOTION FAILURE ALARMS (1)
PHOTOGRAPH 1
NTS



DEWATERING SUPPORT BUILDING UPPER LEVEL
PLAN
3/32" = 1'-0"

EXISTING CONVEYOR CONTROL PANEL (1)
PHOTOGRAPH 2
NTS

KEY NOTES:

(1) REFER TO DRAWINGS E-17 AND E-18 FOR MCC SCHEMATICS.

INDIRA PJETROVIC
LICENSED
03/01/2024
21918
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. BYRD
DRAWN BY: M. ELANGOVAN
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

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CITY OF WICHITA, KS

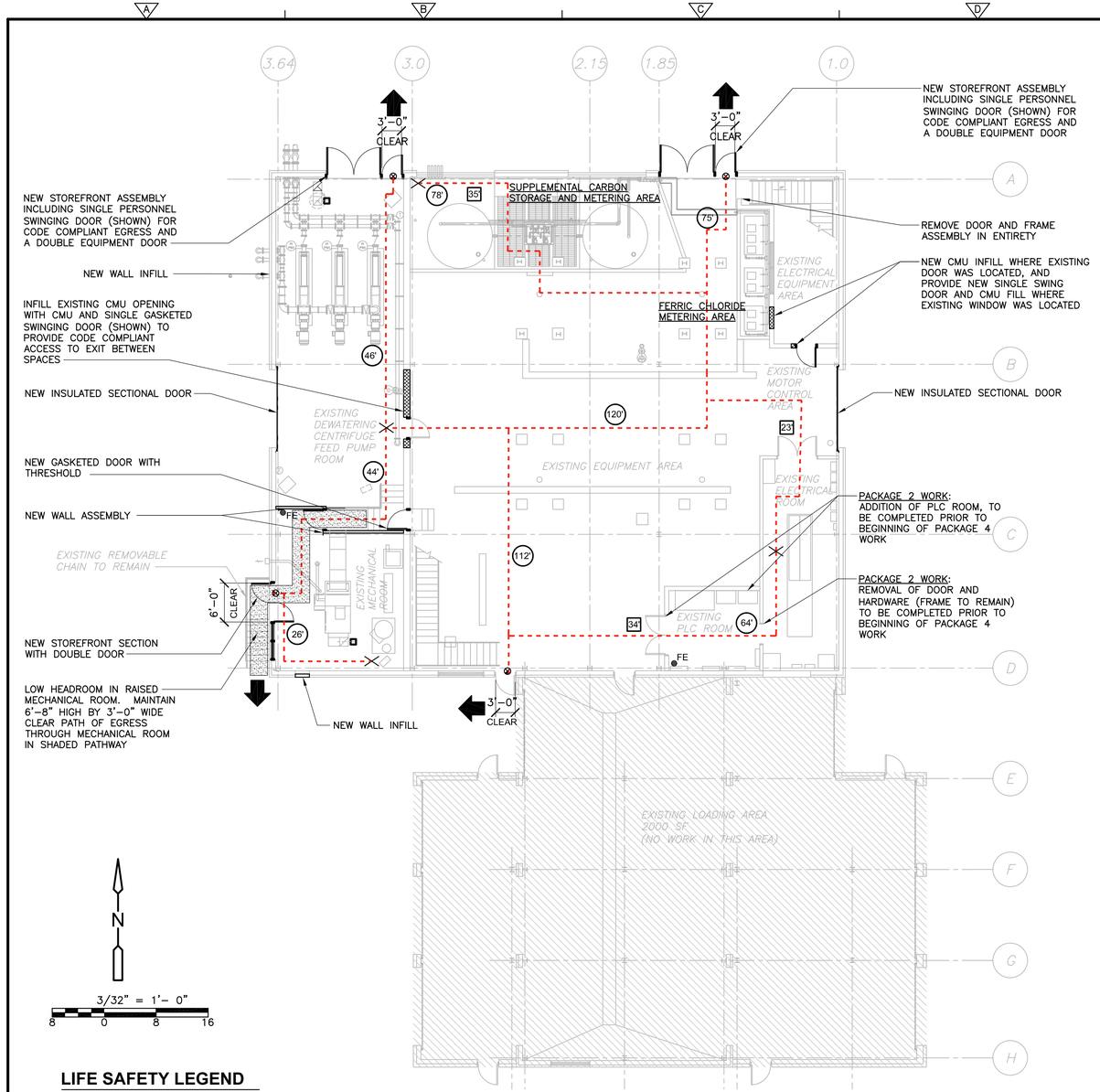
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
MCC-D DEMOLITION AND REPLACEMENT PLAN

PROJECT NO. 2395-267343
FILE NAME: PD603DWPS

SHEET NO.
PD-603

ISSUED FOR BID



LIFE SAFETY LEGEND

- EXIT DISCHARGE
- AREA OR SPACE EXIT
- EXIT SIGN
- FIRE EXTINGUISHER
- EGRESS PATH
- TRAVEL DISTANCE (FEET)
- COMMON PATH OF TRAVEL (FEET)
- 1 HOUR FIRE RATING

LIFE SAFETY – LOWER LEVEL

PLAN

3/32" = 1'-0"

DEWATERING SUPPORT BUILDING KEY DETERMINATIONS

PACKAGE 4 SCOPE INCLUDES A MAJORITY OF THE IMPROVEMENTS TO THE BUILDING, AS WELL AS UPGRADES TO THE EXISTING DOORS, WALLS AND ROOF TO PROVIDE PROTECTED EGRESS PATHS FROM THIS FACILITY AND ASSOCIATED CONNECTIONS BY OTHER DISCIPLINES. AJH SHALL REFERENCE CODE ANALYSIS IN PACKAGE 4 DOCUMENTS TO VIEW CODE COMPLIANCE OF THE DEWATERING SUPPORT BUILDING AT THE END OF WORK PACKAGES.

PROJECT NAME	WICHITA PLANT 2 BNR
LOCATION	CITY OF WICHITA, KS
PROJECT NUMBER	2395-267343
BUILDING NAME	DEWATERING SUPPORT BUILDING
APPLICABLE CODE	2018 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS BY METROPOLITAN AREA BUILDING AND CONSTRUCTION DEPARTMENT (MABCD) 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC) WITH AMENDMENTS BY MABCD 2018 INTERNATIONAL FIRE CODE WITH LOCAL AMENDMENTS 2006 INTERNATIONAL ENERGY CONSERVATION CODE – COMMERCIAL 2021 INTERNATIONAL MECHANICAL CODE WITH AMENDMENTS BY MABCD 2021 UNIFORM PLUMBING CODE WITH AMENDMENTS BY MABCD 2020 NATIONAL ELECTRICAL CODE(NEC) WITH AMENDMENTS BY MABCD 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN CITY OF WICHITA, KANSAS – CODE OF ORDINANCES – TITLE 15: FIRE PREVENTION – TITLE 18: BUILDING CODE

BUILDING CLASSIFICATION

OCCUPANCY	SECTION 306 GROUP F-1 (MODERATE HAZARD FACTORY INDUSTRIAL)	
CONSTRUCTION	SECTION 602.2 TYPE II-B	

BUILDING HEIGHTS AND AREAS

TABLE 506.2	MAX AREA	15500SF PER FLOOR	ACTUAL 10916 SF (FIRST FLOOR) ACTUAL 7304 SF (SECOND FLOOR)
	MAX HEIGHT	55 FEET	ACTUAL 35 FEET 4 INCHES
	MAX STORIES	2 STORIES	ACTUAL 2 STORIES

OCCUPANCY	FIRST FLOOR	EXISTING EQUIPMENT ROOM (SUPPLEMENTAL CARBON STORAGE AND METERING AREA, FERRIC CHLORIDE METERING, EXISTING MOTOR CONTROL AREA)	4120/300	
TABLE 1004.1.2		EXISTING DEWATERING CENTRIFUGE FEED PUMP ROOM	1046/300	
		EXISTING MECHANICAL ROOM	440/300	
		EXISTING ELECTRICAL EQUIPMENT AREA	278/300	
		EXISTING ELECTRICAL ROOM	380/300	
		EXISTING PLC ROOM	173/300	
		EXISTING LOADING AREA	4044/300	36 OCCUPANTS TOTAL (FIRST FLOOR)
	SECOND FLOOR	EXISTING COIL FILTER AREA	4085/300	26 OCCUPANTS TOTAL (SECOND FLOOR)
		EXISTING STORAGE ROOM	280/300	TOTAL = 62 OCCUPANTS
		EXISTING CONTROL AND BREAK ROOM	390/300	
		EXISTING TOILET ROOM	131/300	
		EXISTING AREA	1018/300	

MEANS OF EGRESS

EGRESS WIDTH	REQUIRED	WIDTH	
	AISLES	62 OCCUPANTS X 0.2 = 12.4 IN	ACTUAL 36 INCHES
	STAIRWAYS	62 OCCUPANTS X 0.3 = 18.6	ACTUAL 36 INCHES
	REQUIRED HEIGHT	7 FEET 6 INCHES	ACTUAL 7 FEET 6 INCHES
NUMBER OF EXITS	BUILDING WITH 49+ OCCUPANTS = 2 EXITS		ACTUAL 3 EXITS (AT COMPLETION)
IBC 1016.2	TRAVEL THROUGH ACCESSORY ROOMS OF SAME/LESS HAZARD IS OK. DOOR SHALL NOT LOCK (1006.2.2.1 – 2 EXITS REQUIRED FOR BOILER, INCINERATOR, AND FURNACE ROOMS WHERE AREA IS OVER 500 SF AND FUEL FIRED EQUIP EXCEEDS 400,000 BTU INPUT CAPACITY. EXIT ACCESS DOORWAYS SHALL BE SEPARATED BY HORIZONTAL DISTANCE EQUAL TO ONE-HALF THE LENGTH OF THE MAX OVERALL DIAGONAL DIMENSION OF ROOM.)		
TRAVEL DISTANCE	200 FEET MAX W/O SPRINKLERS		ACTUAL 120
COMMON PATH OF TRAVEL	75 FEET MAX W/O SPRINKLERS		ACTUAL 35
DEAD END CORRIDORS	20 FEET MAX W/O SPRINKLERS		ACTUAL N/A

REQUIRED SEPARATION

TABLE 508.4	STAIR	NONE IF ONLY TWO STORIES	
	ELEVATOR	N/A	
	ELEV MACH RM	N/A	
	ASSEMBLY	N/A	
ROOM SEPARATION	ELECTRICAL	N/A	
NFPA 13 EXCEPTION	SERVER	N/A	

FIRE SEPARATION DISTANCE

TABLES 601 & 602		
FIRE SEPARATION DISTANCE	TYPE II-B, F-1	– 0 HR
FIRE RESISTANCE RATING	15 FEET ACTUAL = 10<X<30 FEET FROM BLDGS & PROPERTY LINE	– 0 HR (F-1)
STRUCTURAL FRAME	REINFORCED CONCRETE COLUMNS AND STEEL BEAMS	– 0 HR
BEARING WALLS	REINFORCED CONCRETE, MASONRY WALLS, AND STEEL BEAMS	– 0 HR
NON-BEARING WALLS	MASONRY WALLS	– 0 HR
FLOOR CONSTRUCTION	REINFORCED CONCRETE FLOOR	– 0 HR
ROOF CONSTRUCTION	ROOFING MEMBRANE OVER RIGID INSULATION AND CORE SLAB	– 0 HR
RAMPS	N/A	
SPRINKLERS REQUIRED	NO	PROVIDED: NO
FIRE ALARM REQUIRED	NO	PROVIDED: NO

2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC) WITH AMENDMENTS BY MABCD

CHAPTER 60: SECTION 603.1 SCOPE	CLASSIFICATION OF WORK. LEVEL 2 ALTERATION LEVEL 2 ALTERATIONS INCLUDE THE RECONFIGURATION OF SPACE, THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OR EXTENSION OF ANY SYSTEM, OR THE INSTALLATION OF ANY ADDITIONAL EQUIPMENT.

SECTION 805: MEANS OF EGRESS FOR LEVEL 2

SECTION 805.2 EXCEPTIONS: THE WORK AREA AND THE MEANS OF EGRESS SERVING IT COMPLIES WITH NFPA 101. THE EXISTING MEANS OF EGRESS COMPLYING WITH THE REQUIREMENTS OF THE BUILDING CODE UNDER WHICH THE BUILDING WAS CONSTRUCTED SHALL BE CONSIDERED TO BE COMPLIANT MEANS OF EGRESS IF, IN THE OPINION OF THE CODE OFFICIAL, THEY DO NOT CONSTITUTE A DISTINCT HAZARD TO LIFE.

PER GENERAL EXCEPTION UNDER SECTION 203.5 OF 2010 AMERICANS WITH DISABILITIES ACT (ADA), SPACES FREQUENTED ONLY BY SERVICE PERSONAL FOR MAINTENANCE, REPAIR, OR OCCASIONAL MONITORING OF EQUIPMENT SHALL NOT BE SUBJECT TO THE REQUIREMENT OF THE ADA GUIDELINES NOR ARE THEY REQUIRED TO BE ON AN ACCESSIBLE ROUTE.

PER IEBC 803.2.2 (LEVEL 2 ALTERATIONS) & 904.1.4 (LEVEL 3 ALTERATIONS), THIS EXISTING BUILDING DOES NOT REQUIRE AUTOMATIC FIRE SPRINKLERS SYSTEM TO BE ADDED AS IT DOES NOT HAVE MULTIPLE TENANTS AND THERE IS NOT AN OCCUPANT LOAD GREATER THAN 30 AT ANY OF THE EXITS. IN ADDITION, THIS BUILDING DOES NOT HAVE SUFFICIENT MUNICIPAL WATER SUPPLY FOR DESIGN AND INSTALLATION OF AN AUTOMATIC SPRINKLER SYSTEM

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT 03.01.2024

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C. THROOP
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ARCHITECTURAL
LIFE SAFETY PLAN

PROJECT NO. 2395-267343
FILE NAME: A001PACS.DWG

SHEET NO.
PA-1

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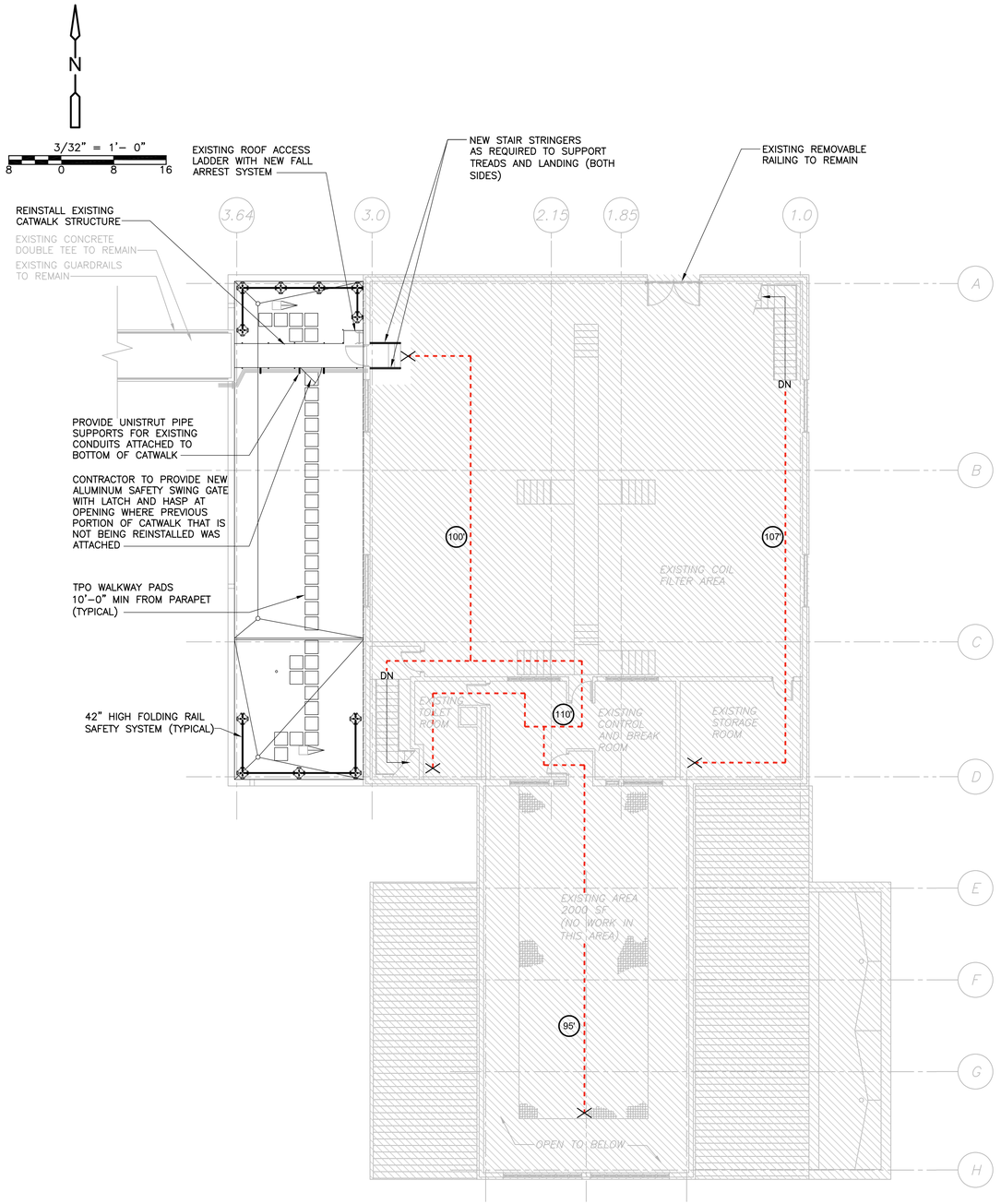

LIFE SAFETY – UPPER LEVEL

PLAN

3/32" = 1'-0"

LIFE SAFETY LEGEND

- EXIT DISCHARGE
- AREA OR SPACE EXIT
- EXIT SIGN
- FE FIRE EXTINGUISHER
- EGRESS PATH
- (X) TRAVEL DISTANCE (FEET)
- [X] COMMON PATH OF TRAVEL (FEET)
- 1 HOUR FIRE RATING

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CROSS CHK'D BY: F. DE GUZMAN
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING ARCHITECTURAL LIFE SAFETY PLAN - UPPER LEVEL

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
03.01.2024

CDM Architects Inc.
1515 Poydras St.
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New Orleans, LA 70112

PROJECT NO. 2395-267343
FILE NAME: A002PACS.DWG

SHEET NO.
PA-2

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N

3/16" = 1'- 0"
4 0 4 8

GENERAL NOTES:
1. FOR REPAIRED SURFACES, FINISHES SHOULD MATCH IN COATING TYPE, TEXTURE AND COLOR TO THE FINISH OF THE NEAREST ADJACENT SIMILAR MATERIAL.
2. CONTRACTOR TO GROUT IN FULL ALL HOLES IN WALLS OR FLOORS SIZED 8" X 8" OR LESS FROM REMOVED PIPES, CONDUITS, OR EXISTING ROUGH SURFACE CONDITIONS. MATCH FINAL FINISH TEXTURE, COATING, AND COLOR OF ADJACENT SIMILAR MATERIALS.
3. CONTRACTOR TO REMOVE ALL PARTIAL CMU AND/OR BRICK UNITS AND REPLACE WITH NEW FULL UNITS TOOTHED IN, MATCHED IN COLOR AND SIZE, AND FULLY GROUTED FOR ALL HOLES IN WALLS LARGER THAN 8" X 8" FROM REMOVED PIPES, CONDUITS, OR EXISTING ROUGH SURFACE CONDITIONS. MATCH FINAL FINISH TEXTURE, COATING, AND COLOR OF ADJACENT SIMILAR MATERIALS SEE DETAILS A,B AND C ON SHEET PA–7.

3.64 3.0 2.15 1.85 1.0
20'–8" 27'–4" 10'–8" 27'–4"
A B C D E F G H
1 2 3 4

TYP B PA–6
12'–0" F.V.
ALUMINUM STOREFRONT SYSTEM
DP–104A
SUPPLEMENTAL CARBON STORAGE AND METERING AREA
DP–102B
PATCH, REPAIR AND PAINT WALL
3 PA–5
TEMPORARY PROCESS EQUIPMENT (SEE PROCESS DRAWINGS FOR ADDITIONAL INFORMATION)
PATCH AND REPAIR FLOOR FOR A SMOOTH AND LEVEL TRANSITION
FERRIC CHLORIDE METERING AREA
EXISTING ELECTRICAL EQUIPMENT AREA
NEW CMU BLOCK INFILL ALIGN WITH EXISTING (TOOTH–IN)
3'–4" F.V.
4'–0" F.V.
3'–4" MO
PATCH AND REPAIR FLOOR FOR A SMOOTH AND LEVEL TRANSITION
H PA–6
DP–103A
NEW DOOR AND FRAME ASSEMBLY
28'–6"
DP–104B
12'–0" F.V.
F PA–6
EXISTING DEWATERING CENTRIFUGE FEED PUMP ROOM
12'–0" F.V. 7'–4"
3'–4" MO
1'–4" F.V.
DP–101B
NEW CMU WALL (TO ALIGN WITH EXISTING WALL) TO STRUCTURE ABOVE (APPROXIMATELY 14'–6") SEAL ALL HOLES AND GAPS
NOTE:
CONTRACTOR TO CONSTRUCT THIS WALL AS EXISTING PIPES AND CONDUITS CAN BE REMOVED SO CMU CAN BE INSTALLED FULL–HEIGHT WITH ONLY REQUIRED NEW PIPES AND CONDUITS PASSING THROUGH, SEALED TIGHT FOR AIR CHANGES IN THE PUMP ROOM SEE DETAILS D AND E ON PA–7
EXISTING MOTOR CONTROL AREA
DP–102A
12'–0" F.V.
F PA–6
26'–2"
EXISTING EQUIPMENT AREA
EXISTING ELECTRICAL ROOM
42" HIGH GUARDRAIL TO MATCH EXISTING STAIR GUARDRAIL (SEE STRUCTURAL DRAWINGS)
7'–9" 3'–0" F.V.
1
DP–105B
DP–101A
UP
3'–4" FV
NEW STUD WALL (TO ALIGN WITH EXISTING WALL) TO STRUCTURE ABOVE (APPROXIMATELY 14'–6") SEAL ALL HOLES AND GAPS
12'–5"
EXISTING REMOVABLE CHAIN TO REMAIN
DP–105A
DN
12'–0" F.V.
2 PA–5
EXISTING MECHANICAL ROOM
20'–11 1/8" F.V.
EXISTING PLC ROOM
20'–7"
WALL INFILL PROVIDE 6" METAL STUDS COMPLETELY FILLED WITH INSULATION AND BLANK OFF PANELS (BOTH SIDES) SEAL AIR TIGHT
2'–2" F.V.
1 PA–5
PACKAGE 2 WORK:
ADDITION OF PLC ROOM, TO BE COMPLETED PRIOR TO BEGINNING OF PACKAGE 4 WORK
EXISTING LOADING AREA

LOWER LEVEL FLOOR PLAN
3/16" = 1'–0"

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
05.01.2024

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C. THROOP
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ARCHITECTURAL
LOWER LEVEL MODIFICATION PLAN

PROJECT NO. 2395–267343
FILE NAME: A003PAPL.DWG

SHEET NO.
PA-3

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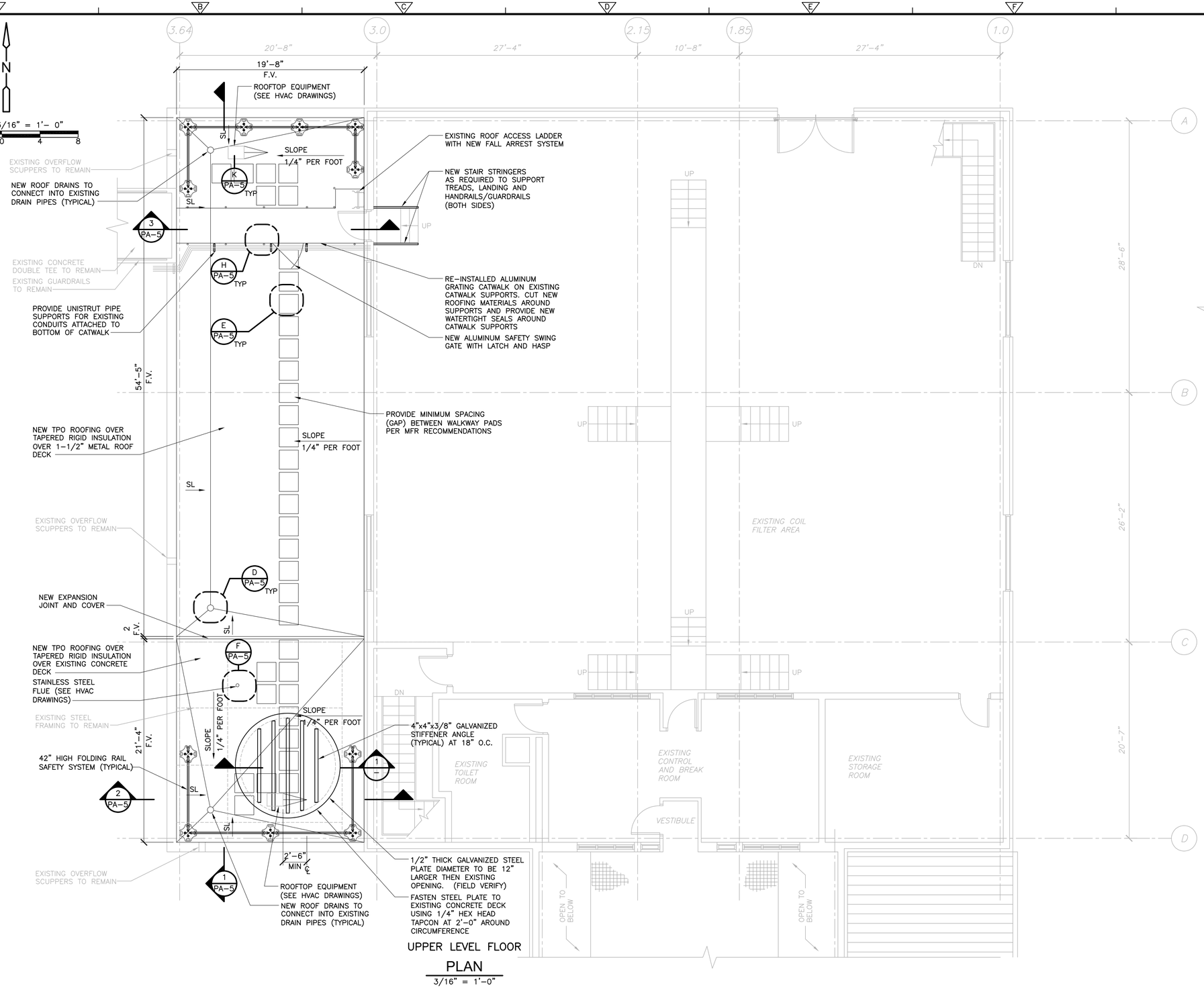
N

3/16" = 1'- 0"
4 0 4 8



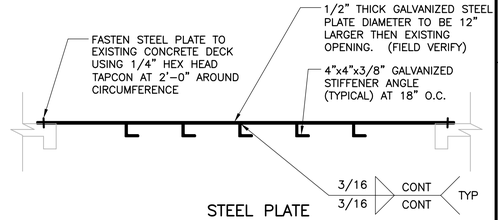
UPPER LEVEL FLOOR PLAN
3/16" = 1'-0"

GENERAL NOTE:

1. FOR REPAIRED SURFACES, FINISHES SHOULD BE MATCHED IN COATING TYPE, TEXTURE AND COLOR TO THE FINISH OF THE NEAREST ADJACENT SIMILAR MATERIAL.

STRUCTURAL GENERAL NOTES:

1. ROOF SYSTEM
   a. DECK PROFILE: TYPE WR
   b. PROFILE DEPTH: 1.5 IN
   c. THICKNESS: 20 GA
   d. MATERIAL: GRADE 40
   e. FASTERNERS:
      i. SUPPORT: 30/4 PATTERN – #12 TEK SCREWS
      ii. SIDELAP: #12 TEK SCREW @ 24 IN
   f. MAX. SPAN: 6 FT
   g. NO. OF SPANS: MIN. 3



STEEL PLATE

SECTION 1/– 1/2" = 1'-0"

STRUCTURAL ONLY
SECTION1/– AND METAL DECK

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER
03/01/24

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
03.01.2024

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PROJECT NO. 2395-267343
FILE NAME: A004PAPL.DWG

SHEET NO.
PA-4

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
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CROSS CHK'D BY: F. DE GUZMAN
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ARCHITECTURAL
UPPER LEVEL MODIFICATION PLAN

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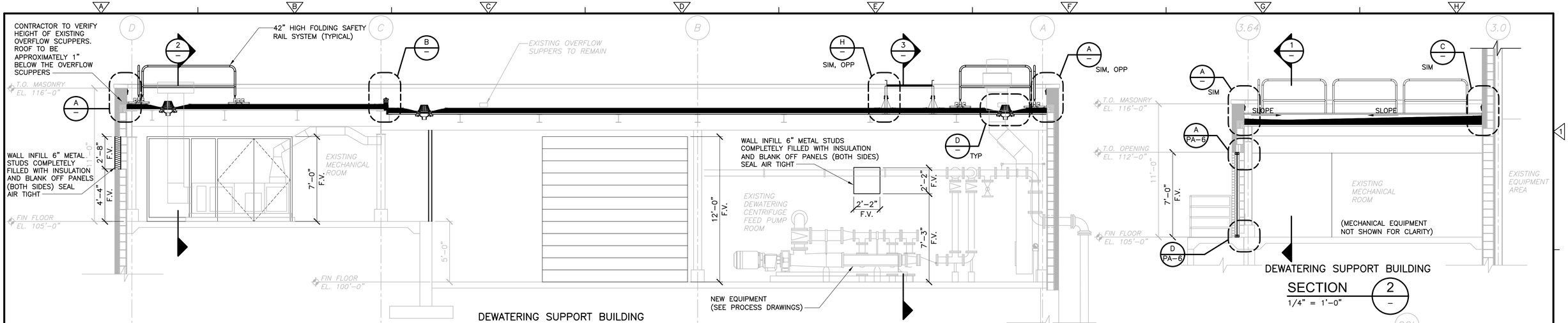
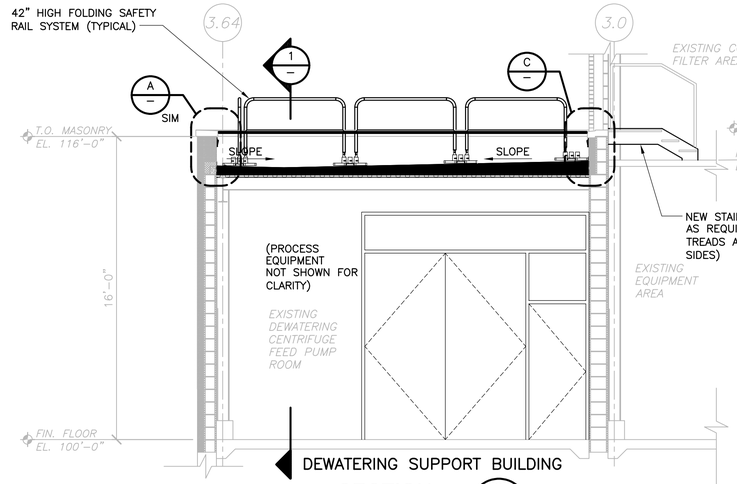
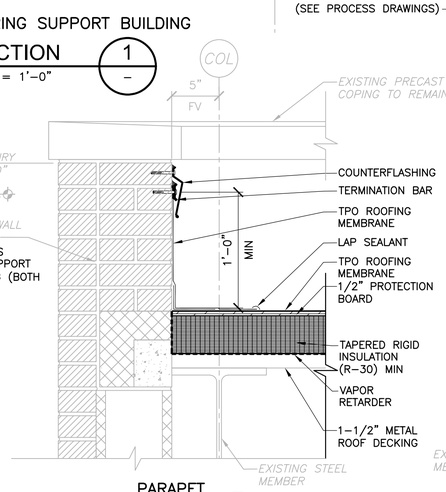


DEWATERING SUPPORT BUILDING
SECTION 1
1/4" = 1'-0"

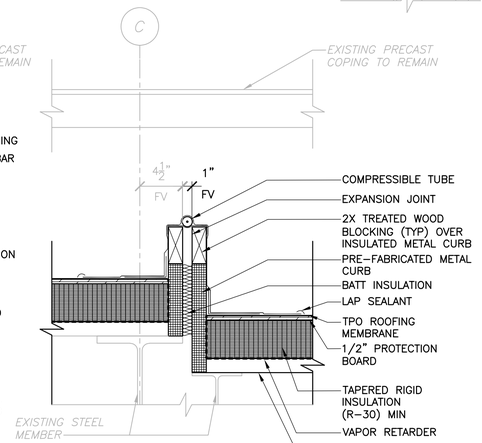
DEWATERING SUPPORT BUILDING
SECTION 2
1/4" = 1'-0"



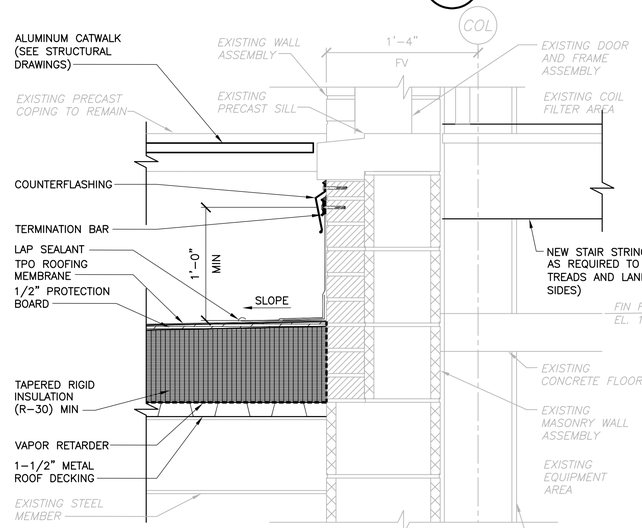
DEWATERING SUPPORT BUILDING
SECTION 3
1/4" = 1'-0"



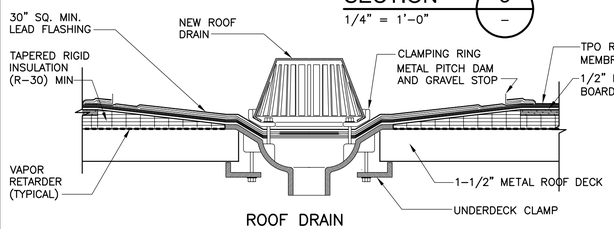
PARAPET
DETAIL A
1 1/2" = 1'-0"



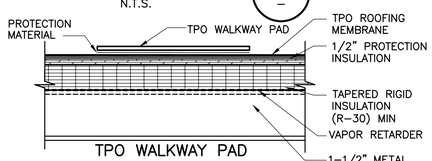
EXPANSION JOINT
DETAIL B
1 1/2" = 1'-0"



COUNTERFLASHING
DETAIL C
1 1/2" = 1'-0"

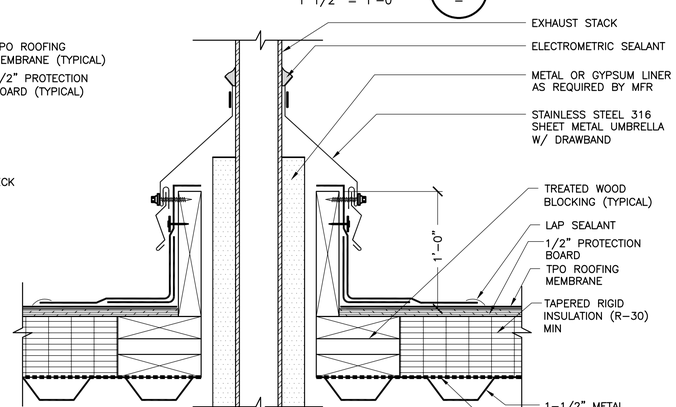


ROOF DRAIN
DETAIL D
N.T.S.

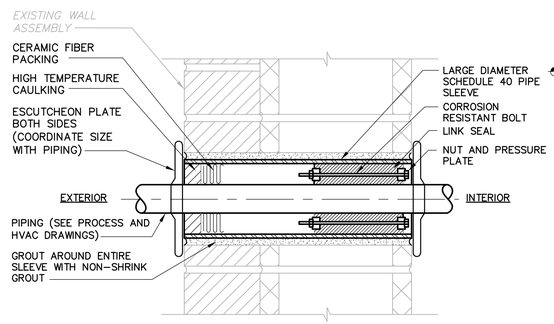


TPO WALKWAY PAD
DETAIL E
N.T.S.

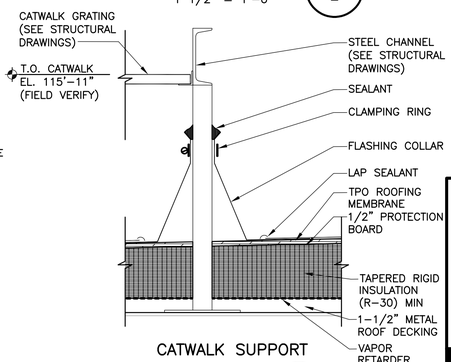
NOTE:
COORDINATE LAYOUT OF WALKWAY PADS WITH OWNER



EXHAUST STACK CURB
DETAIL F
NTS



WALL SLEEVE
DETAIL G
3" = 1'-0"



CATWALK SUPPORT
DETAIL H
NTS

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
03.01.2024

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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APPROVED BY: C. THROOP
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING ARCHITECTURAL ROOF DETAILS

PROJECT NO. 2395-267343
FILE NAME: A005PADT.DWG

SHEET NO.
PA-5

DOOR SCHEDULE

EXTERIOR DOOR (*)	ROOM NAME	DOOR NUMBER	DOOR SIZE			DOORS			FRAMES			DETAILS			HARD-WARE	FIRE LABEL	GLASS TYPE	KEYED NOTES
				WIDTH	HEIGHT	TYPE	MAT'L	FINISH	TYPE	MAT'L	FINISH	HEAD	JAMB	SILL				
	EXISTING EQUIPMENT AREA	DP-101A	–	3'-0"	7'-2"	F	FRP	SPEC	F1	FRP	SPEC	G/–	H/–	–	HW-1	–	–	–
	EXISTING EQUIPMENT AREA	DP-101B	–	3'-0"	7'-2"	F	FRP	SPEC	F1	FRP	SPEC	G/–	H/–	–	HW-1	–	–	–
*	EXISTING EQUIPMENT AREA	DP-102A	–	12'-0"	12'-0"	OS	GALV	PTD	MFR	STL	PTD	E/–	F/–	MFR	HW-6	–	–	1,2
*	EXISTING EQUIPMENT AREA	DP-102B	PR	4'-0"	10'-0"	FG	ALUM	SPEC	F3	ALUM	SPEC	A/–	B/–	C/–,D/–	HW-7	–	LAMINATED	3
	EXISTING ELECTRICAL EQUIPMENT AREA	DP-103A	–	3'-0"	7'-2"	F	FRP	SPEC	F1	FRP	SPEC	G/–	H/–	–	HW-3	–	–	–
*	EXISTING DEWATERING CENTRIFUGE FEED PUMP ROOM	DP-104A	PR	4'-0"	10'-0"	FG	ALUM	SPEC	F3	ALUM	SPEC	A/–	B/–	C/–,D/–	HW-7	–	LAMINATED	3
*	EXISTING DEWATERING CENTRIFUGE FEED PUMP ROOM	DP-104B	–	12'-0"	12–0"	OS	GALV	PTD	MFR	STL	PTD	E/–	F/–	MFR	HW-5	–	–	1,2
*	EXISTING MECHANICAL ROOM	DP-105A	PR	3'-0"	6'-10"	FG	ALUM	SPEC	F2	ALUM	SPEC	A/–	B/–	C/–,D/–	HW-4	–	LAMINATED	3
	EXISTING MECHANICAL ROOM	DP-105B	–	3'-0"	7'-2"	F	FRP	SPEC	F1	FRP	SPEC	J/–	J/–	–	HW-2	–	–	–
	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–

DOOR KEYED NOTES:

1. INSULATED DOOR WITH CONTINUOUS SEALS AND SWEEPS AROUND PERIMETER OF OPENING
2. MOTORIZED DOOR OPERATION
3. ALUM. STOREFRONT DOOR SYSTEM

DOOR GENERAL NOTES:

A. PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE AND OPERABLE DOOR SYSTEM.
B. COMPLETED DOOR ASSEMBLY SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES.
C. PROVIDE UL APPROVED DOORS, FRAMES AND HARDWARE AT ALL FIRE–RATED OPENINGS.
D. REFER TO FLOOR PLANS FOR DOOR HANDING INFORMATION.
E. SEE DIVISION 8 SPECS FOR DOOR, FRAME, GLASS AND HARDWARE INFORMATION.
F. SEE SPEC SECTION 101423C FOR SIGNAGE REQUIREMENTS.
G. RIGHT LEAF ON PUSH SIDE OF DOOR PAIRS SHALL BE ACTIVE UNLESS OTHERWISE NOTED.
H. PROVIDE THRESHOLD AT ALL EXTERIOR DOORS (GROUT SOLID).
J. PROVIDE INSULATED GLASS AT ALL EXTERIOR DOORS.
I. FIELD VERIFY ALL EXISTING OPENINGS.

FINISH SCHEDULE

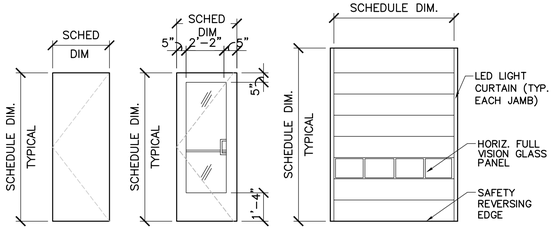
ROOM NUMBER	ROOM NAME	FLOOR		BASE			CEILING			NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		KEYED NOTES
		MAT'L	FINISH	MAT'L	HEIGHT	TYPE	MAT'L	FINISH	HEIGHT	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	
–	EXISTING LIME SILO	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	EXST	EXST	EXST/CMU	PTD	EXST/GWB	EXST/PTD	EXST	EXST	–
–	MECHANICAL ROOM	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	GWB	PTD	EXST	EXST	EXST	EXST	EXST	EXST	–
–	EXISTING EQUIPMENT AREA	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	EXST	EXST	EXST/CMU	EXST/PTD	EXST	EXST	EXST/CMU	EXST/PTD	–
–	ELECTRICAL ROOM	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	–
–	EXISTING MOTOR CONTROL AREA	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	EXST/GWB	EXST/PTD	EXST	EXST	EXST	EXST	–	–	–
–	ELECTRICAL EQUIPMENT AREA	EXIST	EXST	EXST	EXST	–	EXST	EXST	–	EXST	EXST	EXST	EXST	EXST/GWB	EXST/PTD	EXST/CMU	EXST/PTD	–

FINISH KEYED NOTES:

FINISH GENERAL NOTES:

DOOR TYPES:

SCALE: 1/4" = 1'–0"



F FLUSH PANEL

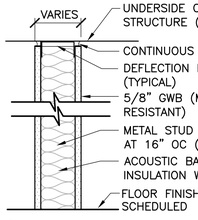
FG FULL GLASS PANEL

OS HEAVY DUTY OVERHEAD SECTIONAL DOOR WITH MOTOR AND MANUAL OPERATION

PARTITION TYPES:

SCALE: 1–1/2" = 1'–0"

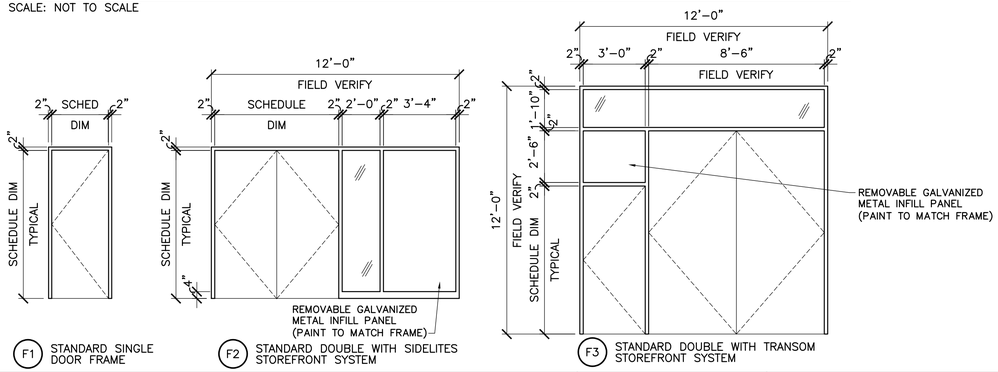
(PARTITION TAGS INDICATE WALL TYPE FOR THE FULL LENGTH AND HEIGHT OF WALL UNLESS NOTED OTHERWISE)



1 NON RATED PARTITION METAL STUD FRAMING WITH GWB (BOTH SIDES)

FRAME TYPES:

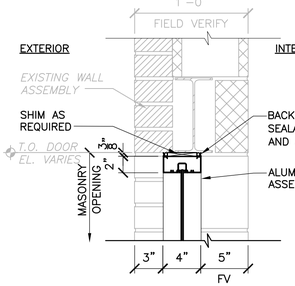
SCALE: NOT TO SCALE



F1 STANDARD SINGLE DOOR FRAME

F2 STANDARD DOUBLE WITH SIDELITES STOREFRONT SYSTEM

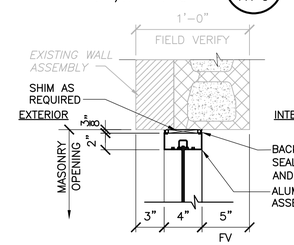
F3 STANDARD DOUBLE WITH TRANSOM STOREFRONT SYSTEM



EXTERIOR HEAD

DETAIL A / PA–3

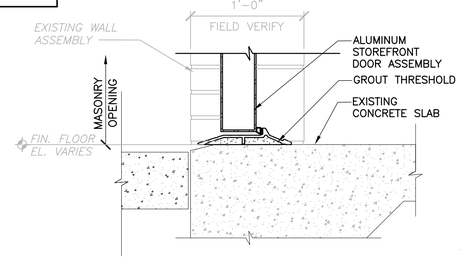
1 1/2" = 1'–0"



EXTERIOR JAMB

DETAIL B / PA–3

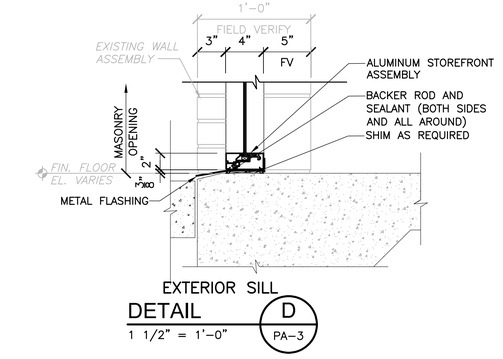
1 1/2" = 1'–0"



EXTERIOR THRESHOLD

DETAIL C / PA–3

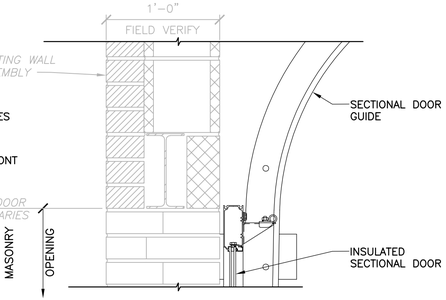
1 1/2" = 1'–0"



EXTERIOR SILL

DETAIL D / PA–3

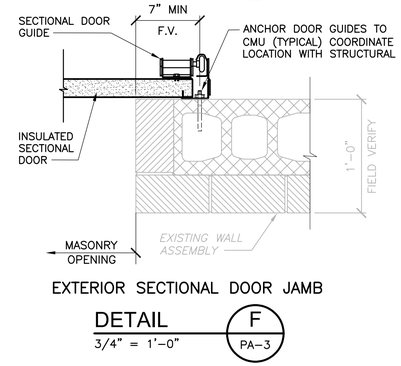
1 1/2" = 1'–0"



EXTERIOR SECTIONAL DOOR HEAD

DETAIL E / PA–3

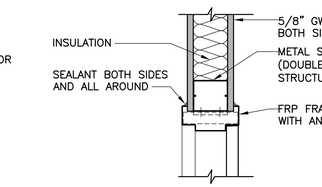
3/4" = 1'–0"



EXTERIOR SECTIONAL DOOR JAMB

DETAIL F / PA–3

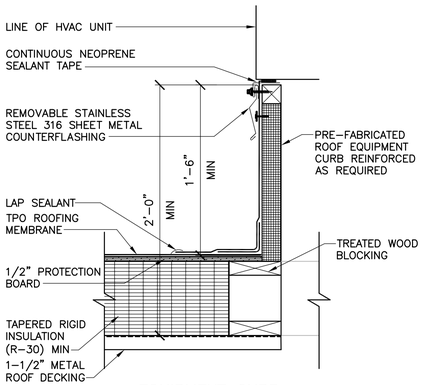
3/4" = 1'–0"



GWB DOOR JAMB (HEAD SIM.)

DETAIL J / –

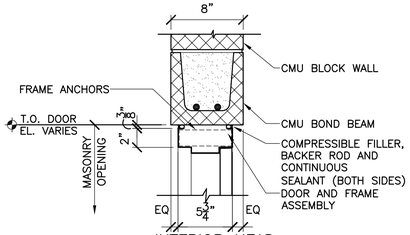
1 1/2" = 1'–0"



EQUIPMENT CURB

DETAIL K / –

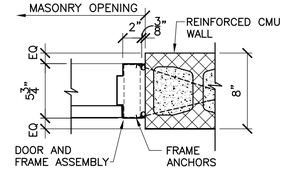
1 1/2" = 1'–0"



INTERIOR HEAD

DETAIL G / PA–3

1 1/2" = 1'–0"



INTERIOR JAMB

DETAIL H / PA–3

1 1/2" = 1'–0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C. THROOP
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

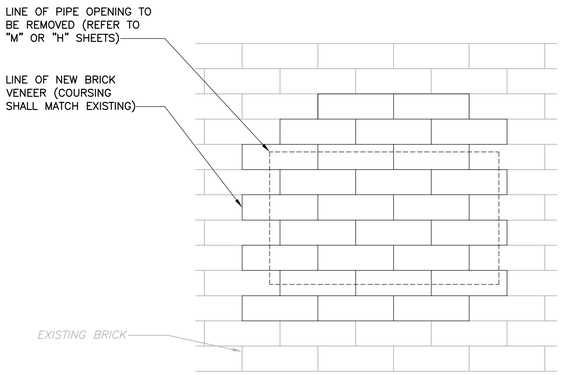
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ARCHITECTURAL
DETAILS

CDM Architects Inc.
1515 Poydras St.
Suite 1130
New Orleans, LA 70112

PROJECT NO. 2395–267343
FILE NAME: A006PADT.DWG

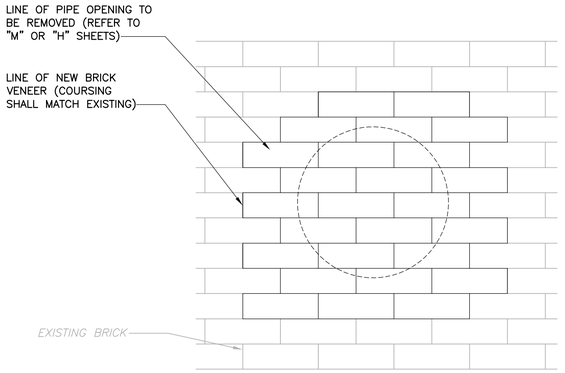
SHEET NO.
PA-6



BRICK VENEER INFILL – ELEVATION

DETAIL A

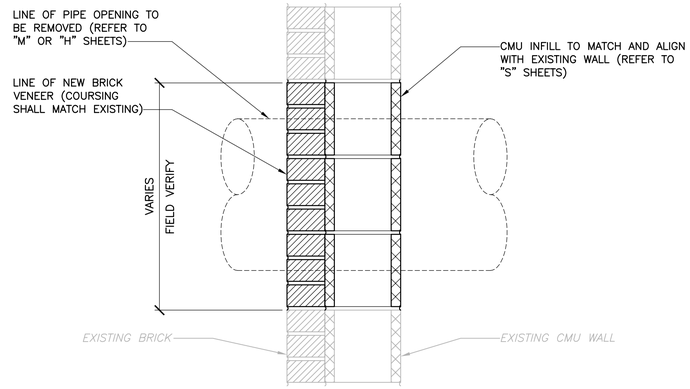
1 1/2" = 1'–0"



BRICK VENEER INFILL – ELEVATION

DETAIL B

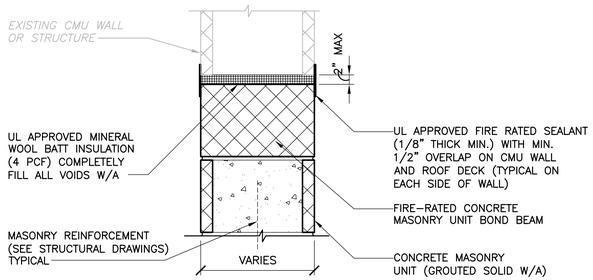
1 1/2" = 1'–0"



BRICK VENEER INFILL – SECTION

DETAIL C

1 1/2" = 1'–0"

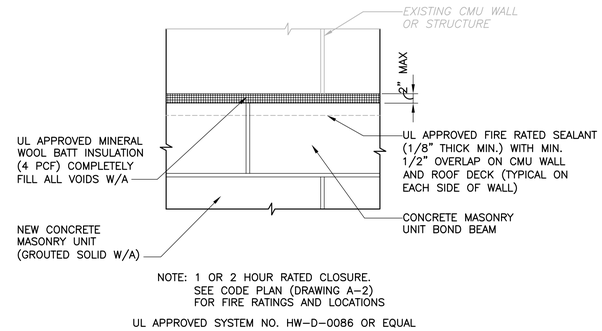


NOTE:
1. STEEL PLATE AT HEAD OF WALL NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR SIZES AND LOCATIONS

AIR TIGHT CLOSURE

DETAIL D

1 1/2" = 1'–0"



NOTE: 1 OR 2 HOUR RATED CLOSURE. SEE CODE PLAN (DRAWING A–2) FOR FIRE RATINGS AND LOCATIONS

UL APPROVED SYSTEM NO. HW–D–0086 OR EQUAL

AIR TIGHT CLOSURE

DETAIL E

1 1/2" = 1'–0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. KETCHUM
DRAWN BY: A. SCHAAF
SHEET CHK'D BY: L. LOHMAN
CROSS CHK'D BY: F. DE GUZMAN
APPROVED BY: C. THROOP
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
ARCHITECTURAL
DETAILS

CHARLOTTE A. THROOP LICENSED 6159 KANSAS ARCHITECT
03.01.2024

CDM Architects Inc.
1515 Poydras St.
Suite 1130
New Orleans, LA 70112

PROJECT NO. 2395–267343
FILE NAME: A007PADT.DWG

SHEET NO.
PA-7

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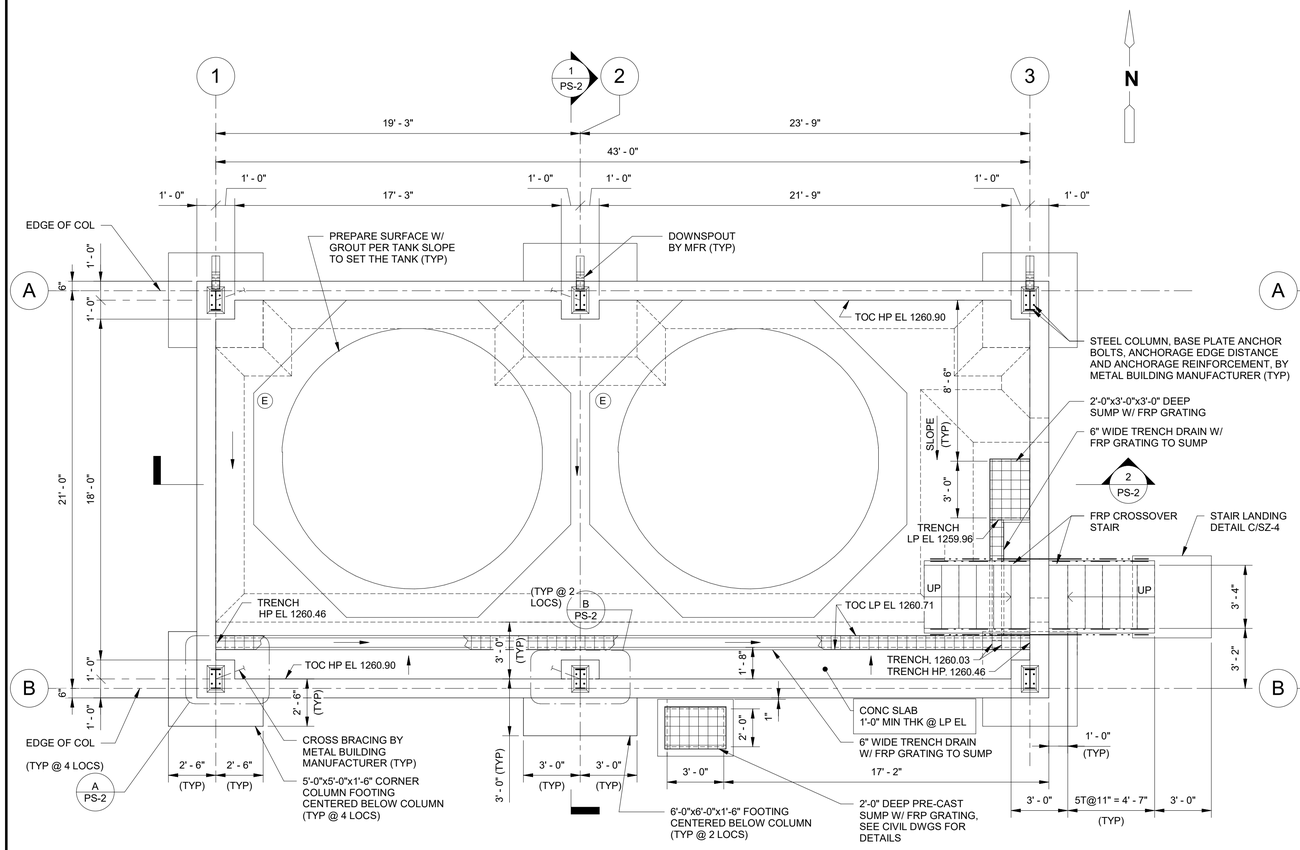
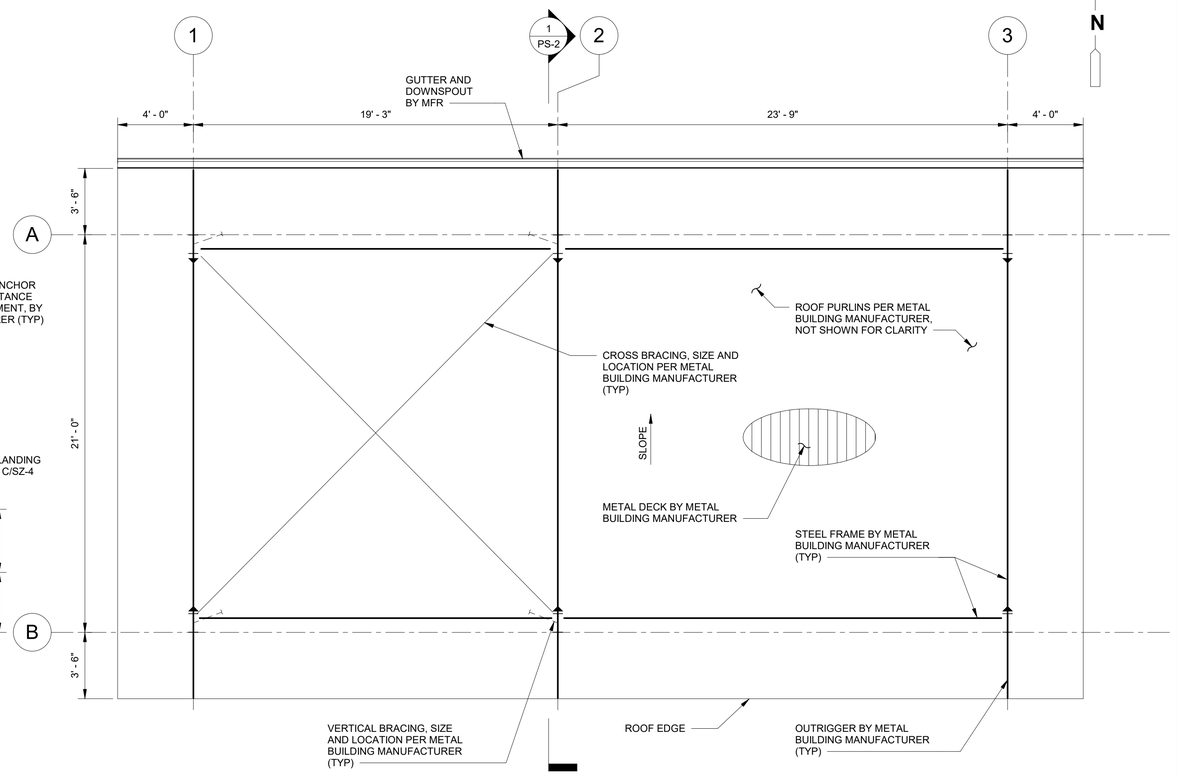


FOUNDATION PLAN
1/4" = 1'-0"



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

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

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER
03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

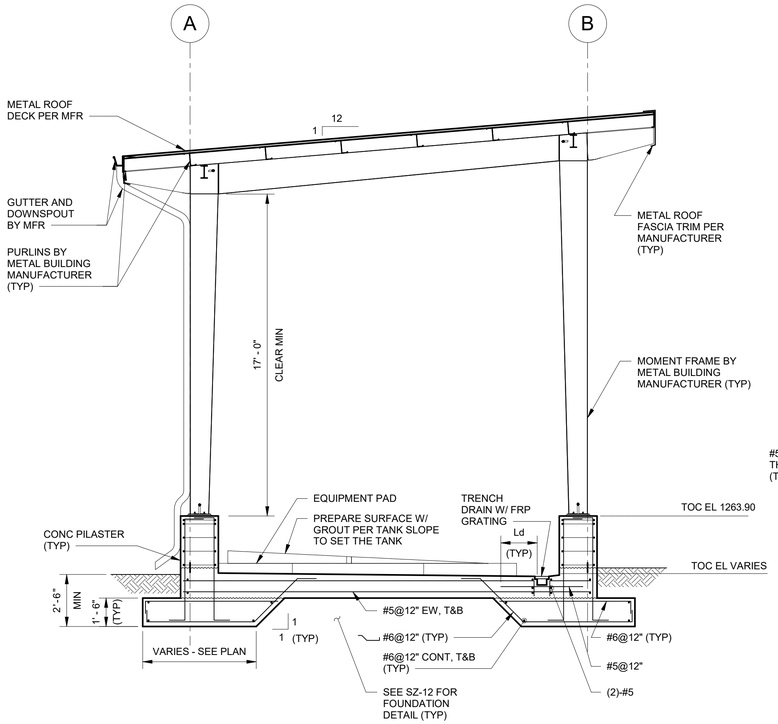
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

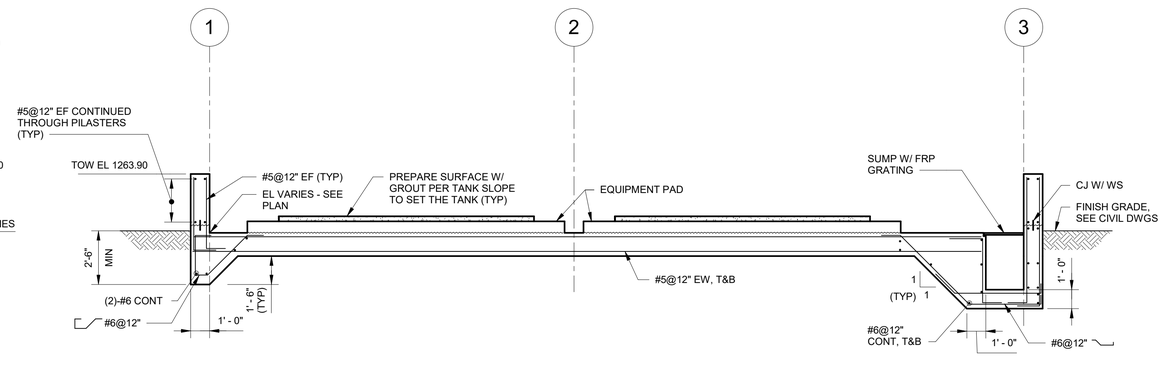
FERRIC CHLORIDE STORAGE CANOPY
STRUCTURAL
FOUNDATION AND ROOF FRAMING PLANS

PROJECT NO. 2395-267343
FILE NAME: SWZ000PS.rvt

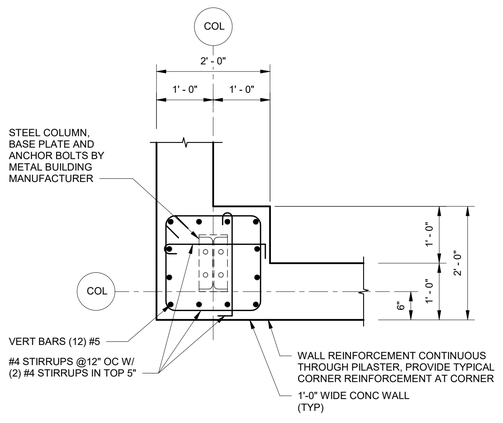
SHEET NO.
PS-1



1 SECTION
PS-1 1/4" = 1'-0"



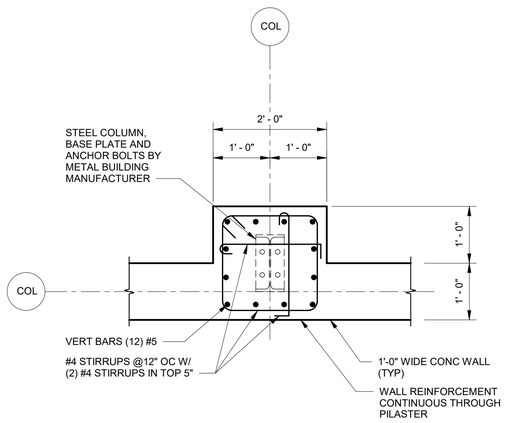
2 SECTION
PS-1 1/4" = 1'-0"



NOTE: WALL REINFORCEMENT NOT SHOWN FOR CLARITY

TYPICAL PILASTER @ CORNER

A DETAIL
PS-1 3/4" = 1'-0"



TYPICAL PILASTER @ INTERIOR

B DETAIL
PS-1 3/4" = 1'-0"

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

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

JORDAN MORRIS LICENSED PE # 28780 KANSAS PROFESSIONAL ENGINEER
03/01/2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: W. KIAHON
DRAWN BY: P. BALAKRISHNAN
SHEET CHK'D BY: V. RAJKUMAR
CROSS CHK'D BY: I. SALVA
APPROVED BY: J. MORRIS
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

FERRIC CHLORIDE STORAGE CANOPY
STRUCTURAL
SECTIONS AND DETAILS

PROJECT NO. 2395-267343
FILE NAME: SWZ000PS.rvt

SHEET NO.
PS-2

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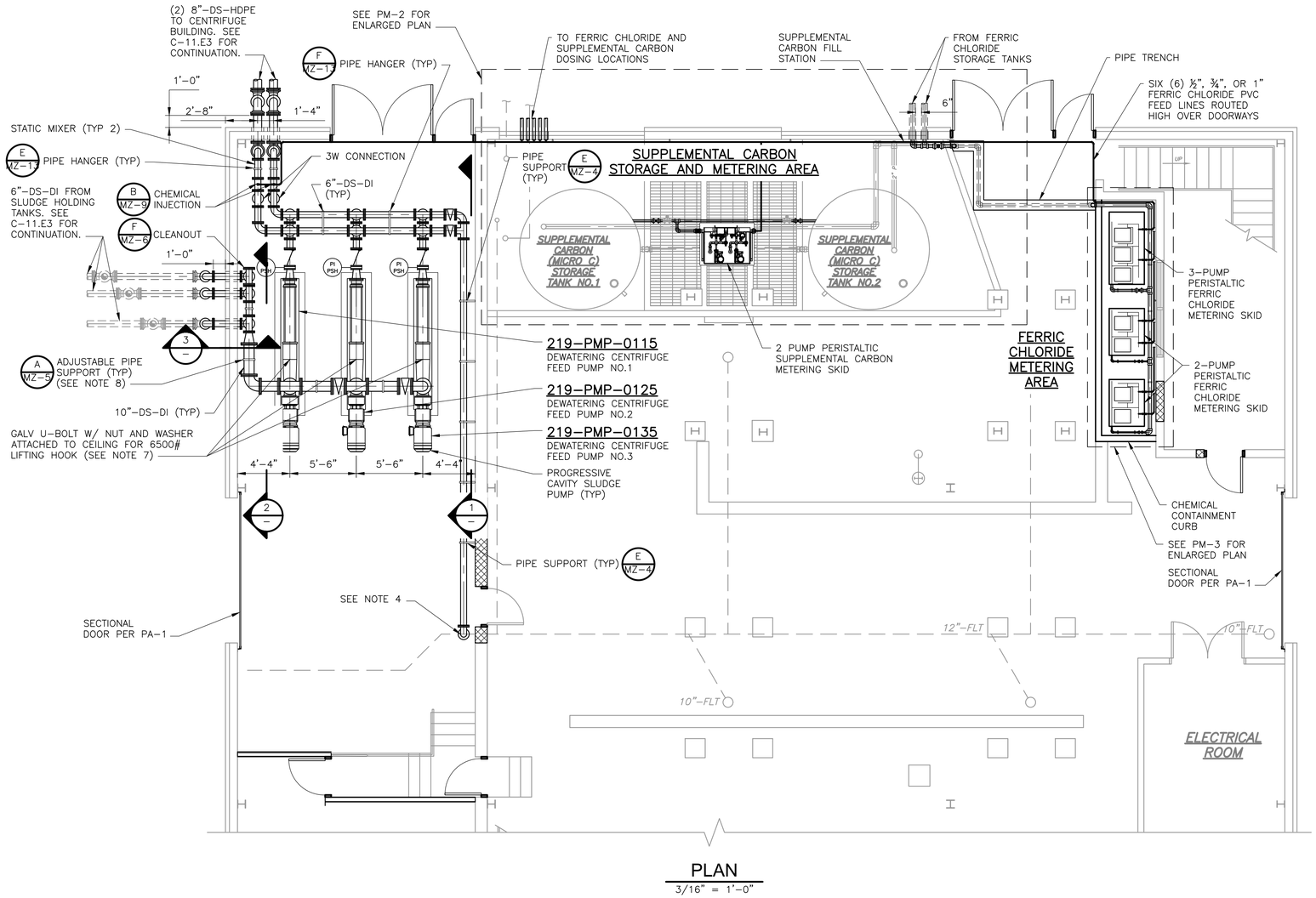


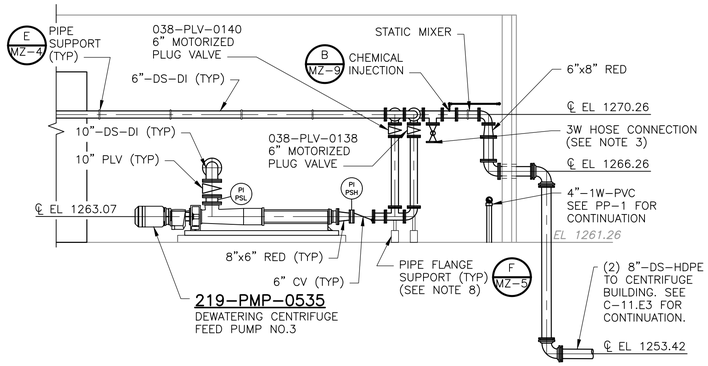
PLAN
3/16" = 1'-0"

NOTES:

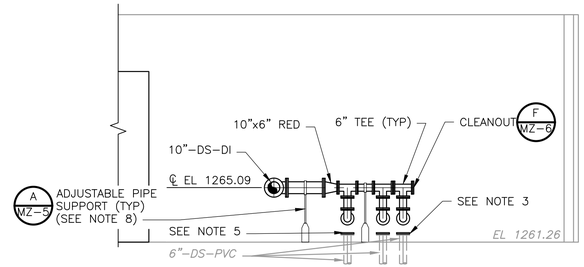
1. CONFIRM AND COORDINATE PIPE ELEVATION AND EQUIPMENT PAD DIMENSIONS WITH SELECTED PUMP MANUFACTURER.
2. PIPE SUPPORTS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. FINAL PIPE SUPPORT DESIGN SHALL BE COMPLETED PER SPECIFICATION 400507.
3. CONTRACTOR TO FIELD ROUTE A 3W CONNECTION TO THE CONNECT FOR SLUDGE FORCE MAIN CONNECTION.
4. TIE 6"-DS-DI FLUSHING LINE INTO EXISTING FILTRATE DRAIN USING PIPE SADDLE.
5. CONNECT TO EXISTING 6"-DS-PVC LINE USING EXPANSION JOINT.
6. FERRIC CONTAINMENT AREA PIPE TRENCH TO BE CHEMICALLY COATED PER SECTION 099676.43.
7. U-BOLT SHALL BE ½" DIA W/ MAX 2½" ID.
8. PIPE SUPPORTS ON THE PUMP DISCHARGE PIPING SHALL NOT BE DRYPACKED TO THE CONCRETE FLOOR AND USE DROP IN ANCHORS.

N

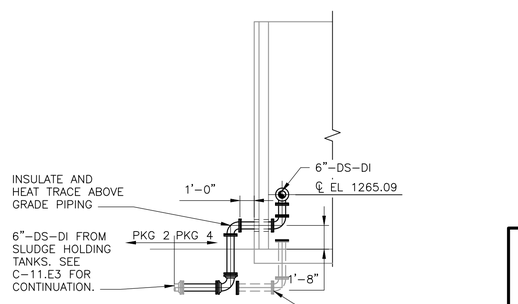
3/16" = 1'- 0"
4 0 4 8



SECTION 1
3/16" = 1'-0"



SECTION 2
3/16" = 1'-0"



SECTION 3
3/16" = 1'-0"

JUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: E. HERONEMUS
DRAWN BY: K. REESE
SHEET CHK'D BY: M. MALLOY
CROSS CHK'D BY: D. CRAIG
APPROVED BY: D. CRAIG
DATE: MARCH 2024

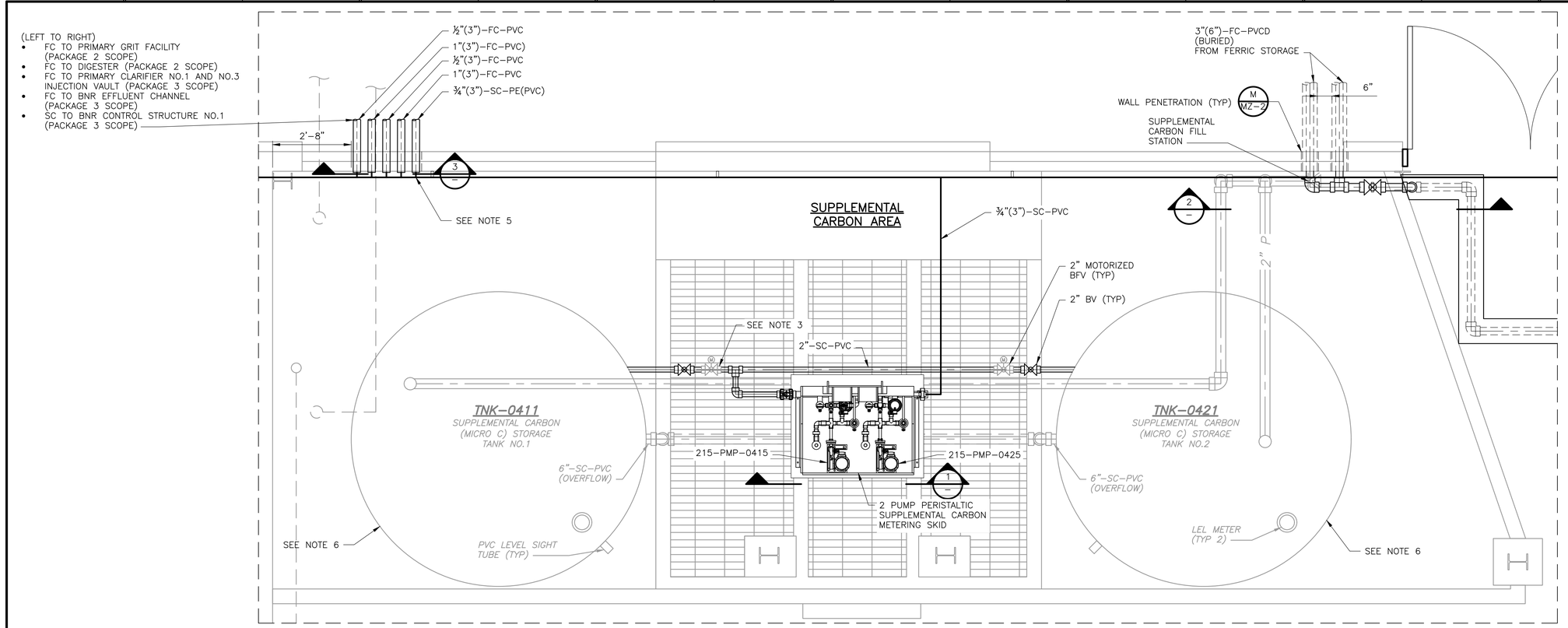
CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING LOWER LEVEL PLAN

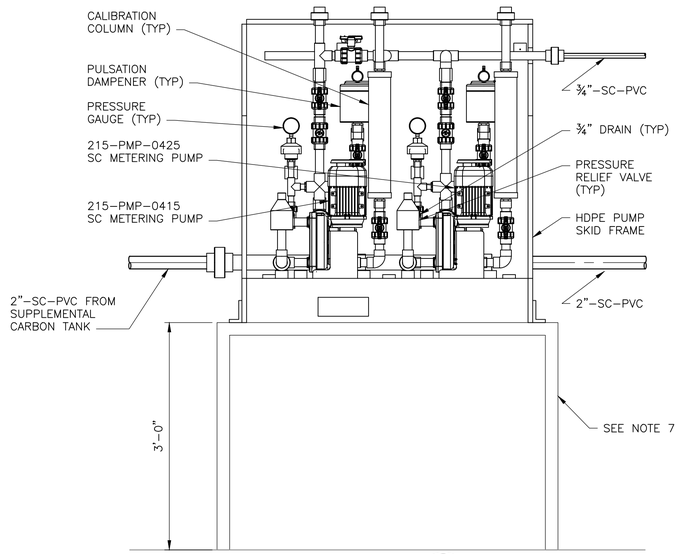
PROJECT NO. 2395-267343
FILE NAME: PM001DWPS
SHEET NO.
PM-1



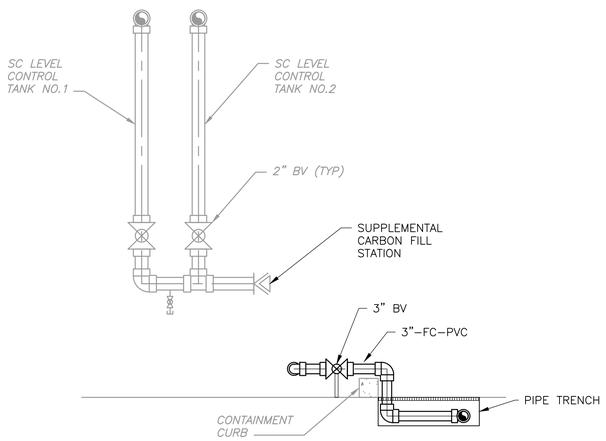
PLAN
1/2" = 1'–0"

NOTES:

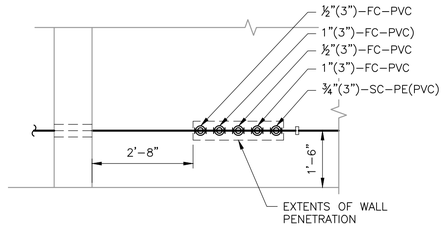
1. CHEMICAL METERING SKIDS TO BE PRE–FABRICATED AND ASSEMBLED VENDOR PROVIDED PACKAGES.
2. EXISTING POLYMER TANKS TO BE CLEANED AND REFURBISHED TO BE RE–USED AS SUPPLEMENTAL CARBON STORAGE TANKS. CONTRACTOR TO ALSO CLEAN THE AREA INSIDE THE CONTAINMENT. CLEANING SHALL CONSIST OF AN INTERIOR POWER WASH TO REMOVE ALL RESIDUAL POLYMER.
3. EXISTING MOTORIZED VALVES FROM EXISTING POLYMER SYSTEM TO BE SALVAGED AND RE–USED AS SUPPLEMENTAL CARBON STORAGE TANK DISCHARGE VALVES.
4. OUTDOOR ABOVE GROUND PIPING TO BE HEAT TRACED AND INSULATED PER SECTIONS 404113.13 AND 404213.
5. CHEMICAL FLUSH/DRAIN QUICK CONNECTION TO BE PROVIDED ON EACH CHEMICAL LINE PRIOR TO BUILDING EXIT. SEE STANDARD DETAIL C/MZ–6.
6. EXISTING CHEMICAL MIXERS IN EXISTING POLYMER TANKS TO BE REMOVED AND MIXER OPENING TO BE COVERED. CONTRACTOR TO SELECT MIXER OPENING COVER AND ACCOMPANYING GASKET TO BE CHEMICALLY COMPATIBLE WITH SUPPLEMENTAL CARBON.
7. PUMP SKID FRAMING AND ANCHORAGE PER DEFERRED SUBMITTAL. SKID FRAMING TO BE FRP AND ANCHORAGE TO BE 316 SS.
8. REFERENCE PIPE SCHEDULE FOR PIPE SUPPORT SCOPE. PIPE SUPPORTS FOR FC PIPING TO HAVE STANDARD SPACING PER ASME B31. FC PIPE SUPPORTS TO BE FRP.



SECTION 1
1" = 1'–0"



SECTION 2
1/2" = 1'–0"



SECTION 3
1/2" = 1'–0"

1" = 1'– 0"
.5 0 1

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. IL
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

CITY OF WICHITA, KS

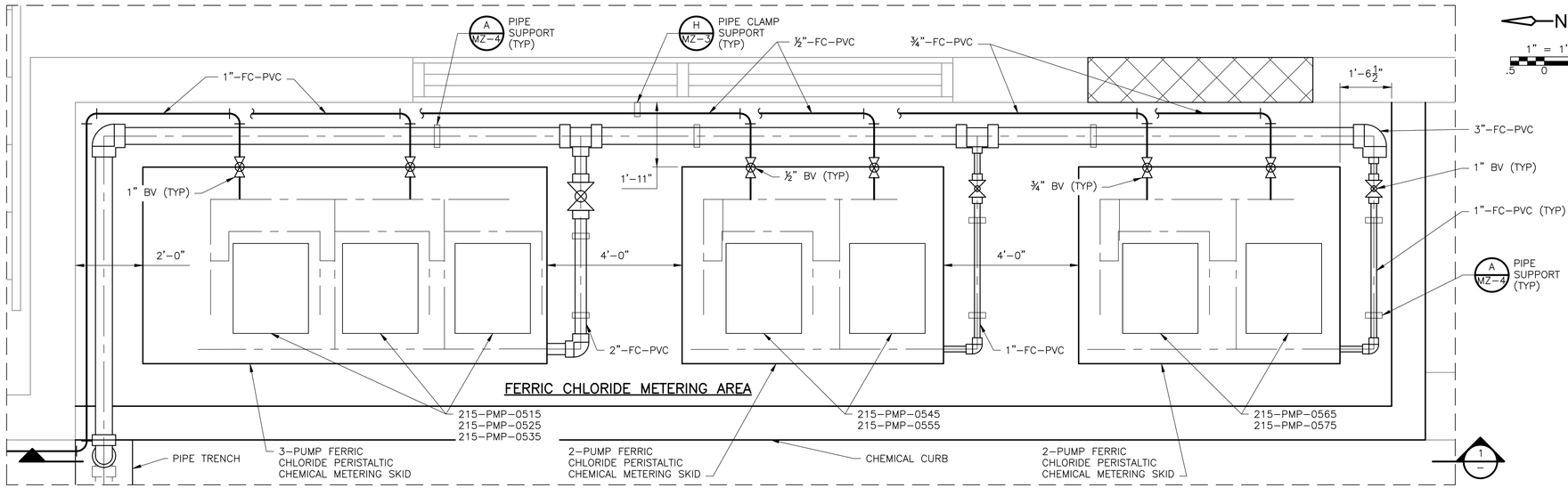
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING SUPPLEMENTAL CARBON AREA ENLARGED PLAN AND SECTIONS

AUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395–267343
FILE NAME: PM001DWPS

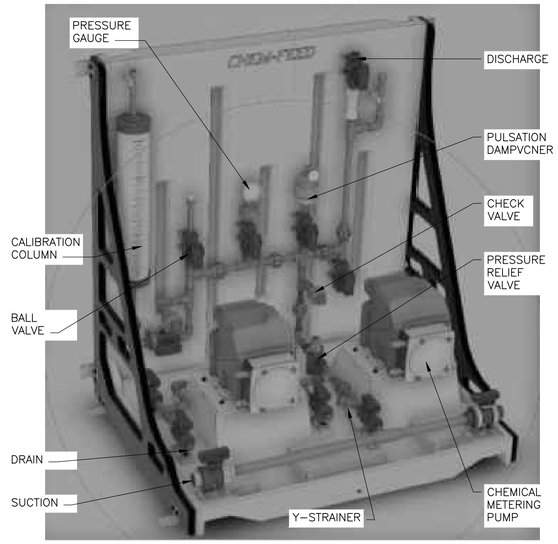
SHEET NO.
PM-2



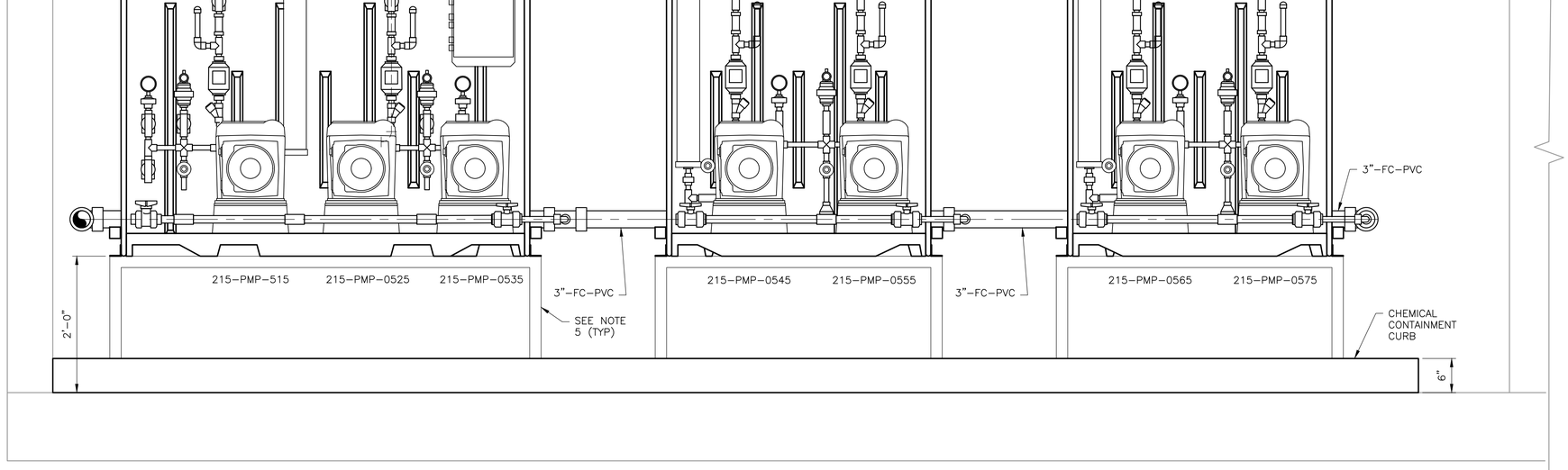
PLAN
1" = 1'-0"

N

1" = 1'- 0"
.5 0 1



TYPICAL CHEMICAL METERING SKID ISOMETRIC



SECTION 1
1" = 1'-0"

NOTES:

1. PROVIDE UNISTRUT SUPPORT AROUND WINDOW FRAME AS NECESSARY TO SECURE PIPES TO THE WALL.
2. 3" FERRIC CHLORIDE TANK DISCHARGE LINE TO DEWATERING SUPPORT BUILDING TO TRANSITION TO DOUBLE WALL (PVCD) PVC PIPE BEFORE GOING UNDERGROUND.
3. CHEMICAL METERING SKIDS TO BE PRE-FABRICATED AND ASSEMBLED VENDOR PROVIDED PACKAGES.
4. CROSS CONNECTION WITH BALL VALVE TO BE PROVIDED BETWEEN THE DISCHARGES OF 215-PMP-0565 AND 215-PMP-0515.
5. PUMP SKID FRAMING AND ANCHORAGE PER DEFERRED SUBMITTAL. SKID FRAMING TO BE FRP AND ANCHORAGE TO BE 316 SS.
6. REFERENCE PIPE SCHEDULE FOR PIPE SUPPORT SCOPE. PIPE SUPPORTS FOR FC PIPING TO HAVE STANDARD SPACING PER ASME B31. FC PIPE SUPPORTS TO BE FRP.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. IL
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
FERRIC CHLORIDE CHEMICAL METERING AREA
ENLARGED PLAN AND SECTION

PROJECT NO. 2395-267343
FILE NAME: PM001DWPS

SHEET NO.
PM-3

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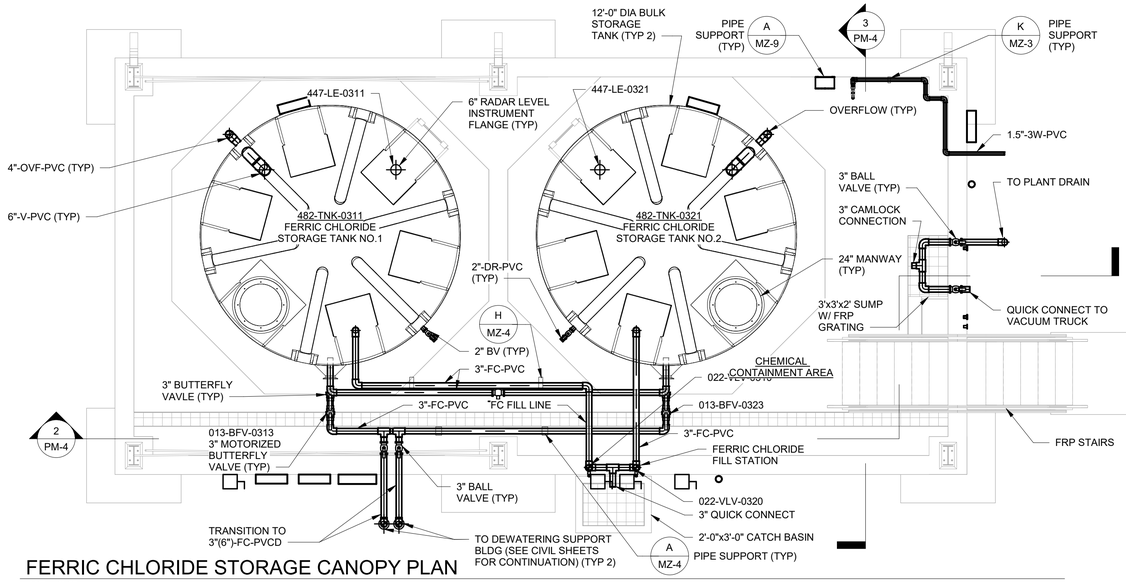
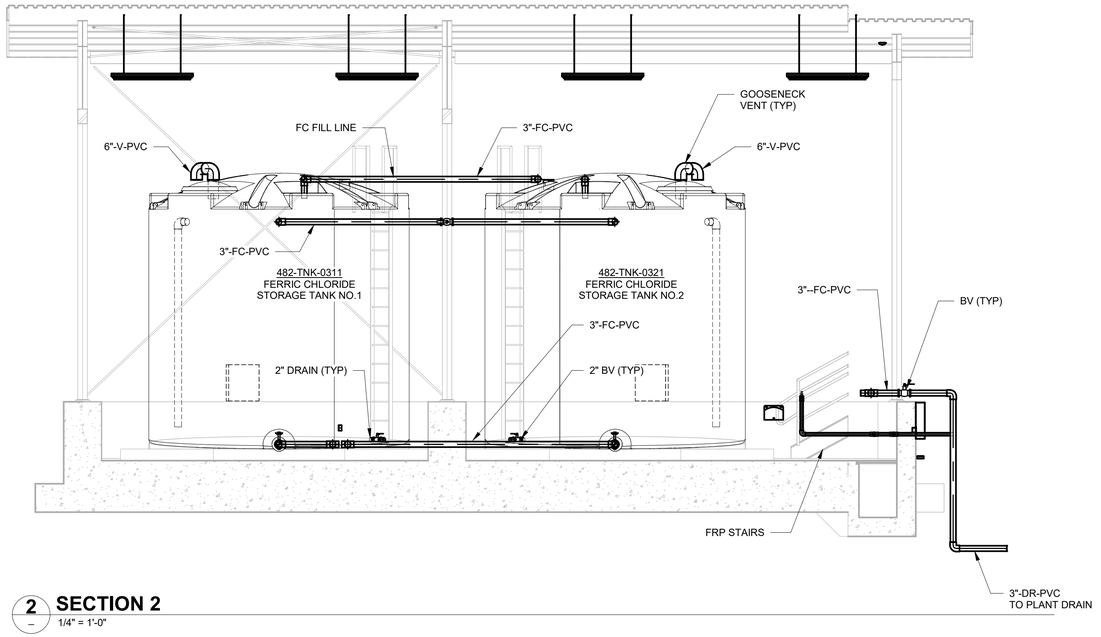


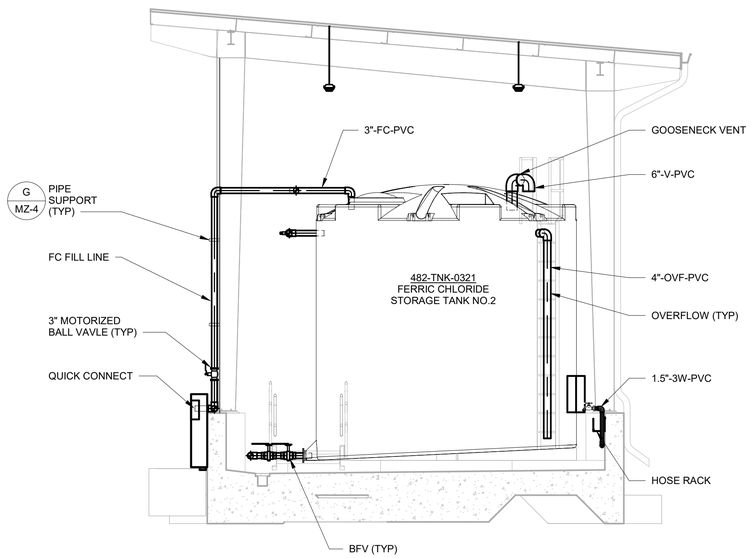
FERRIC CHLORIDE STORAGE CANOPY PLAN

1/4" = 1'-0"



2 SECTION 2

1/4" = 1'-0"



3 SECTION 3

1/4" = 1'-0"

NOTES:

1. CHEMICAL STORAGE TANKS TO BE HEAT TRACED AND INSULATED PER SECTIONS 434143, 404113.13, AND 404213.
2. ABOVE GROUND PIPING TO BE HEAT TRACED AND INSULATED PER SECTIONS 404113.13 AND 404213.
3. FERRIC CONTAINMENT AREA TO BE CHEMICALLY COATED PER SECTION 099676.43.
4. HOSE STATIONS SHALL HAVE HOSE RACK ONLY AND NO HOSE STORED OUTSIDE.
5. REFERENCE PIPE SCHEDULE FOR PIPE SUPPORT SCOPE. PIPE SUPPORTS FOR 3W AND FC PIPING TO HAVE STANDARD SPACIGN PER ASME B31. FC PIPE SUPPORTS TO BE FRP.

DUSTIN LEVI CRAIG LICENSED 24664 03.18.2024 KANSAS PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: I. KIM
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

FERRIC CHLORIDE STORAGE CANOPY
PROCESS MECHANICAL
PLAN AND SECTIONS

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
PM-4

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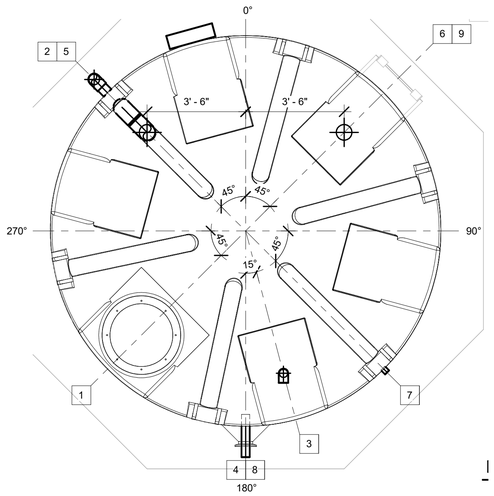


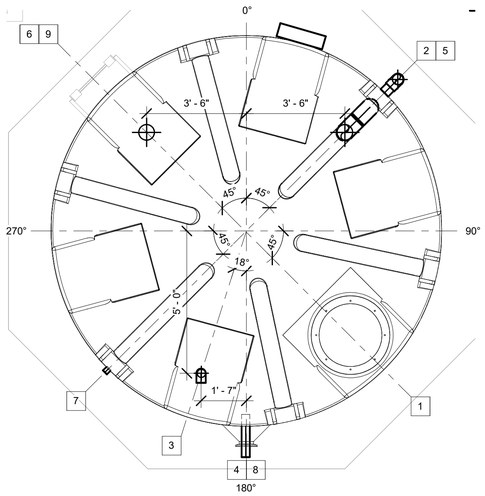
FERRIC CHLORIDE TANK 1 PLAN

3/8" = 1'-0"

482-TNK-0311

FERRIC CHLORIDE STORAGE TANK NO.1

NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
1	2' - 0"	TOP MANWAY
2	0' - 6"	VENT
3	0' - 3"	TANK INLET (FILL)
4	0' - 3"	TANK OUTLET
5	0' - 4"	TANK OVERFLOW
6	0' - 6"	RADAR LEVEL
7	0' - 2"	TANK DRAIN
8	0' - 3"	TANK OUTLET
9		LADDER



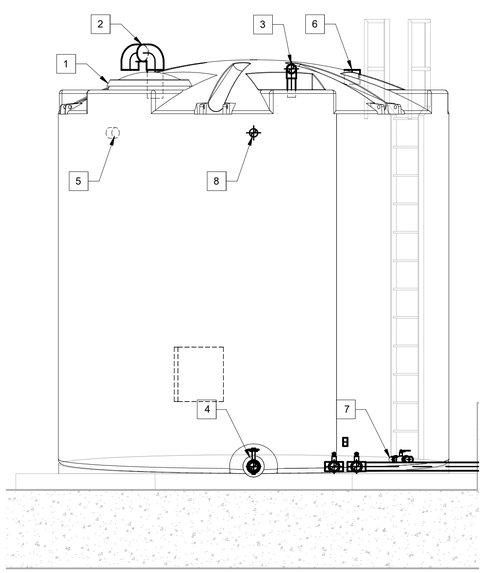
FERRIC CHLORIDE TANK 2 PLAN

3/8" = 1'-0"

482-TNK-0321

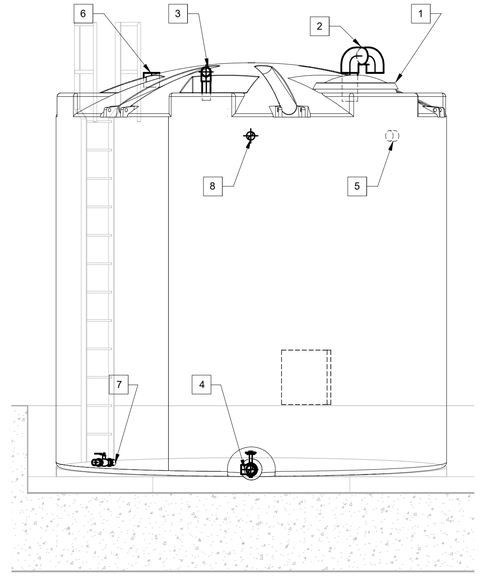
FERRIC CHLORIDE STORAGE TANK NO.2

NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
1	2' - 0"	TOP MANWAY
2	0' - 6"	VENT
3	0' - 3"	TANK INLET (FILL)
4	0' - 3"	TANK OUTLET
5	0' - 4"	TANK OVERFLOW
6	0' - 6"	RADAR LEVEL
7	0' - 2"	TANK DRAIN
8	0' - 3"	TANK OUTLET
9		LADDER



FERRIC CHLORIDE TANK 1 SECTION

3/8" = 1'-0"



FERRIC CHLORIDE TANK 2 SECTION

3/8" = 1'-0"

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: I. KIM
DRAWN BY: K. REESE
SHEET CHK'D BY: E. HERONEMUS
CROSS CHK'D BY: M. MALLOY
APPROVED BY: D. CRAIG
DATE: MARCH 2024

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Tel: (816) 444-8270

CITY OF WICHITA, KS

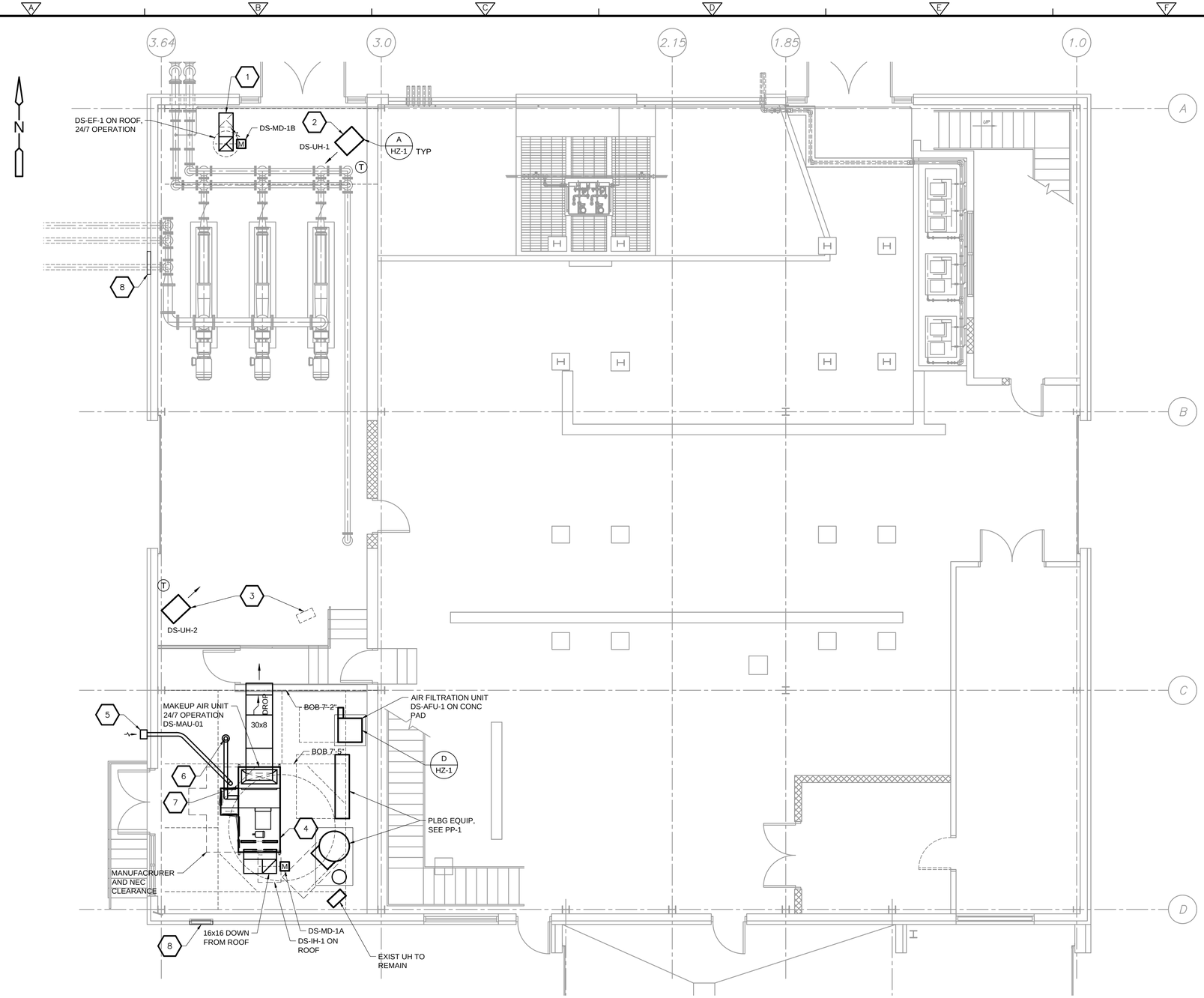
WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

FERRIC CHLORIDE STORAGE CANOPY
CHEMICAL AREA TANK DETAILS

DUSTIN LEVI CRAIG
LICENSED
24664
03.18.2024
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: MWZ000PM

SHEET NO.
PM-5



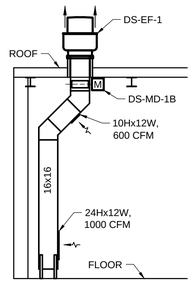
PLAN
3/16" = 1'-0"

KEYED NOTES

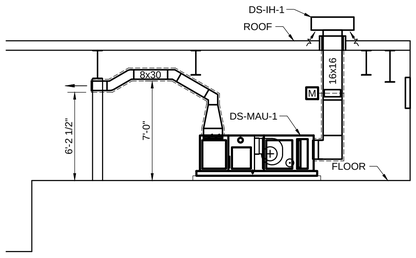
1. 24/7 EXHAUST, 16x16 ALUMINUM DUCT UP TO EXHAUST FAN ON ROOF 500 CFM HIGH, 1000 CFM LOW.
2. REMOVE EXISTING ELECTRIC UNIT HEATER AND REPLACE WITH CORROSION RESISTANT WASH DOWN RATED UNIT HEATER.
3. REMOVE EXISTING HOT WATER UNIT HEATER AND REPLACE WITH CORROSION RESISTANT WASH DOWN RATED UNIT HEATER. REMOVE AND CAP WATER PIPING BACK TO THE MAIN.
4. MOUNT ON RUBBER ISOLATORS FOR CLEARANCE BELOW UNIT AND SPAN ACROSS TRENCH.
5. 6" TYPE 304 STAINLESS STEEL COMBUSTION AIR THRU WALL WITH RAIN HOOD. INSULATE COMBUSTION AIR DUCT FROM WALL TO MAU CONNECTION TO CONTROL CONDENSATION.
6. 4" TYPE 304 STAINLESS STEEL FLUE THRU ROOF WITH APPROVED CLEARANCE, ROOF THIMBLE, AND RAIN CAP. SLOPE FLUE TO DRAIN TOWARD MAU. OFFSET FLUE FOR MINIMUM 10'-0" CLEARANCE FROM THE ROOF MOUNTED INTAKE HOOD SIDES.
7. ROUTE FULL SIZE SCH-40 PVC CONDENSATE DRAIN TO INSIDE OF COVERED FLOOR TRENCH.
8. REMOVE EXISTING EXHAUST FAN AND SHUTTER. SEAL EXISTING OPENING AIR AND WATER TIGHT.

GENERAL NOTES:

1. EQUIPMENT CLEARANCES SHALL BE PROVIDED PER THE NATIONAL ELECTRIC CODE AND ACCESS REQUIREMENTS PER EQUIPMENT MANUFACTURER FOR MAINTENANCE AND REMOVAL OF PARTS.
2. ALL DUCTWORK AND SLEEVES SHALL BE ALUMINUM CONSTRUCTION WITH 316 STAINLESS STEEL FASTENERS AND SUPPORTS.
3. MOTORIZED DAMPERS SHALL BE LOW LEAKAGE, AIR FOIL BLADES, OBD, ALUMINUM CONSTRUCTION WITH STAINLESS STEEL LINKAGES, RUSKIN MODEL CD50-CE OR APPROVED EQUAL.
4. DAMPER ACTUATORS SHALL BE MANUFACTURED BY BELIMO, NEMA 4X, 120 VOLT, TWO POSITION, SIZED FOR DOUBLE THE REQUIRED DAMPER TORQUE.
5. REFER TO STRUCTURAL AND ARCHITECTURAL SHEETS FOR COORDINATION OF ROOF, FLOOR, AND WALL OPENINGS. REFER TO STRUCTURAL DETAILS FOR ADDITIONAL INFORMATION ON CONCRETE CURBS AND PADS.
6. REFER TO MECHANICAL SHEETS FOR COORDINATION OF PROCESS EQUIPMENT, PIPING, AND ACCESSORIES. VERIFY SPACE REQUIREMENTS FOR HVAC EQUIPMENT, DUCTWORK, AND ALL CLEARANCES.
7. WALL LOUVERS ARE FURNISHED AND INSTALLED UNDER DIVISION 08. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
8. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.



SECTION
3/16" = 1'-0"



SECTION
3/16" = 1'-0"

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER
2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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Kansas City, MO 64114
Tel: (816) 444-8270

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Dallas, TX 75254
Tel: (214) 217-9993

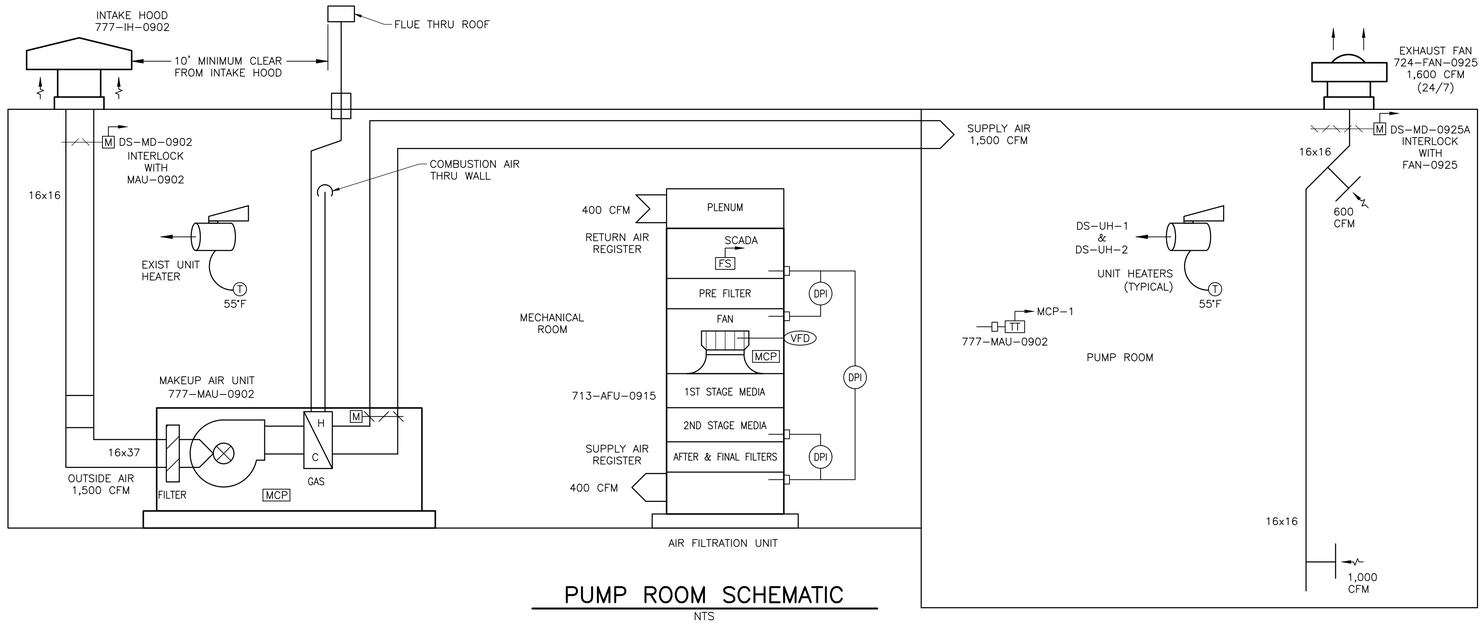
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
DEWATERING SUPPORT BUILDING
FLOOR PLAN

PROJECT NO. 2395-267343
FILE NAME: PH-1.DWG

SHEET NO.
PH-1



PUMP ROOM SCHEMATIC

NTS

SEQUENCE OF OPERATION:

GENERAL:

1. THE DEWATERING SUPPORT BUILDING PUMP ROOM IS VENTILATED BY 6+ AIR CHANGES PER HOUR (ACH) SUPPLIED BY A GAS FIRED MAKEUP AIR UNIT (MAU) THAT OPERATES 24/7 AND 6+ ACH ROOF MOUNTED EXHAUST FAN (EF) THAT OPERATES 24/7, THE ROOM ALSO HAS ELECTRIC UNIT HEATERS (UH'S) CONTROLLED BY THERMOSTATS. THE MAU IS CONTROLLED BY THE INTEGRAL MANUFACTURERS CONTROL PANEL (MCP) WITH A ROOM MOUNTED TEMPERATURE OVERRIDE. THE MECHANICAL ROOM HAS AN AIR FILTRATION UNIT (AFU) THAT CIRCULATES ROOM AIR 24/7 FOR H2S REMOVAL AND CORROSION PROTECTION OF THE EQUIPMENT.

GENERAL NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: DECEMBER 2023

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Dallas, TX 75254
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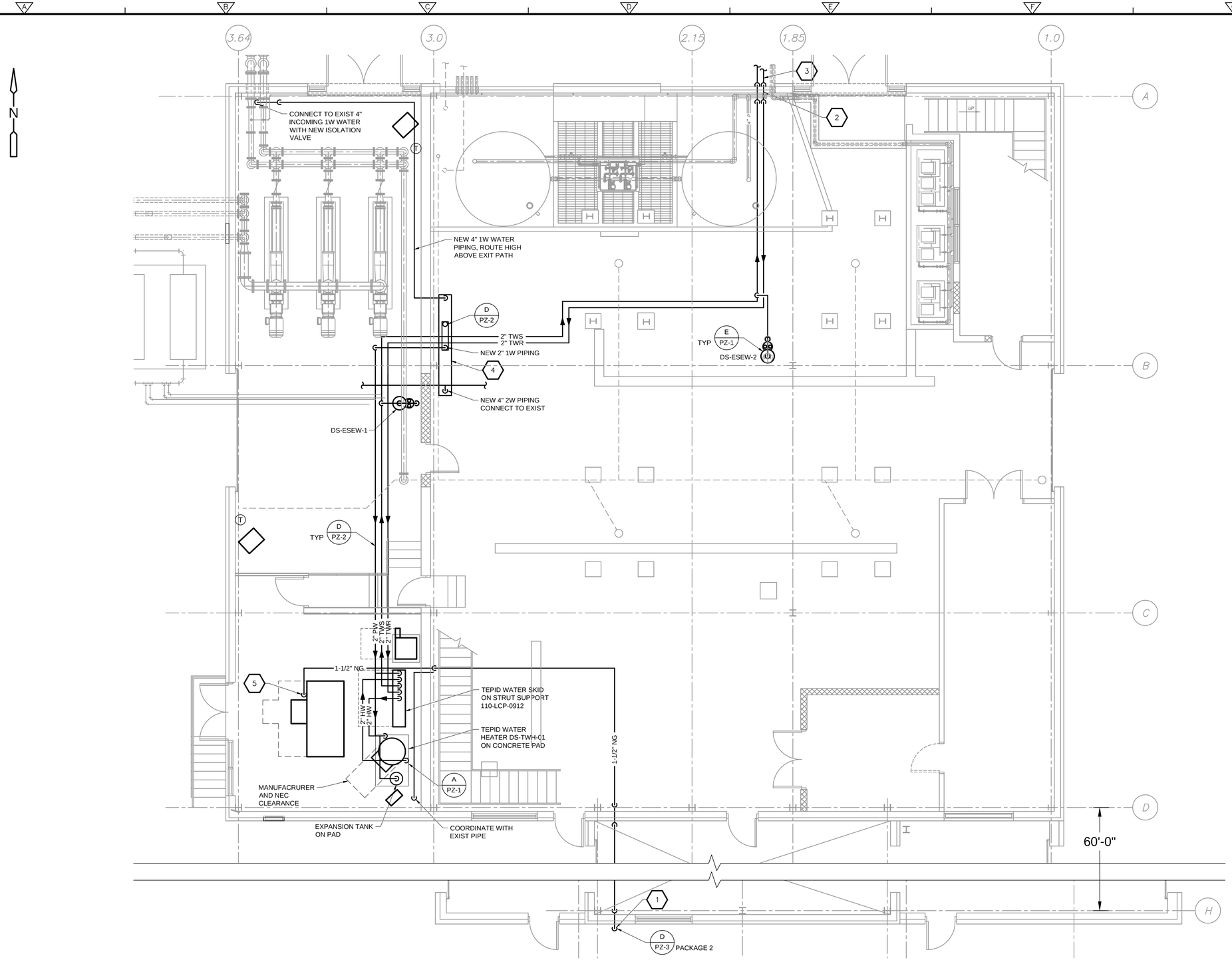
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

HVAC
SCHEMATICS

PROJECT NO. 2395-267343
FILE NAME: PH-2

SHEET NO.
PH-2



PLAN
3/16" = 1'-0"

GENERAL NOTES:

1. EQUIPMENT CLEARANCES SHALL BE PROVIDED PER THE NATIONAL ELECTRIC CODE AND ACCESS REQUIREMENTS PER EQUIPMENT MANUFACTURER FOR MAINTENANCE AND REMOVAL OF PARTS.
2. ALL HANGERS AND SUPPORTS SHALL BE ALUMINUM CONSTRUCTION WITH 316 STAINLESS STEEL FASTENERS.
3. TEPID WATER SHALL BE TYPE L HARD COPPER WITH SWEAT FITTINGS. INSULATE WITH 3" OF MOLDED FIBERGLASS AND PVC JACKETING.
4. REFER TO STRUCTURAL AND ARCHITECTURAL SHEETS FOR COORDINATION OF ROOF, FLOOR, AND WALL OPENINGS. REFER TO STRUCTURAL DETAILS FOR ADDITIONAL INFORMATION ON CONCRETE CURBS AND PADS.
5. REFER TO MECHANICAL SHEETS FOR COORDINATION OF PROCESS EQUIPMENT, PIPING, AND ACCESSORIES. VERIFY SPACE REQUIREMENTS FOR PLBG EQUIPMENT, PIPING, AND ALL CLEARANCES.
6. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
7. NEW GAS PRESSURE REGULATORS SHALL BE EQUAL TO FISHER TYPE 99.

KEYED NOTES

1. CONNECT TO EXISTING GAS PIPING BEFORE EXISTING REGULATOR. PROVIDE NEW 1-1/2" DIRT LEG, LOCKABLE ISOLATION VALVE, AND PRESSURE REGULATOR. 150 CFH, 7-9 IN. W.G. REPLACE EXISTING GAS PRESSURE REGULATOR, 590 CFH AT 11 IN.W.G.
2. CORE DRILL THRU EXISTING WALL (LOW AS POSSIBLE) FOR NEW 2"/8" PRE-INSULATED TEPID WATER PIPING. EXTEND PRE-INSULATED PIPING THRU WALL TO INTERIOR.
3. UNDERGROUND 2"/8" PRE-INSULATED TEPID WATER PIPING TO FERRIC STORAGE SAFETY EQUIPMENT, SEE DRAWING PP-2 FOR CONTINUATION.
4. RELOCATE EXISTING WATER METER, 4" STRAINER AND RPZ ASSEMBLY, 36" AFF. PROVIDE ISOLATION VALVE AND PRESSURE REDUCING STATION ABOVE RPZ FOR 1W WATER.
5. CONNECT NATURAL GAS TO NEW MAKEUP AIR UNIT. PROVIDE DIRT LEG AND LOCKABLE ISOLATION VALVE.

RICARDO J. AZCARATE LICENSED 17087 KANSAS PROFESSIONAL ENGINEER 2024-Mar-01

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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Dallas, TX 75254
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
DEWATERING SUPPORT BUILDING
FLOOR PLAN

PROJECT NO. 2395-267343
FILE NAME: PP-1.DWG

SHEET NO.
PP-1

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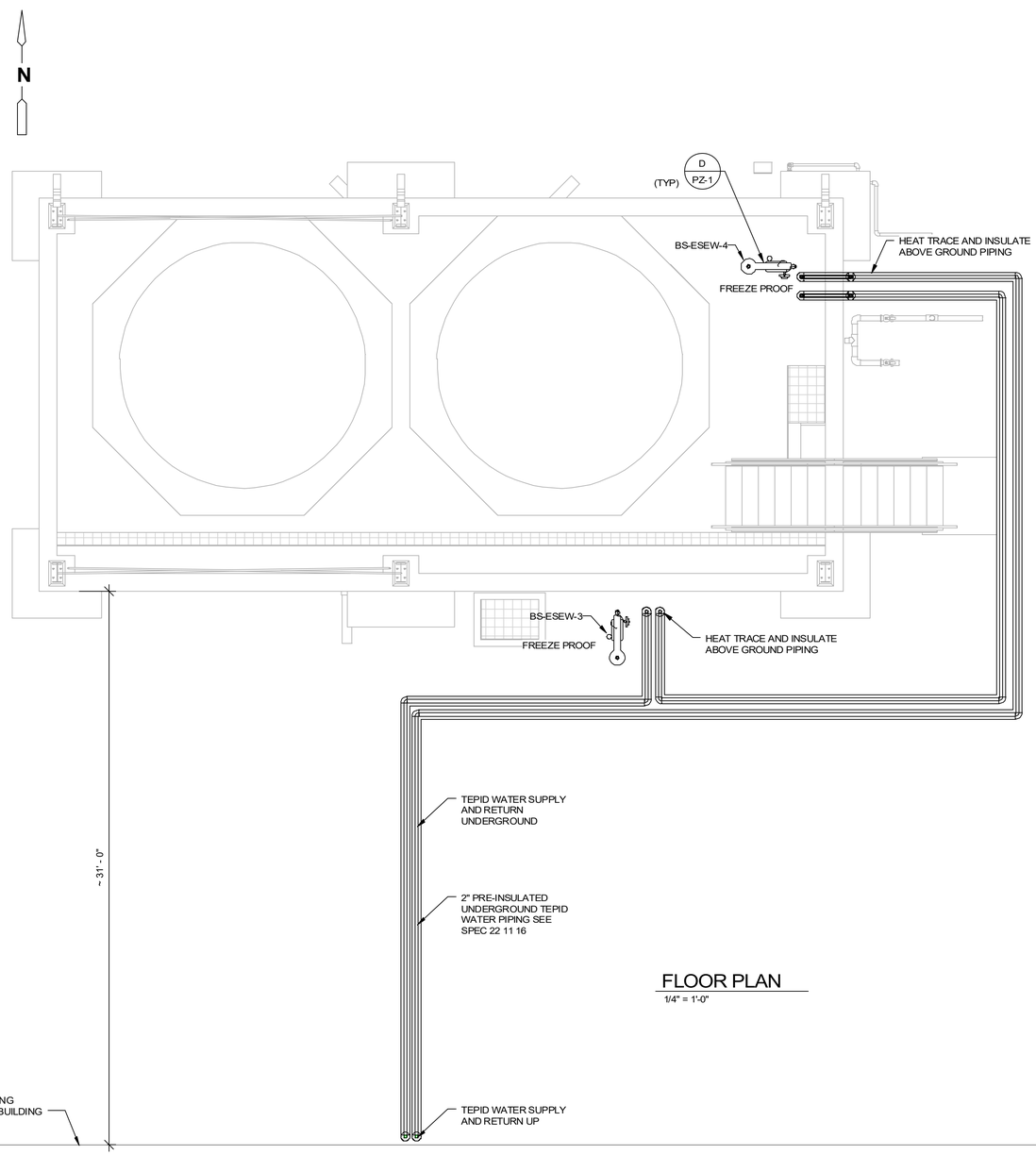
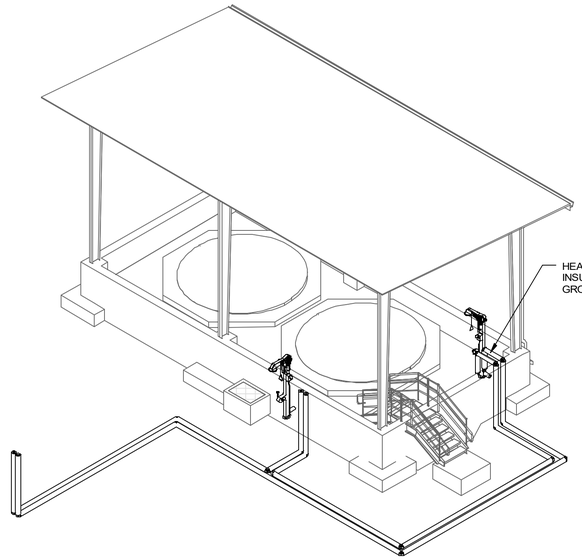
NOTES:

1. FOR ALL TAGGED ITEMS ASSOCIATED WITH THE DEWATERING SUPPORT BUILDING ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.



FLOOR PLAN

1/4" = 1'-0"



ISO PLAN

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. GALLIA
DRAWN BY: M. ANDERSON
SHEET CHK'D BY: T. GALLIA
CROSS CHK'D BY: J. IVEY
APPROVED BY: R. AZCARATE
DATE: MARCH 2024

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Tel: (816) 444-8270

AACE
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Dallas, TX 75254
Tel: (214) 217-9993

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PLUMBING
FERRIC CHLORIDE STORAGE CANOPY
PLAN

R. CARDO J. AZCARATE
LICENSED
17087
KANSAS
PROFESSIONAL ENGINEER
2024-Mar-01

PROJECT NO. 2395-267343
FILE NAME:

SHEET NO.
PP-2

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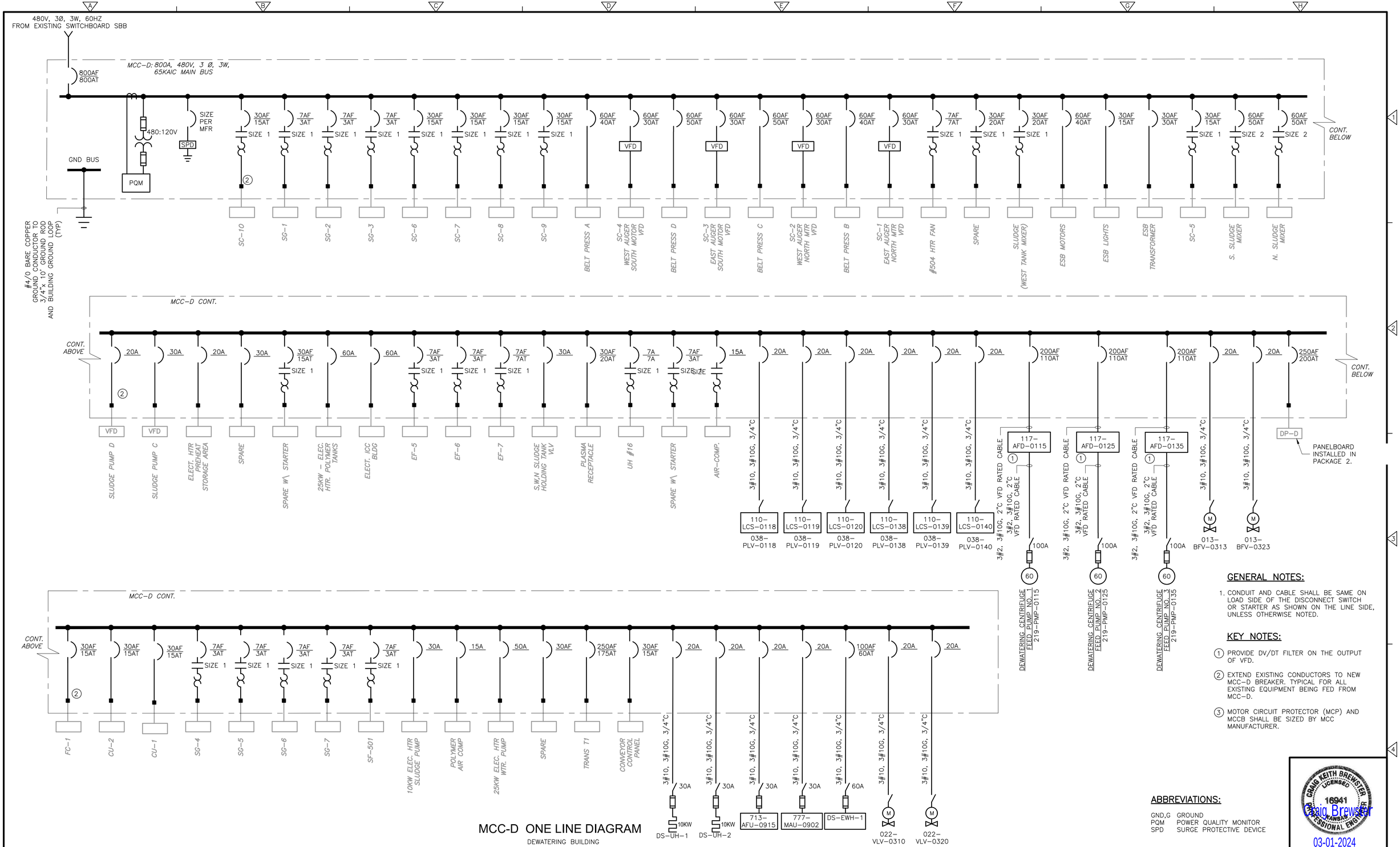

MCC-D ONE LINE DIAGRAM

DEWATERING BUILDING

GENERAL NOTES:

1. CONDUIT AND CABLE SHALL BE SAME ON LOAD SIDE OF THE DISCONNECT SWITCH OR STARTER AS SHOWN ON THE LINE SIDE, UNLESS OTHERWISE NOTED.

KEY NOTES:

(1) PROVIDE DV/DT FILTER ON THE OUTPUT OF VFD.

(2) EXTEND EXISTING CONDUCTORS TO NEW MCC–D BREAKER. TYPICAL FOR ALL EXISTING EQUIPMENT BEING FED FROM MCC–D.

(3) MOTOR CIRCUIT PROTECTOR (MCP) AND MCCB SHALL BE SIZED BY MCC MANUFACTURER.

ABBREVIATIONS:

GND,G GROUND
PQM POWER QUALITY MONITOR
SPD SURGE PROTECTIVE DEVICE

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

REV. NO.	DATE	DRWN	CHK'D	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
NEW MCC-D ONE-LINE DIAGRAM

PROJECT NO. 2395–267343
FILE NAME: PE001DWPS
SHEET NO.
PE-1

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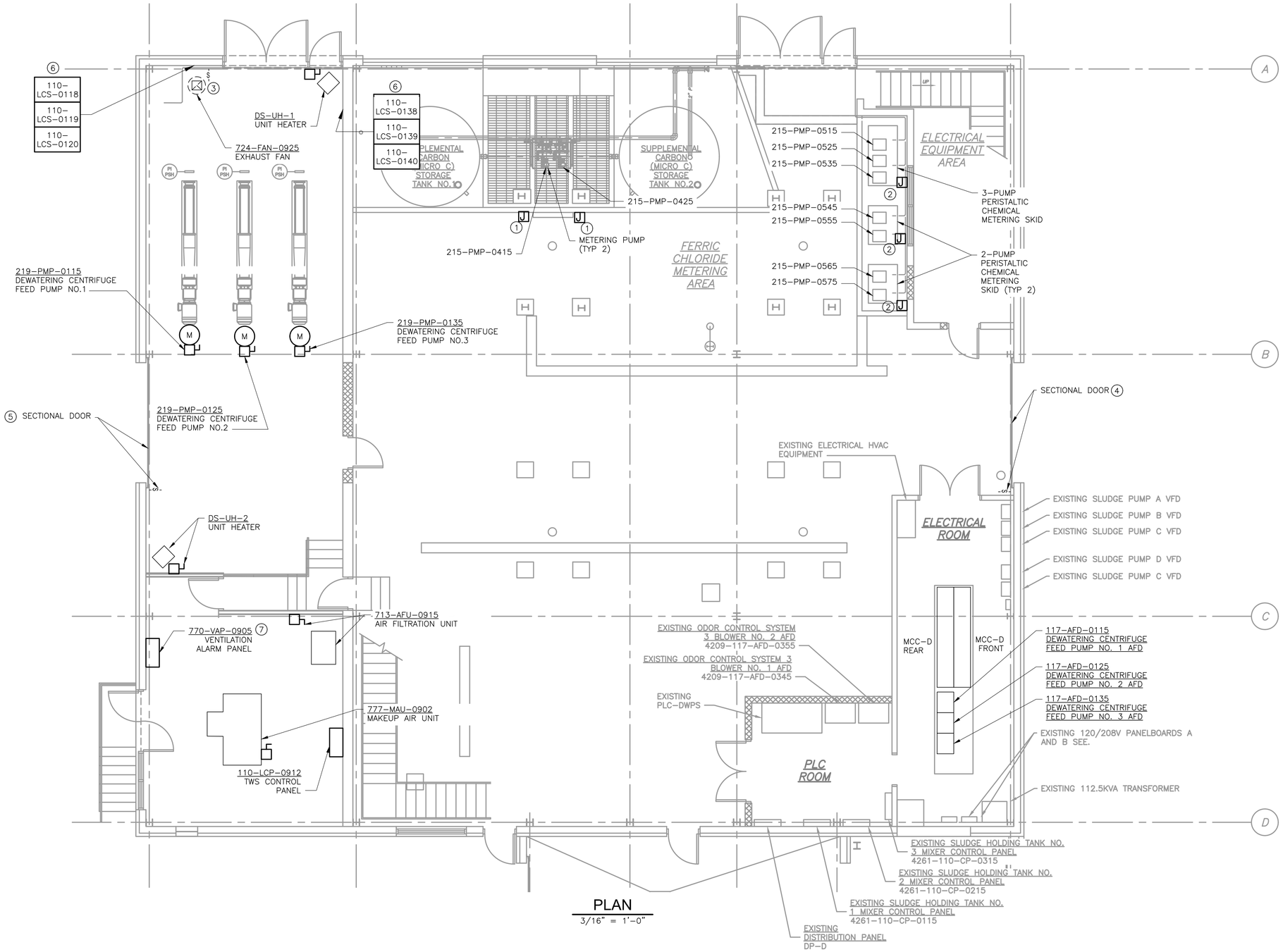

PLAN
3/16" = 1'–0"

GENERAL NOTES:

1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE PERFORMED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
2. REFER TO THE PD–SERIES DRAWINGS FOR THE DEMOLITION OF THE EXISTING PUMPS AND ASSOCIATED ELECTRICAL APPURTENANCES. CONTRACTOR SHALL BE RESPONSIBLE FOR INTERCEPTING, EXTENDING, AND RE–ROUTING EXISTING CONDUITS WHERE NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
3. REFER TO SHEETS PE–1 FOR ONE LINE DIAGRAM.

KEY NOTES:

(1) PROVIDE HARD WIRED J–BOX CONNECTION FOR FERRIC FEED PUMP SKID. PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #72, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

(2) PROVIDE HARD WIRED J–BOX CONNECTION FOR METERING PUMP (TYPICAL OF 2). PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #74, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

(3) EXHAUST FAN AT ROOF. PROVIDE LOCAL TOGGLE DISCONNECT SWITCH FOR 120V EXHAUST FAN. PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #79, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

(4) MOTORIZED SECTIONAL DOOR. PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND IN 3/4" CONDUIT TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #81, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

(5) MOTORIZED SECTIONAL DOOR. PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND IN 3/4" CONDUIT TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #83, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

(6) VALVE LOCAL CONTROL PANELS LOCATED HERE. CONTRACTOR TO PROVIDE 480V POWER TO CONTROL PANEL LOCATION. SEE ONE–LINE DIAGRAM, PROCESS AND INSTRUMENTATION SHEETS FOR ADDITIONAL INFORMATION.

(7) VENTILATION ALARM PANEL. PROVIDE (2)#12 AWG CU. AND (1)#12 AWG GROUND IN 3/4" CONDUIT TO EXISTING PANELBOARD A LOCATED IN DEWATERING BUILDING ELECTRICAL ROOM. CIRCUIT TO SPARE 20A,1P BREAKER #62, AND UPDATE EXISTING SCHEDULE PLACARD PER THE CHANGES. VERIFY DOOR ELECTRICAL SPECIFICATIONS PRIOR TO INSTALLATION. PROVIDE DISCONNECTING MEANS AS REQUIRED PER MANUFACTURER RECOMMENDATIONS.

N

3/16" = 1'– 0"
4 0 4 8

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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Tel: (816) 444-8270

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12780 East 40 Highway
Independence, Missouri 64055
816.350.1473

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
LOWER LEVEL ELECTRICAL MODIFICATION PLAN

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395–267343
FILE NAME: PE002DWPS

SHEET NO.
PE-2

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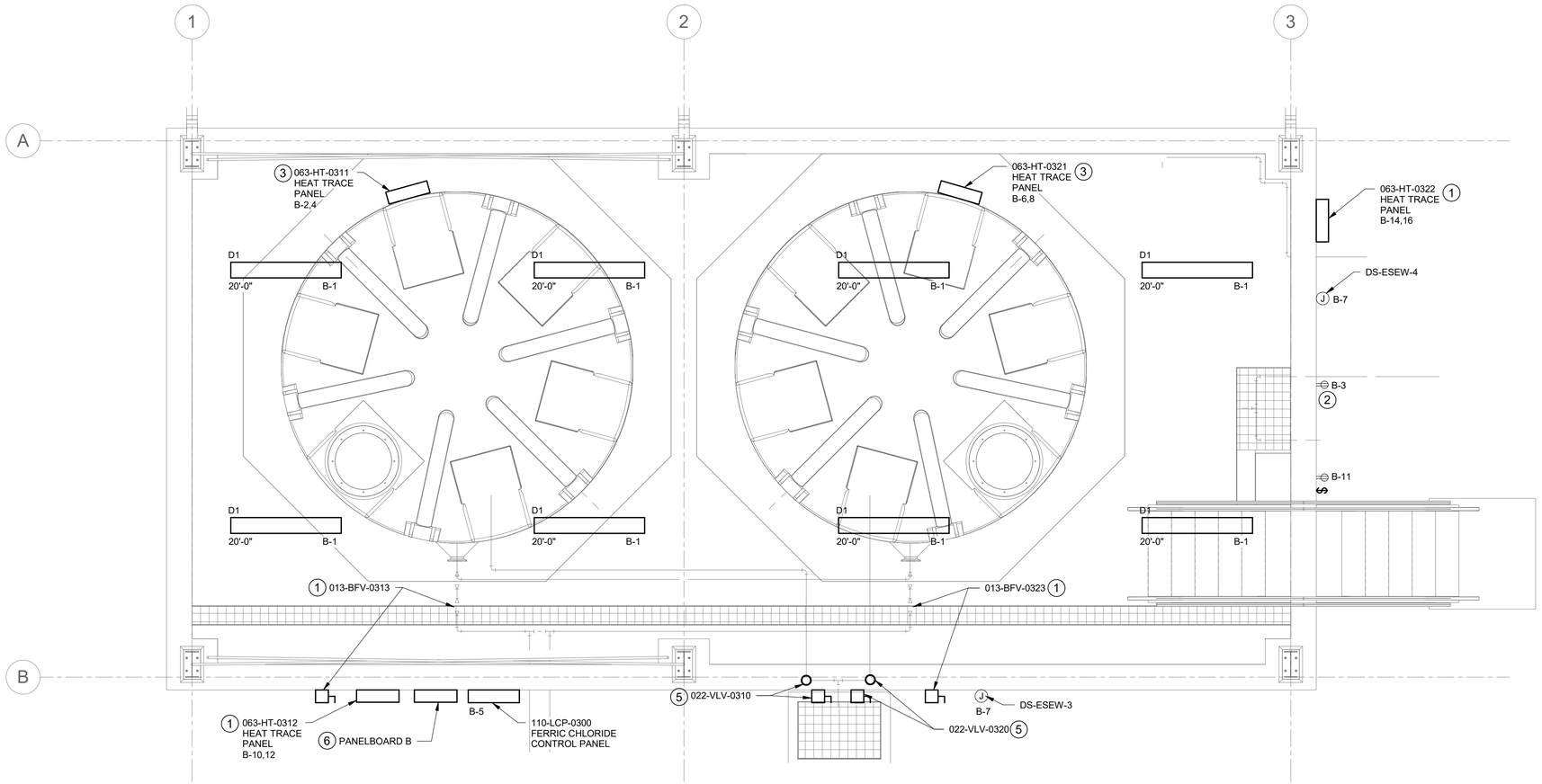

FERRIC STORAGE CANOPY ELECTRICAL MODIFICATION

PLAN

3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL LEGEND ON SHEET E-1 & E-2.
2. REFER TO SHEET OE-13 FOR LIGHT FIXTURE SCHEDULE.
3. COORDINATE EXACT LIGHT FIXTURE LOCATIONS WITH ALL PROCESS EQUIPMENT, ELECTRICAL AND MECHANICAL EQUIPMENT, AND ARCHITECTURAL AND STRUCTURAL ELEMENTS.
4. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE PERFORMED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
5. REFER TO THE PD-SERIES DRAWINGS FOR THE DEMOLITION OF THE EXISTING PUMPS AND ASSOCIATED ELECTRICAL APPURTENANCES. CONTRACTOR SHALL BE RESPONSIBLE FOR INTERCEPTING, EXTENDING, AND RE-ROUTING EXISTING CONDUITS WHERE NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
6. REFER TO SHEETS PE-1 FOR ONE LINE DIAGRAMS.

KEY NOTES:

1. PROPOSED LOCATION OF NON-FUSED DISCONNECT 480V, 3-PHASE POWERED BUTTERFLY VALVE. SEE ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
2. RECEPTACLE AT PIT FOR FUTURE SUMP PUMP.
3. MOUNT NEMA 4X HEAT TRACE CONTROLLER TO TANK VIA NYLON STRAP PER MANUFACTURERS RECOMMENDATIONS.
4. HEAT TRACE PANEL FOR EXPOSED PIPING. VERIFY EXACT LOCATION WITH PROCESS PLANS.
5. PROPOSED LOCATION OF NON-FUSED DISCONNECT 480V, 3-PHASE MOTORIZED VALVE. SEE ONE-LINE DIAGRAM FOR ADDITIONA INFORMATION.
6. PROVIDE NEW 100A, 120/208V PANELBOARD B. PANELBOARD TO BE FED FROM EXISTING PANELBOARD A. SEE PANEL SCHEDULES SHEET PE-4 FOR MORE INFORMATION.

N

0 1' 2' 3' 5'

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

CRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER

Craig Brewster

03-01-2024

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: M. CAYETANO
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

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KANSAS CERTIFICATE OF AUTHORITY #E-1067

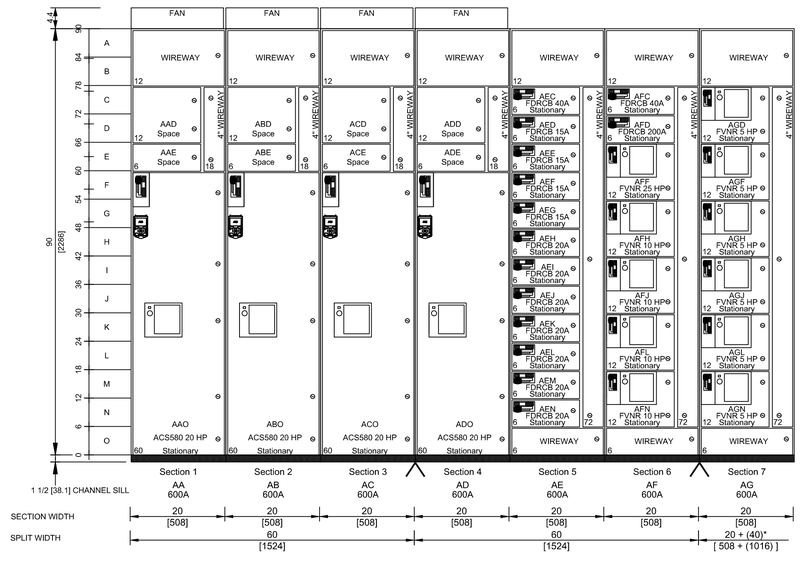
CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

FERRIC CHLORIDE STORAGE CANOPY ELECTRICAL MODIFICATION PLAN

PROJECT NO. 2395-267343
FILE NAME:

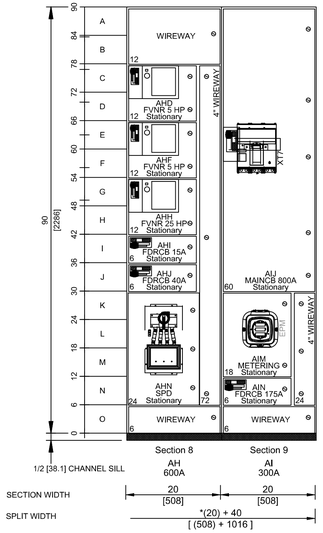
SHEET NO.
PE-3



MOTOR CONTROL CENTER

FRONT MCC-D FRONT ELEVATION

NTS



60 AMP MAIN BREAKER
100 AMP BUS RATING **24** POLES
208/120 VOLTS **3** PHASE **4** WIRE **60 Hz.**

NEW PANEL B

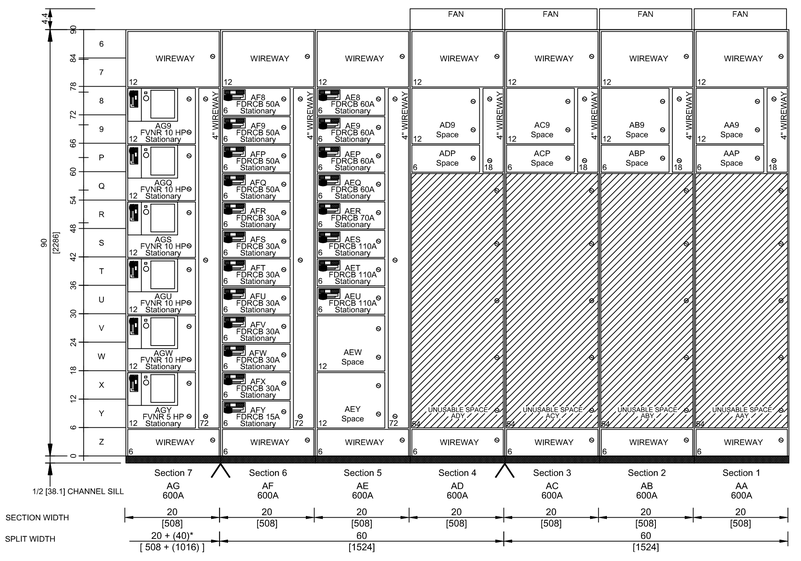
10 KA SHORT CIRCUIT RATING
ELECTRONIC GRADE: **YES**

LOCATION: **FERRIC STORAGE CANOPY**
ENCLOSURE RATING: **NEMA 3R ,**
MOUNTING: **SURFACE**

CIRCUIT NO.	DESCRIPTION	LOAD KVA PHASE A	LOAD KVA PHASE B	LOAD KVA PHASE C	BREAKER AMPS/ POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA PHASE A	LOAD KVA PHASE B	LOAD KVA PHASE C	BREAKER AMPS/ POLES	NOTES
1	CANOPY LIGHTS	0.52			20 /1	7	2	HEAT TRACE PANEL 0311	2.10			25 /1	3,8
3	SUMP PUMP RECEPTACLE		0.10		20 /1	7	4	HEAT TRACE PANEL 0321		2.10		25 /1	3,8
5	FERRIC STORAGE PANEL			0.40	20 /1	7	6	HEAT TRACE PANEL 0312			1.60	20 /1	3,8
7	EYE WASH STATION ESEW-3&4	0.16			20 /1	7	8	HEAT TRACE PANEL 0322	1.60			20 /1	3,8
9	GENERAL RECEPTACLE		0.15		20 /1	7,9	10	SPARE				20 /1	
11	SPARE				20 /1		12	SPARE				20 /1	
13	SPARE				20 /1		14	SPARE				20 /1	
15	SPARE				20 /1		16	SPARE				20 /1	
17	SPARE				20 /1		18	SPARE				20 /1	
19	SPARE				20 /1		20	SPARE				20 /1	
21	SPARE				20 /1		22	SPARE				20 /1	
23	SPARE				20 /1		24	SPARE				20 /1	
	TOTAL PHASE KVA THIS SIDE	0.68	0.25	0.40				TOTAL PHASE KVA THIS SIDE	3.70	2.10	1.60		
								TOTAL KVA PER PHASE	4.38	2.35	2.00		
								TOTAL THREE PHASE KVA		8.73			

NOTES:
1. PROVIDE LOCKING HARDWARE
3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
5. BRANCH CIRCUIT WIRING: 3/4"C, TYPE TC 4C#12
7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G
9. GFCI TYPE CIRCUIT BREAKER

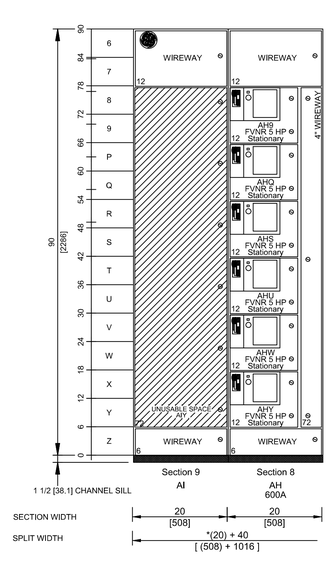
NOTES CONT.:
2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER
4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP)
6. BRANCH CIRCUIT WIRING. 3/4"C, 3#10 & 1#12G
8. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G
10. BRANCH CIRCUIT WIRING 3/4", 2#12



MOTOR CONTROL CENTER

REAR MCC-D REAR ELEVATION

NTS



400 AMP MAIN BREAKER
400 AMP BUS RATING **84** POLES
208/120 VOLTS **3** PHASE **4** WIRE **60 Hz.**

EXISTING PANEL A SECTION 2

10 KA SHORT CIRCUIT RATING
ELECTRONIC GRADE: **YES**

LOCATION: **DEWATERING SUPPORT BLDG.**
ENCLOSURE RATING: **NEMA 1 ,**
MOUNTING: **SURFACE**

CIRCUIT NO.	DESCRIPTION	LOAD KVA PHASE A	LOAD KVA PHASE B	LOAD KVA PHASE C	BREAKER AMPS/ POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA PHASE A	LOAD KVA PHASE B	LOAD KVA PHASE C	BREAKER AMPS/ POLES	NOTES
43	LIGHTS - DRIVE THRU				20 /1		44	POLY TANK CONTROL				20 /1	
45	LIGHTS - DRIVE THRU				20 /1		46	POLY C				15 /1	
47	HEATERS - TRUCK BAY				20 /1		48	POLY D				15 /1	
49	SPARE				20 /1		50	SPARE				20 /1	
51	120 V WATER HEATER				20 /1		52	D.H.501 (OVER TRUCK BAY-CAT WALK)				20 /1	
53	LT 115 ABC				20 /1		54	TEMP CONTROL				20 /1	
55	LEVEL SW AA4 ABC				20 /1		56	LIGHTS/FAN- ELE RM				20 /1	
57	LIGHTS - SLUDGE TANK				20 /1		58	RECEPTS ELE RM				20 /1	
59	CARBON UNIT				20 /1		60	RECEPTS ELE RM				20 /1	
61	SPARE				20 /1		**62**	**VENTILATION ALARM PANEL**	**0.2**			**20 /1**	
63	SPARE				20 /1		64	POLY B				15 /1	
65	RECEPT - SLUDGE TANK				20 /2		66	POLY A				15 /1	
67	LT & REC BY SLUDGE TANK						68	HAZMAT				100 /2	
69	FAN IN TRUCK BAY				20 /2		70	BUILDING					
71	TO BLOW DOWN HEAT						**72**	**FERRIC METERING PUMPS**			**0.4**	**20 /1**	
73	100 AMP PANEL						**74**	**CHEMICAL METERING SKIDS**	**0.4**			**20 /1**	
75	WEST SIDE BUILDING				100 /3		76	SPACE				/1	
77	BY OVERHEAD DOOR						78	SPACE				/1	
79	**724-FAN-0925 EXHAUST FAN**	**0.4**			**20 /1**		**80**		**4.38**				
81	**SECTIONAL DOOR EAST**		**0.6**		**20 /1**		**82**	**NEW PANELBOARD B**		**2.35**		**60 /3**	**10**
83	**SECTIONAL DOOR WEST**			**0.6**	**20 /1**		**84**				**2.00**		
	TOTAL PHASE KVA THIS SIDE	*0.40*	*0.60*	*0.60*				*TOTAL PHASE KVA THIS SIDE*	*4.98*	*2.35*	*2.40*		
								TOTAL KVA PER PHASE	*5.38*	*2.95*	*3.00*		
								TOTAL THREE PHASE KVA		*11.33*			

NOTES:
1. PROVIDE LOCKING HARDWARE
3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
5. BRANCH CIRCUIT WIRING: 3/4"C, TYPE TC 4C#12
7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G
9. GFCI TYPE CIRCUIT BREAKER

NOTES CONT.:
2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER
4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP)
6. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G
8. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G
10. BRANCH CIRCUIT WIRING 1-1/4", 3#4 & 1#8G

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. BASS
DRAWN BY: R. LARKEY
SHEET CHK'D BY: C. BREWSTER
CROSS CHK'D BY: A. JONES
APPROVED BY: C. BREWSTER
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
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Tel: (816) 444-8270

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12700 East 40 Highway
Independence, Missouri 64055
816.350.1473
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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
MCC-D ELEVATIONS AND NEW
PANELBOARD B SCHEDULE

GRAIG KEITH BREWSTER LICENSED 16941 KANSAS PROFESSIONAL ENGINEER
Craig Brewster
03-01-2024

PROJECT NO. 2395-267343
FILE NAME: PE004DWPS

SHEET NO.
PE-4

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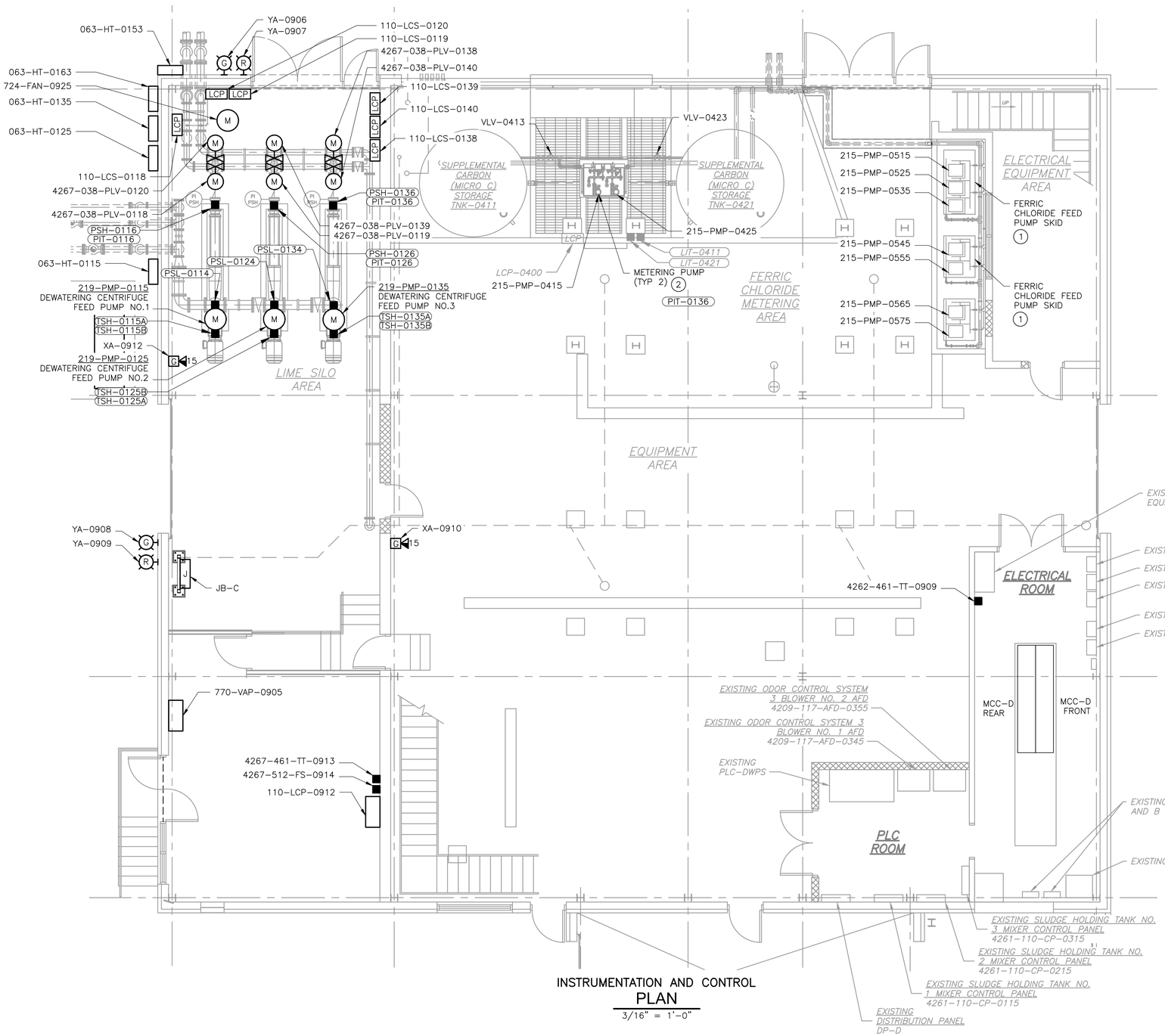

INSTRUMENTATION AND CONTROL
PLAN
3/16" = 1'-0"

KEY NOTES:

1. FERRIC CHLORIDE FEED PUMPS AND LOCAL CONTROL PANELS ARE VENDOR PACKAGED ITEMS.
2. SUPPLEMENTAL CARBON (MICRO C) PUMPS AND LOCAL CONTROL PANELS ARE VENDOR PACKAGED ITEMS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. BYRD
DRAWN BY: SUBHANI
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

DEWATERING SUPPORT BUILDING
INSTRUMENTATION AND CONTROL PLAN

PROJECT NO. 2395-267343
FILE NAME: PE007DWPS
SHEET NO.
PE-7

INDIRA PJETROVIC LICENSED 03/01/2024 21916 KANSAS PROFESSIONAL ENGINEER

ISSUED FOR BID

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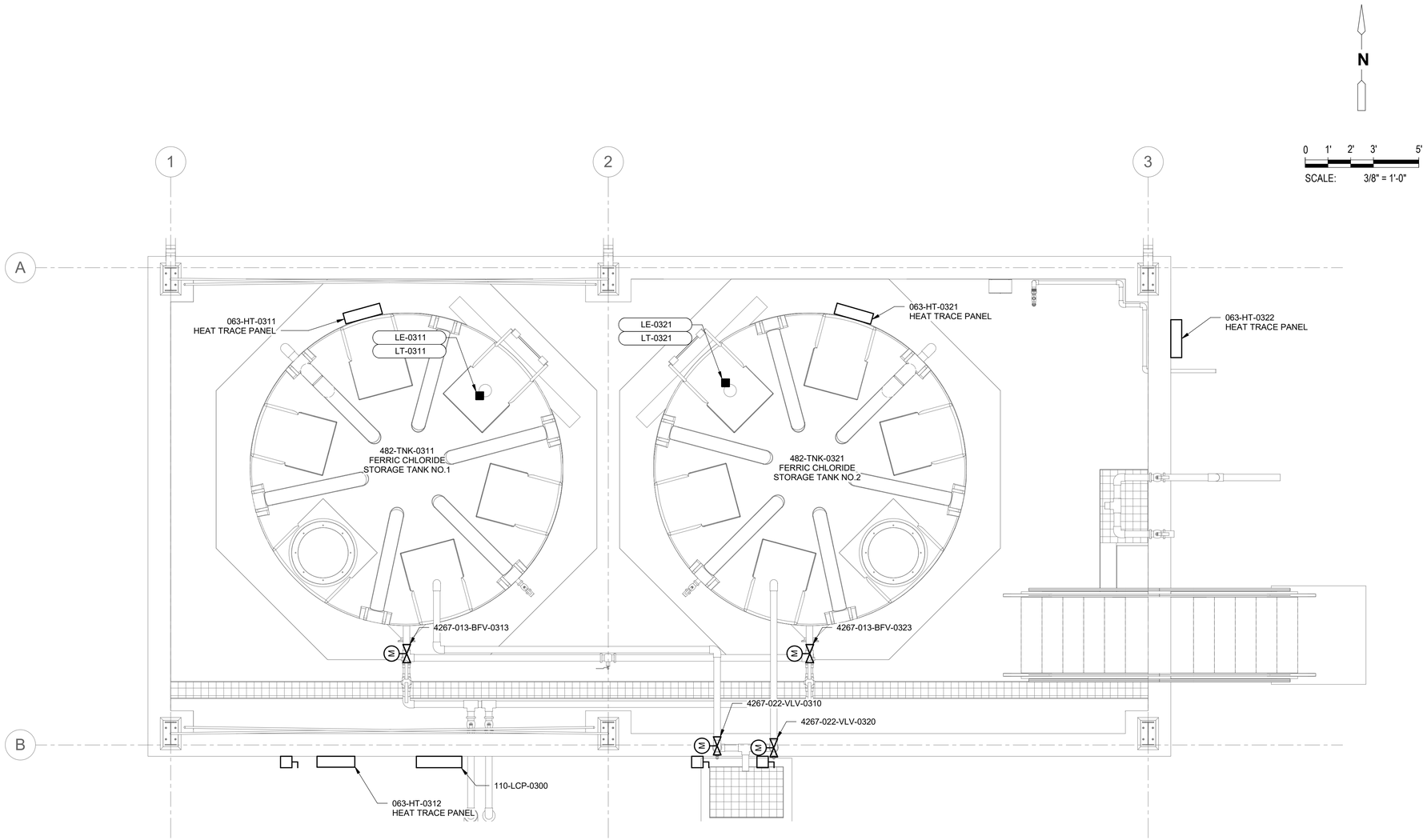

INSTRUMENTATION AND CONTROL
PLAN
3/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. BYRD
DRAWN BY: SUBHANI
SHEET CHK'D BY: B. BYRD
CROSS CHK'D BY: A. ASHUR
APPROVED BY: I. PJETROVIC
DATE: MARCH 2024

CDM Smith
8080 Ward Parkway, Suite 100
Kansas City, MO 64114
Tel: (816) 444-8270

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

FERRIC CHLORIDE STORAGE
INSTRUMENTATION AND CONTROL PLAN

INDIRA PJETROVIC LICENSED 03/01/2024 21914 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: EW000PS

SHEET NO.
PE-8

ISSUED FOR BID

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PLC–DWPS (NOTE 4)

PLC–CENT

NOTES:

1. FOR ALL TAGGED ITEMS WITHIN THIS BOUNDARY, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. FOR ALL TAGGED ITEMS WITHIN THIS BOUNDARY, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
3. COORDINATE PUMP SUCTION AND DISCHARGE PIPE SIZING WITH SELECTED CENTRIFUGE AND PUMP MANUFACTURERS.
4. PLC–DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.
5. SEE HEAT TRACE SCHEDULE IN SECTION 40 41 13.13A FOR EXTENT OF HEAT TRACING REQUIREMENTS IN THIS AREA. PROVIDE NUMBER OF HEAT TRACE PANELS AS REQUIRED.

TYP. OF LOOP NOS. 0115, 0125 & 0135: HEAT TRACE FAIL

TYP. OF LOOP NOS. 0115, 0125 & 0135: IN REMOTE, RUNNING, FAULT, HIGH PRESSURE, STATOR HIGH TEMPERATURE, MOTOR HIGH TEMPERATURE, E–STOP, LOW PRESSURE, START/STOP COMMAND, SPEED FEEDBACK, SPEED SETPOINT

TYP. OF LOOP NOS. 0116, 0126 & 0136: PRESSURE

TYP. OF LOOP NOS. 0118, 0119, 0120, 0138, 0139 & 0140: FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE

TYP. OF LOOP NOS. 0153 & 0163: HEAT TRACE FAIL

TYP. OF LOOP NOS. 0156, 0157, 0166 & 0167: FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE

TYP. OF LOOP NOS. 0172, 0182 & 0192: FLOW

110–LCS–0115 (TYP. OF 3) (DIV. 26)
LOR HS 0115A; START HS 0115B; STOP HS 0115C; E–STOP HS 0115D; FAULT XA 0115; RUNNING YR 0115

117–AFD–0115 (TYP. OF 3) (DIV. 26)
DEWATERING CENTRIFUGE FEED PUMP NO. 1
ADJUSTABLE FREQUENCY DRIVE

110–LCS–0118 (TYP. OF 6) (DIV. 40*)
OSC HS 0118A; LOR HS 0118B; OPENED ZLO 0118; CLOSED ZLC 0118

063–HT–0153
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 5)

FROM DIGESTED SLUDGE HOLDING TANK NO. 1 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI → 6"x10" → 10"–DS–DI → 038–PLV–0113

452 PSL–0114; 452 PI–0114; 461 TSH–0115A 43; 461 TSH–0115B 43
219–PMP–0115
DEWATERING CENTRIFUGE FEED PUMP NO. 1
8"x6" → 452 PIT–0116; 452 PSH–0116 → 6"–DS–DI → 041–CV–0117

063–HT–0115
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 5)

10"–DS–DI → 038–PLV–0112

FROM DIGESTED SLUDGE HOLDING TANK NO. 2 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI

063–HT–0125
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 5)

038–PLV–0123
452 PSL–0124; 452 PI–0124; 461 TSH–0125A 43; 461 TSH–0125B 43
219–PMP–0125
DEWATERING CENTRIFUGE FEED PUMP NO. 2
10"–DS–DI → 8"x6" → 452 PIT–0126; 452 PSH–0126 → 6"–DS–DI → 041–CV–0127

10"–DS–DI → 038–PLV–0132

FROM DIGESTED SLUDGE HOLDING TANK NO. 3 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI

063–HT–0135
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 5)

038–PLV–0133
452 PSL–0134; 452 PI–0134; 461 TSH–0135A 43; 461 TSH–0135B 43
219–PMP–0135
DEWATERING CENTRIFUGE FEED PUMP NO. 3
10"–DS–DI → 8"x6" → 452 PIT–0136; 452 PSH–0136 → 6"–DS–DI → 041–CV–0137

038–PLV–0118; 038–PLV–0120; 038–PLV–0119; 038–PLV–0152

466–MXR–0153
STATIC MIXER
DI HDPE 6"x8" → 8"–DS–HDPE

038–PLV–0140; 038–PLV–0139; 038–PLV–0138

063–HT–0163
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 5)

466–MXR–0163
STATIC MIXER
DI HDPE 6"x8" → 8"–DS–HDPE

038–PLV–0162; 038–PLV–0168

038–PLV–0156; 038–PLV–0158; 038–PLV–0157; 038–PLV–0167

DI PVC 6"x12" → 12"–DR–PVC → TO PLANT 2 INFLUENT
6"–DR–DI
UPS – 438 FIT–0172
HDPE DI 8"x6"
038–PLV–0171
6"–DS–DI → OI–1 → TO DEWATERING CENTRIFUGE NO. 1
438 FE–0172

UPS – 438 FIT–0192
038–PLV–0191
6"–DS–DI → OI–3 → TO DEWATERING CENTRIFUGE NO. 3
438 FE–0192

UPS – 438 FIT–0182
038–PLV–0166; 038–PLV–0181
6"–DS–DI → OI–2 → TO DEWATERING CENTRIFUGE NO. 2
438 FE–0182
6"x8" → OI–1 → FROM 3W SYSTEM
8"–3W–PVC
041–CV–0169 036–VLV–0170
CENTRIFUGE BUILDING (NOTE 2)
6"–DR–DI → TO PLANT 2 INFLUENT

PI–4 FROM FERRIC CHLORIDE FEED PUMPS → 3" PVCD → 3/4"(3")–FC–PVCD
PI–4 FROM FERRIC CHLORIDE FEED PUMPS → 3" PVCD → 3/4"(3")–FC–PVCD

DEWATERING SUPPORT BUILDING (NOTE 1)

KATHLEEN M. BUECHLER — LICENSED — 19051 — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING CENTRIFUGE FEED PUMP STATION

PROJECT NO. 2395–267343
FILE NAME: I001DWPI.DWG

SHEET NO.
PI-1

TYP. OF LOOP NOS. 0310 & 320

FAULT
OPENED
CLOSED
IN REMOTE
OPEN
CLOSE

TYP. OF LOOP NOS. 0311 & 0321

HEAT TRACE FAIL

TYP. OF LOOP NOS. 0311 & 0321

HEAT TRACE FAIL

TYP. OF LOOP NOS. 0311 & 0321

LEVEL
HIGH HIGH LEVEL

TYP. OF LOOP NOS. 0313 & 0323

FAULT
OPENED
CLOSED
IN REMOTE
OPEN
CLOSE

HEAT TRACE FAIL

PLC–DWPS (NOTE 2)

BEACON

110–LCP–0300
FERRIC CHLORIDE
UNLOADING/FILL STATION PANEL

ACK
TEST

HS 0300A
HS 0300B
LI 0311
LI 0321
LAHH 0311
LAHH 0321
ZLO 0310
ZLC 0310
ZLO 0320
ZLC 0320

UPS

(DIV. 26)

OPENED/CLOSED INDICATION (TYP. OF 2)

063–HT–0312
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 3)

3"–FC–PVC
022–VLV–0310

6" VENT WITH PLASTIC INSECT SCREEN

447 LT–0311
447 LE–0311

24" MANWAY

482–TNK–0311
FERRIC CHLORIDE
STORAGE TANK NO. 1

4"–OVF–PVC

063–HT–0311
TANK NO. 1
HEAT TRACE PANEL
(DIV. 43)

2"–DR–PVC

3"–FC–PVC
013–BFV–0313

063–HT–0322
HEAT TRACE PANEL
(DIV. 40*)
(NOTE 3)

FILL STATION

3"–FC–PVC
022–VLV–0320

6" VENT WITH PLASTIC INSECT SCREEN

447 LT–0321
447 LE–0321

24" MANWAY

063–HT–0321
TANK NO. 2
HEAT TRACE PANEL
(DIV. 43)

482–TNK–0321
FERRIC CHLORIDE
STORAGE TANK NO. 2

4"–OVF–PVC

2"–DR–PVC

3"–FC–PVC
013–BFV–0323

3"–DR–PVC
TO VACUUM TRUCK

3"–DR–PVC
TO PLANT DRAIN

ACID AREA CONTAINMENT

3"(6")–FC–PVCD
3"–FC–PVC
PI–3
TO FERRIC CHLORIDE FEED PUMPS

3"(6")–FC–PVCD
3"–FC–PVC
PI–3
TO FERRIC CHLORIDE FEED PUMPS

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. PLC–DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.
3. SEE HEAT TRACE SCHEDULE IN SECTION 40 41 13.13A FOR EXTENT OF HEAT TRACING REQUIREMENTS IN THIS AREA. PROVIDED NUMBER OF HEAT TRACE PANELS AS REQUIRED.

KATHLEEN M. BUECHLER
LICENSED
NUMBER
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM FERRIC CHLORIDE STORAGE TANKS

PROJECT NO. 2395–267343
FILE NAME: I002DWPI.DWG

SHEET NO.
PI–2

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TYP. OF LOOP NOS.
0515, 0525 & 0535

IN REMOTE
RUNNING
FAULT
LEAK
E-STOP
START/STOP COMMAND
SPEED FEEDBACK
SPEED SETPOINT

PLC-DWPS (NOTE 2)

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. PLC-DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.

PI-2
FROM FERRIC CHLORIDE STORAGE TANKS
3"-FC-PVC

PI-2
FROM FERRIC CHLORIDE STORAGE TANKS
3"-FC-PVC

3"x2"
2"-FC-PVC
3"-FC-PVC

2"x1 1/2"
1 1/2"-FC-PVC
1"-V-PVC
1"-FC-PVC
431
MSH-0515
46
215-PMP-0515
FERRIC CHLORIDE
FEED PUMP NO. 1

452
PI-0516
46
VENT

1"-V-PVC
1"-V-PVC

2"x1 1/2"
1 1/2"-FC-PVC
1"-FC-PVC
431
MSH-0525
46
215-PMP-0525
FERRIC CHLORIDE
FEED PUMP NO. 2

452
PI-0536
46

2"x1 1/2"
1 1/2"-FC-PVC
1"-FC-PVC
431
MSH-0535
46
215-PMP-0535
FERRIC CHLORIDE
FEED PUMP NO. 3

1"-V-PVC

VENDOR PACKAGE SKID 1

1"(3")-FC-PE(PVC)
1"-FC-PVC
TO DIGESTER
(PACKAGE 2 SCOPE
SHEET MI-10)

3/4"-FC-PVC
PI-4
FROM FERRIC
SYSTEM SKID 3
DISCHARGE

1"(3")-FC-PE(PVC)
1"-FC-PVC
TO BNR
EFFLUENT CHANNEL
(PACKAGE 3 SCOPE
SHEET FI-1)

PI-4
TO FERRIC CHLORIDE
FEED SYSTEM SKID
2 & 3

ACID AREA CONTAINMENT
CONTINUED
TO PI-4

KATHLEEN M. BUECHLER
LICENSED
NO. 26993
3/1/24
KANSAS
PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM FERRIC CHLORIDE FEED SYSTEM (01 OF 02)

PROJECT NO. 2395-267343
FILE NAME: I003DWPI.DWG

SHEET NO.
PI-3

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PLC–DWPS (NOTE 4)

PLC–CENT

NOTES:

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2. FOR ALL TAGGED ITEMS WITHIN THIS BOUNDARY, THE LOCATION CODE NUMBER IS 4262 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
3. COORDINATE PUMP SUCTION AND DISCHARGE PIPE SIZING WITH SELECTED CENTRIFUGE AND PUMP MANUFACTURERS.
4. PLC–DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.
5. SEE HEAT TRACE SCHEDULE IN SECTION 40 41 13.13A FOR EXTENT OF HEAT TRACING REQUIREMENTS IN THIS AREA. PROVIDE NUMBER OF HEAT TRACE PANELS AS REQUIRED.

TYP. OF LOOP NOS. 0115, 0125 & 0135: HEAT TRACE FAIL

TYP. OF LOOP NOS. 0115, 0125 & 0135: IN REMOTE, RUNNING, FAULT, HIGH PRESSURE, STATOR HIGH TEMPERATURE, MOTOR HIGH TEMPERATURE, E–STOP, LOW PRESSURE, START/STOP COMMAND, SPEED FEEDBACK, SPEED SETPOINT

TYP. OF LOOP NOS. 0116, 0126 & 0136: PRESSURE

TYP. OF LOOP NOS. 0118, 0119, 0120, 0138, 0139 & 0140: FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE

TYP. OF LOOP NOS. 0153 & 0163: HEAT TRACE FAIL

TYP. OF LOOP NOS. 0156, 0157, 0166 & 0167: FAULT, OPENED, CLOSED, IN REMOTE, OPEN, CLOSE

TYP. OF LOOP NOS. 0172, 0182 & 0192: FLOW

110–LCS–0115 (TYP. OF 3) (DIV. 26)
LOR HS 0115A; START HS 0115B; STOP HS 0115C; E–STOP HS 0115D; FAULT XA 0115; RUNNING YR 0115

117–AFD–0115 (TYP. OF 3) (DIV. 26)
DEWATERING CENTRIFUGE FEED PUMP NO. 1
ADJUSTABLE FREQUENCY DRIVE

110–LCS–0118 (TYP. OF 6) (DIV. 40*)
OSC HS 0118A; LOR HS 0118B; OPENED ZLO 0118; CLOSED ZLC 0118

063–HT–0153
HEAT TRACE PANEL
(DIV. 40*) (NOTE 5)

FROM DIGESTED SLUDGE HOLDING TANK NO. 1 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI → 6"x10" → 10"–DS–DI → 038–PLV–0113

452 PSL–0114; 452 PI–0114; 461 TSH–0115A 43; 461 TSH–0115B 43
219–PMP–0115 DEWATERING CENTRIFUGE FEED PUMP NO. 1
10"–DS–DI → 8"x6" → 6"–DS–DI → 041–CV–0117
452 PIT–0116; 452 PSH–0116

063–HT–0115
HEAT TRACE PANEL
(DIV. 40*) (NOTE 5)

10"–DS–DI → 038–PLV–0112

FROM DIGESTED SLUDGE HOLDING TANK NO. 2 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI → 10"–DS–DI → 038–PLV–0123

452 PSL–0124; 452 PI–0124; 461 TSH–0125A 43; 461 TSH–0125B 43
219–PMP–0125 DEWATERING CENTRIFUGE FEED PUMP NO. 2
8"x6" → 6"–DS–DI → 041–CV–0127
452 PIT–0126; 452 PSH–0126

063–HT–0125
HEAT TRACE PANEL
(DIV. 40*) (NOTE 5)

10"–DS–DI → 038–PLV–0132

FROM DIGESTED SLUDGE HOLDING TANK NO. 3 (PACKAGE 2 SCOPE SHEET NI–19)
6"–DS–DI → 10"–DS–DI → 038–PLV–0133

452 PSL–0134; 452 PI–0134; 461 TSH–0135A 43; 461 TSH–0135B 43
219–PMP–0135 DEWATERING CENTRIFUGE FEED PUMP NO. 3
8"x6" → 6"–DS–DI → 041–CV–0137
452 PIT–0136; 452 PSH–0136

063–HT–0135
HEAT TRACE PANEL
(DIV. 40*) (NOTE 5)

038–PLV–0138 → 6"–DS–DI

038–PLV–0118 → 038–PLV–0120 → 6"–DS–DI
038–PLV–0119 → 6"–DS–DI
038–PLV–0140 → 038–PLV–0139

466–MXR–0153 STATIC MIXER
DI HDPE 6"x8" → 8"–DS–HDPE
HDPE DI 8"x6" → 038–PLV–0156

063–HT–0163
HEAT TRACE PANEL
(DIV. 40*) (NOTE 5)

466–MXR–0163 STATIC MIXER
DI HDPE 6"x8" → 8"–DS–HDPE
HDPE DI 8"x6" → 038–PLV–0166 → 038–PLV–0168

038–PLV–0162 → 038–PLV–0152

038–PLV–0158 → 038–PLV–0171
DI PVC 6"x12" → 12"–DR–PVC → TO PLANT 2 INFLUENT
6"–DR–DI → UPS → 438 FIT–0172 → 6"–DS–DI → OI–1 → TO DEWATERING CENTRIFUGE NO. 1
438 FE–0172

038–PLV–0157 → 038–PLV–0191
UPS → 438 FIT–0192 → 6"–DS–DI → OI–3 → TO DEWATERING CENTRIFUGE NO. 3
438 FE–0192

038–PLV–0167 → 038–PLV–0181
UPS → 438 FIT–0182 → 6"–DS–DI → OI–2 → TO DEWATERING CENTRIFUGE NO. 2
438 FE–0182

038–PLV–0168 → 6"x8" → OI–1 → FROM 3W SYSTEM
041–CV–0169 036–VLV–0170 → 8"–3W–PVC → CENTRIFUGE BUILDING (NOTE 2)

6"–DR–DI → TO PLANT 2 INFLUENT

PI–4 FROM FERRIC CHLORIDE FEED PUMPS → 3" PVCD → 3/4"(3")–FC–PVCD
PI–4 FROM FERRIC CHLORIDE FEED PUMPS → 3" PVCD → 3/4"(3")–FC–PVCD

DEWATERING SUPPORT BUILDING (NOTE 1)

KATHLEEN M. BUECHLER — LICENSED — 19051 — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: A. MAXWELL
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING CENTRIFUGE FEED PUMP STATION

PROJECT NO. 2395–267343
FILE NAME: I001DWPI.DWG
SHEET NO. PI-1

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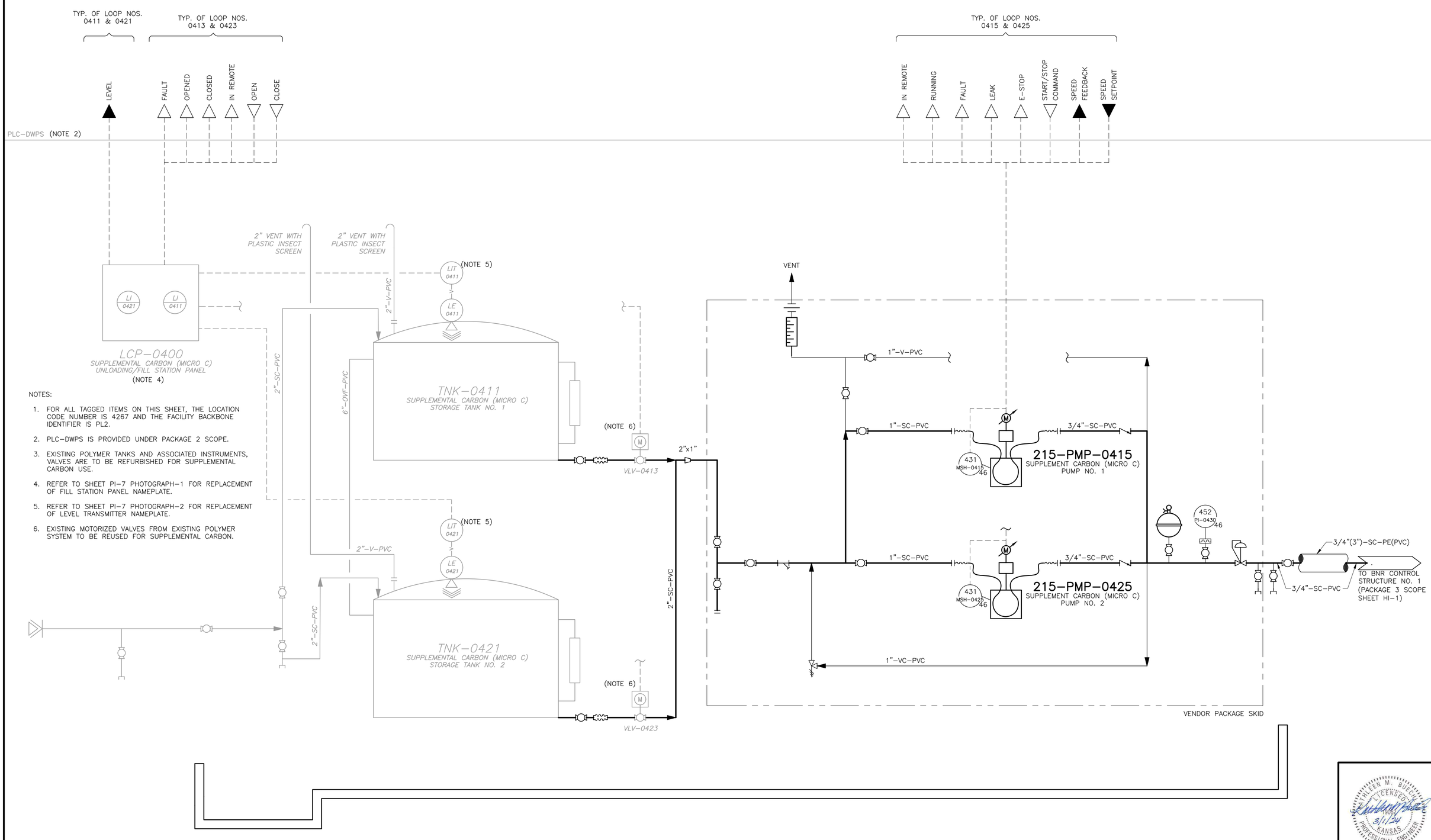

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. PLC-DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.
3. EXISTING POLYMER TANKS AND ASSOCIATED INSTRUMENTS, VALVES ARE TO BE REFURBISHED FOR SUPPLEMENTAL CARBON USE.
4. REFER TO SHEET PI-7 PHOTOGRAPH-1 FOR REPLACEMENT OF FILL STATION PANEL NAMEPLATE.
5. REFER TO SHEET PI-7 PHOTOGRAPH-2 FOR REPLACEMENT OF LEVEL TRANSMITTER NAMEPLATE.
6. EXISTING MOTORIZED VALVES FROM EXISTING POLYMER SYSTEM TO BE REUSED FOR SUPPLEMENTAL CARBON.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: B. SRISYLESH
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM SUPPLEMENTAL CARBON (MICRO C) STORAGE TANKS AND FEED SYSTEM

KATHLEEN M. BUECHLER
LICENSED
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3/1/24
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PROFESSIONAL ENGINEER

PROJECT NO. 2395-267343
FILE NAME: I005DWPI.DWG

SHEET NO.
PI-5

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PLC–DWPS (NOTE 3)

TEMPERATURE
VENT SYSTEM FAIL (MAU NO. 1)
VENT SYSTEM FAIL (EXHAUST FAN NO. 1)
AIR FILTRATION UNIT FAILURE
WATER HEATER TEMPERATURE LOW
RECIRCULATION NO FLOW
AIR FILTRATION UNIT FAILURE

MS
132–MS–0901
EXHAUST FAN MOTOR STATER
(NOTE 2)
(IN MCC)
(DIV. 26)

461 TT–0909 23
ELECTRICAL ROOM

713–AFU–0915
AIR FILTRATION UNIT NO. 1
(DIV. 23)

ELECTRICAL ROOM

FAIL

713–AFU–0916
AIR FILTRATION UNIT NO. 2
(DIV. 23)

M
724–FAN–0925
EXHAUST FAN NO. 1

777–MAU–0902
MAKEUP AIR UNIT NO. 1
(DIV. 23)

FAIL

XA 0911
HORN/ BEACON

770–VAP–0905
VENTILATION ALARM PANEL
(DIV. 26)

ES

110–LCP–0912
TEPID WATER SKID
LOCAL CONTROL PANEL
(DIV. 23)

461 TT–0913 23
512 FS–0914 23

MECHANICAL ROOM

XA 0910 26
HORN/ BEACON
EAST INTERIOR DOOR

XA 0912 26
HORN/ BEACON
PUMP ROOM

DEWATERING SUPPORT BUILDING

YA 0906 26
GO BEACON
YA 0907 26
NO–GO BEACON
NORTH EXTERIOR DOOR

YA 0908 26
GO BEACON
YA 0909 26
NO–GO BEACON
SOUTHWEST EXTERIOR DOOR

NOTES:

1. FOR ALL TAGGED ITEMS ON THIS SHEET, THE LOCATION CODE NUMBER IS 4267 AND THE FACILITY BACKBONE IDENTIFIER IS PL2.
2. CURRENT TRANSFORMER (CT) PROVIDED IN MCC FOR INDICATION OF LOSS OF POWER. DRY CONTACT IS WIRED TO VENTILLATION ALARM PANEL.
3. PLC–DWPS IS PROVIDED UNDER PACKAGE 2 SCOPE.

KATHLEEN M. BUECHLER — LICENSED — 3/1/24 — KANSAS — PROFESSIONAL ENGINEER

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. BUECHLER
DRAWN BY: S. SHRI VIDYA
SHEET CHK'D BY: K. KHAN
CROSS CHK'D BY: M. MALLOY
APPROVED BY: K. BUECHLER
DATE: MARCH 2024

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KMB ENGINEERING

CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM DEWATERING SUPPORT BUILDING MISCELLANEOUS

PROJECT NO. 2395–267343
FILE NAME: I006DWP1.DWG
SHEET NO.
PI-6

PHOTOGRAPH 1
NTS
PE–7

PHOTOGRAPH 2
NTS
PE–7

NOTES:

1. REPLACE NAMEPLATE WITH NEW NAMEPLATE WITH NEW TANK ID NUMBER, TNK–0411 AND TNK–0421
2. REPLACE NAMEPLATE WITH NEW NAMEPLATE WITH NEW VALVE ID NUMBER, VLV–0413 AND VLV–0423.
3. REPLACE NAMEPLATE WITH NEW NAMEPLATE WITH NEW LEVEL TRANSMITTER ID NUMBER, LIT–0411 AND LIT–0421.
4. ADD NAMEPLATE WITH NEW PANEL ID NUMBER, LCP–0400.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

SUPPLEMENTAL CARBON (MICRO C) MODIFICATIONS

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19851
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PROJECT NO. 2395–267343
FILE NAME: I007CBPI.DWG

SHEET NO.
PI-7

IMUX-4 PLC PANEL PARTIAL DEMOLITION

PHOTOGRAPH 1

NTS

E-4

NOTES:

1. THE PACKAGE 4 CONTRACTOR SHALL DE-TERMINATE AND DEMOLISH ALL FIELD WIRING AND EXPOSED CONDUIT FOR THE I/O POINTS LISTED IN SECTION 40 61 93, APPENDIX B, RELATED TO THE SLUDGE PUMPS, POLYMER SYSTEM AND BELT FILTER PRESS ONCE THE NEW CENTRIFUGES ARE COMMISSIONED.
2. COORDINATE DEMOLITION WITH PACKAGE 2 CONTRACTOR.

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CITY OF WICHITA, KS

WICHITA PLANT 2
PACKAGE NO.4 - DEWATERING IMPROVEMENTS

ICC BUILDING
IMUX-4 PLC CONTROL PANEL
DEMOLITION

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PROJECT NO. 2395-267343
FILE NAME: I7011CDM.DWG

SHEET NO.
XD-701