CITY OF BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MARCH 2025 PROJECT NO. 2021037

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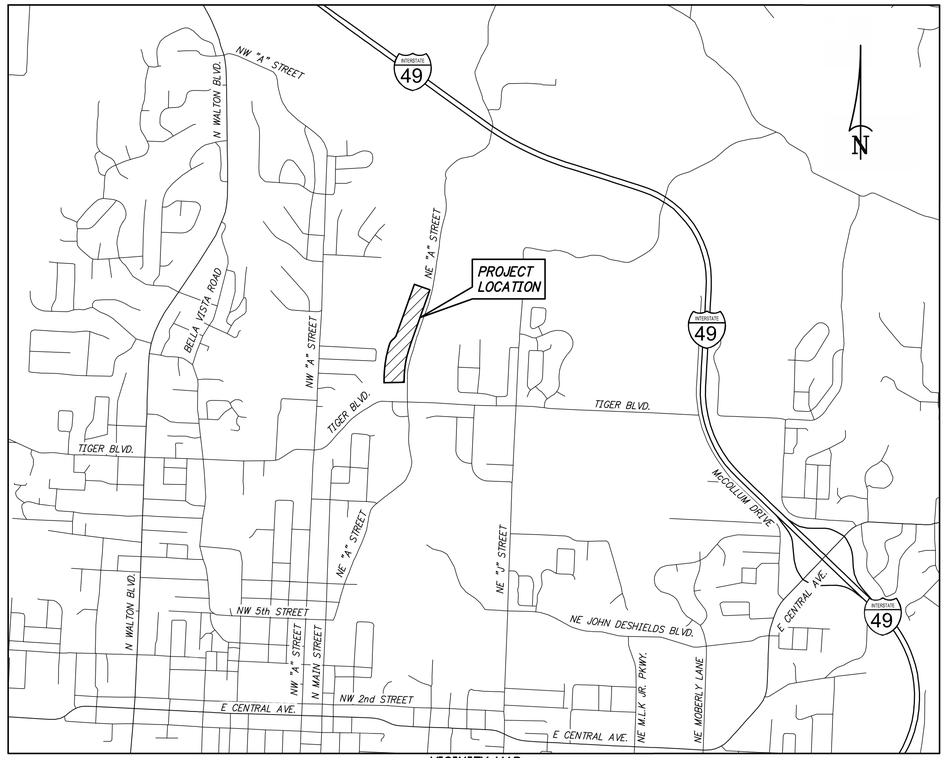

VICINITY MAP
SCALE: 1"=1500'

VOLUME 1 OF 4

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BID DRAWINGS
MARCH 21, 2025

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BID DRAWINGS
MARCH 21, 2025

1"
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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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No. 15397
3/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

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FOR: BENTONVILLE WASTEWATER UTILITIES

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SCALE: N.T.S
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HWEI NO.: 2021037
FILENAME: G-02 INDEX

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G-2

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BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOSHUA S. DUNCAN
No. 19397
LICENSED PROFESSIONAL ENGINEER
3/21/25
FLORIDA

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INDEX II

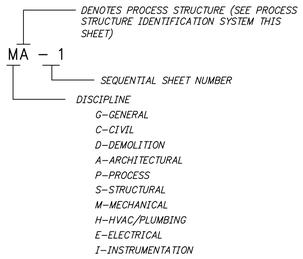
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: G-03 INDEX

SHEET NO.
G-3

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-03 INDEX.DWG, 3/21/2025 10:30 AM, MATT WEIR, LAYOUT1

DRAWING IDENTIFICATION SYSTEM



DEPICTED IS MECHANICAL SHEET NO. 1 OF THE HEADWORKS

PROCESS STRUCTURE/FACILITY IDENTIFICATION

A	HEADWORKS
B	BNR BASINS
C	AERATION BASINS
D	SECONDARY CLARIFIER DISTRIBUTION BOX AND RAS PUMP STATION NO. 1
E	SECONDARY CLARIFIER
F	RAS PUMP STATION NO. 2
G	WAS PUMP STATION
H	FILTERS/UV/POST AERATION
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J	ELECTRICAL BUILDING
K	DIGESTER VALVE VAULTS
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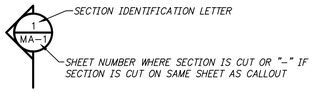
M	MAINTENANCE BUILDING
Z	STANDARD DETAILS

SECTION AND DETAIL DESIGNATION



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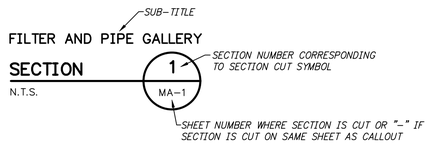

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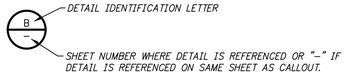

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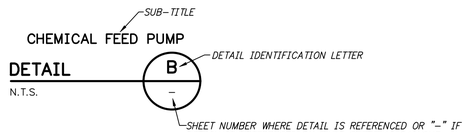

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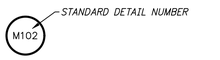

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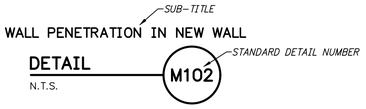

TITLE FOR STANDARD DETAIL

BOUNDARY AND MARKER SYMBOLS

SYMBOL	FEATURE
	FENCE
GP GP	GATE WITH GATE POSTS
℄	PROPERTY LINE
R/W	RIGHT–OF–WAY LINE
IPF	IRON PIN FOUND
B–7	BORING
MW	MONITORING WELL
BM 8	BENCHMARK
MON #1 B.L.	CONTROL MONUMENT

TRAVELED WAY SYMBOLS

SYMBOL	FEATURE
	UNIMPROVED DIRT ROAD OR GRAVELED ROADWAY
	GRAVEL ROAD
	PAVED ROAD OR STREET
ASHPALT DRIVE	PAVED DRIVE
20' ASPHALT	PAVED STREET OR DRIVE WITH CURB AND GUTTER
18" RCP	CULVERT STREET CROSSING WITH PIPE SIZE AND TYPE
	SIGN

LANDSCAPE AND DRAINAGE SYMBOLS

SYMBOL	FEATURE
	EXISTING BUILDING
	PROPOSED BUILDING
	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	TREE
	EDGE OF WOODS OR TREE LINE
	EDGE OF SHORE LINE
	POND OR LAKE
	STREAM
	DIRECTION OF FLOW FOR STORMWATER
	DIRECTION OF FLOW FOR SWALE OR DRAINAGE DITCH
	RIP RAP OR ROCK FILL
SF	SILT FENCE
DC	DITCH CHECK

SURFACE ELEVATION SYMBOLS

SYMBOL	FEATURE
644	EXISTING INTERMEDIATE CONTOUR LINE AND ELEVATION DESIGNATION
645	EXISTING INDEX CONTOUR LINE AND ELEVATION DESIGNATION
644	PROPOSED INTERMEDIATE CONTOUR LINE AND ELEVATION DESIGNATION
645	PROPOSED INDEX CONTOUR LINE AND ELEVATION DESIGNATION
627.10'	SPOT ELEVATION
	EXISTING CHANNEL (REVERSE SYMBOLS FOR EMBANKMENT)
	PROPOSED CHANNEL (REVERSE SYMBOLS FOR EMBANKMENT)

MISCELLANEOUS ABBREVIATIONS

ABBREVIATION	DEFINITION
AI	AREA INLET
BOC	BACK OF CURB
CL	CENTERLINE
DI	DROP INLET OR DRAINAGE INLET
DNSTM	DOWNSTREAM
EOC	EDGE OF CONCRETE
EOG	EDGE OF GRAVEL
EOP	EDGE OF PAVEMENT
FC	FENCE CORNER
FES	FLARED END SECTION
FL	FLOWLINE
INT	INTERSECTION
JB	JUNCTION BOX
PC	POINT OF CURVATURE
PT	POINT OF TANGENT
TOC	TOP OF CURB
UPSTM	UPSTREAM

UNDERGROUND/OVERHEAD UTILITY SYMBOLS

SYMBOL	FEATURE
8"SS — M	SANITARY SEWER AND MANHOLE
24"RCP D1	STORM DRAIN AND DRAINAGE INLET
	DRAINAGE JUNCTION BOX
	GRATED DRAINAGE INLET
	FIRE HYDRANT WITH WATCH VALVE
	IN LINE VALVE
6"FM	FORCE MAIN
30" RW–DI	PROCESS PIPE LINE CALLOUT PIPE MATERIAL (OPTIONAL) ABBREVIATED PROCESS LINE DESCRIPTION (SEE SHEET G–4) PIPE DIAMETER
PP OHEP	OVERHEAD ELECTRIC PRIMARY POWER LINE AND POWER POLE
OHES	OVERHEAD ELECTRIC SECONDARY POWER
E UGEP	UNDERGROUND ELECTRIC PRIMARY POWER LINE AND ELECTRIC MANHOLE OR VAULT
UGE	UNDERGROUND ELECTRIC
OTE	OVERHEAD TELEPHONE LINE
UGT	UNDERGROUND TELEPHONE LINE
FOC	FIBER OPTIC CABLE
PP	POWER POLE WITH GUY ANCHOR
MLP	METER LOOP POLE
EV	ELECTRIC VAULT
XFMR	ELECTRIC TRANSFORMER
EJB	ELECTRIC JUNCTION BOX
GEN	GENERATOR
AC	AIR CONDITIONER UNIT PAD MOUNTED
TR	TELEPHONE SERVICE RISER
WM	WATER METER
WMB	WATER METER BOX (VALVE BOX OR OTHER)
CO	CLEANOUT
GM	GAS METER
GR	GAS REGULATOR
	TRACER WIRE TERMINAL BOX
HYD	FLUSHING HYDRANT
	YARD HYDRANT
	PROPOSED WATER CANNON PAD
	EXISTING WATER CANNON PAD
	BULK SOIL SAMPLE

GENERAL LEGEND

SYMBOL	DESCRIPTION
	EXISTING PIPE, STRUCTURE OR OTHER ITEMS TO BE DEMOLISHED
	EXISTING PIPE, STRUCTURE OR OTHER ITEMS TO BE ABANDONED
	GRAVEL ACCESS DRIVE
	SIDEWALK
	EXISTING PIPE
	NEW PIPE
N	NORTH ARROW
△1	CONTROL POINT

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — JOSHUA S. DUNIVAN — No. 19397 — 3/19/25

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

LEGENDS AND ABBREVIATIONS I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: JSD
DRAWN BY: JCW
HWEI NO.: 2021037
FILENAME: G–04 LEGEND

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
G–4

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G–04 LEGEND.DWG, 3/19/2025 8:11 AM, MATT WEIR, LAYOUT1

PIPING SYMBOLS

DOUBLE LINE SYMBOL	SINGLE LINE SYMBOL	FEATURE
		WELDED JOINT
		FLANGED JOINT SIMPLIFIED REPRESENTATION.
SEE NOTE 2		FLANGED JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT SIMPLIFIED REPRESENTATION.
		MECHANICAL JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT RESTRAINED
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT SIMPLIFIED REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT COMPLEX REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT RESTRAINED
		BALL JOINT
		DIRECTION OF FLOW
		PLAIN END x PLAIN END PIPE COUPLING
		PLAIN END x PLAIN END PIPE COUPLING RESTRAINED
		FLANGE x PLAIN END PIPE COUPLING
		FLEXIBLE COUPLING OR EXPANSION JOINT (SLEEVE TYPE)
		FLEXIBLE COUPLING OR EXPANSION JOINT (BELLOWS TYPE)
(F) OR (R)		COUPLING FOR GROOVED END JOINTS: (F) FLEXIBLE (R) RIGID
		FLANGE GUARD
		FLANGE FILLER
		UNION
		QUICK CONNECT COUPLING
		HOSE COUPLING
	NEW / EXISTING	DESIGNATION OF CHANGE FROM EXISTING TO NEW (APPLIES ONLY IN PROCESS DIAGRAMS)

PIPE AND FITTING SYMBOL NOTES

1. SIMPLIFIED JOINT SYMBOL IS USED FOR ALL SINGLE LINE PIPING SHOWN ON THE INTERIOR AND EXTERIOR PIPING DRAWINGS.
2. BOTH SIMPLIFIED AND COMPLEX JOINT REPRESENTATIONS MAY BE SHOWN ON THE DRAWINGS.
3. 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.

VALVE SYMBOLS

SYMBOL	FEATURE
	UNCLASSIFIED. TYPE AS SHOWN ON THE DRAWINGS ADJACENT TO SYMBOL
	VALVE WITH HOSE END
	GATE VALVE
	3 WAY GATE VALVE
	KNIFE GATE VALVE
	NEEDLE VALVE
	GLOBE VALVE
	BALL VALVE
	PINCH VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	3-WAY PLUG VALVE
	CHECK VALVE, GENERAL SYMBOL
	BALL CHECK VALVE
	DOUBLE DOOR CHECK VALVE
	ANGLE VALVE
	SOLENOID VALVE
	BACK PRESSURE VALVE
	PRESSURE RELIEF VALVE
	REGULATING VALVE
	MUD VALVE
FD	FLOOR DRAIN
	OPEN EQUIPMENT DRAIN
ESEW	EMERGENCY SHOWER/EYEWASH
	ECCENTRIC REDUCER OR REDUCING BUSHING
	CONCENTRIC REDUCER OR REDUCING BUSHING
	Y-STRAINER
	CALIBRATION CYLINDER
ARV	AIR RELEASE VALVE
M	MOTOR OPERATOR
E	ELECTRIC OPERATOR
	ROTAMETER
	FLEXIBLE HOSE
	BASKET STRAINER

LINE VALVE STATUS

	NORMALLY OPEN (ALL VALVES EXCEPT BUTTERFLY)
	NORMALLY CLOSED (ALL VALVES EXCEPT BUTTERFLY)
NO	BUTTERFLY VALVE NO – NORMALLY OPEN (SHOWN) NC – NORMALLY CLOSED

EQUIPMENT IDENTIFICATION SYSTEM

R A S P – F 0 1

- RASP – LETTER CODE FOR EQUIPMENT; RASP = RETURN ACTIVATED SLUDGE PUMP (SEE LIST THIS SHEET)
- F – PROCESS STRUCTURE/DESIGNATION
- 01 – SEQUENTIAL NUMBER OF SAME TYPE OF EQUIPMENT

EQUIPMENT / STRUCTURE DESIGNATION

AC	AIR COMPRESSOR
AD	AIR DRYER
AECD	AERATION EFFLUENT CHANNEL DIFFUSER
AIC	AERATION INFLUENT CHANNEL
AIT	ANALYSIS INDICATING TRANSMITTER
AN	ANAEROBIC
APSP	AUXILIARY PRIMARY SLUDGE PUMP
AR	AIR RECEIVER
ARV	AIR RELEASE VALVE
ATD	AERATION TANK DIFFUSERS
AVRV	AIR/VACUUM RELEASE VALVE
AVV	AIR / VACUUM VALVE
AX	ANOXIC
B	BLOWER
BA	BALL VALVE
BNR	BIOLOGICAL NUTRIENT REMOVAL
BR	BAR RACK
BS	BAR SCREEN
BU	BUTTERFLY VALVE
CK	CHECK VALVE
DP	DRAIN PUMP
E	EFFLUENT
EPS	EFFLUENT PUMP STATION
FD	FLOOR DRAIN
FE	FLOW ELEMENT
FEC	FINAL EFFLUENT CHANNEL
FEP	FINAL EFFLUENT PUMP
FG	FLAP GATE
FLT	FILTER
GC	GRIT CHAMBER
GL	GLOBE VALVE
GT	GRAVITY THICKENER
GV	GATE VALVE
GP	GRIT PUMP
GW	GRIT WASHER
IRPS	INTERNAL RECYCLE PUMP STATION
KG	KNIFE GATE VALVE
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LIT	LEVEL INDICATING TRANSMITTER
LS	LEVEL SWITCH
M	METER
MC	MIXING CHIMNEY
ME	MECHANICAL EQUIPMENT
MFM	MAGNETIC FLOW METER
MLF	MIXED LIQUOR FERMENTER
MLP	MIXED LIQUOR PUMP
MLPS	MIXED LIQUOR PUMP STATION
MXR	MIXER
MV	MUD VALVE
NE	NEEDLE VALVE
OCF	ODOR CONTROL FAN
OCP	ODOR CONTROL PUMP
PA	POST AERATION
PC	PRIMARY CLARIFIER
PCV	PRESSURE CONTROL VALVE
PFPS	PEAK FLOW PUMP STATION
PI	PRESSURE INDICATOR (GAUGE)
PIN	PINCH VALVE
PIT	PRESSURE INDICATING TRANSMITTER
PL	PLUG VALVE
PRGV	PRESSURE REGULATION VALVE
PRV	PRESSURE RELIEF VALVE
PS	PRESSURE SWITCH
PWSP	PLANT WATER SYSTEM PUMP
PWST	PLANT WATER STRAINER
RASP	RETURN ACTIVATED SLUDGE PUMP
RD	ROLLOFF DUMPSTER
RM	ROTAMETER
RP	RECYCLE PUMP
RSP	RAW SEWAGE PUMP
SC	SECONDARY CLARIFIER
SCCP	SCUM DRAIN PUMPS
SCRN/C	SCREEN CONVEYOR / COMPACTOR
SEC	SECONDARY EFFLUENT CHANNEL
SECD	SECONDARY EFFLUENT CHANNEL DIFFUSER
SG	SLUICE GATE
SHG	SHEAR GATE
SLG	SLIDE GATE
SOL	SOLENOID VALVE
SP	SUMP PUMP
SRV	SURGE RELIEF VALVE
SSCP	SCUM / DRAIN PUMP
SWC	SCREENINGS WASHER / COMPACTOR
TF	TERTIARY FILTER
UV	ULTRAVIOLET DISINFECTION SYSTEM
WASP	WASTE ACTIVATED SLUDGE PUMP
WG	WEIR GATE
WM	WATER METER

PIPE IDENTIFICATION SYSTEM

(2) 6" D R N – D I

- (2) – NOMINAL PIPE DIAMETER (INCHES); NUMERICAL INDICATOR FOR MULTIPLE IDENTICAL FLOWSTREAMS
- 6" – NOMINAL PIPE DIAMETER (INCHES)
- DRN – PROCESS FLOW STREAM (SEE LIST THIS DRAWING)
- DI – PIPE MATERIAL (SEE LIST THIS DRAWING)

DEPICTED ARE TWO 6-INCH DIAMETER (DRAIN) DUCTILE IRON PIPES.

PROCESS FLOW NOMENCLATURE

AA	AERATION AIR
AE	AERATION EFFLUENT
ALS	ALUMINUM SULFATE SOLUTION
ATI	AERATION TANK INFLUENT
ATO	AERATION TANK OUTLET
AXE	ANOXIC EFFLUENT
BYP	BYPASS
CF	CHEMICAL FEED
CA	COMPRESSED AIR
DRN	DRAIN
DS	DIGESTED SLUDGE
FE	FINAL EFFLUENT
FM	FORCE MAIN
FPS	FIRE PROTECTION SYSTEM
FR	FERMENTER RECYCLE
FW	FILTER WASTE
GR	GRIT
ML	MIXED LIQUOR
NPW	NON-POTABLE WATER
OF	OVERFLOW
OC	ODOR CONTROL
PRD	PROCESS DRAIN
PW	PLANT WATER
RAS	RETURN ACTIVATED SLUDGE
RS	RAW SEWAGE
RSBP	RAW SEWAGE BYPASS
SCE	SECONDARY CLARIFIER EFFLUENT
SCI	SECONDARY CLARIFIER INFLUENT
SCUM	SECONDARY CLARIFIER SCUM
SD	STORM DRAIN
SLD	SLUDGE THICKENER DISCHARGE
SLI	SLUDGE THICKENER INFLUENT
SR	SUPERNATENT RETURN
SS	SANITARY SEWER
SSC	SECONDARY SCUM
SVW	SERVICE WATER
SW	SEAL WATER
SWAS	SURFACE WASTE ACTIVATED SLUDGE
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
W	POTABLE WATER
WW	WET WEATHER

PIPE MATERIAL

CI	CAST IRON
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CU	COPPER
DI	DUCTILE IRON
DIG	GLASS LINED DUCTILE IRON
FRP	FIBER REINFORCED PLASTIC
GS	GALVANIZED CARBON STEEL
HDPE	HIGH DENSITY POLYETHYLENE
PCC	PRESTRESSED CONCRETE CYLINDER
PE	POLYETHYLENE
PP	POLYPROPYLENE
PVC	POLYVINYL CHLORIDE
PWHDPE	PROFILE WALL HIGH DENSITY POLYETHYLENE
RCC	REINFORCED CONCRETE CYLINDER
RCP	REINFORCED CONCRETE PIPE
SS	STAINLESS STEEL
STL	STEEL

PROCESS DEVICE/EQUIPMENT SYMBOLS

SYMBOL	FEATURE
	CENTRIFUGAL PUMP
	PLUNGER PUMP
	DIAPHRAGM PUMP
	PROGRESSIVE CAVITY
	VERTICAL WET PIT PUMP
	SUBMERSIBLE PUMP
	PERISTALTIC PUMP
	MIXER
	GRINDER
	BELT CONVEYOR
	SCREW CONVEYOR
	BELT FILTER PRESS
	CENTRIFUGAL BLOWER
	RECIPROCATING COMPRESSOR
	ROTARY BLOWER
	IN-LINE STATIC MIXER

GATE SYMBOLS

PLAN	FEATURE
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	STOP PLATE (SP)
	SHEAR GATE (SHG)
	FLAP GATE

SECTION (OPERATOR ONLY)	FEATURE
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	WEIR SLIDE GATE (WSLG)

VALVE TAG

16" BU–B 0 1

- 16" – VALVE SIZE
- BU – ABBREVIATION INDICATING TYPE OF VALVE, i.e. GATE, PLUG, BUTTERFLY, ETC
- B – PROCESS STRUCTURE DESIGNATION
- 01 – SEQUENTIAL NUMBER OF SAME TYPE OF VALVE
- SHOWN ON PROCESS DIAGRAMS ONLY

GATE IDENTIFICATION SYSTEM

UV – SG – 0 1

- UV – ULTRAVIOLET DISINFECTION SYSTEM
- SG – ABBREVIATION INDICATING TYPE OF GATE, i.e. SLUICE GATE, SLIDE GATE, STOP PLATE, WEIR SLIDE PLATE.
- 01 – NUMERICAL INDICATOR UNIQUE NUMBER ASSIGNED TO EACH GATE USED

SEE SCHEDULE IN SPECIFICATIONS FOR GATE SIZES

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No. 19397 JOHN S. DUNN 3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

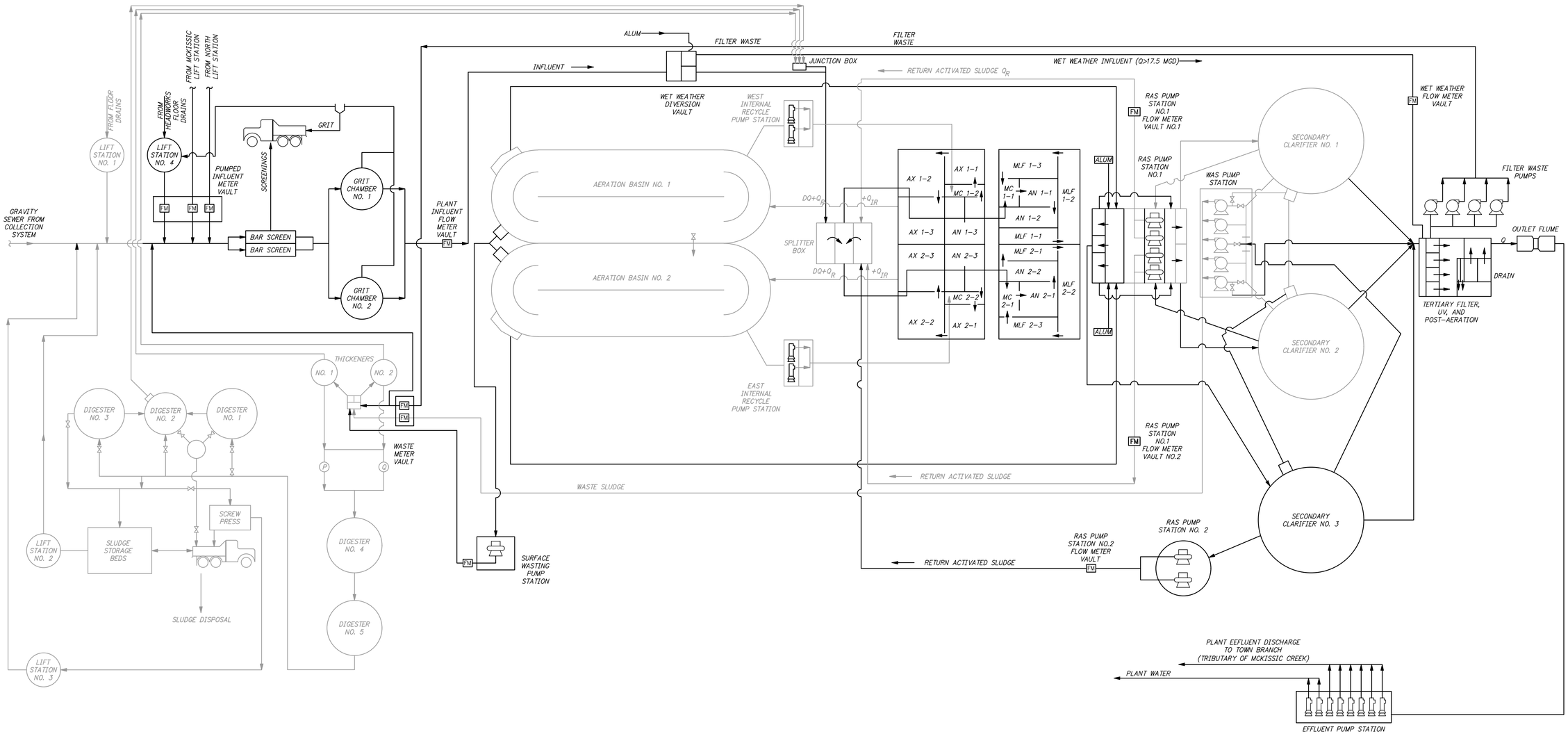
LEGENDS AND ABBREVIATIONS II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: JSD
DRAWN BY: JCW
HWEI NO.: 2021037
FILENAME: G-05 ABBR

SHEET NO.
G–5

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-05 ABBR.DWG, 3/19/2025 8:12 AM, MATT WEIR, LAYOUT1



PROCESS FLOW DIAGRAM

N.T.S.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 19397 JOSHUA S. DUGGINS

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BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS FLOW DIAGRAM

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: G-06 PROCESS

SHEET NO.
G-6

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-06 PROCESS.DWG, 3/19/2025 8:12 AM, MATT WEIR, LAYOUT1

Item	Units	Parameter
Ambient & Site Conditions		
Elevation		
Site Maximum	ft	1190
Site Minimum	ft	1124
Base Flood Elevation	ft	1137
Air Pressure at Max Elevation	psi	14.08
Influent Temperature		
Maximum (Summer)	°F	110
Minimum (Winter)	°F	0
Humidity		
Maximum (Summer)	%	100
Minimum (Winter)	%	0
Wastewater Flows & Loading		
Design Flow Conditions		
Minimum Day	MGD	1.4
Peak Hour Plant (2045 Projection)	MGD	30.0
Peak Hour Biological Treatment (2045 Projection)	MGD	13.6
Annual Average (2045 Projection)	MGD	8.0
Maximum Month (2045 Projection)	MGD	10.9
Peak Day (2045 Projection)	MGD	30.0
Annual Average	***lbs/day***	***mg/l***
BOD_5	14,128	220
$CBOD_5$	9,633	150
TSS	17,339	270
NH_3-N	1,541	24
Total Phosphorus	398	6.2
Alkalinity as $CaCO_3$	0	
Maximum Month	***lbs/day***	***mg/l***
BOD_5	17,339	191
$CBOD_5$	12,844	200
TSS	27,222	299
NH_3-N	1,957	22
Total Phosphorus	605	6.7
Alkalinity as $CaCO_3$	14,999	165
Peak Day (Wet Weather)	***lbs/day***	***mg/l***
BOD_5	31,082	124
$CBOD_5$	33,777	135
TSS	43,521	174
NH_3-N	2,666	11
Total Phosphorus	987	3.9
Effluent Requirements		
NPDES Permit No. AR0022403		
Effective Date	February 1, 2021	
Expiration Date	January 31, 2026	
Characteristic	***Monthly Average***	***7-Day Average***
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), mg/l	*10*	*15*
Total Suspended Solids (TSS), mg/l	15.0	22.5
Ammonia Nitrogen (NH_3-N), mg/l		
April	1.6	3.9
May - October	1.6	2.4
November-March	4.1	6.2
Total Phosphorus (TP)	0.6, Annual Ave.	1.1, Daily Max.
Nitrate + Nitrite Nitrogen (NO_3 + NO_2-N)	Report	10.0, Daily Max.
Total Nitrogen (TN)	Report	Report
Dissolved Oxygen (DO) Insta. Min., mg/l		
May - October	5.0	
November - April	6.5	
Fecal Coliform Bacteria (FCB), colonies/100ml	200	400
pH	*Min*	*Max*
	6.0 s.u.	9.0 s.u.
Chronic Whole Effluent Toxicity	Lethality: Not < 91%	
	Sub-lethality: Not < 80%	

Item	Units	Parameter
Influent Screening		
Mechanically Raked Screen		
Number	Each	2
Channel Width	Feet	6
Channel Depth	Feet	10
Bar Spacing (Clear Space)	Inch	0.25
Angle From Horizontal	Degrees	60
Minimum Screen Height	Feet	10
Material of Construction	-	304 SS
Rack Speed, Continuous	Inch/Min.	22 - 112
Minimum Motor Rating, Each	HP	3/4
Capacity, Each	MGD	30
Capacity, Firm	MGD	30
Screening Conveyors		
Number	Each	2
Design Capacity	Cu. Ft./Hr	90
Maximum Allowable Fill	%	40%
Screw Conveyor Type	-	Shaftless
Maximum Screw Speed	RPM	20
Maximum Angle of Incline	Degrees	8
Minimum Motor Size	HP	2
Motor Safety Factor	-	2.8
Washer Compactor		
Quantity	Each	2
Drive Configuration	-	Push Drive
Motor	HP	3
Grit Concentrator		
Number	Each	2
Technology	Stacked Tray	
Design Basis Manufacturer	*Hydro-International*	
Model	-	Head-Cell
Surace Area/Unit, Minimum	SF	1356
Peak Flow Per Unit	MGD	30
Diameter	Feet	12
Number of Trays/Unit	-	12
Grit Removal at Peak Flow	-	95%, >125 microns
Headloss at Peak Flow (Maximum)	Inches	12
Grit Pumps		
Grit Pump	Each	2
Flow Capacity, Each	GPM	300
TDH	Feet	33
Discharge	Inch	4
Motor, Each (Minimum)	HP	5
Grit Classifier/Washer		
Number	Each	2
Design Flow Rate, Each	GPM	300
Auger Diameter	Inch	12
Influent Solids Concentration	%	< 1.5%
Grit Removal Performance, Design Flow	-	95%, >75 microns
Capacity (Maximum)	CY/Hr	1.5
Minimum Auger Motor Rating, Each	HP	2
Headloss at Design Flow	Inch	3
Flow Meters		
Pumped Influent (3 meters)		
Service	-	Raw Sewage
Tag Number	-	1101-FM-24MCK
Meter Size	Inch	24
Tag Number	-	1102-FM-12NOR
Meter Size	Inch	12
Tag Number	-	1103-FM-4LS4
Meter Size	Inch	4
Plant Influent		
Service	-	Raw Sewage
Tag Number	-	1400-FM-24INF1
Meter Size	Inch	24
Tag Number	-	1403-FM-24INF2
Meter Size	Inch	24
Grit Piping		
Service	-	Raw Sewage
Tag Number	-	1303-FM-4GP01
Meter Size	Inch	4
Tag Number	-	1313-FM-4GP02
Meter Size	Inch	4
Wet Weather		
Service	-	Raw Sewage
Tag Number	-	1404-FM-30WW
Meter Size	Inch	30
Return Activated Sludge Pump Station No. 1 Meter Vault No. 1		
Service	-	RAS No. 1
Tag Number	-	4410-FM-12SC1
Meter Size	Inch	12
Return Activated Sludge Pump Station No. 1 Meter Vault No. 2		
Service	-	RAS No. 1
Tag Number	-	4420-FM-12SC2
Meter Size	Inch	12
Return Activated Sludge Pump Station No. 2		
Service	-	RAS No. 2
Tag Number	-	4530-FM-12SC3
Meter Size	Inch	12
Filter Waste		
Service	-	Filter Backwash
Tag Number	-	4702-FM-6WAS-FLT
Meter Size	Inch	6
Waste Activated Sludge (WAS)		
Service	-	WAS
Tag Number	-	4701-FM-8WAS-SC
Meter Size	Inch	8
Surface Wasting Pump Station		
Service	-	WAS
Tag Number	-	4700-FM-6WAS-SW
Meter Size	Inch	6

Item	Units	Parameter
BNR Basins (Formerly Anoxic Basins)		
Mixed Liquor Fermenter (MLF) Basins		
MLF 1-1, MLF 2-1, MLF 1-3, and MLF 2-3 (New Basins)		
Number Of Basins	Each	4 (2 Per Train)
Volume Per Basin	Ft^3	8,400
HRT Without Recycle At Design AA Flow	Mins	11
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	1,900 - 7,600
MLF 1-2, MLF 2-2 (New Basins)		
Number Of Basins	Each	2 (1 Per Train)
Volume Per Basin	Ft^3	19,800
HRT Without Recycle At Design AA Flow	Mins	27
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	1,900 - 7,600
Anaerobic Selector (AN) Basins		
AN 1-1, AN 2-1 (New Basins)		
Number Of Basins	Each	2 (1 Per Train)
Volume Per Basin	Ft^3	5,300
HRT Without Recycle At Design AA Flow	Mins	7
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	3,800
AN 1-2, AN 2-2 (New Basins)		
Number Of Basins	Each	2 (1 Per Train)
Volume Per Basin	Ft^3	8,100
HRT Without Recycle At Design AA Flow	Mins	11
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	3,800
Fermenter Feed Pump		
Type		Submersible
Number Of Units Per Basin (Total)	Each	1 (2)
Rated Head	FT	3
Capacity At Rated Head Per Pump	GPM	550
Motor Rating Per Pump (Minimum)	HP	5
AN 1-3, AN 2-3 (Existing Basins)		
Number Of Basins	Each	2 (1 Per Train)
Volume Per Basin	Ft^3	15,200
HRT Without Recycle At Design AA Flow	Mins	20
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	3800
Anoxic (AX Basins)		
AX 1-1 & AX 2-1 (Existing Basins)		
Number Of Basins	Each	2 (1 Per Train)
Volume Per Basin	Ft^3	12,100
HRT Without Recycle At Design AA Flow	Mins	16
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	3,800
AX 1-2, AX 1-3, AX 2-2 & AX 2-3 (Existing Basins)		
Number Of Basins	Each	4 (2 Per Train)
Volume Per Basin	Ft^3	22,700
HRT Without Recycle At Design AA Flow	Mins	31
Mixing		
Type		Compressed Air Mixing
Number Of Units Per Basin (Total)		Per Mfr Recommendation
Solids Concentration	mg/l	3,800
Aeration Basins		
Aeration Basin 01 & Aeration Basin 02		
Number of Basins (Existing)	Each	2 (1 Per Train)
Volume Per Basin (Existing)	Ft^3	327,000
HRT Without Recycle At Design AA Flow (Existing)	Mins	440
Number Of Aerator Motors Per Basin	-	4
Total Number Of Aerator Motors	-	8
Motor Horsepower	-	75
Minimum Rotor Submergence	Inch	15
Standard Oxygen Transfer Rate (SOTR) Per Rotor	O_2/Hr	224.4
Surface Wasting Pumps		
Manufacturer	-	Flygt
Pump Type	-	Submersible
Drive Type	-	Variable Frequency
Number of Pumps, Duty	-	1
Rated Head, Each	Feet	23
Capacity at Rated Head, Each	GPM	390
Motor Rating, Each (Minimum)	HP	5
Firm Capacity	GPM	390
Internal Recycle Pumps		
Manufacturer	-	Flygt
Pump Type	-	Horizontal Propeller
Drive Type	-	Variable Frequency
Number of Pumps (per Internal Recycle Pump Station)	-	4 (2)
Rated Head, Each	Feet	3.4
Capacity at Rated Head, Each	GPM	4600
Motor Rating, Each	HP	10.7
Firm Capacity (per Internal Recycle Pump Station)	GPM	4600

Item	Units	Parameter
Lift Station No. 4		
Manufacturer	-	Flygt
Number of Pumps	-	2
Flow Capacity, Each	GPM	100
TDH	Feet	35.8
Waste Activated Sludge Pumping		
Existing Pump Manufacturer	-	Fairbanks Morse
Number of Pumps to be Supplied	-	1
Average Daily Runtime	Min / Hour	5
Maximum Daily Runtime	Mins	120
Discharge	Inch	3
Primary Condition: Capacity, Each	GPM	200
Primary Condition: TDH	Feet	13
Secondary Condition: Capacity, Each	GPM	260
Secondary Condition: TDH	Feet	11
Solids Diameter	Inch	2
Motor Voltage	V	460
Motor Frequency	Hz	60
Pump Speed	RPM	880
Motor Rating, Each	HP	3
Alum Feed System - Peak Wet Weather Flow		
Average Alum Dosage Rate as 48.5% Concentration Solution	GPH	2.8
Maximum Alum Dosage Rate as 48.5% Concentration Solution	GPH	37.3
Average Alum Required	GPD	67
Filtration		
Filters		
Filter Type	-	Cloth Media
Design Basis Manufacturer	-	*Alfa-Laval*
Nominal Media Opening	um	5
Number	-	4
Peak Hour Filtration Rate	GPM/Ft^2	6.03
Surface Area per Disc	Ft^2	128
Number of Discs Per Filter	-	9
Total Surface Area per Filter	Ft^2	1,152
Max Capacity Each	MGD	10
Firm Capacity	MGD	30
Maximum Influent TSS Concentration	mg/L	30
Maximum Allowable Headloss Through Filter	Inches	12
Backwash Pump		
Backwash Drive Motor	HP	2.0
Backwash Pump Type	-	Suction Lift
Design Basis Manufacturer	-	*Gorman-Rupp*
Backwash Pump Capacity, Each	GPM	400
Backwash Pump Friction Head Loss (From Discharge of Pump)	Feet	27
Discharge Elevation	Feet	1,145
Backwash Pump Rating, Each	HP	10
Valve Actuator Motor Size	HP	0.3
Secondary Clarifiers		
Number	-	3
Manufacturer	-	Walker Process
Diameter	Feet	90
Sidewater Depth	Feet	12
Surface Area, Each	Ft^2	6,362
Surface Area, Total	Ft^2	19,085
Volume, Total	MG	1.71
Design Average Effluent Flow, Each	MGD	2.7
Design Average Eff. Flow, 1 Unit Out of Service	MGD	4.0
Design Peak Hour Effluent Flow, Each	MGD	4.5
Overflow Rate, Annual Average, Each	GPD/Ft^2	419
Overflow Rate, Peak Hour, Each	GPD/Ft^2	714
Weir Loading Rate, Peak Hour, Each	GPD/Ft	16,100
RAS Pump Station No. 2		
Manufacturer	-	Flygt
Number of Pumps		2
Flow Capacity, Each	GPM	2,100
Low TDH	Feet	21
High TDH	Feet	28
High Motor Rating, Each (Minimum)	HP	25
Firm Capacity	GPM	2,100

Item	Units	Parameter
UV Disinfection		
Number of Channels	-	2
Design Basis Manufacturer	-	*Wedeco*
UVT	%	65
Peak Design Flow	MGD	30.0
Design Average Flow	MGD	8.0
Design Minimum Flow	MGD	1.4
Fouling Factor	-	0.94
Maximum Allowable Headloss at Peak Flow	Inches	12
Lamp Output at End of Lamp Life	%	86%
Disinfection Limit	Fecal Coli. /100 mL	200
Effluent Total Suspended Solids (TSS)	mg/L	30
Minimum Design UV Dose	mJ/cm^2	30
Post-Aeration		
Basins		
Number of Basins	-	2
Length	Feet	50
Width	Feet	12
Sidewater Depth	Feet	15
Basin Volume, Each	MG	0.07
Hydraulic Retention Time @ Avg Flow	Minutes	24
Hydraulic Retention Time @ Peak Flow	Minutes	6
Diffuser Type	-	Coarse Bubble
Inlet Dissolved Oxygen (DO)	*mg/L*	0
Outlet Dissolved Oxygen (DO)	*mg/L*	7
Actual Oxygen Requirement (AOR)	lb O_2 / day	1,751
Saturation Factor	β	0.98
Oxygen Transfer Efficiency	%	13.3%
Air Flow Required per Basin	SCFM	587
Total Aeration Capacity Required	SCFM	1,174
Intake Pressure	PSIA	14.13
Minimum Supply Pressure at Top of Dropleg	PSIG	6.7
Design Pipe Velocity	Ft/s	25.0
Number of Diffusers / Grid	-	13
Design Basis Manufacturer	-	*Sanitaire*
Blowers		
Number of Blowers	-	3
Blower Type	-	PD
Differential Pressure	PSIG	7
Inlet Temperature	°F	105
Inlet Relative Humidity	%	85%
Motor Rating, Each	HP	60
Parshall Flume		
Flume Throat Size	Inch	36
Level Transmitter Type	-	Ultrasonic
Effluent Pumps		
Pump Type	Vertical Turbine Pumps	
Design Basis Manufacturer	-	Patterson
Capacity, Firm	MGD	30
Dry Weather Pumps		
Number	Each	3
Discharge	Inch	12
Motor Voltage	V	460
Motor Frequency	Hz	60
Motor Maximum Speed	RPM	1800
Motor Rating, Each	HP	25
Head	Feet	26.1
Capacity, Each	GPM	2,350
Capacity, Each	MGD	3.38
Wet Weather Pumps		
Number	Each	3
Discharge	Inch	20
Motor Voltage	V	460
Motor Frequency	Hz	60
Motor Maximum Speed	RPM	1200
Motor Rating, Each	HP	60
Head	Feet	27.5
Capacity, Each	GPM	6,950
Capacity, Each	MGD	10
Plant Water Pumps		
Number of Pumps	-	2
Configuration	-	Active-Standby
Drive/Starter	-	VFD
Typical Operation	-	Duplex
Minimum Supply Pressure	PSI	50
Discharge	Inch	4
Motor Voltage	V	460
Motor Frequency	Hz	60
Motor Maximum Speed	RPM	3600
Motor Rating, Each	HP	10
Head	Feet	220.6
Capacity, Each	GPM	150
Capacity, Each	MGD	0.22

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

REVISION

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STATE OF ARKANSAS 14 LICENSED PROFESSIONAL ENGINEER No. 19397 JOSHUA S. DUNCAN 5/19/25

HAWKINS WEIR ENGINEERS, INC.

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BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

BASIS OF DESIGN

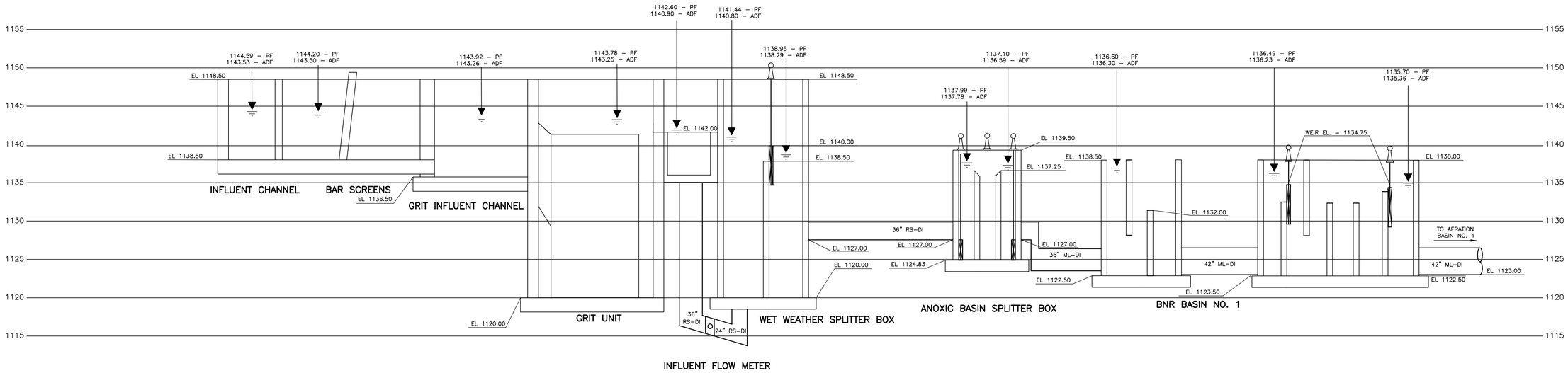
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: G-07 DESIGN

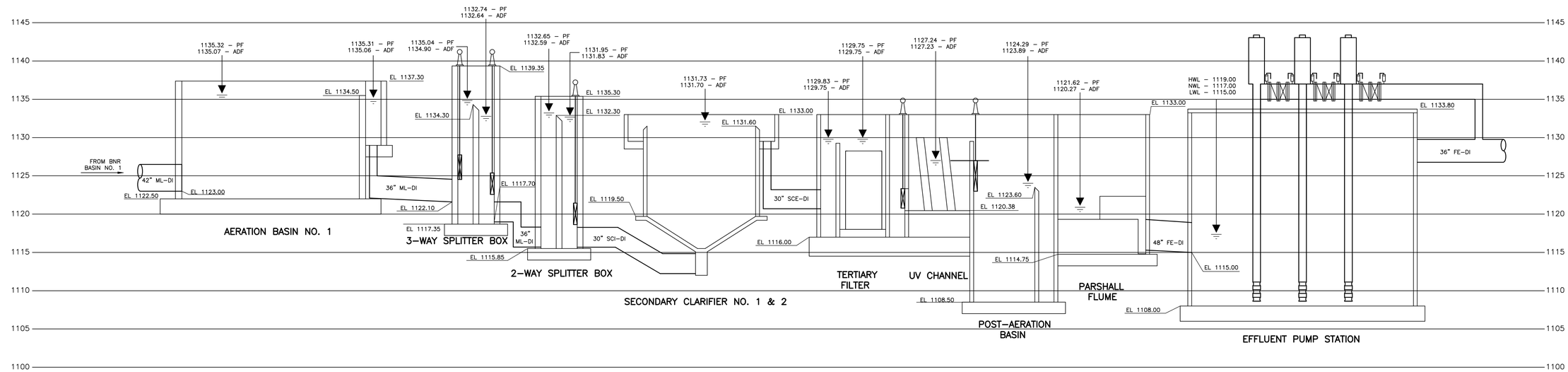
BID DRAWINGS
MARCH 21, 2025

SHEET NO.
G-7

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-07 DESIGN.DWG, 3/19/2025 8:12 AM, MATT WEIR, LAYOUT1



PRIMARY HYDRAULIC PROFILE



PRIMARY HYDRAULIC PROFILE

PF – PEAK FLOW – 30 MGD

ADF – AVERAGE DAILY FLOW – 8 MGD

BID DRAWINGS
MARCH 21, 2025

1"
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IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

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MARGARET E. KEITH

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

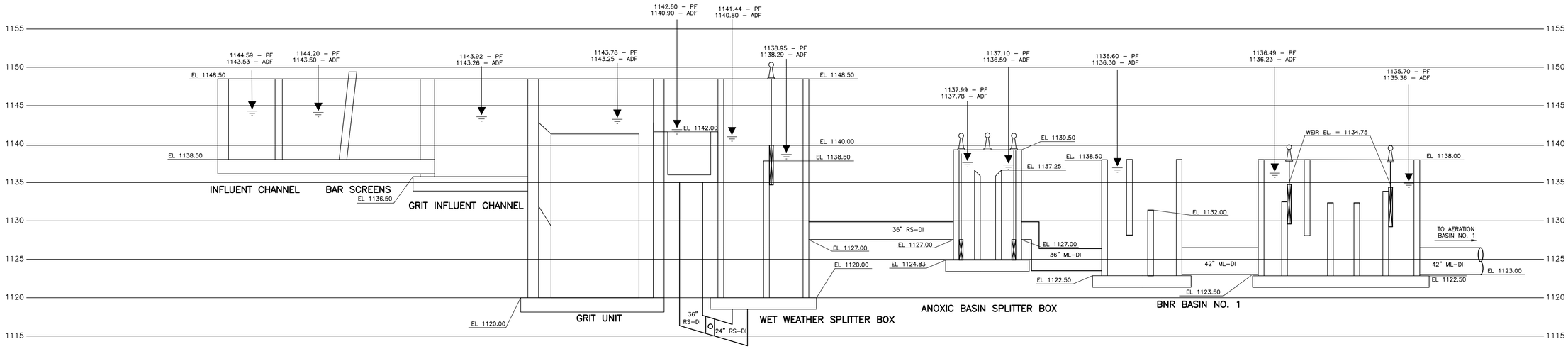
HYDRAULIC PROFILE I

FOR: BENTONVILLE WASTEWATER UTILITIES

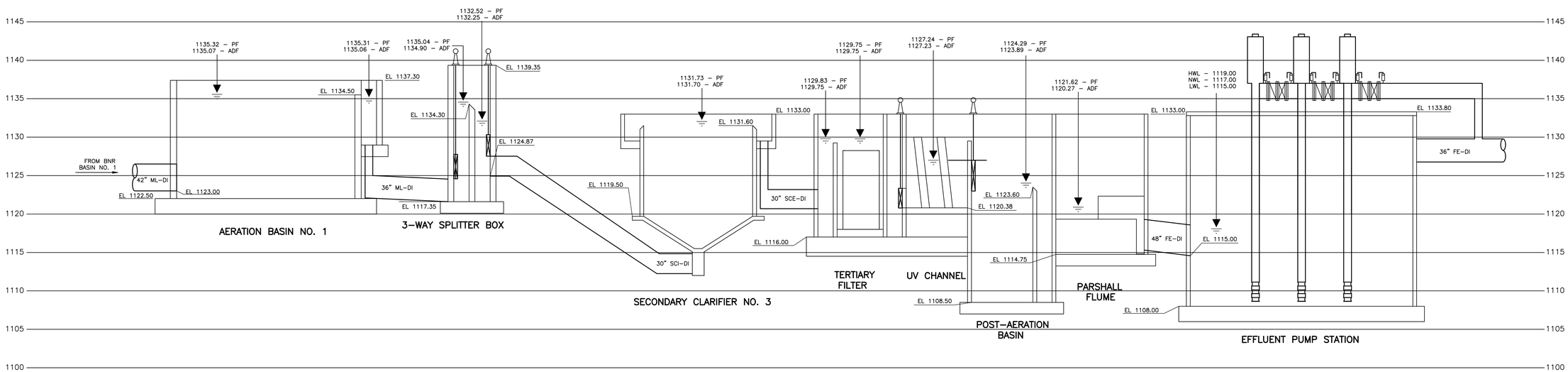
DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: JCW
HWEI NO.: 2021037
FILENAME: G-08 HYDRO

SHEET NO.
G-8

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-08 HYDRO.DWG, 3/19/2025 8:12 AM, MATT WEIR, LAYOUT1



HYDRAULIC PROFILE WITH SECONDARY CLARIFIER NO. 3



HYDRAULIC PROFILE WITH SECONDARY CLARIFIER NO. 3

PF – PEAK FLOW – 30 MGD

ADF – AVERAGE DAILY FLOW – 8 MGD

BID DRAWINGS
MARCH 21, 2025

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DATE
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

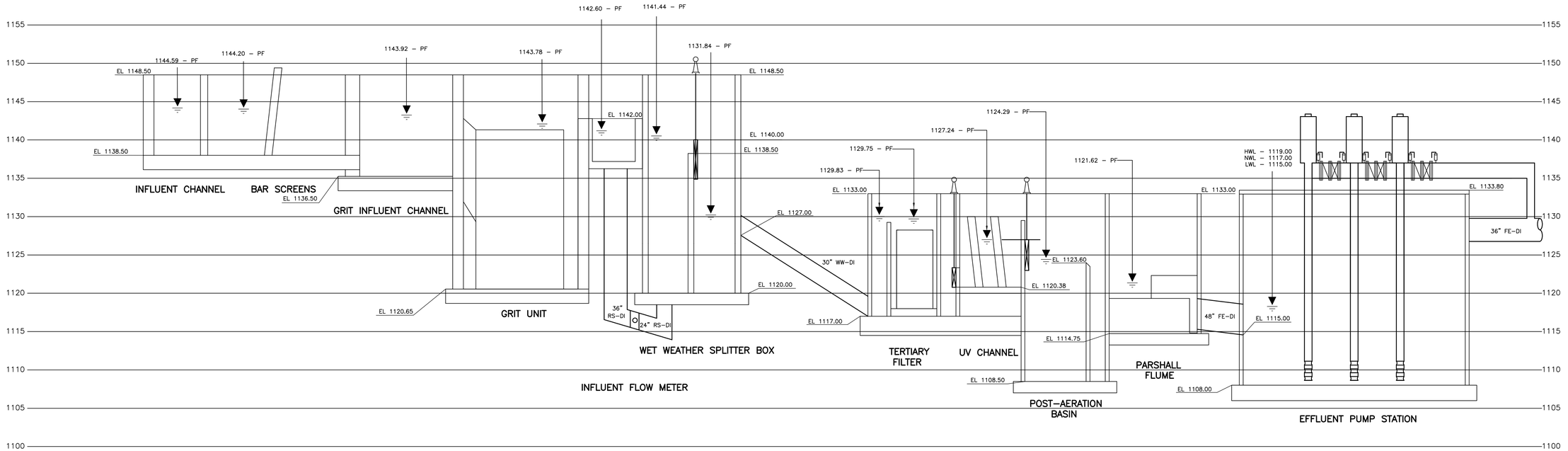
HYDRAULIC PROFILE II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: JCW
HWEI NO.: 2021037
FILENAME: G–09 HYDRO

SHEET NO.
G–9

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G–09 HYDRO.DWG, 3/19/2025 8:13 AM, MATT WEIR, LAYOUT1



HYDRAULIC PROFILE FOR WET WEATHER PEAK FLOW

PF – PEAK FLOW

ADF – AVERAGE DAILY FLOW

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
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SCALE ACCORDINGLY

REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

HYDRAULIC PROFILE III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: JCW
HWEI NO.: 2021037
FILENAME: G–10 HYDRO

SHEET NO.
G–10

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G–10 HYDRO.DWG, 3/19/2025 8:13 AM, MATT WEIR, LAYOUT1

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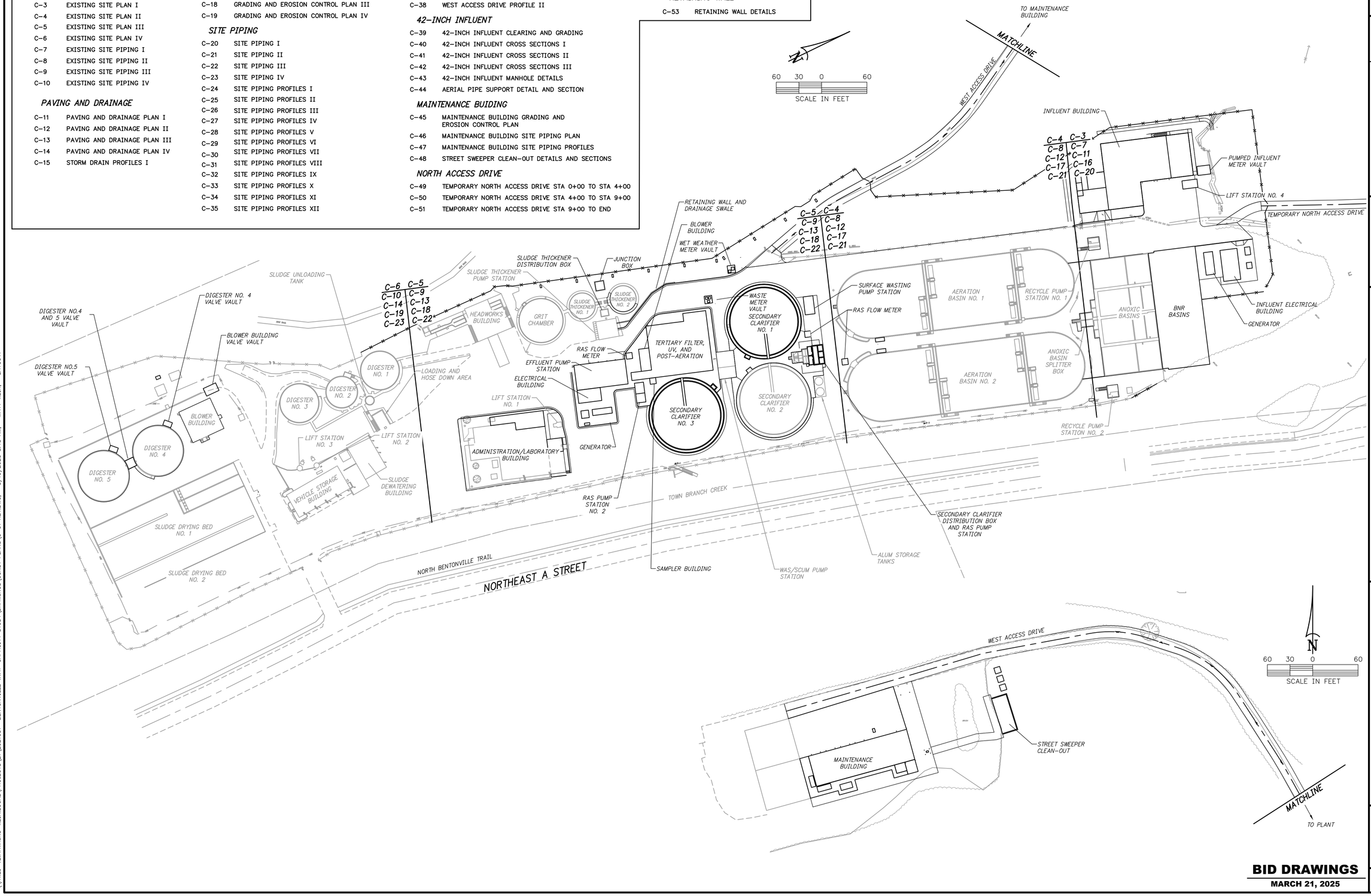

BID DRAWINGS
MARCH 21, 2025

1"
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REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

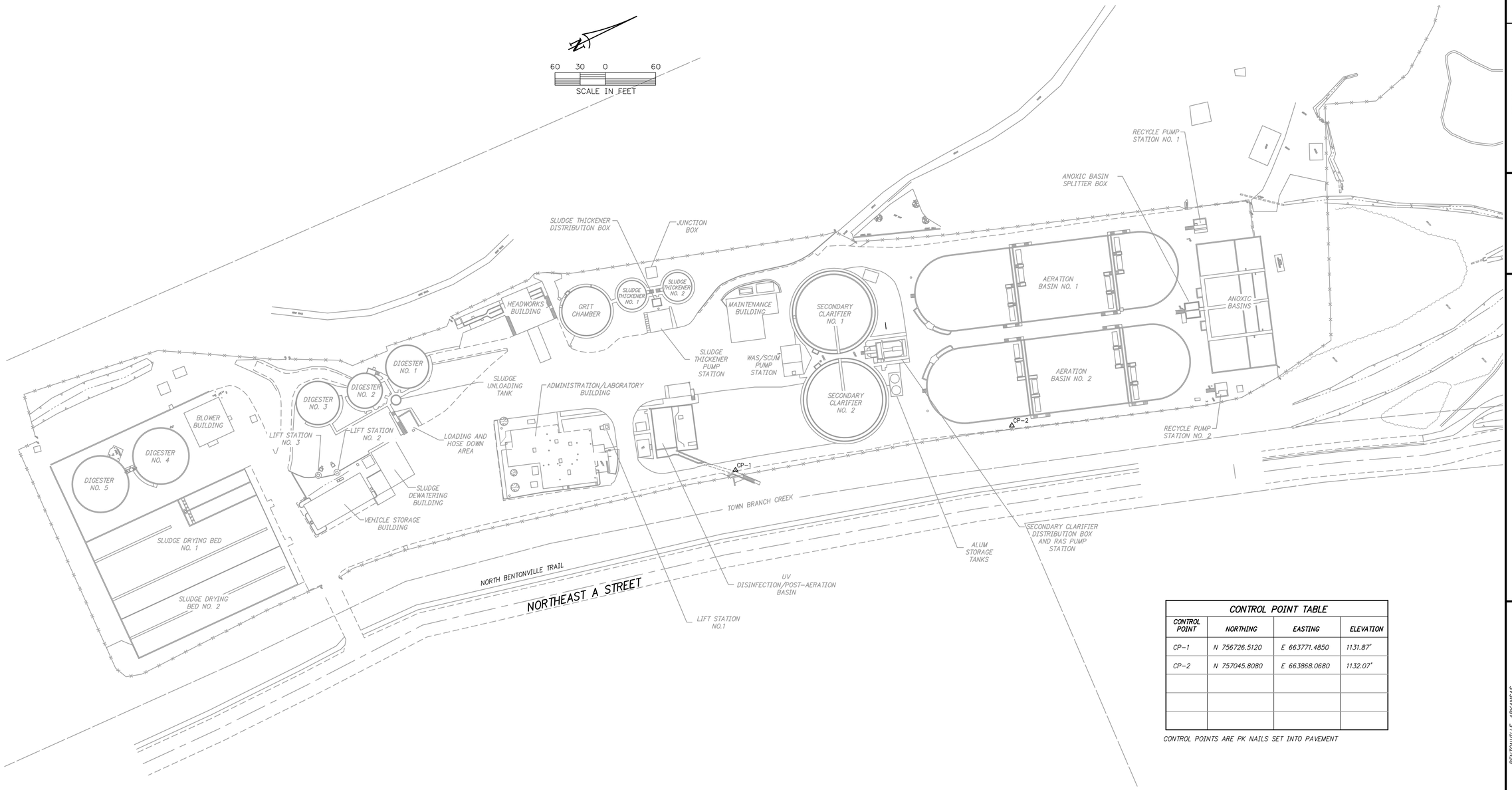
CIVIL KEY PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=60'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-01 Key

SHEET NO.
C-1

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-01 KEY.DWG, 3/19/2025 8:18 AM, MATT WEIR, LAYOUT1



CONTROL POINT TABLE			
CONTROL POINT	NORTHING	EASTING	ELEVATION
CP-1	N 756726.5120	E 663771.4850	1131.87'
CP-2	N 757045.8080	E 663868.0680	1132.07'

CONTROL POINTS ARE PK NAILS SET INTO PAVEMENT

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

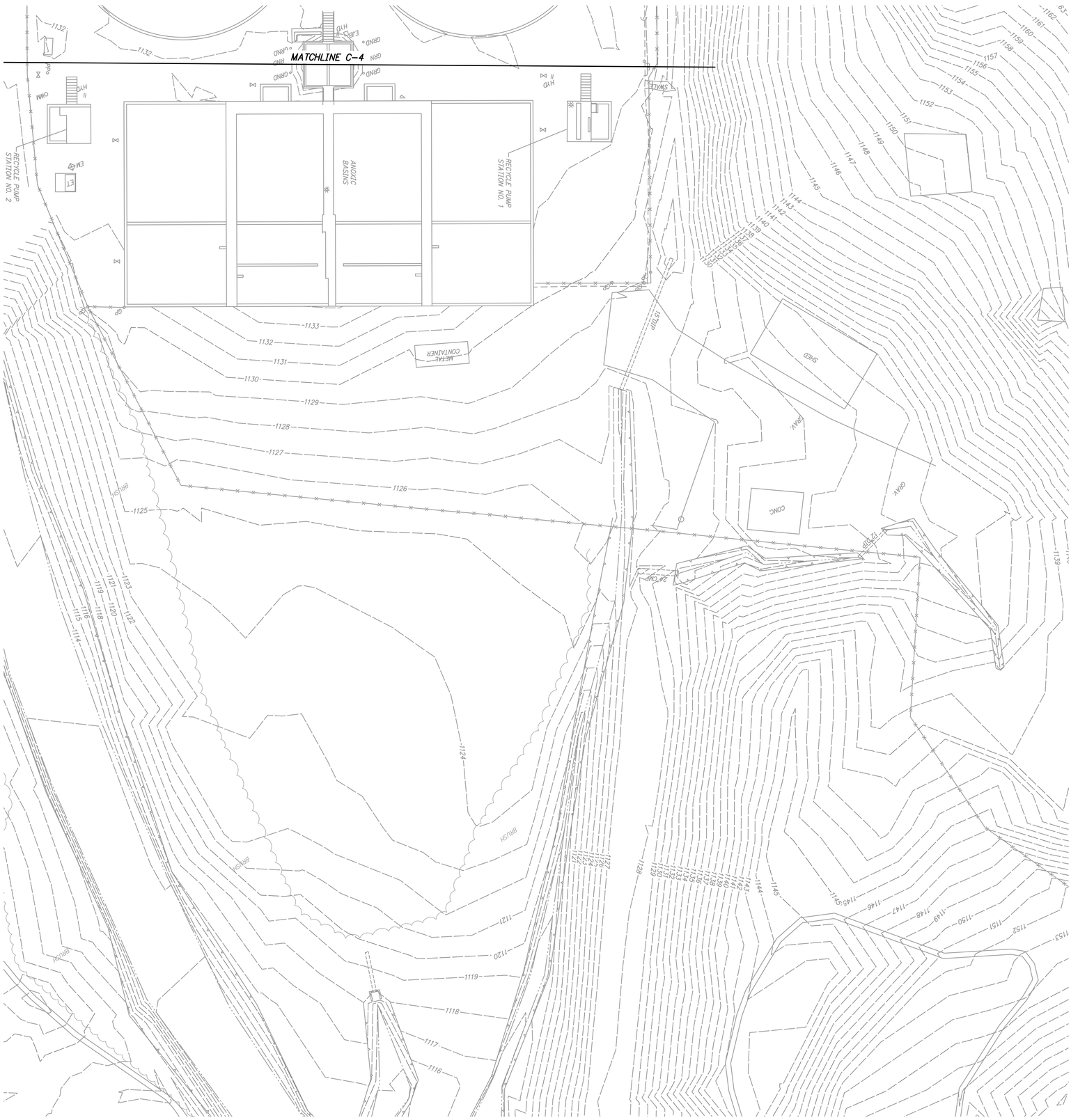
EXISTING OVERALL SITE PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=60'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-02 Exist

SHEET NO.
C-2

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-02 EXIST.DWG, 3/19/2025 8:18 AM, MATT WEIR, LAYOUT1



BID DRAWINGS
MARCH 21, 2025

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISTING SITE PLAN I

FOR: BENTONVILLE WASTEWATER UTILITIES

HAWKINS WEIR ENGINEERS, INC.

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY MORGAN JOHNSON
12/2/25

REVISION	DATE

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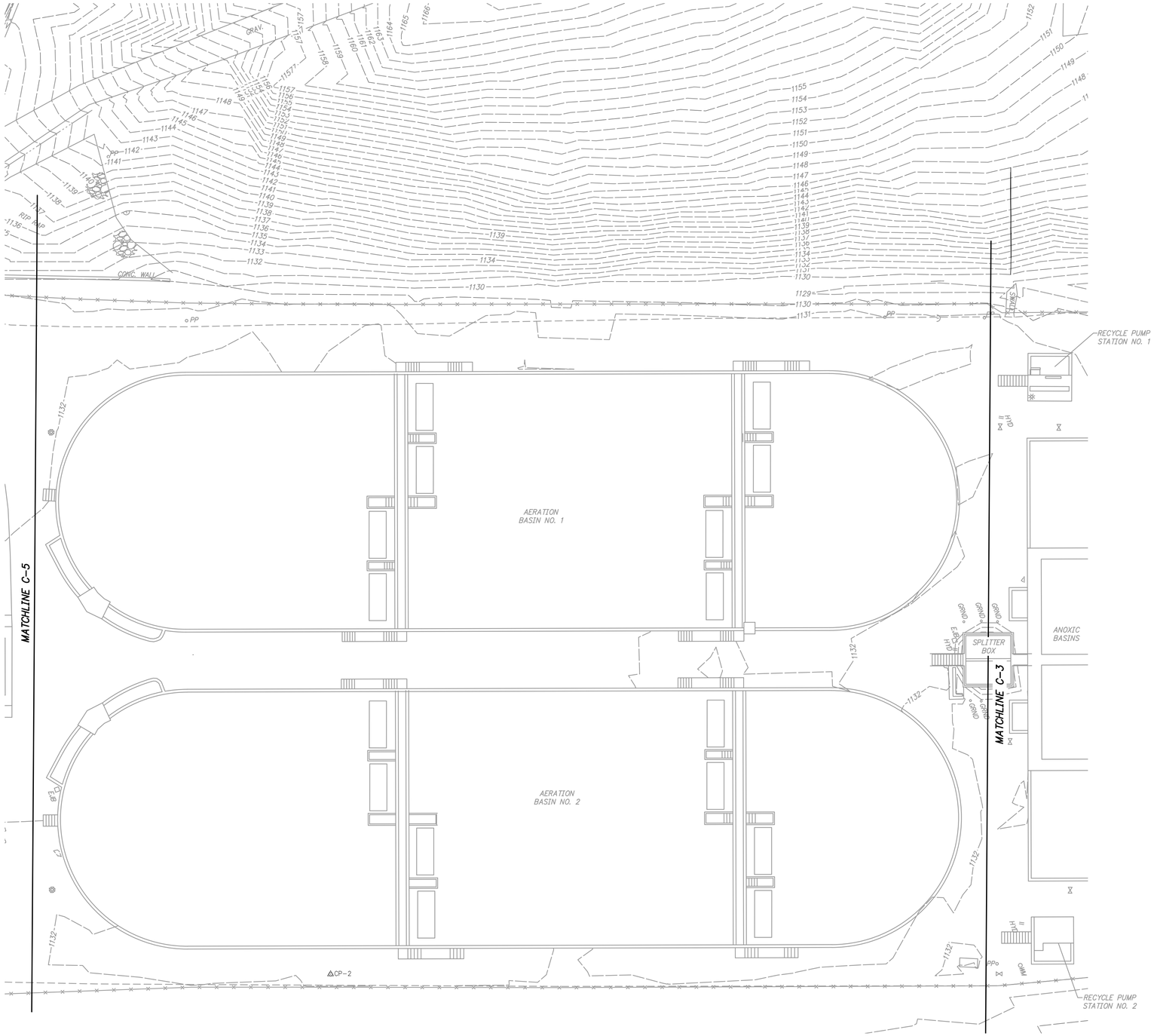
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY
1"

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-03

SHEET NO.
C-3



ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JOHNSTON
NOSNHOJ M. YRAHCAZ

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISITING SITE PLAN II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-04

SHEET NO.
C-4

BID DRAWINGS
MARCH 21, 2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

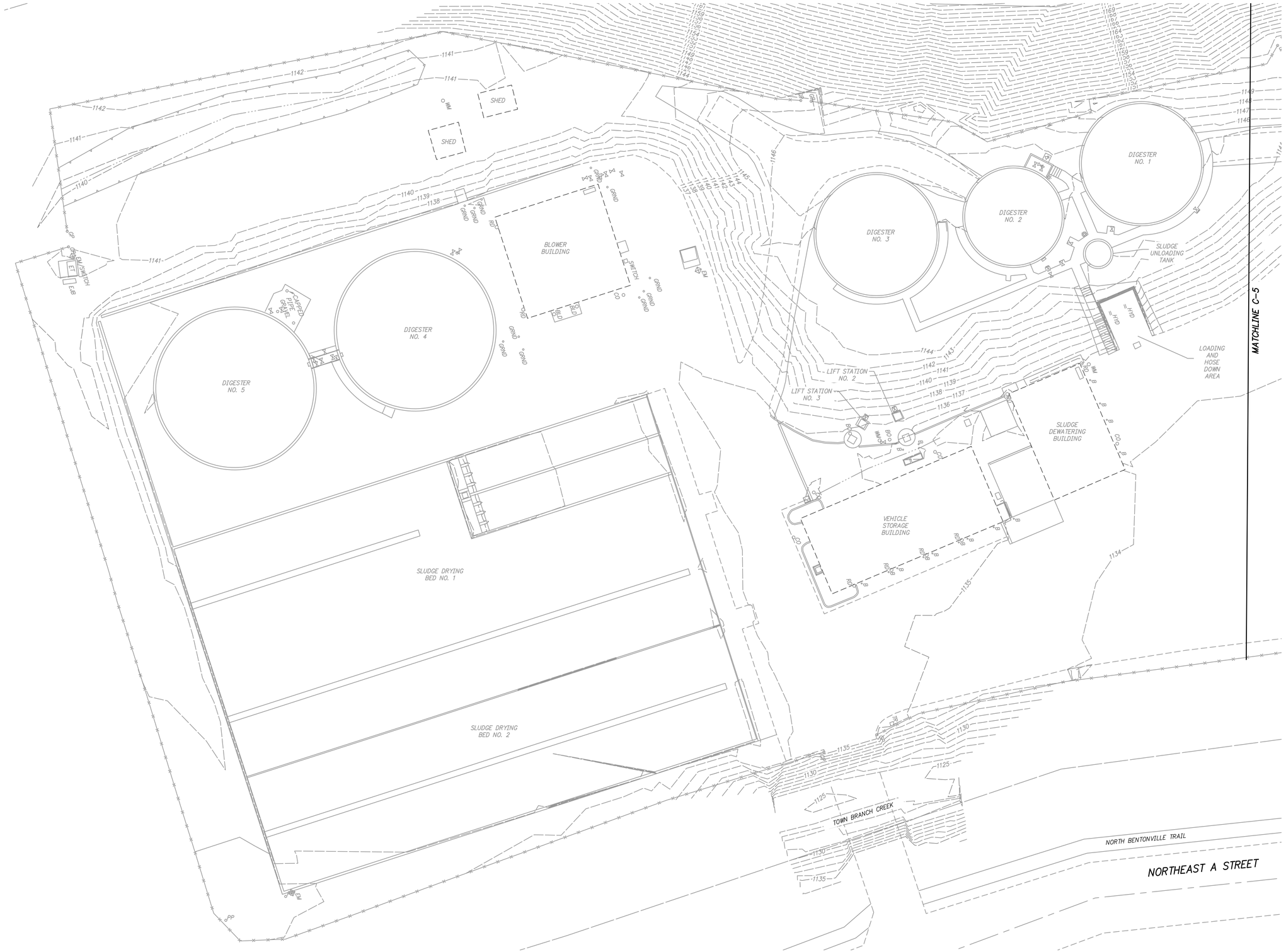
EXISTING SITE PLAN III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-05

SHEET NO.
C-5

BID DRAWINGS
MARCH 21, 2025



BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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ZACHARY M. JOHNSON
NO. 24215
NOSNHOJ M. YRAHCAZ

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

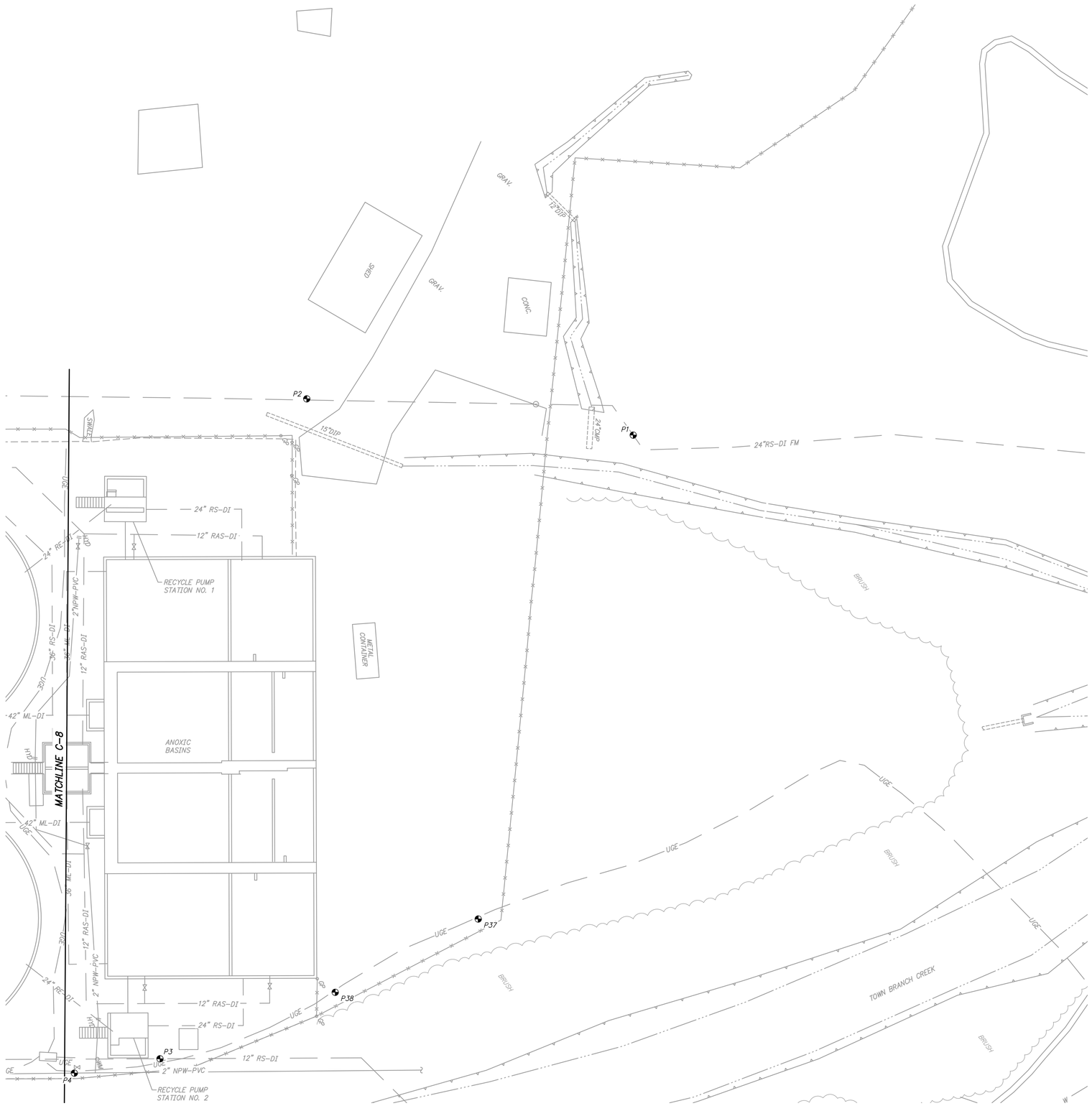
EXISTING SITE PLAN IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-06

SHEET NO.
C-6

\\HWEI-VB\HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-06.DWG, 3/19/2025 8:19 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

EXCAVATION COORDINATES

LOCATION	EXISTING PIPE ID	NORTHING	EASTING	NOTES
P1	24" RS-DI FM	N 757536.0333	E 663791.0023	TOP OF PIPE EL. 1124.2'
P2	24" RS-DI FM	N 757426.9730	E 663739.3800	TOP OF PIPE EL. 1124.3'
P3	12" RS-DI			ABANDONED POTHOLE
P4	2" NPW-PVC			COULD NOT LOCATE
P5	36" RS-DI	N 757290.6353	E 663710.2187	TOP OF PIPE EL. 1131.2'
P6	24" RS-DI FM			COULD NOT LOCATE
P7	12" RAS-DI	N 757295.3420	E 663720.0240	FOUND 36" RS-DI 12-INCHES DEEP
P8	12" RAS-DI			COULD NOT LOCATE
P9	12" RAS-DI	N 757035.4101	E 663750.3020	TOP OF PIPE EL. 1130.5'
P10	12" RS-DI	N 757024.3540	E 663616.9350	TOP OF PIPE EL. 1124.8'
P11	30" RS-DI	N 756972.5740	E 663595.8660	TOP OF PIPE EL. 1129.4'
P12	24" RS-DI FM	N 756939.3340	E 663565.3030	TOP OF PIPE EL. 1130.2'
P13	12" RS-DI			COULD NOT LOCATE
P14	8" DRN-DI	N 756937.7883	E 663568.4603	TOP OF PIPE EL. 1129.7'
P15	30" RS-DI	N 756857.5441	E 663556.1030	TOP OF PIPE EL. 1133.2'
P16	12" RAS-DI	N 756969.7160	E 663687.1832	TOP OF PIPE EL. 1128.4'
P17	36" ML-DI	N 756978.1291	E 663689.4801	TOP OF PIPE EL. 1126.5'
P18	36" ML-DI	N 756958.0090	E 663762.1510	TOP OF PIPE EL. 1125.3'
P19	36" ML-DI			ABANDONED POTHOLE
P20	18" RAS-DI			ABANDONED POTHOLE
P21	36" ML-DI	N 756942.4980	E 663705.6750	TOP OF PIPE EL. 1121.8'
P22	18" RAS-DI			COULD NOT LOCATE
P23	30" SCE-DI	N 756821.6640	E 663733.0820	TOP OF PIPE EL. 1126.2'
P24	30" SCE-DI	N 756825.8311	E 663671.2510	TOP OF PIPE EL. 1124.7'
P25	36" SCE-DI	N 756713.0430	E 663731.5350	TOP OF PIPE EL. 1126.0'
P26	4" DRN-DI			COULD NOT LOCATE
P27	6" DS-DI	N 756266.4721	E 663470.0980	TOP OF PIPE EL. 1140.3'
P28	6" TS-DI	N 756264.5343	E 663470.8087	TOP OF PIPE EL. 1140.5'
P29	8" AIR-DI	N 756262.4490	E 663473.3880	TOP OF PIPE EL. 1137.8'
P30	6" DS-DI	N 756224.6730	E 663419.1524	TOP OF PIPE EL. 1134.1'
P31	6" TS-DI	N 756225.2735	E 663422.2384	TOP OF PIPE EL. 1133.6'
P32	6" TS-DI	N 756149.9781	E 663424.9170	TOP OF PIPE EL. 1130.7'
P33	6" DS-DI			COULD NOT LOCATE
P34	6" TS-DI			ABANDONED POTHOLE
P35	6" DS-DI			ABANDONED POTHOLE
P36	6" SL			ABANDONED POTHOLE
P37	UGE	N 757422.8013	E 663939.3162	TOP OF PIPE EL. 1121.3'
P38	UGE	N 757364.3383	E 663947.6781	TOP OF PIPE EL. 1126.5'
P39	8" RS-DI FM(ABND)	N 757298.3606	E 663703.0936	TOP OF PIPE EL. 1126.3'
P40	30" RS-DI (ABND)	N 756972.6254	E 663684.2460	TOP OF PIPE EL. 1131.0'

BID DRAWINGS
MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JOHNSTON
NO. 24215
NOSNHOJ M. YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISTING SITE PIPING I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-07

SHEET NO.
C-7

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-07.DWG, 3/19/2025 8:20 AM, MATT WEIR, LAYOUT1

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JOHNSON
NO. 24215
NOSNHOJ M. YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISTING SITE PIPING II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-08

SHEET NO.
C-8

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB\HAWKINS-WEIR\LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-08.DWG, 3/19/2025 8:20 AM, MATT WEIR, LAYOUT1

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JONES
No. 24215
NOSNIHOJ MORCHAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISTING SITE PIPING III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-09

SHEET NO.
C-9

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-09.DWG, 3/19/2025 8:20 AM, MATT WEIR, LAYOUT1

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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NOSNIHTAZ J. MORGAN
LICENSED PROFESSIONAL ENGINEER
STATE OF ARKANSAS
ZACHARY J. MORGAN

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EXISTING SITE PIPING IV

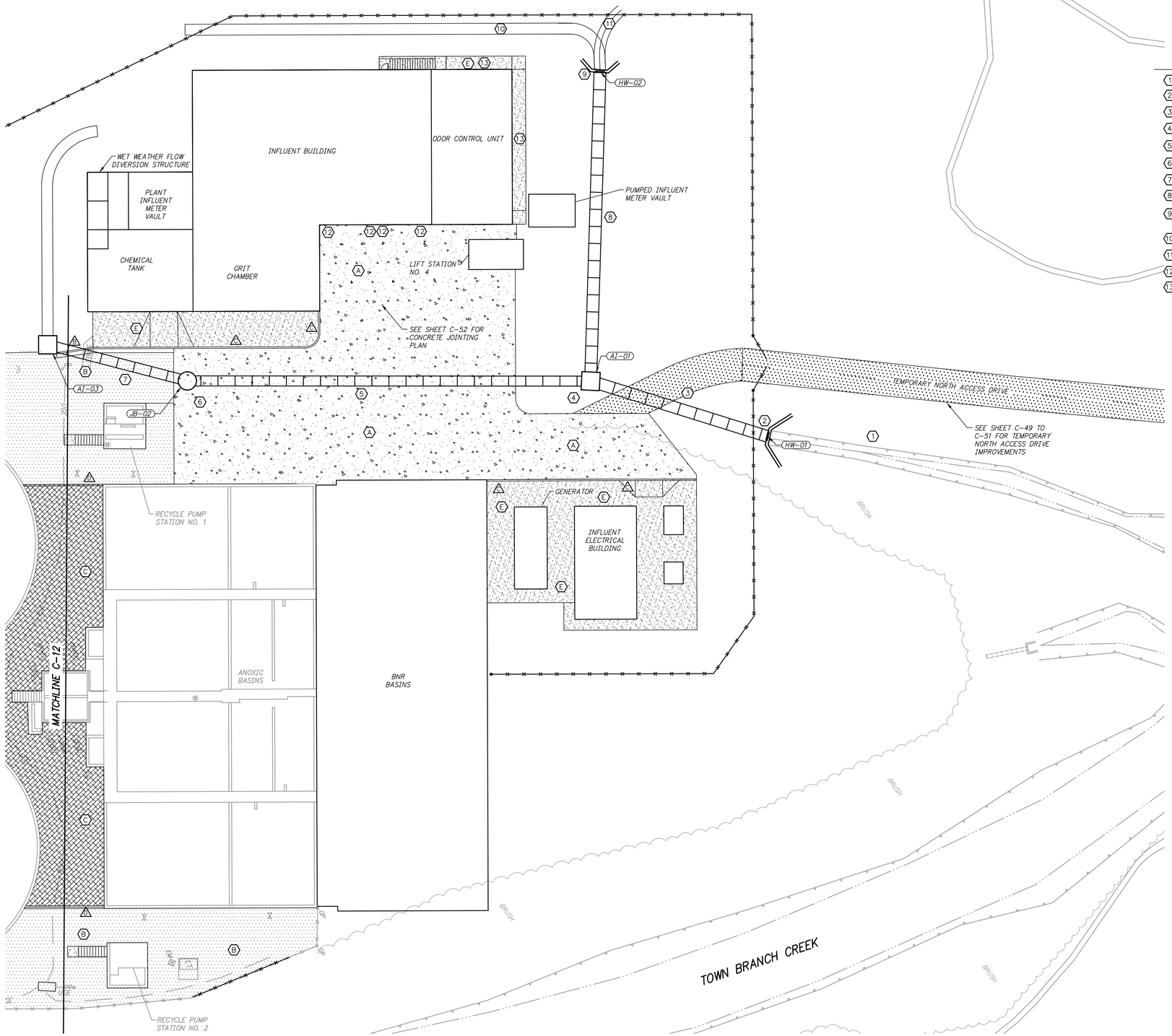
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-10

SHEET NO.
C-10

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-10.DWG, 3/19/2025 8:21 AM, MATT WEIR, LAYOUT1



KEYED NOTES

1. GRADE EARTHEN CHANNEL TO DRAIN
2. CONSTRUCT CONCRETE 42" HEADWALL — C804
3. INSTALL 42" RCP (67 LF)
4. CONSTRUCT 6" X 6' AREA INLET — C803
5. INSTALL 36" RCP (147 LF)
6. CONSTRUCT 6' DIAMETER JUNCTION BOX — C805
7. INSTALL 36" RCP (53 LF)
8. INSTALL 29"X45" RCPE (113 LF)
9. CONSTRUCT CONCRETE 29" X 45" HEADWALL — C804
10. CONSTRUCT CONCRETE V DITCH (165 LF) — C704
11. CONSTRUCT CONCRETE V DITCH (20 LF) — C704
12. INSTALL TRAFFIC BOLLARD — C205
13. CONSTRUCT CONCRETE RAMP WITH HANDRAILS

KEYED PAVEMENT TYPES

A	CONCRETE PAVEMENT	C204
B	ASPHALT PAVEMENT	A C-12
C	PERMEABLE PAVEMENT	B C-12
D	GRAVEL PAVEMENT	C203
E	CONCRETE SIDEWALK	C202
A	TYPE A CURB & GUTTER	C210
B	TYPE B CURB & GUTTER	C701 ⚠1
C	THICKENED EDGE SIDEWALK	C212
D	TYPE D CURB	C702

20 10 0 20
SCALE IN FEET

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
3. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
4. FOR ALL RIGHTS-OF-WAY OPEN TO VEHICULAR TRAFFIC, CONTRACTOR SHALL PROVIDE A PEDESTRIAN AND BICYCLE ACCESSIBLE ROUTE DURING ALL PHASES OF CONSTRUCTION. LIMITED CLOSURES OF 24 HOURS OR LESS MAY BE APPROVED BY THE CITY ENGINEER.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
⚠1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS — BRADLEY A. PEKOC — 16777 — LICENSED PROFESSIONAL ENGINEER

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

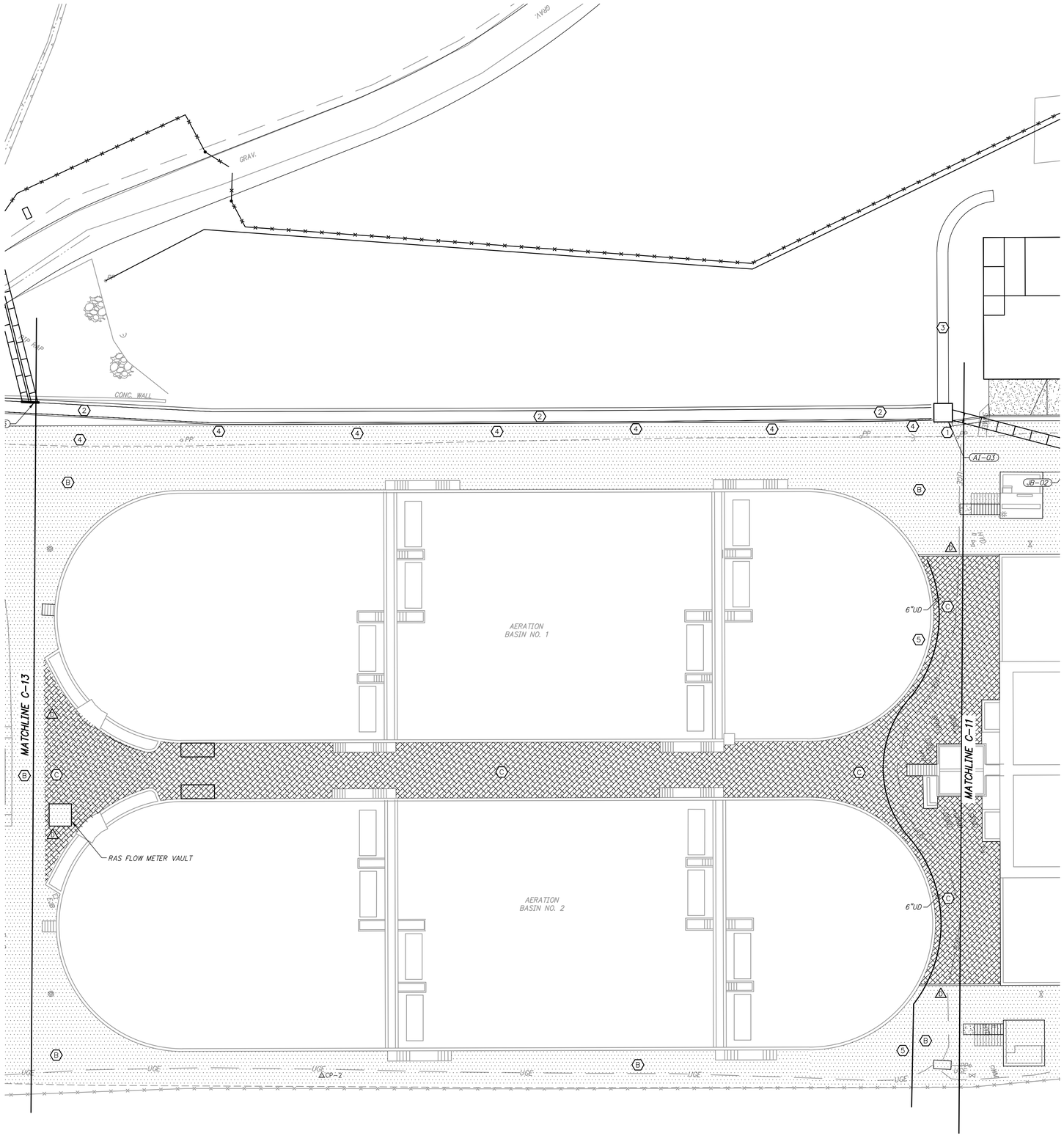
PAVING AND DRAINAGE PLAN I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-11

SHEET NO.
C-11

\\HWEI-VB\HAWKINS-WEIR\LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-11.DWG, 3/19/2025 8:21 AM, MATT WEIR, LAYOUT1



KEYED NOTES

1. CONSTRUCT 6' X 6' AREA INLET WITH 4' X 3' OPENING SOUTH AND 4' X 1' OPENING WEST — C703
2. CONSTRUCT CONCRETE RECTANGULAR CHANNEL (330 LF) — C706
3. CONSTRUCT CONCRETE V DITCH (82 LF) — C704
4. CONSTRUCT 4' WIDE CHUTE — C802
5. INSTALL 6" PERFORATED UNDERDRAIN. DAYLIGHT TO EAST.

KEYED PAVEMENT TYPES

A	CONCRETE PAVEMENT	C204	
B	ASPHALT PAVEMENT	A C-12	
C	PERMEABLE PAVEMENT	B C-12	
D	GRAVEL PAVEMENT	C203	
E	CONCRETE SIDEWALK	C202	
A	TYPE A CURB & GUTTER	C210	
B	TYPE B CURB & GUTTER	C701	
C	THICKENED EDGE SIDEWALK	C212	
D	TYPE D CURB	C702	

20 10 0 20
SCALE IN FEET

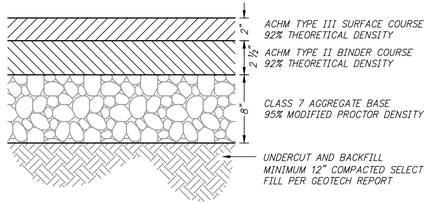
NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
3. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
4. FOR ALL RIGHTS-OF-WAY OPEN TO VEHICULAR TRAFFIC, CONTRACTOR SHALL PROVIDE A PEDESTRIAN AND BICYCLE ACCESSIBLE ROUTE DURING ALL PHASES OF CONSTRUCTION. LIMITED CLOSURES OF 24 HOURS OR LESS MAY BE APPROVED BY THE CITY ENGINEER.
5. PAVEMENT THICKNESS SHALL MEET OR EXCEED THE THICKNESS SHOWN ON THE CONVENTIONAL FLEXIBLE AND RIGID PAVEMENT DETAILS.

PERVIOUS ASPHALT PAVEMENT SHALL BE OPEN GRADED, MINIMALLY COMPACTED HOT MIX ASPHALT WITH IN PLACE AIR VOIDS BETWEEN 16% AND 25%. PERVIOUS PAVEMENT SECTIONS SHALL HAVE A STRUCTURAL NUMBER GREATER THAN OR EQUAL TO 4.2. ASPHALT MIX DESIGN SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.

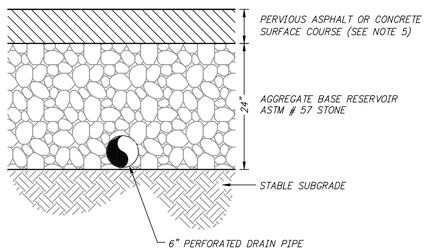
PERVIOUS CONCRETE SHALL BE OPEN GRADED CONCRETE WITH A VOID CONTENT BETWEEN 17% AND 30%. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.

FOR ALL SURFACE TYPES, A MINIMUM INITIAL INFILTRATION RATE OF 20 INCHES PER HOUR IS REQUIRED. COMPLIANCE TESTING SHALL BE IN ACCORDANCE WITH ASTM C1701.



ACHM ASPHALT PAVEMENT SECTION

DETAIL A
N.T.S.



PERMEABLE PAVEMENT SECTION

DETAIL B
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — BLAKE A. PEACOCK — REGISTERED PROFESSIONAL ENGINEER — No. 17710

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

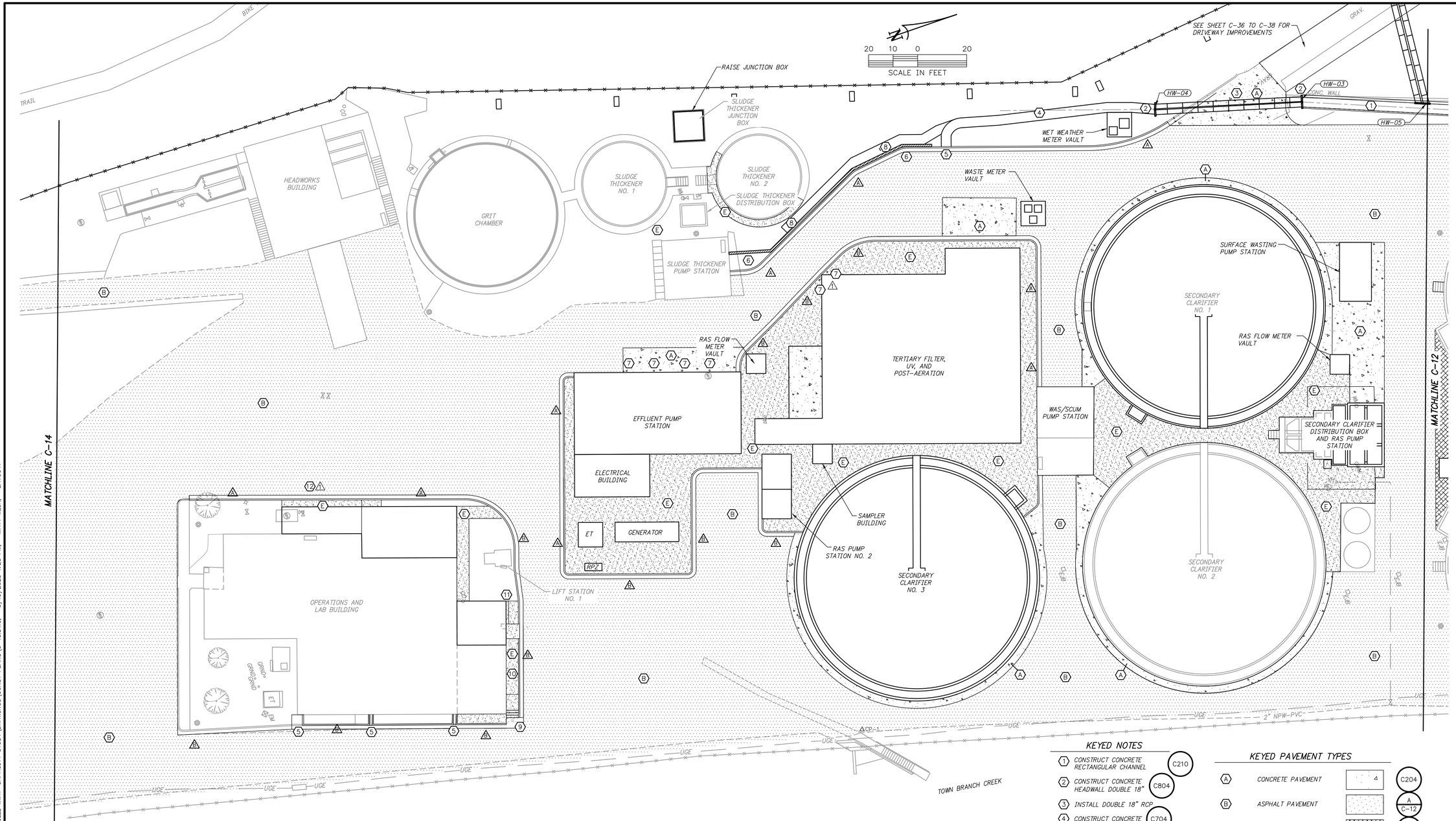
PAVING AND DRAINAGE PLAN II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-12

SHEET NO.
C-12

\\HWEI-VB\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-12.DWG, 3/20/2025 3:36 PM, BLAKE PEACOCK, LAYOUT1



NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
3. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
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KEYED NOTES

1. CONSTRUCT CONCRETE RECTANGULAR CHANNEL — C210
2. CONSTRUCT CONCRETE HEADWALL DOUBLE 18" — C804
3. INSTALL DOUBLE 18" RCP
4. CONSTRUCT CONCRETE V DITCH — C704
5. CONSTRUCT CURB CHUTE — C802
6. CONSTRUCT CONCRETE RETAINING WALL (SEE SHEET C-53)
7. INSTALL TRAFFIC BOLLARD — C205
8. CONSTRUCT CONCRETE DRAINAGE SWALE — C505
9. INSTALL CONCRETE STEPS WITH 4 RISERS AND HANDRAILING — C707
10. INSTALL CONCRETE RAMP WITH TURNED DOWN WALL AND HANDRAILING — C509
11. INSTALL CONCRETE STEPS WITH 2 RISERS AND HANDRAILING — C707
12. MOUNTABLE CURB SECTION FOR CART ACCESS. SEE SITE GRADING.

KEYED PAVEMENT TYPES

- A — CONCRETE PAVEMENT — 4 — C204
- B — ASPHALT PAVEMENT — A C-12
- C — PERMEABLE PAVEMENT — B C-12
- D — GRAVEL PAVEMENT — C203
- E — CONCRETE SIDEWALK — C202
- TYPE A CURB & GUTTER — C210
- TYPE B CURB & GUTTER — C701
- THICKENED EDGE SIDEWALK — C212
- TYPE D CURB — C702

BID DRAWINGS
MARCH 21, 2025

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

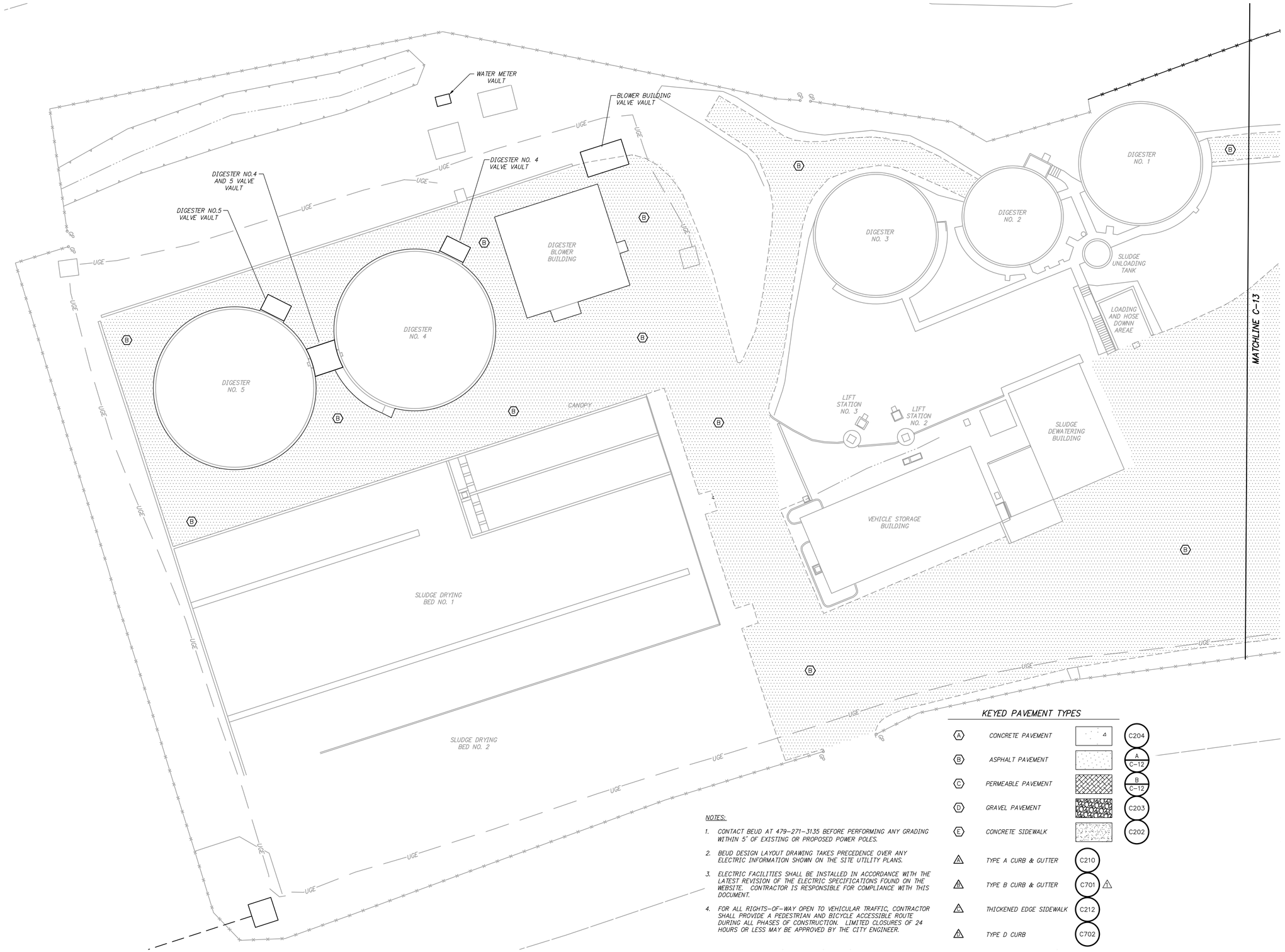
PAVING AND DRAINAGE PLAN III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-13

SHEET NO. 1 C-13

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-13.DWG, 3/19/2025 1:23 PM, MATT WEIR, LAYOUT1



KEYED PAVEMENT TYPES

A	CONCRETE PAVEMENT	C204
B	ASPHALT PAVEMENT	A C-12
C	PERMEABLE PAVEMENT	B C-12
D	GRAVEL PAVEMENT	C203
E	CONCRETE SIDEWALK	C202
1	TYPE A CURB & GUTTER	C210
2	TYPE B CURB & GUTTER	C701 ⚠1
3	THICKENED EDGE SIDEWALK	C212
4	TYPE D CURB	C702

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
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BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS
BLAKE A. PEKOC
No. 11760
REGISTERED PROFESSIONAL ENGINEER

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

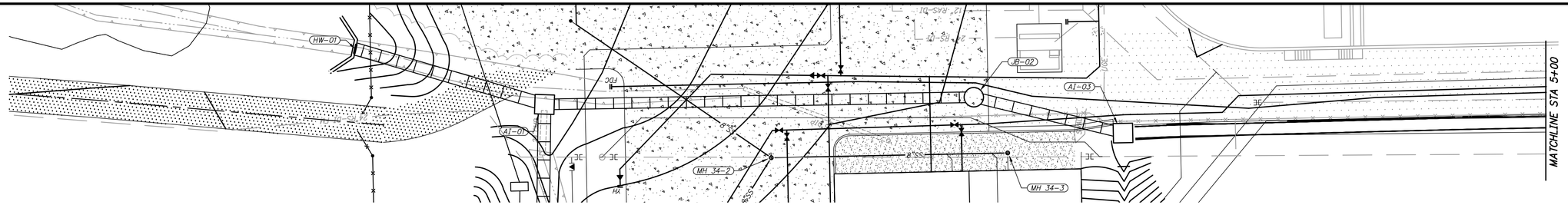
PAVING AND DRAINAGE PLAN IV

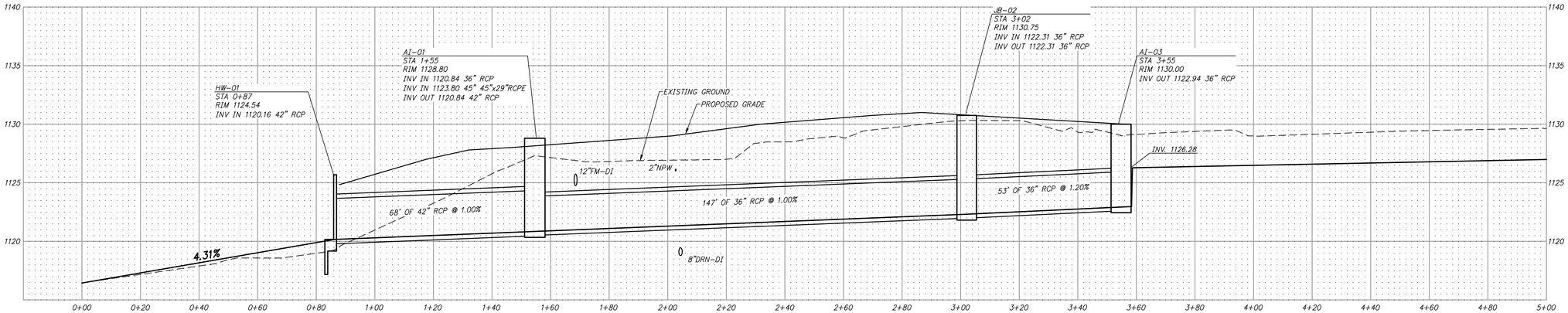
FOR: BENTONVILLE WASTEWATER UTILITIES

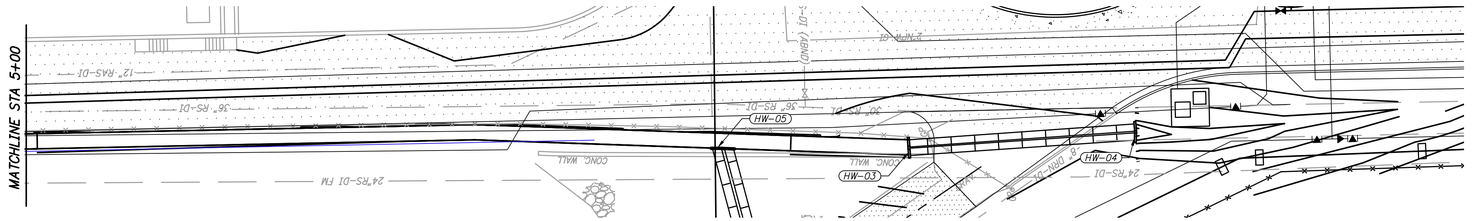
DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-14

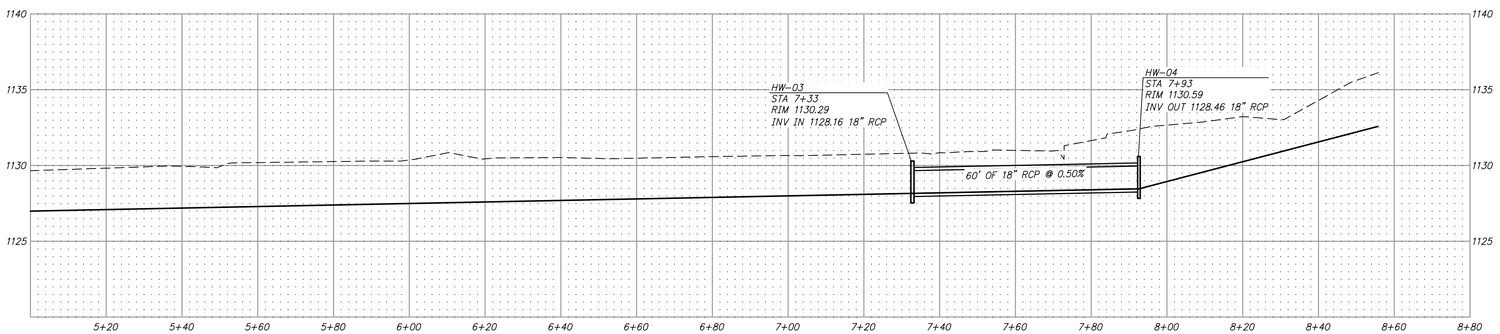
SHEET NO.
C-14

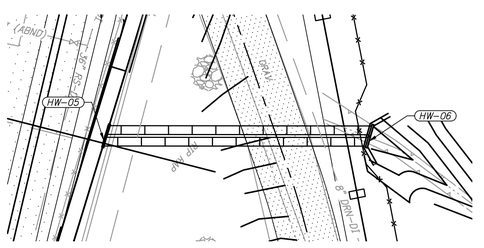
\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-14.DWG, 3/19/2025 8:22 AM, MATT WEIR, LAYOUT1

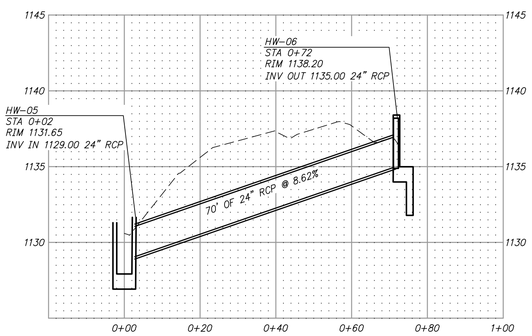


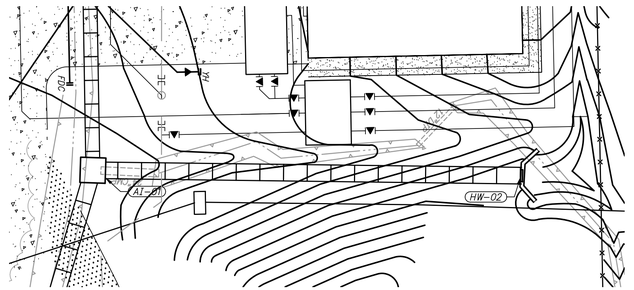


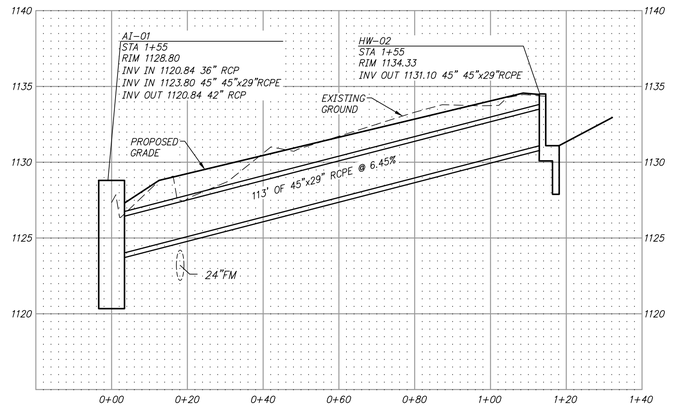












ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

STORM DRAINAGE PROFILES I

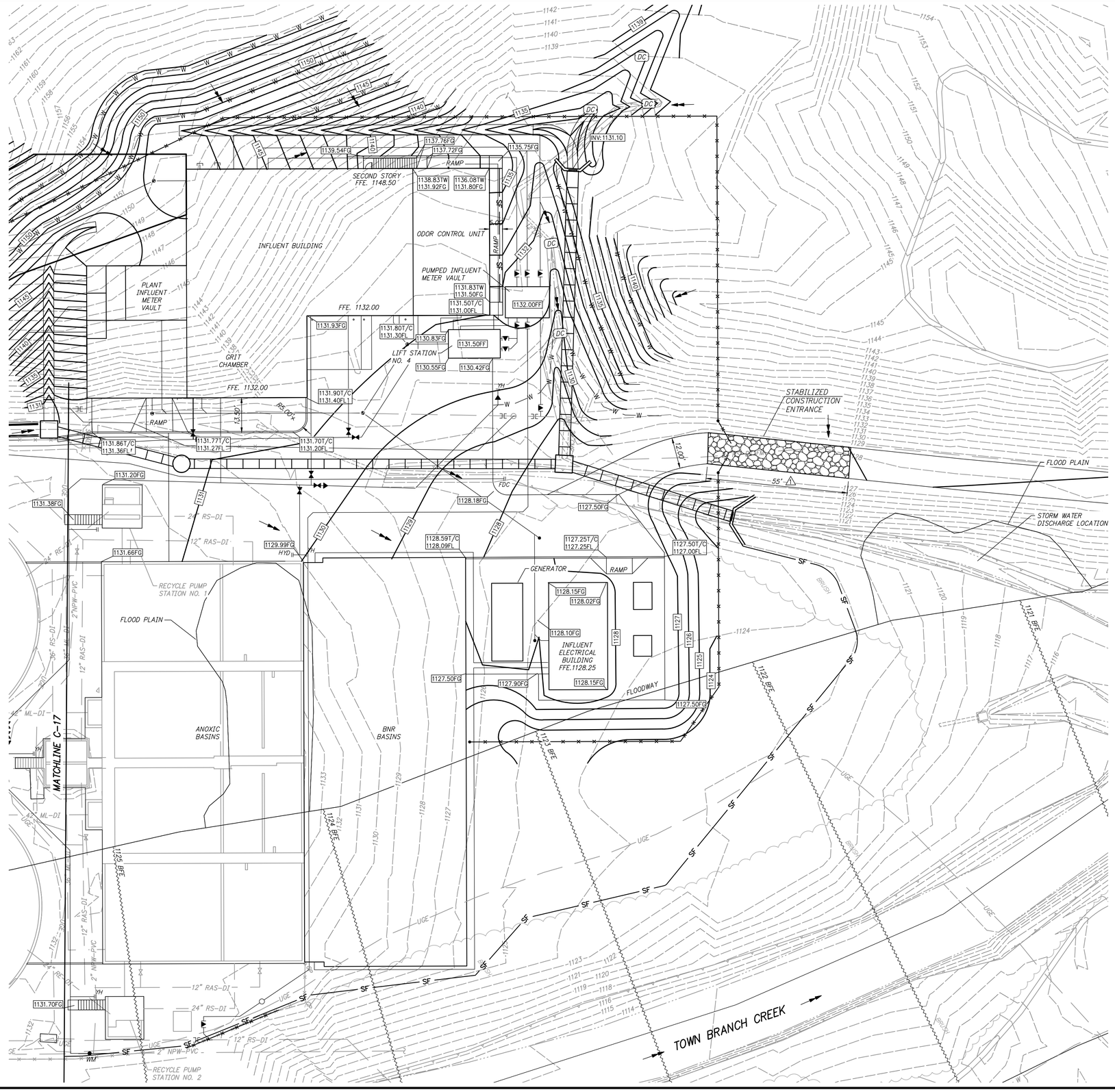
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-15

SHEET NO.
C-15

BID DRAWINGS
MARCH 21, 2025

\\HWEI-WB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-15.DWG, 3/19/2025 8:24 AM, MATT WEIR, LAYOUT1



LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10K	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

20 10 0 20
SCALE IN FEET

LEGEND

W — W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

EROSION CONTROL NOTES:

1. STORM WATER POLLUTION PREVENTION PLAN (SWP3) WILL BE PRODUCED BY THE OWNER (OPERATOR) FOR THE PROJECT TO BE COVERED UNDER THE ARKANSAS GENERAL PERMIT ARR150000. THE CONTRACTOR SHALL BE REQUIRED TO SIGN A COPY OF THE SWP3 AS FILED BY THE OWNER TO CONFIRM ASSOCIATION AND COMPLIANCE WITH THE REQUIREMENTS.
2. THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT THE SWP3 ACCORDING TO THE REQUIREMENTS OF THE GENERAL PERMIT. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) SHOWN ON THE SWP3 AS A MINIMUM. ADDITIONAL MEASURES MAY BE REQUIRED TO CONTROL EROSION AND SEDIMENT DISCHARGES FROM THE SITE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL PAY ALL COSTS ASSOCIATED WITH FINES OR PENALTIES THAT MAY BE IMPOSED BY THE GOVERNMENTAL AUTHORITY FOR THE FAILURE OF THE CONTRACTOR, THE CONTRACTOR'S SUBCONTRACTORS, THE CONTRACTOR'S SUPPLIERS OR THE CONTRACTOR'S AGENTS HAVING ACCESS TO THE SITE TO COMPLY WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND/OR TO COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN. THE OWNER SHALL BE ENTITLED TO WITHHOLD SUCH FROM CONTRACT FUNDS THAT MAY BE DUE TO THE CONTRACTOR AND/OR CLAIM THROUGH THE APPROPRIATE COURT HAVING JURISDICTION.
4. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE POSTING AND MAINTENANCE OF NOTICES IN THE AREA OF THE CONSTRUCTION WITH INFORMATION AS REQUIRED BY ADEQ REGULATION.
5. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN AND UPDATE RECORDS AND INSPECTION REPORTS REQUIRED BY THE GENERAL PERMIT FOR STORM WATER DISCHARGES AND THE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN. COPIES OF ALL DOCUMENTS SHALL BE AVAILABLE AT ALL TIMES AND PROVIDED TO THE OWNER AND/OR THE OWNER'S REPRESENTATIVE UPON DEMAND AND SHALL BE DELIVERED TO THE OWNER PRIOR TO FINAL PAYMENT.
6. INFORMATION REGARDING THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERTINENT REGULATION MAY BE ACCESSED AT www.adeq.state.ar.us
7. SILT FENCES SHALL BE PLACED ALONG THE LIMITS OF CONSTRUCTION SLOPES TO PREVENT SOIL FROM LEAVING THE CONSTRUCTION AREA.
8. WORK SHALL NOT COMMENCE UNTIL EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.
9. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE AS NEEDED TO MAINTAIN EFFECTIVENESS OF THE STRUCTURE. AS A MINIMUM, SILT SHALL BE REMOVED WHEN SEDIMENT DEPTH EXCEEDS HALF THE FABRIC HEIGHT. AFTER THE SILT FENCE IS NO LONGER NEEDED, THE SILT FENCE AND ALL DEPOSITED SEDIMENT SHALL BE REMOVED AND DISPOSED OF OFF SITE BY THE CONTRACTOR.
10. THE EXCAVATION AND MOVING OF SOIL MATERIALS, SHALL BE SCHEDULED SO THAT THE SMALLEST POSSIBLE AREAS WILL BE UNPROTECTED FROM EROSION FOR THE SHORTEST TIME FEASIBLE.
11. TEMPORARY SEEDING AND MULCH SHALL BE APPLIED TO PROTECT DISTURBED AREAS FROM EROSION. FINAL RESTORATION SHALL BE PER LANDSCAPE PLAN AND SPECIFICATIONS.
12. THE LOCATIONS OF THE SWP3 BOX AND CONCRETE WASHOUT AND THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE DETERMINED BY THE CONTRACTOR.
13. STREET SHALL BE SWEPT AS NECESSARY TO MINIMIZE OFFSITE TRACKING OF SEDIMENT.
14. PER FEMA MAP NUMBER 05007C0090J, PORTIONS OF THE PROJECT ARE LOCATED IN FLOOD HAZARD ZONE "A".
15. CONTRACTOR SHALL PROVIDE DIVERSION DITCHES AS CONSTRUCTION PROGRESS DICTATES FOR THE ROUTING OF OFFSITE WATER AROUND THE PROJECT SITE.
16. TOWN BRANCH CREEK IS LISTED ON THE ARKANSAS 303(D) LIST AND HAS A TOTAL MAXIMUM DAILY LOAD (TMDL) ESTABLISHED FOR TOTAL PHOSPHOROUS.

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
3. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
4. FOR ALL RIGHTS-OF-WAY OPEN TO VEHICULAR TRAFFIC, CONTRACTOR SHALL PROVIDE A PEDESTRIAN AND BICYCLE ACCESSIBLE ROUTE DURING ALL PHASES OF CONSTRUCTION. LIMITED CLOSURES OF 24 HOURS OR LESS MAY BE APPROVED BY THE CITY ENGINEER.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11770 MATTHEW A. WEIR

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

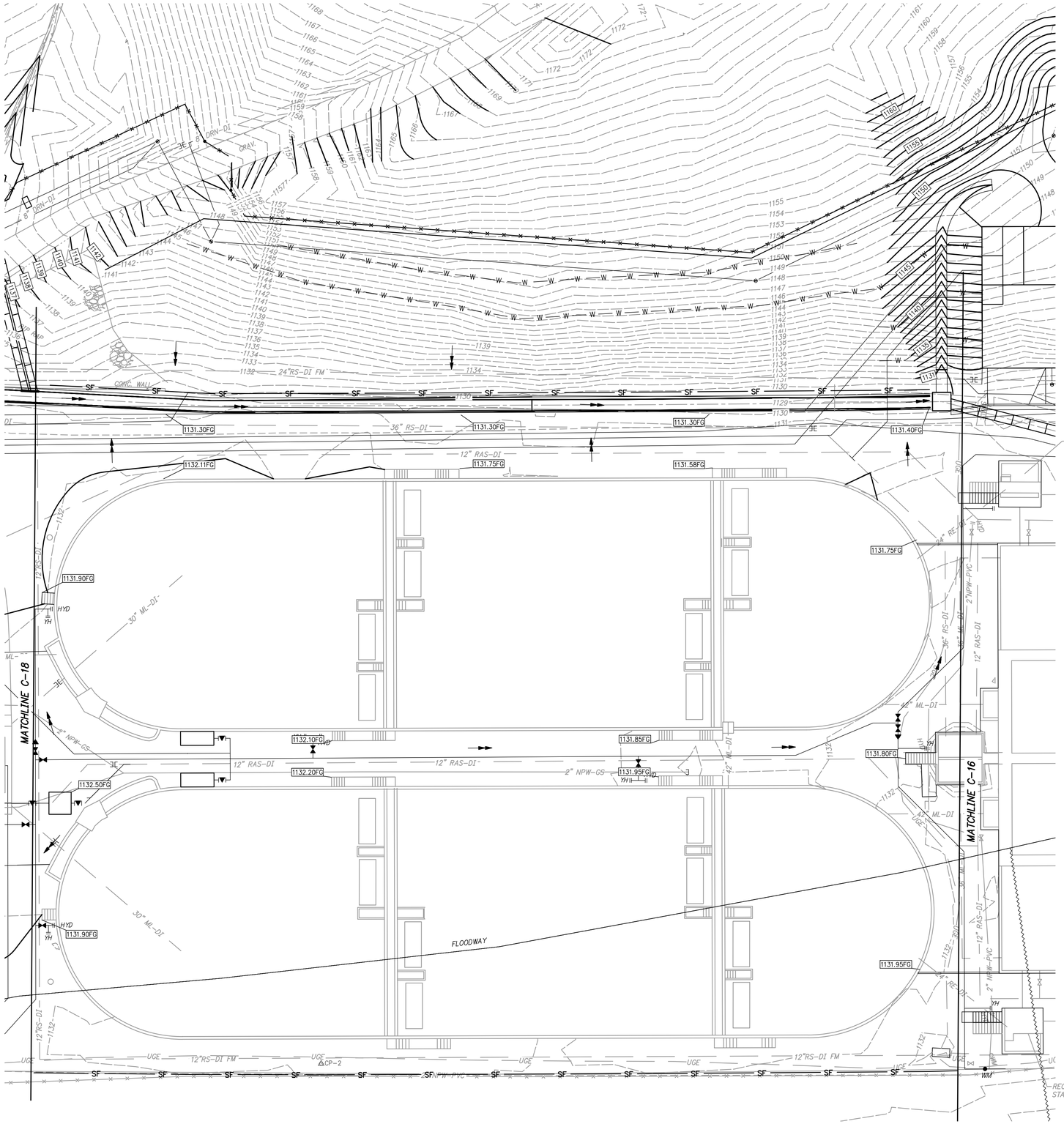
GRADING AND EROSION CONTROL PLAN I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-16

SHEET NO.
C-16

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-16.DWG, 3/19/2025 8:24 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10E	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

LEGEND

W — W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
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BID DRAWINGS
MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

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HAWKINS WEIR ENGINEERS, INC.
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

GRADING AND EROSION CONTROL PLAN II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1"=20'
DESIGNED BY:	BAP
DRAWN BY:	MAW
HWEI NO.:	2021037
FILENAME:	C-17

SHEET NO.
C-17

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-17.DWG, 3/19/2025 8:25 AM, MATT WEIR, LAYOUT1

LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10FL	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

20 10 0 20
SCALE IN FEET

LEGEND

W W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
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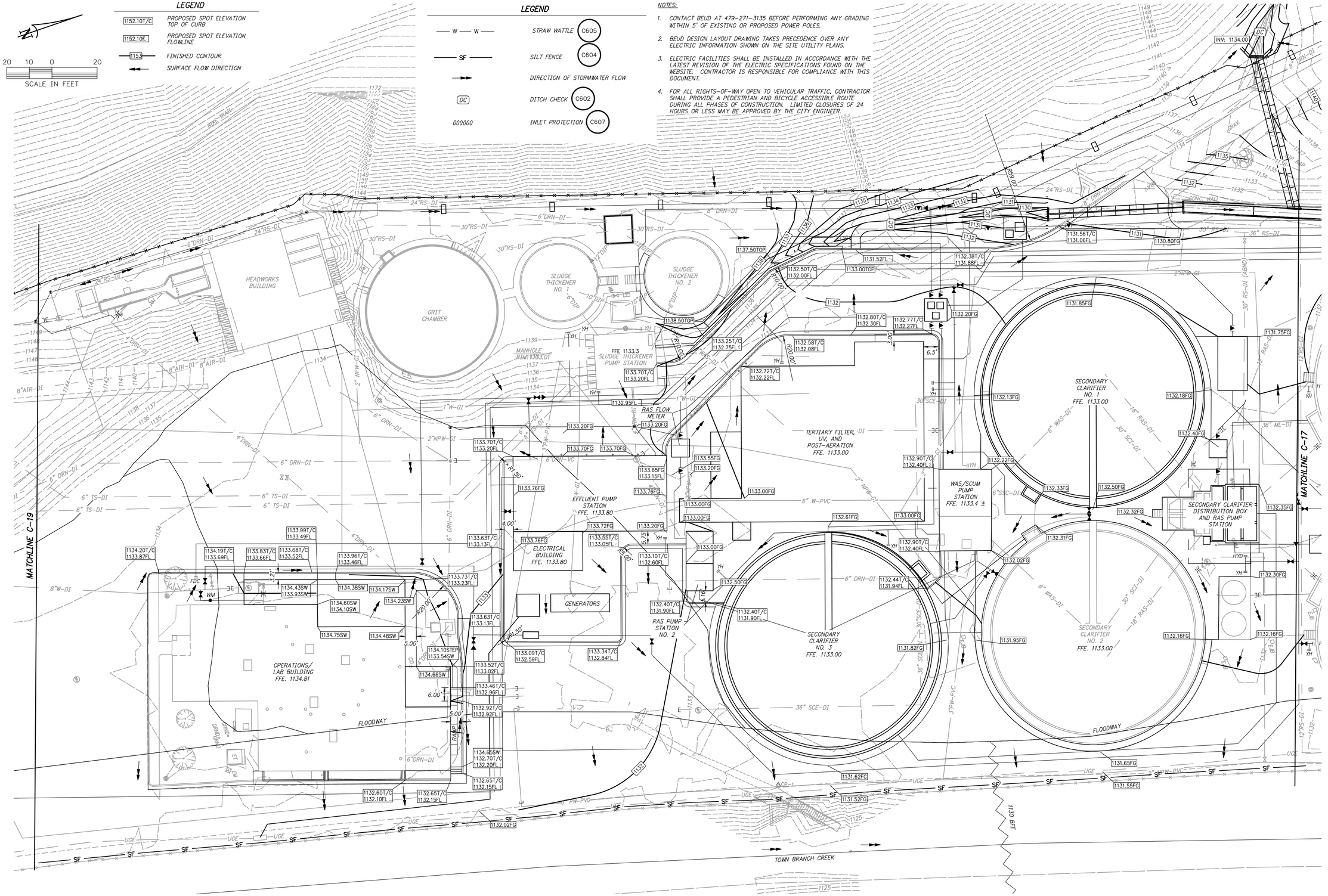

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

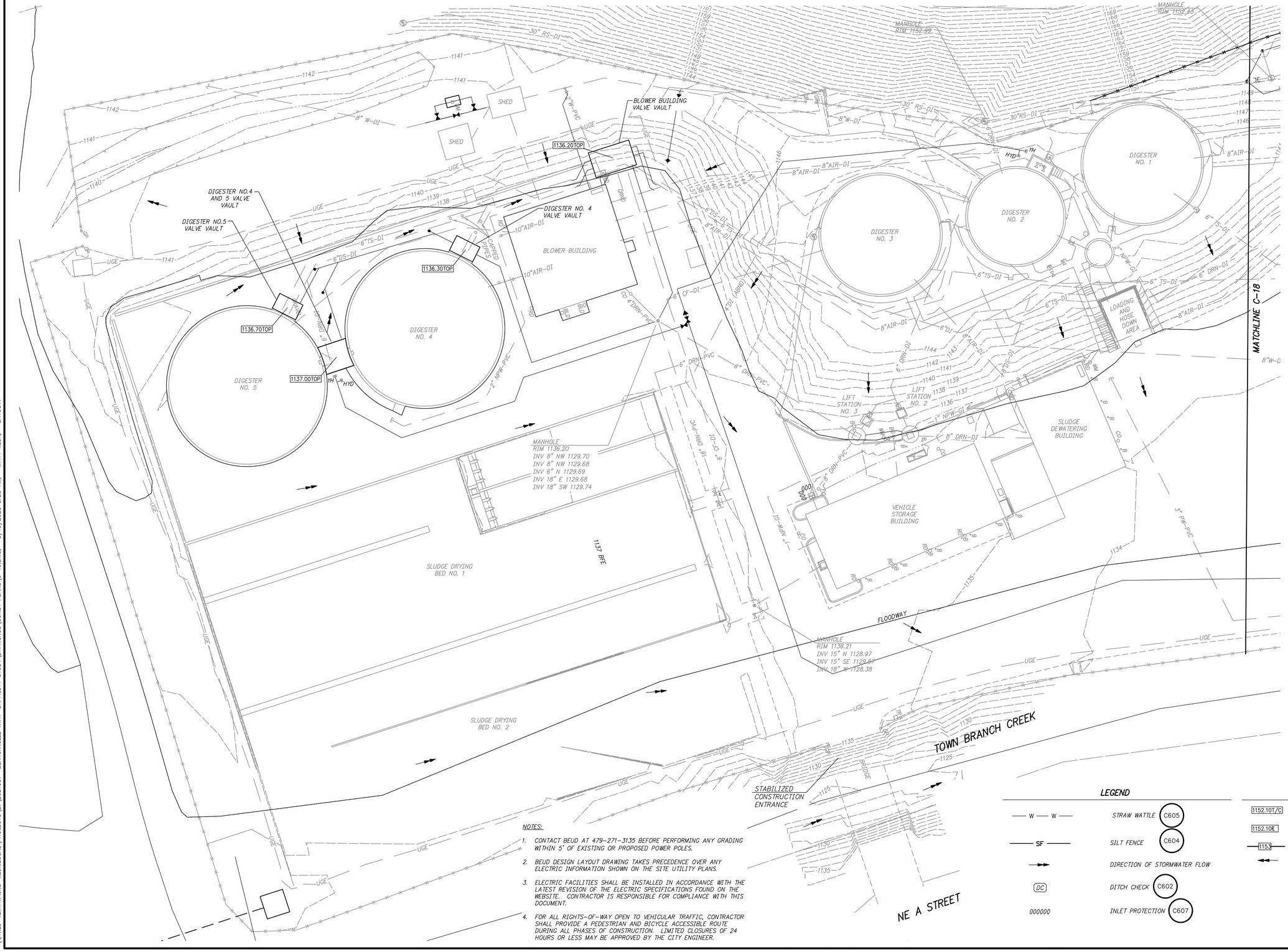
GRADING AND EROSION CONTOL PLAN III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1"=20'
DESIGNED BY:	BAP
DRAWN BY:	MAW
HWEI NO.:	2021037
FILENAME:	C-18

SHEET NO.
C-18

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-18.DWG, 3/19/2025 8:25 AM, MATT WEIR, LAYOUT1



SCALE IN FEET: 20 10 0 20

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
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LEGEND

W — W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10E	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

BID DRAWINGS
MARCH 21, 2025

DATE	REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 11760 — BLAKE A. PEACOCK

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

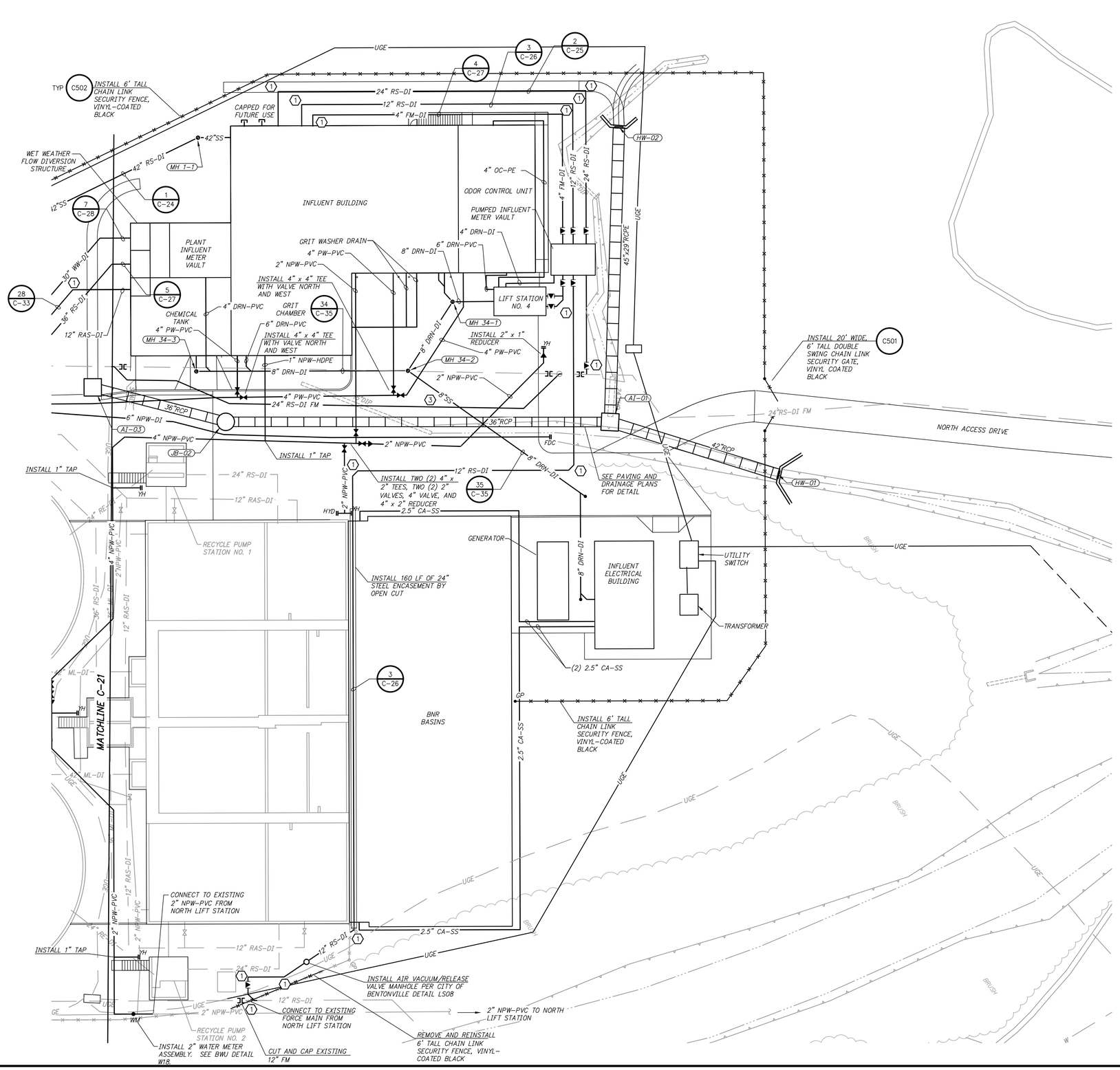
GRADING AND EROSION CONTROL PLAN IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-19

SHEET NO.
C-19

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-19.DWG, 3/19/2025 8:25 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

KEYED NOTES:

1. INSTALL TRACER WIRE JUNCTION BOX AT ALL HORIZONTAL BENDS IN FORCE MAINS
2. A MINIMUM VERTICAL CLEARANCE OF 18-INCHES SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.
3. PRIOR TO CONSTRUCTION OF INFLUENT BUILDING, TEMPORARILY RELOCATE APPROXIMATELY 170 LINEAR FEET OF EXISTING 24" RS-DI FORCE MAIN WITH 24" DUCTILE IRON CLASS 350 TR FLEX RESTRAINED JOINT PIPE.

NOTES:

1. WHERE THE BOTTOM OF A WATER LINE MUST PASS WITHIN 18-INCHES OF THE TOP OF A SEWER, PROCESS, OR DRAIN LINE OR WHERE A WATER LINE CROSSES BELOW A SEWER, PROCESS, OR DRAIN LINE, THE WATER LINE SHALL BE ENCASED A MINIMUM OF 10-FEET ON EITHER SIDE OF THE CROSSING. THE ENCASEMENT SHALL BE WATER TIGHT AND ALL JOINTS INSIDE OF THE ENCASEMENT SHALL BE RESTRAINED. THE ENCASEMENT SHALL CONFORM TO CITY OF BENTONVILLE STANDARD DETAIL GWS05.
2. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER, PROCESS, OR DRAIN LINE, AT LEAST 18-INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT.
3. REPLACE EXISTING WATER LINES WITH ABOVE GROUND WATER LINES WITH HEAT TRACING AS NEEDED DURING CONSTRUCTION.
4. REFER TO CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS DATED OCTOBER 23, 2024, FOR ALL WATER AND SEWER APPURTENANCES.
5. CUTTING AND CAPPING OF AN EXISTING PIPE SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD DETAIL W13. ALL CUT AND CAP DESIGNATIONS ARE IDENTIFIED ON THE D SHEETS.
6. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
7. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
8. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY J. MORGAN 25-025-15 NOSNIHOJ YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

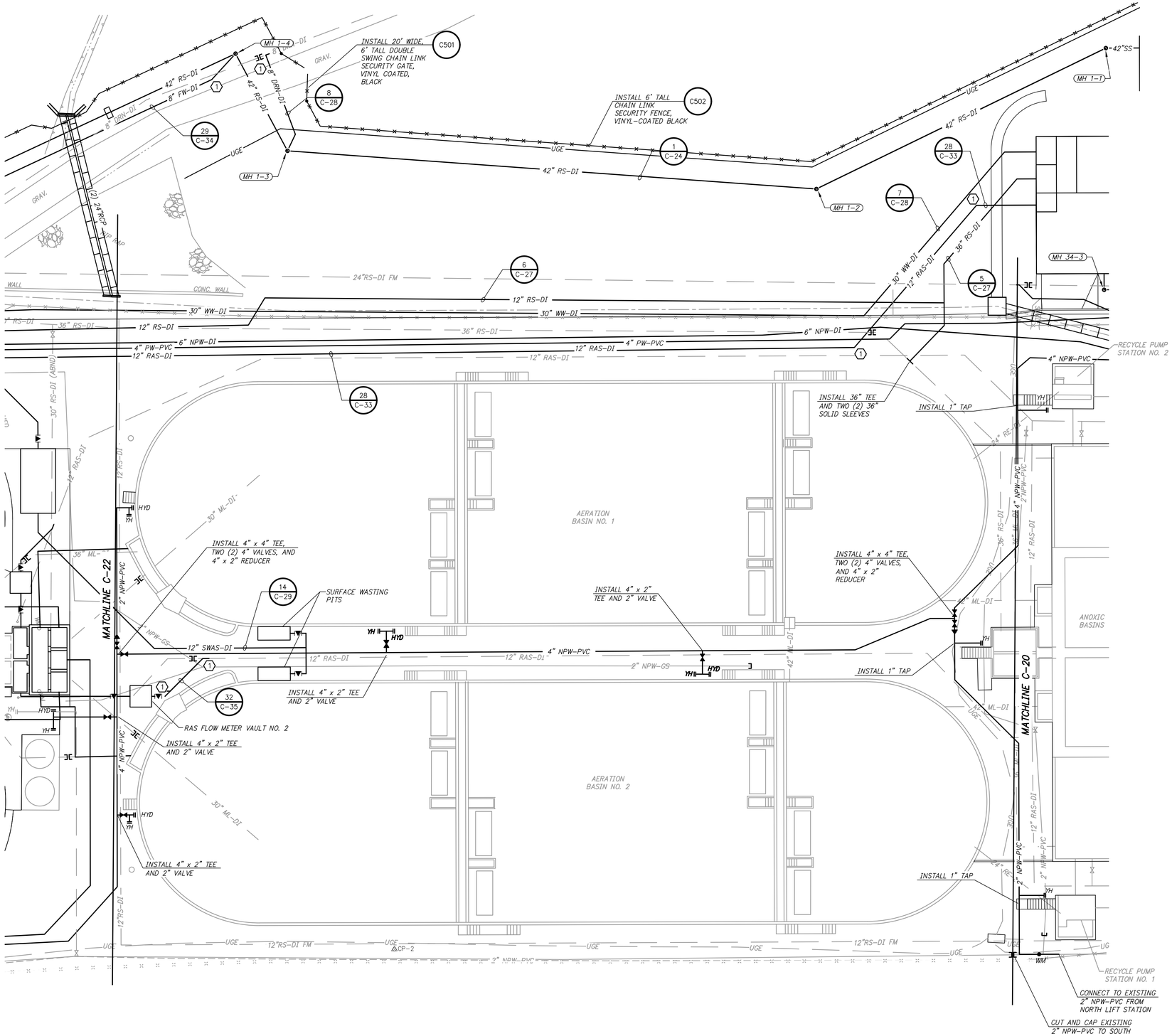
SITE PIPING I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-20

SHEET NO.
C-20

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-20.DWG, 3/19/2025 8:26 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

1"

NOTES:

1. WHERE THE BOTTOM OF A WATER LINE MUST PASS WITHIN 18-INCHES OF THE TOP OF A SEWER, PROCESS, OR DRAIN LINE OR WHERE A WATER LINE CROSSES BELOW A SEWER, PROCESS, OR DRAIN LINE, THE WATER LINE SHALL BE ENCASED A MINIMUM OF 10-FEET ON EITHER SIDE OF THE CROSSING. THE ENCASEMENT SHALL BE WATER TIGHT AND ALL JOINTS INSIDE OF THE ENCASEMENT SHALL BE RESTRAINED. THE ENCASEMENT SHALL CONFORM TO CITY OF BENTONVILLE STANDARD DETAIL GWS05.
2. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER, PROCESS, OR DRAIN LINE, AT LEAST 18-INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT.
3. REPLACE EXISTING WATER LINES WITH ABOVE GROUND WATER LINES WITH HEAT TRACING AS NEEDED DURING CONSTRUCTION.
4. REFER TO CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS DATED OCTOBER 23, 2024, FOR ALL WATER AND SEWER APPURTENANCES.
5. CUTTING AND CAPPING OF AN EXISTING PIPE SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD DETAIL W13. ALL CUT AND CAP DESIGNATIONS ARE IDENTIFIED ON THE D SHEETS.
6. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
7. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OFVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
8. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.

KEYED NOTES:

1. INSTALL TRACER WIRE JUNCTION BOX AT ALL HORIZONTAL BENDS IN FORCE MAINS.
2. A MINIMUM VERTICAL CLEARANCE OF 18-INCHES SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.

DATE

REVISION

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY M. JOHNSON 25 NOSHINGTON

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE PIPING II

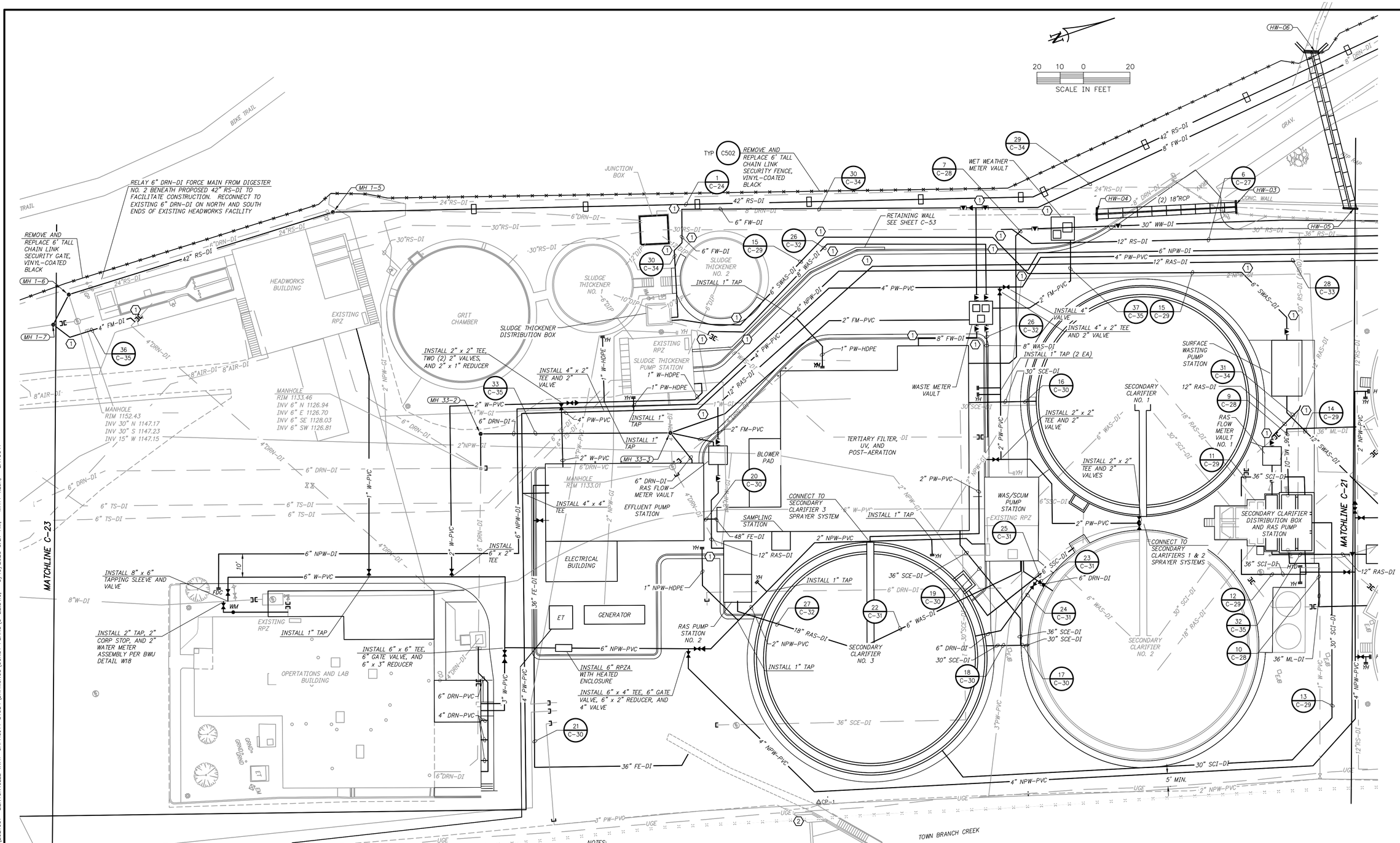
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-21

SHEET NO.
C-21

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-21.DWG, 3/19/2025 8:26 AM, MATT WEIR, LAYOUT1



NOTES:

1. WHERE THE BOTTOM OF A WATER LINE MUST PASS WITHIN 18-INCHES OF THE TOP OF A SEWER, PROCESS, OR DRAIN LINE OR WHERE A WATER LINE CROSSES BELOW A SEWER, PROCESS, OR DRAIN LINE, THE WATER LINE SHALL BE ENCASED A MINIMUM OF 10-FEET ON EITHER SIDE OF THE CROSSING. THE ENCASEMENT SHALL BE WATER TIGHT AND ALL JOINTS INSIDE OF THE ENCASEMENT SHALL BE RESTRAINED. THE ENCASEMENT SHALL CONFORM TO CITY OF BENTONVILLE STANDARD DETAIL GWS05.
2. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER, PROCESS, OR DRAIN LINE, AT LEAST 18-INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT.
3. REPLACE EXISTING WATER LINES WITH ABOVE GROUND WATER LINES WITH HEAT TRACING AS NEEDED DURING CONSTRUCTION.
4. REFER TO CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS DATED OCTOBER 23, 2024, FOR ALL WATER AND SEWER APPURTENANCES.
5. CUTTING AND CAPPING OF AN EXISTING PIPE SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD DETAIL W13. ALL CUT AND CAP DESIGNATIONS ARE IDENTIFIED ON THE D SHEETS.
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KEYED NOTES:

1. INSTALL TRACER WIRE JUNCTION BOX AT ALL HORIZONTAL BENDS IN FORCE MAINS.
2. ENCASE ANY PORTION OF PROPOSED POTABLE WATER LINE THAT WILL LIE WITHIN 10-FEET HORIZONTALLY OF A SEWER, PROCESS, OR DRAIN LINE.
3. A MINIMUM VERTICAL CLEARANCE OF 18-INCHES SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.
4. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHOULD BE MAINTAINED BETWEEN POTABLE WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.

BID DRAWINGS
MARCH 21, 2025

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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NOSHIN MORSHED ZACHARY MORSHED LICENSED PROFESSIONAL ENGINEER STATE OF ARKANSAS

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE PIPING III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-22

SHEET NO.
⚠C-22

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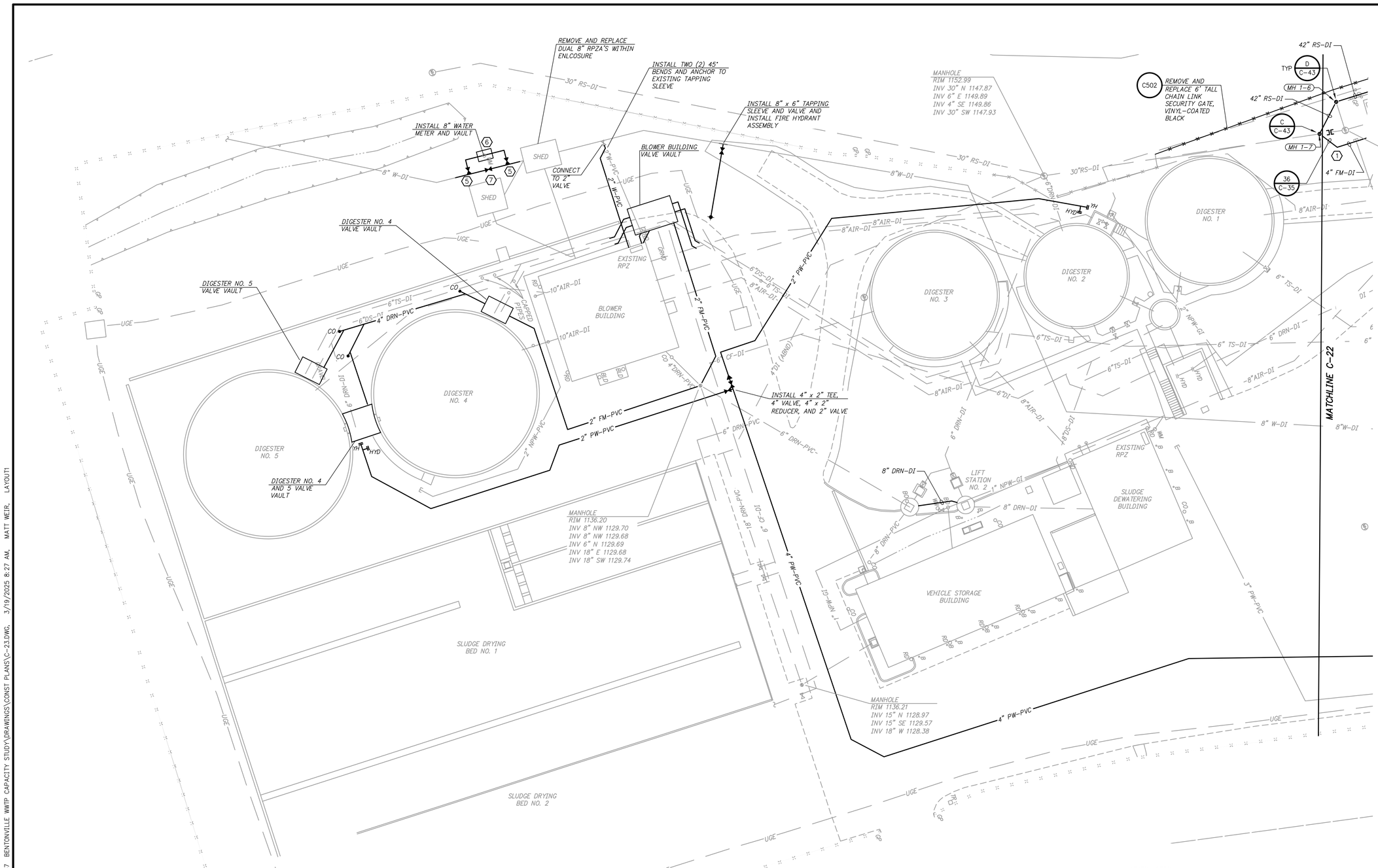

NOTES:

1. WHERE THE BOTTOM OF A WATER LINE MUST PASS WITHIN 18-INCHES OF THE TOP OF A SEWER, PROCESS, OR DRAIN LINE OR WHERE A WATER LINE CROSSES BELOW A SEWER, PROCESS, OR DRAIN LINE, THE WATER LINE SHALL BE ENCASED A MINIMUM OF 10-FEET ON EITHER SIDE OF THE CROSSING. THE ENCASEMENT SHALL BE WATER TIGHT AND ALL JOINTS INSIDE OF THE ENCASEMENT SHALL BE RESTRAINED. THE ENCASEMENT SHALL CONFORM TO CITY OF BENTONVILLE STANDARD DETAIL GWS05.
2. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER, PROCESS, OR DRAIN LINE, AT LEAST 18-INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT.
3. REPLACE EXISTING WATER LINES WITH ABOVE GROUND WATER LINES WITH HEAT TRACING AS NEEDED DURING CONSTRUCTION.
4. REFER TO CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS DATED OCTOBER 23, 2024, FOR ALL WATER AND SEWER APPURTENANCES.
5. CUTTING AND CAPPING OF AN EXISTING PIPE SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD DETAIL W13. ALL CUT AND CAP DESIGNATIONS ARE IDENTIFIED ON THE D SHEETS.
6. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
7. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OF VER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
8. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
9. SHUTDOWNS OF THE 8" WATER LINE SHALL BE LIMITED TO A MAXIMUM OF 4 HOURS. ALL SHUTDOWNS SHALL BE COORDINATED WITH BWU.

KEYED NOTES:

1. INSTALL TRACER WIRE JUNCTION BOX AT ALL HORIZONTAL BENDS IN FORCE MAINS.
2. ENCASE ANY PORTION OF PROPOSED POTABLE WATER LINE THAT WILL LIE WITHIN 10-FEET HORIZONTALLY OF A SEWER, PROCESS, OR DRAIN LINE.
3. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHOULD BE MAINTAINED BETWEEN POTABLE WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.
4. A MINIMUM VERTICAL CLEARANCE OF 18-INCHES SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER, PROCESS, OR DRAIN LINES OR OTHER SOURCES OF CONTAMINATION.
5. INSTALL 8" TAPPING SLEEVE AND VALVE
6. INSTALL 8" METER VAULT IN ACCORDANCE WITH BWU DETAIL W12.
7. INSTALL TWO (2) 8" SOLID SLEEVES AND A 8" GATE VALVE ONCE METER IS IN SERVICE

BID DRAWINGS
MARCH 21, 2025

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE | REVISION

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY M. JOHNSON NO. 24215 NOSNHOJ M. YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

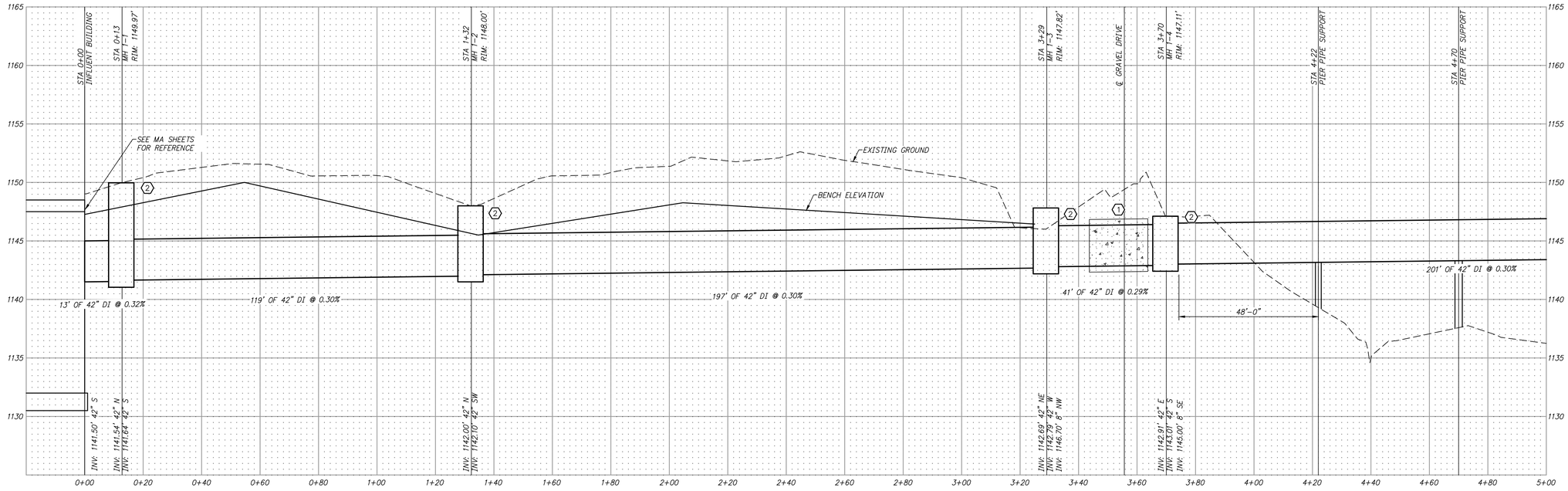
SITE PIPING IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-23

SHEET NO. C-23

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-23.DWG, 3/19/2025 8:27 AM, MATT WEIR, LAYOUT1



42" INFLUENT

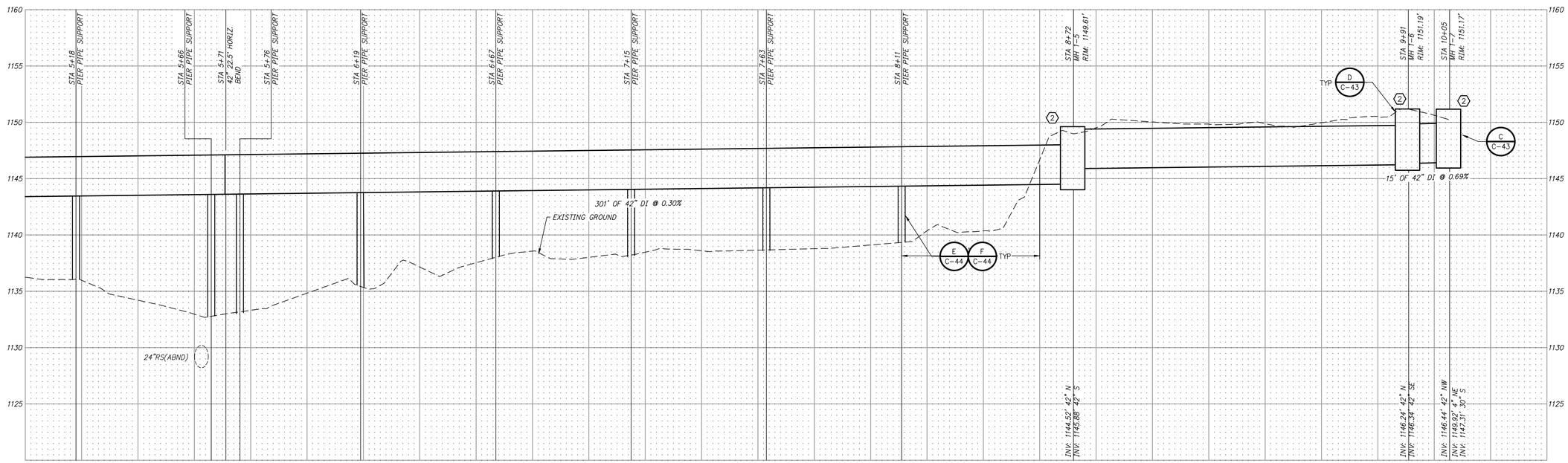
PROFILE

H: 1"=20'; V: 1"=5'

1 C-20 | 1 C-21 | 1 C-22 | 1 C-23

KEYED NOTES:

1. INSTALL 20 LF OF CONCRETE ENCASEMENT PER DETAIL C504.
2. INSTALL INTERIOR EPOXY COATING PER SPECIFICATION 09800.



42" INFLUENT

PROFILE

H: 1"=20'; V: 1"=5'

1 C-20 | 1 C-21 | 1 C-22 | 1 C-23

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.
2. DUCTILE IRON PIPE INSTALLED BETWEEN STATION 3+70 AND STATION 8+72 SHALL BE CLASS 53 LONG SPAN PIPE AND SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL F ON SHEET C-44.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY MORGAN 25-025715 NOSHIO MORGAN

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

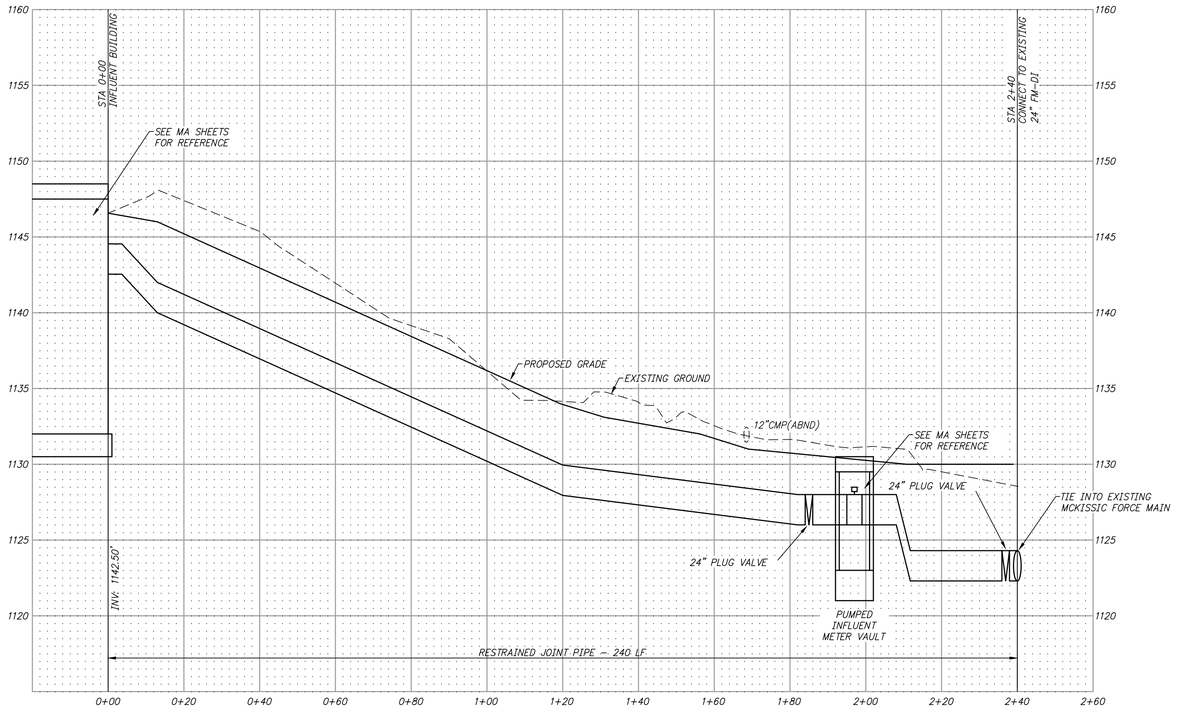
SITE PIPING PROFILES I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-24

SHEET NO.
C-24

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-24.DWG, 3/19/2025 8:28 AM, MATT WEIR, LAYOUT1



24" RS–DI
MCKISSIC FORCE MAIN

PROFILE — 2 / C–20

H: 1"=20'; V: 1"=5'

NOTES:

1. *LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS–WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY MORGAN
NOSNIHOJ YRRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

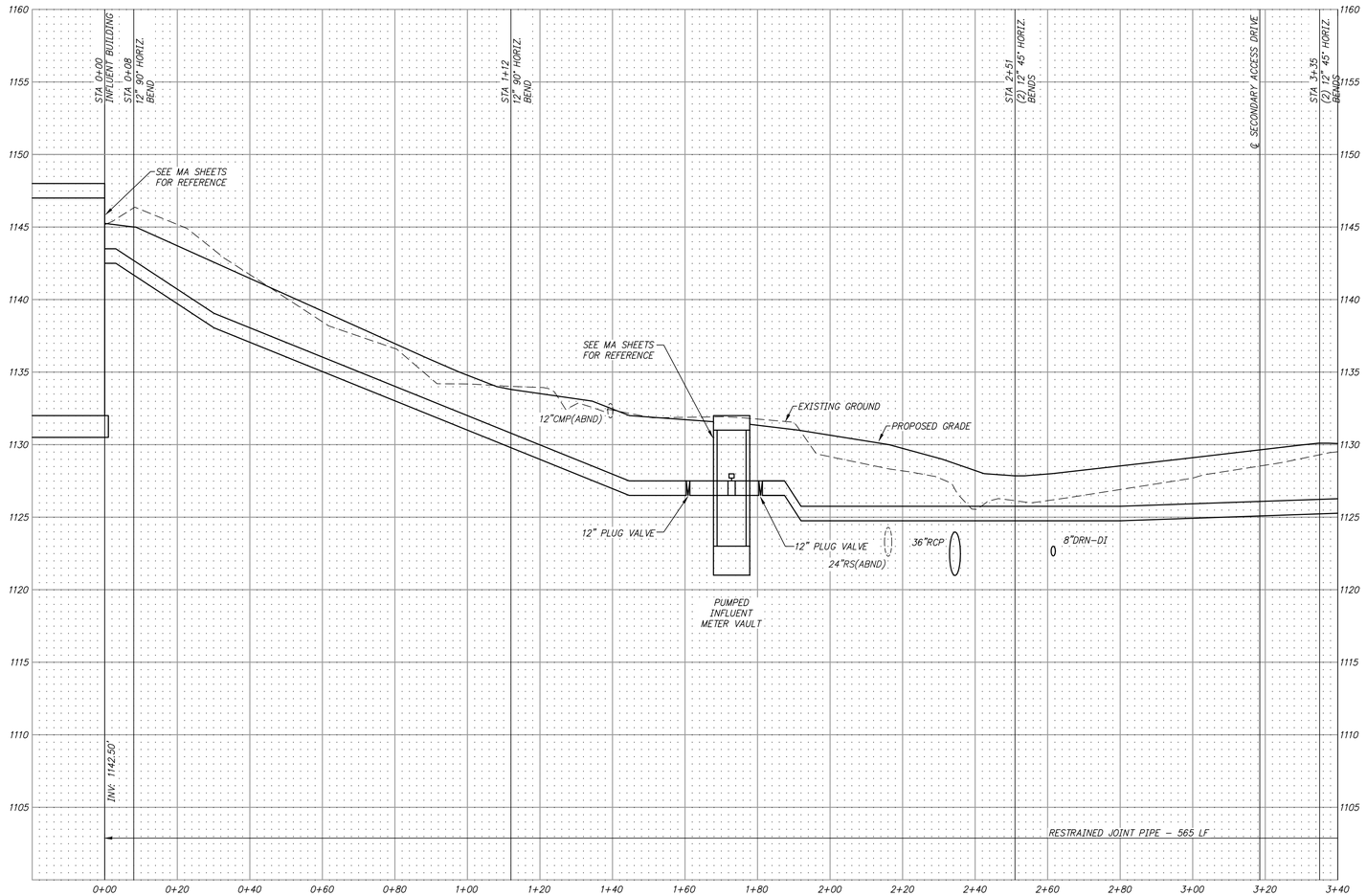
SITE PIPING PROFILES II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–25

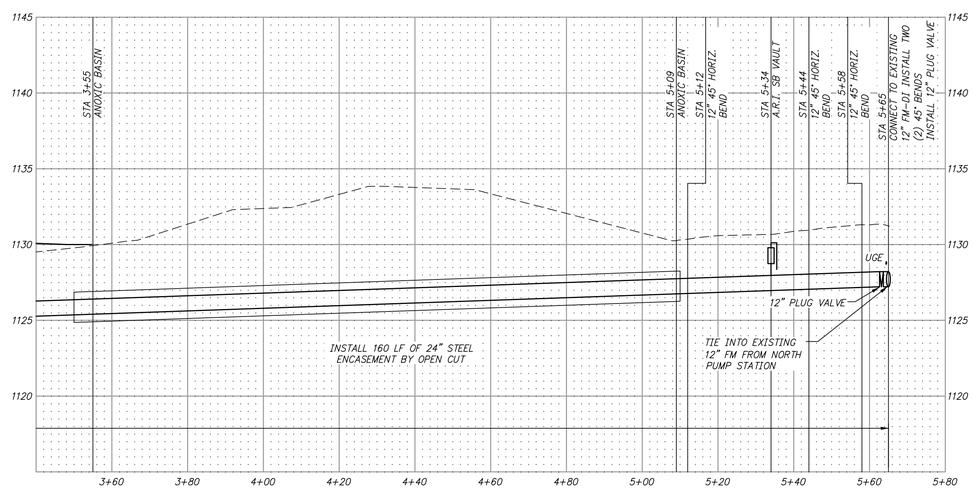
SHEET NO.
C–25

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-25.DWG, 3/19/2025 8:28 AM, MATT WEIR, LAYOUT1



12" RS–DI
NORTH LIFT STATION FORCE MAIN

PROFILE 3
H: 1"=20'; V: 1"=5' C–20



12" RS–DI
NORTH LIFT STATION FORCE MAIN

PROFILE 3
H: 1"=20'; V: 1"=5' C–20

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS–WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
ZACHARY M. JOHNSON
NOSNHOJ M. YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

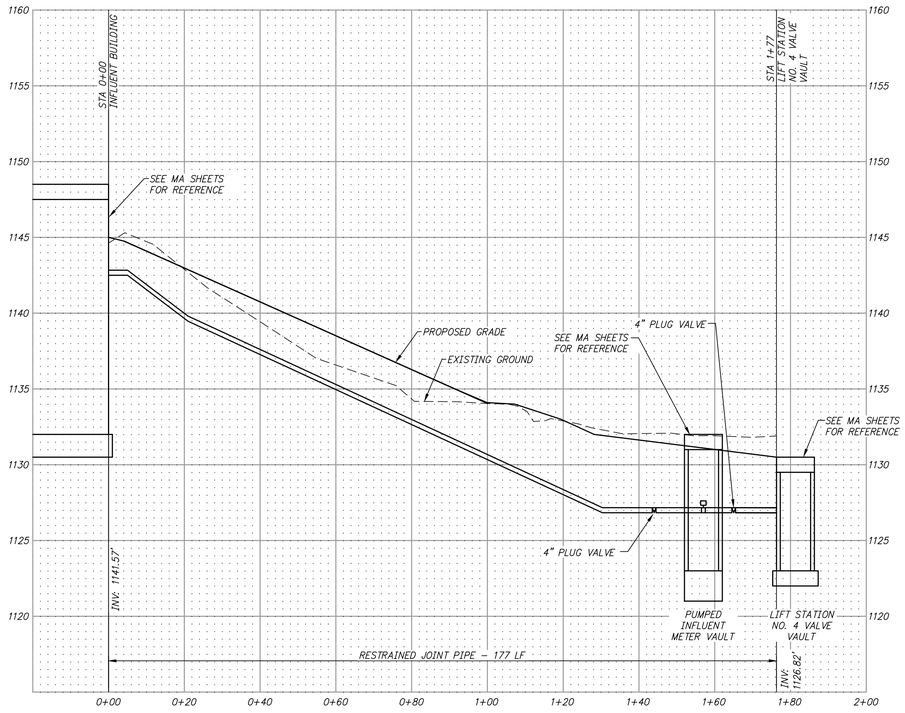
SITE PIPING PROFILES III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–26

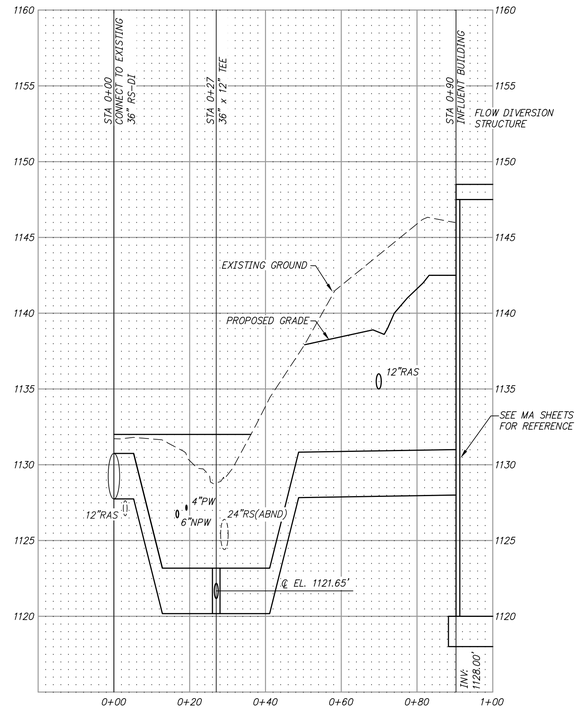
SHEET NO.
C–26

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-26.DWG, 3/19/2025 8:28 AM, MATT WEIR, LAYOUT1



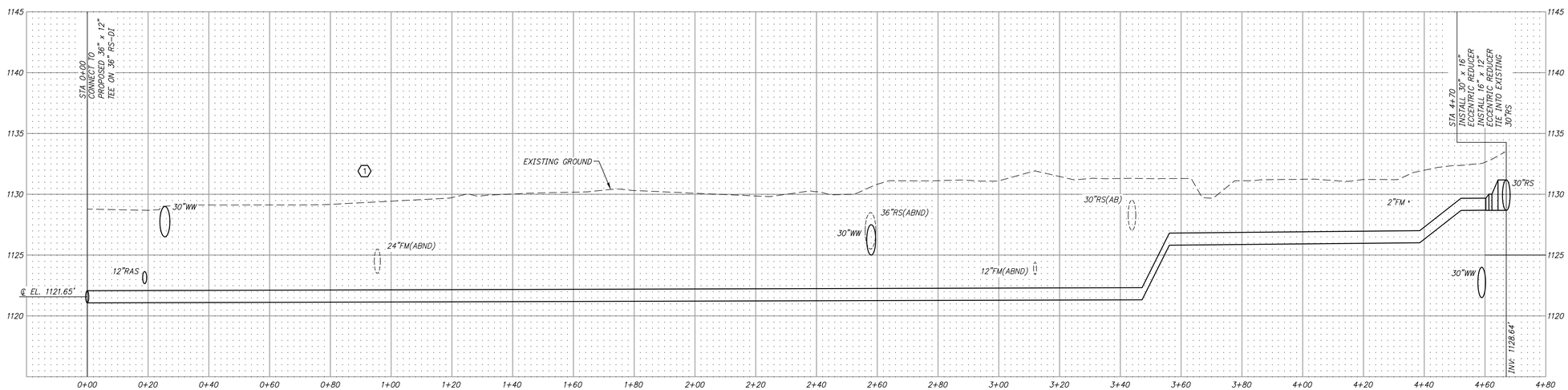
4" FM–DI

PROFILE 4 (H: 1"=20'; V: 1"=5') — C–20



36" RS–DI

PROFILE 5 (H: 1"=20'; V: 1"=5') — C–20 / C–21



12" RS–DI

PROFILE 6 (H: 1"=20'; V: 1"=5') — C–21 / C–22

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

KEYED NOTES:

(1) MCKISSIC FORCE MAIN TO BE ABANDONED PRIOR TO INSTALLATION

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — ZACHARY M. JOHNSON — 24415 — 03-19-25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

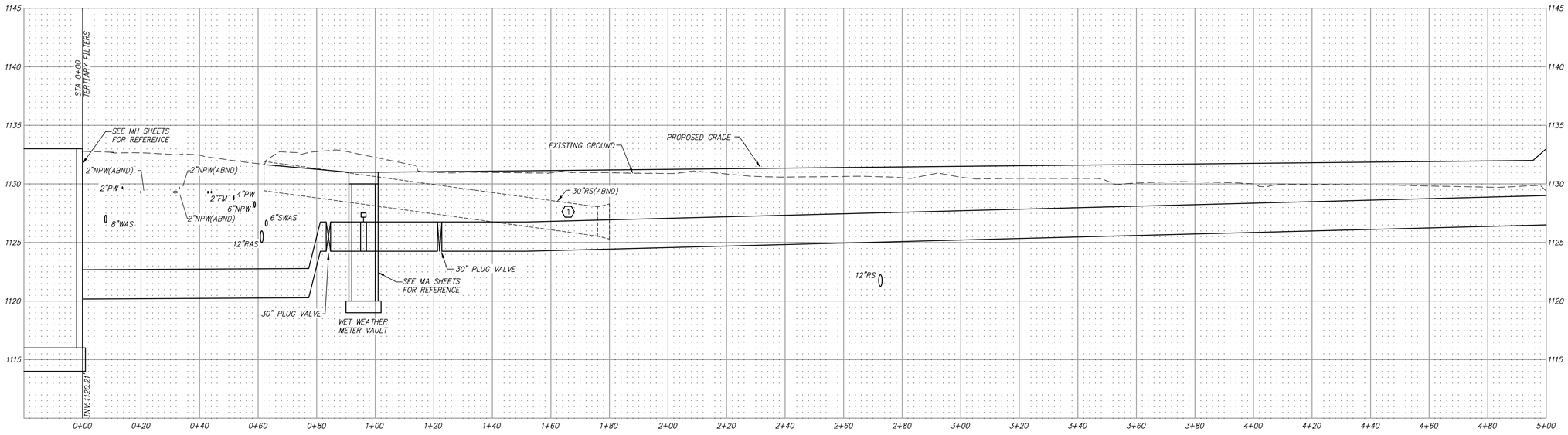
SITE PIPING PROFILES IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–27

SHEET NO.
C–27

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-27.DWG, 3/19/2025 8:29 AM, MATT WEIR, LAYOUT1



NOTES:

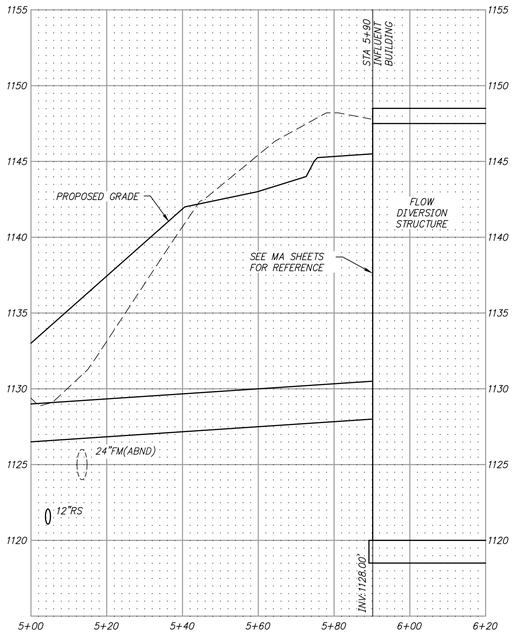
1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

30" WW-DI

PROFILE — H: 1"=20'; V: 1"=5' — 7 C-20 | 7 C-21 | 7 C-22

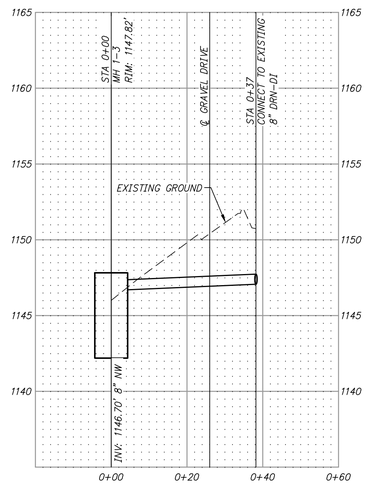
KEYED NOTES:

1. 30" RS-DI SHALL BE CUT, CAPPED, AND ABANDONED PRIOR TO THE INSTALLATION OF 30" WW-DI.



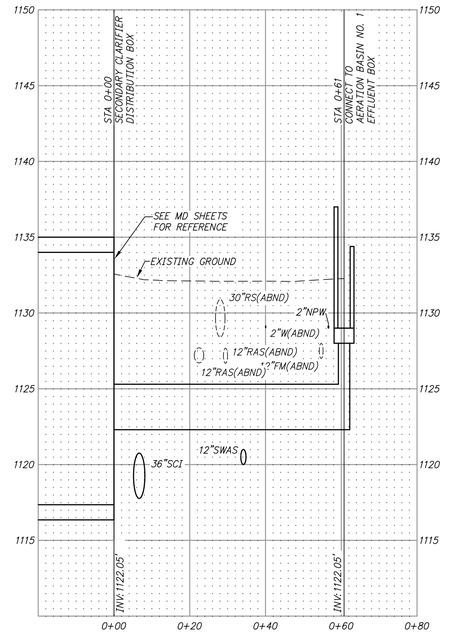
30" WW-DI

PROFILE — H: 1"=20'; V: 1"=5' — 7 C-20 | 7 C-21 | 7 C-22



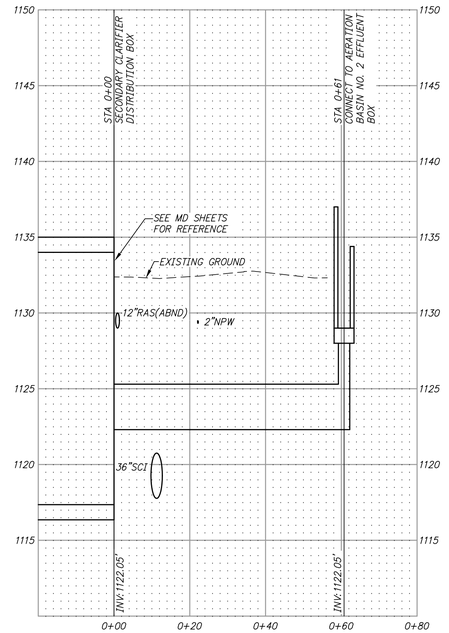
8" DRN-DI

PROFILE — H: 1"=20'; V: 1"=5' — 8 C-21



36" ML-DI
AERTION BASIN NO. 1 INFLUENT

PROFILE — H: 1"=20'; V: 1"=5' — 9 C-22



36" ML-DI
AERATION BASIN NO. 2 EFFLUENT

PROFILE — H: 1"=20'; V: 1"=5' — 10 C-22

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — ZACHARY MORGAN — NOSNIGOM YRAHCAZ — 24475 — 03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

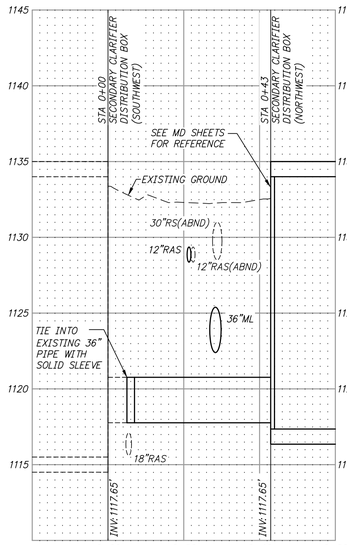
SITE PIPING PROFILES V

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-28

SHEET NO.
C-28

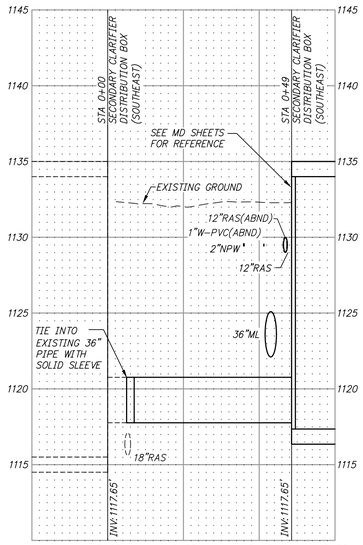
\\HWEI-VB\HAWKINS-WEIR\LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-28.DWG, 3/19/2025 8:30 AM, MATT WEIR, LAYOUT1



36" SCI-DI TO SECONDARY CLARIFIER NO. 1 DISTRIBUTION BOX

PROFILE 11 / C-22

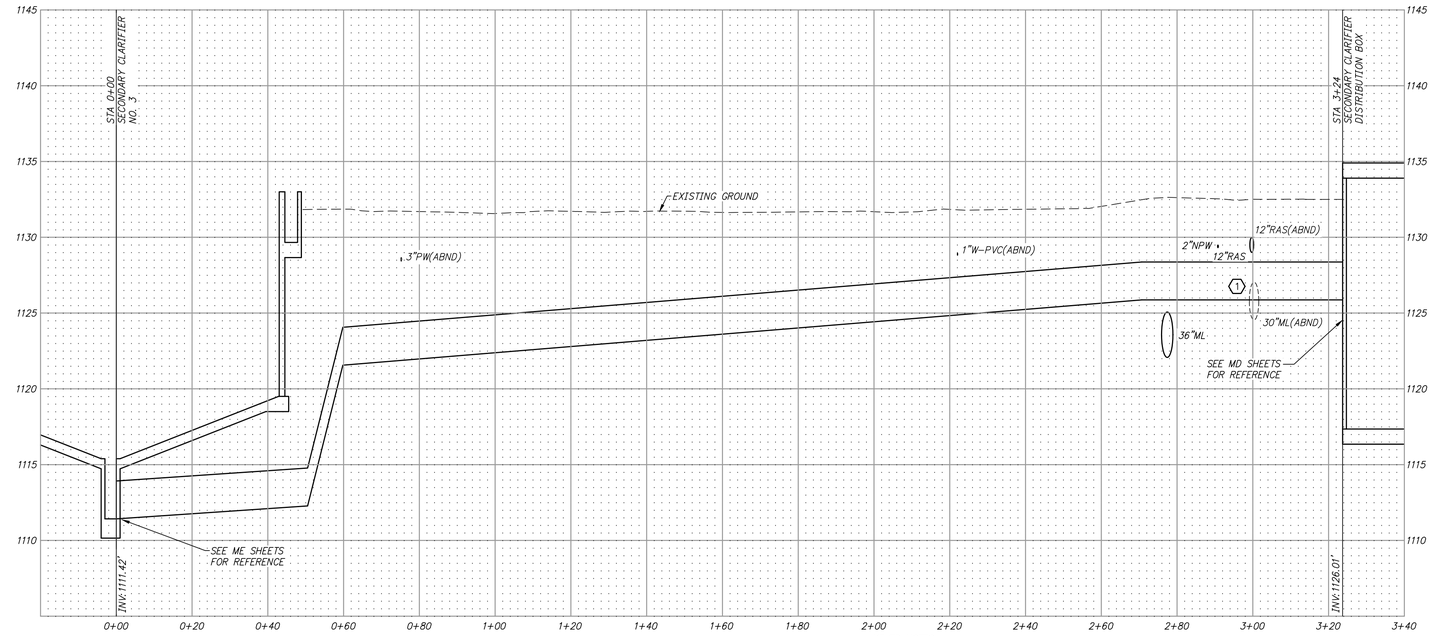
H: 1"=20'; V: 1"=5'



36" SCI-DI TO SECONDARY CLARIFIER NO. 2 DISTRIBUTION BOX

PROFILE 12 / C-22

H: 1"=20'; V: 1"=5'



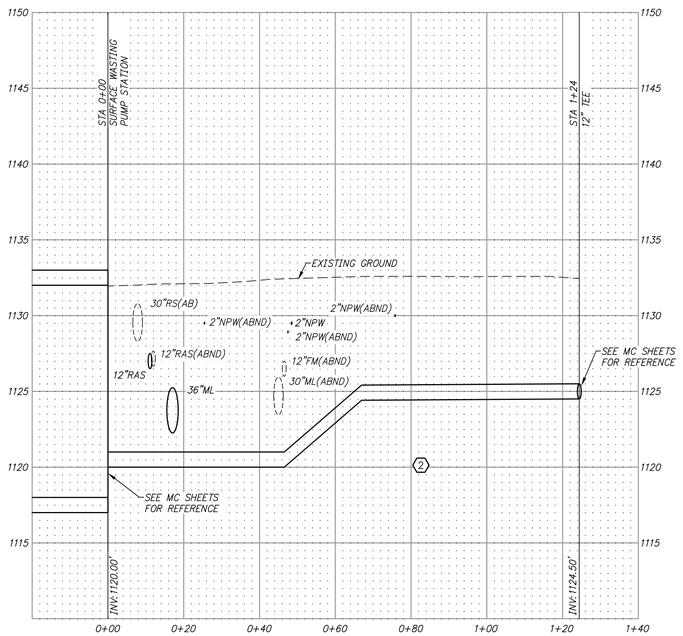
30" SCI-DI

PROFILE 13 / C-22

H: 1"=20'; V: 1"=5'

KEYED NOTES:

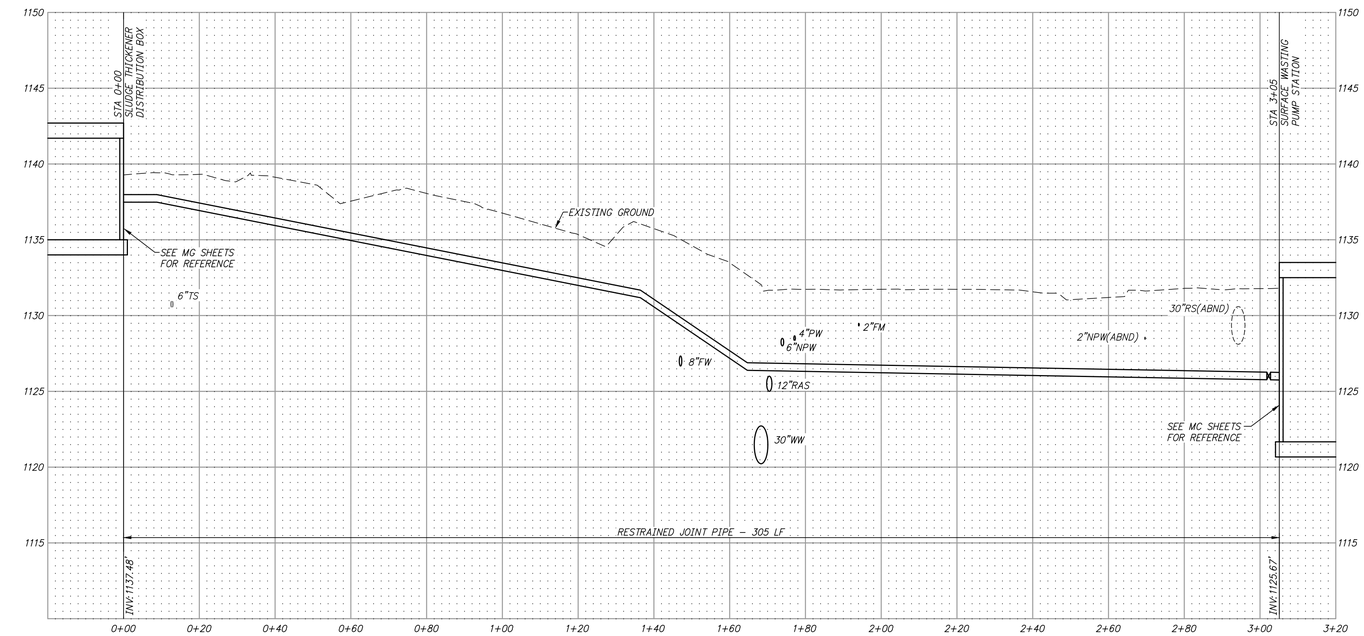
1. 30" ML-DI SHALL BE CUT, CAPPED, AND ABANDONED PRIOR TO THE INSTALLATION OF 30" SCI-DI.
2. PROTECT EXISTING PARALLEL 12" RAS-DI LINE AND PROPOSED 4" NPW-PVC LINE DURING CONSTRUCTION.



12" SWAS-DI

PROFILE 14 / C-21 | 14 / C-22

H: 1"=20'; V: 1"=5'



6" SWAS-DI

PROFILE 15 / C-22

H: 1"=20'; V: 1"=5'

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS · LICENSED PROFESSIONAL ENGINEER · ZACHARY M. JONES · 25.12.15 · NOSNIHOJ.YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

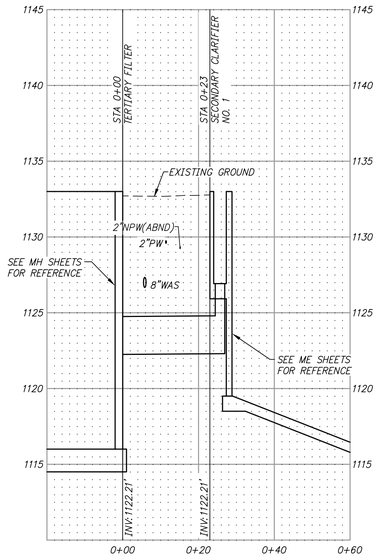
SITE PIPING PROFILES V1

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-29

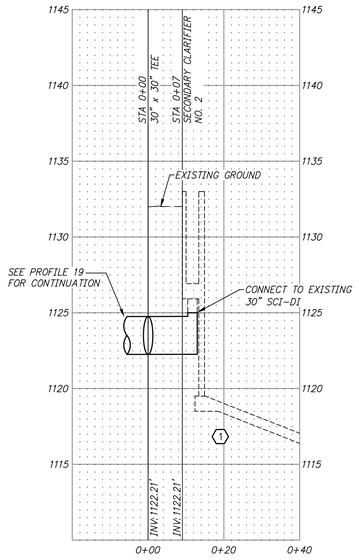
SHEET NO.
C-29

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-29.DWG, 3/19/2025 8:31 AM, MATT WEIR, LAYOUT1



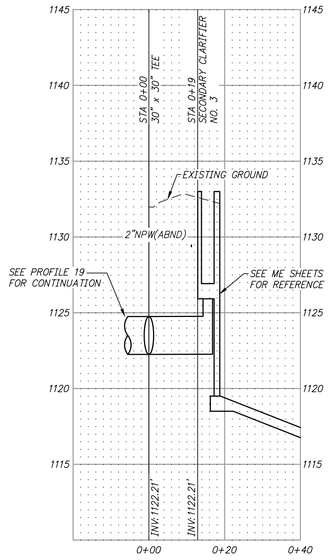
30" SCE-DI
SECONDARY CLARIFIER NO. 1 EFFLUENT

PROFILE 16
H: 1"=20'; V: 1"=5'
C-22



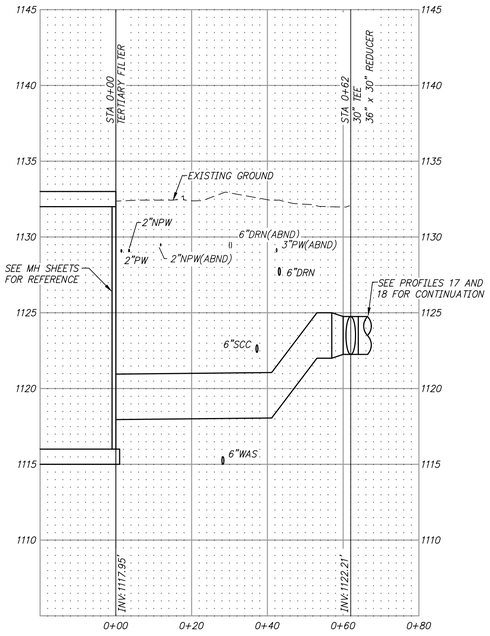
30" SCE-DI
SECONDARY CLARIFER NO. 2 EFFLUENT

PROFILE 17
H: 1"=20'; V: 1"=5'
C-22



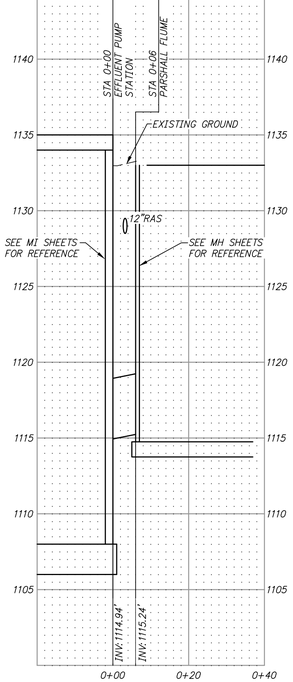
30" SCE-DI
SECONDARY CLARIFER NO. 3 EFFLUENT

PROFILE 18
H: 1"=20'; V: 1"=5'
C-22



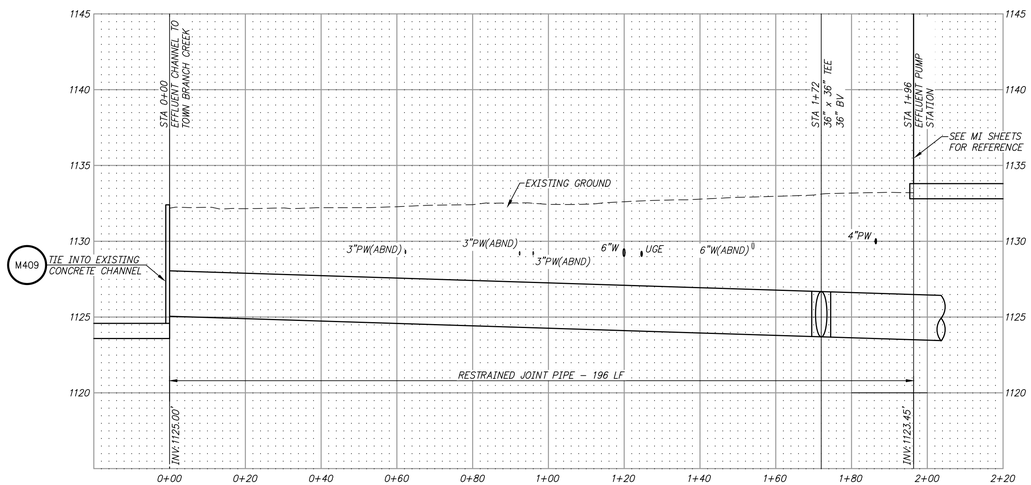
36" SCE-DI

PROFILE 19
H: 1"=20'; V: 1"=5'
C-22



48" FE-DI

PROFILE 20
H: 1"=20'; V: 1"=5'
C-22



36" FE-DI

PROFILE 21
H: 1"=20'; V: 1"=5'
C-22

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

KEYED NOTES:

(1) INVERT ELEVATION BASED ON RECORD DRAWING INFORMATION. CONTRACTOR SHALL FIELD-VERIFY ELEVATION PRIOR TO CONSTRUCTION.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY JAMES MORGAN NO. 24115 MARCH 21, 2025

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

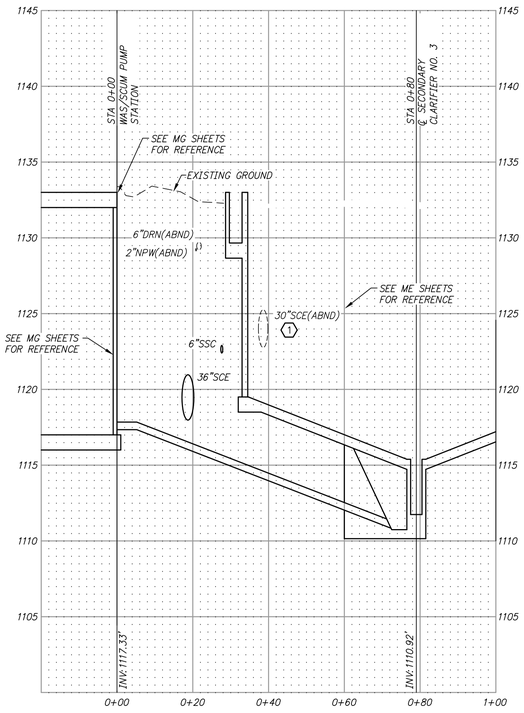
SITE PIPING PROFILES VII

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-30

SHEET NO.
C-30

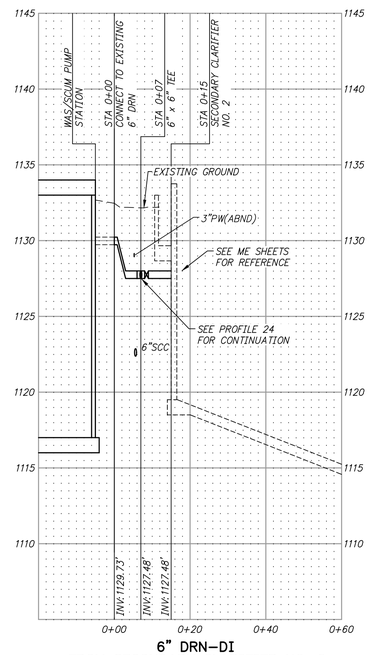
\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-30.DWG, 3/19/2025 8:32 AM, MATT WEIR, LAYOUT1



6" WAS–DI

PROFILE 22 (C–22)

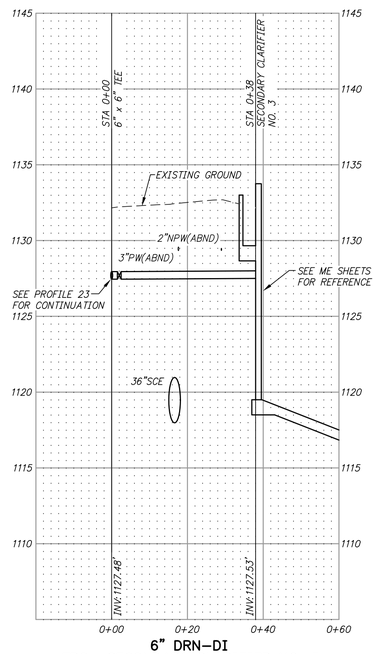
H: 1"=20'; V: 1"=5'



6" DRN–DI
FROM SECONDARY CLARIFIER NO. 2

PROFILE 23 (C–22)

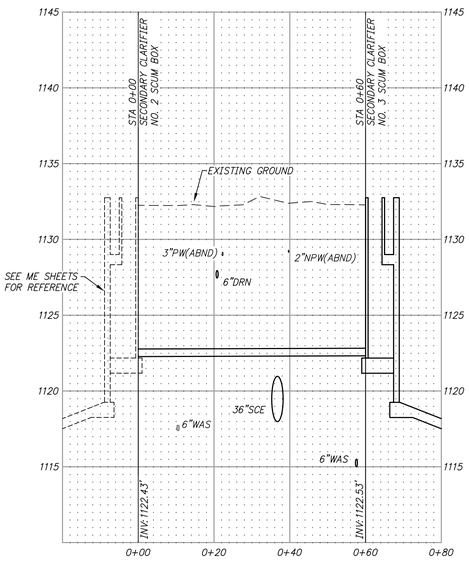
H: 1"=20'; V: 1"=5'



6" DRN–DI
FROM SECONDARY CLARIFIER NO. 3

PROFILE 24 (C–22)

H: 1"=20'; V: 1"=5'



6" SCC–DI

PROFILE 25 (C–22)

H: 1"=20'; V: 1"=5'

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.

KEYED NOTES:

(1) 30" SCE–DI SHALL BE CUT, CAPPED, AND ABANDONED PRIOR TO THE INSTALLATION OF SECONDARY CLARIFIER NO. 3.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS · LICENSED PROFESSIONAL ENGINEER · ZACHARY M. JOHNSON · NO. 24145 · 03/21/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

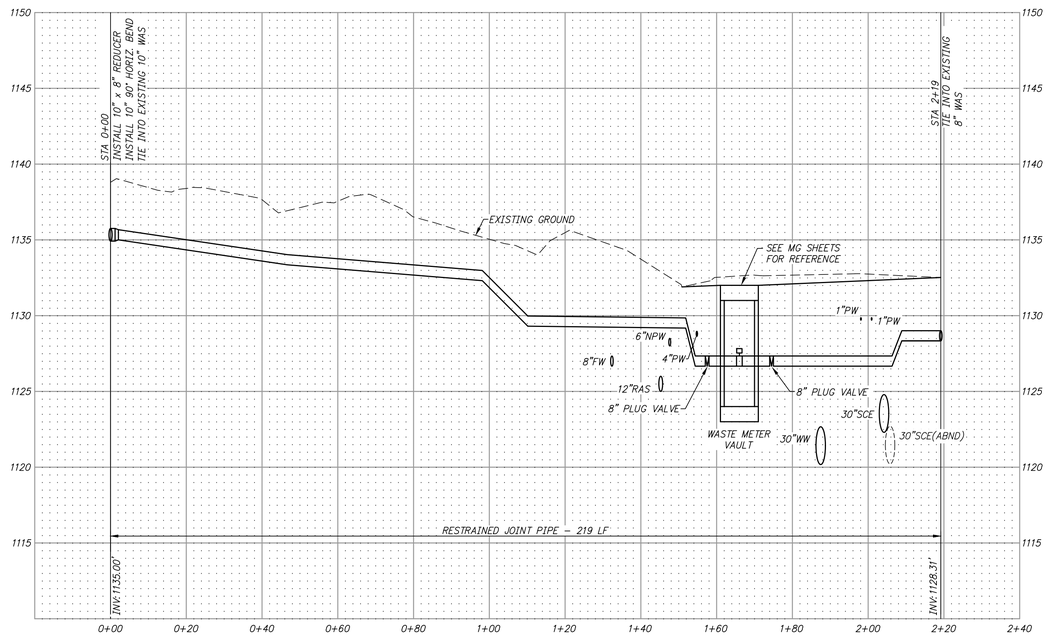
SITE PIPING PROFILES VIII

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–31

SHEET NO.
C–31

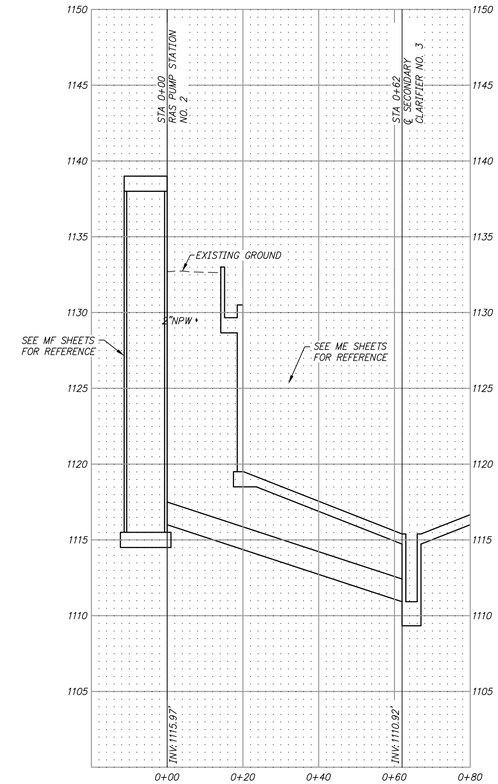
\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-31.DWG, 3/19/2025 8:33 AM, MATT WEIR, LAYOUT1



8" WAS–DI

PROFILE 26

H: 1"=20'; V: 1"=5' C–22



18" RAS–DI

PROFILE 27

H: 1"=20'; V: 1"=5' C–22

NOTES:

1. *LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.*

BID DRAWINGS

MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS · LICENSED PROFESSIONAL ENGINEER · ZACHARY M. JONES · NO. 24145 · 03-21-25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

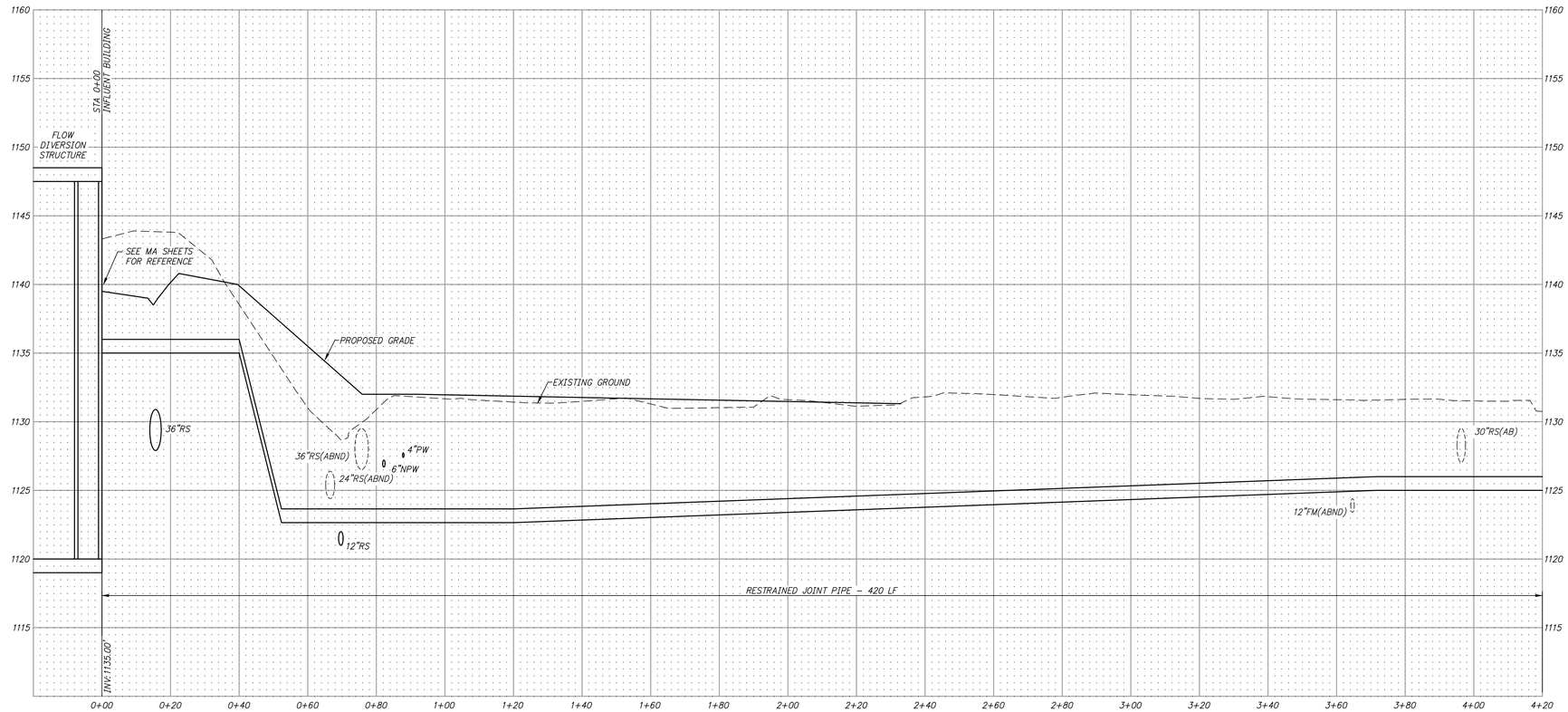
SITE PIPING PROFILES IX

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–32

SHEET NO.
C–32

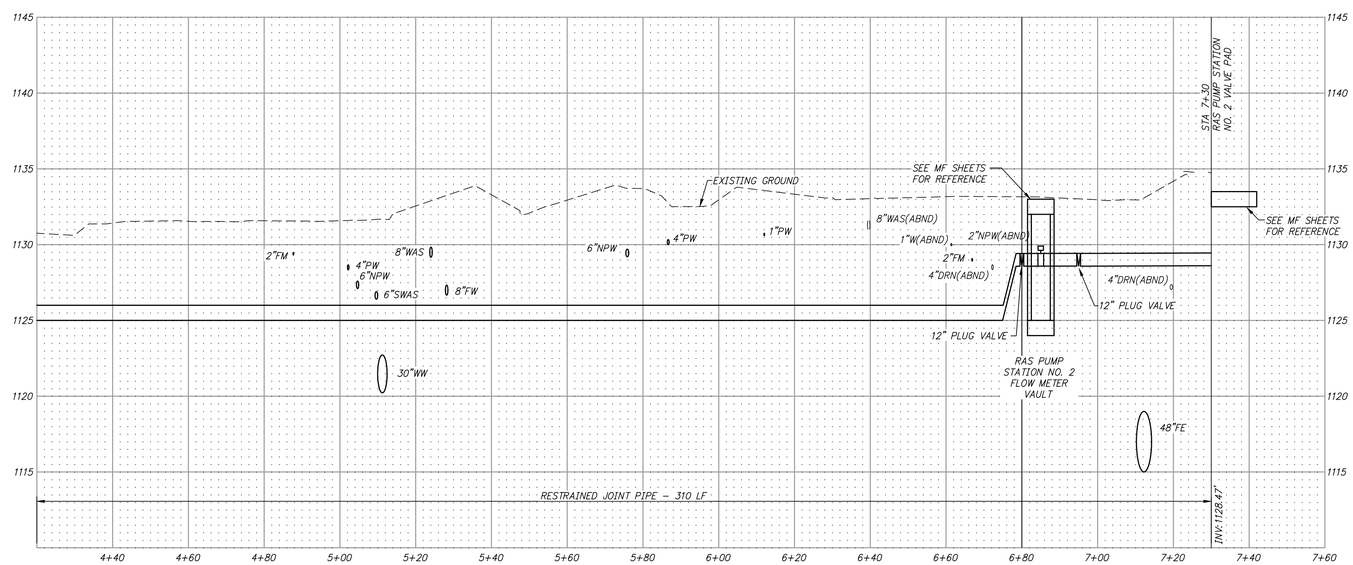
\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-32.DWG, 3/19/2025 8:33 AM, MATT WEIR, LAYOUT1



12" RAS–DI

PROFILE (28 / C–20) (28 / C–21) (28 / C–22)

H: 1"=20'; V: 1"=5'



12" RAS–DI

PROFILE (28 / C–20) (28 / C–21) (28 / C–22)

H: 1"=20'; V: 1"=5'

NOTES:

1. *LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.*

BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS · LICENSED PROFESSIONAL ENGINEER · ZACHARY M. JONES · NO. 24215 · NOSNIHOJ YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

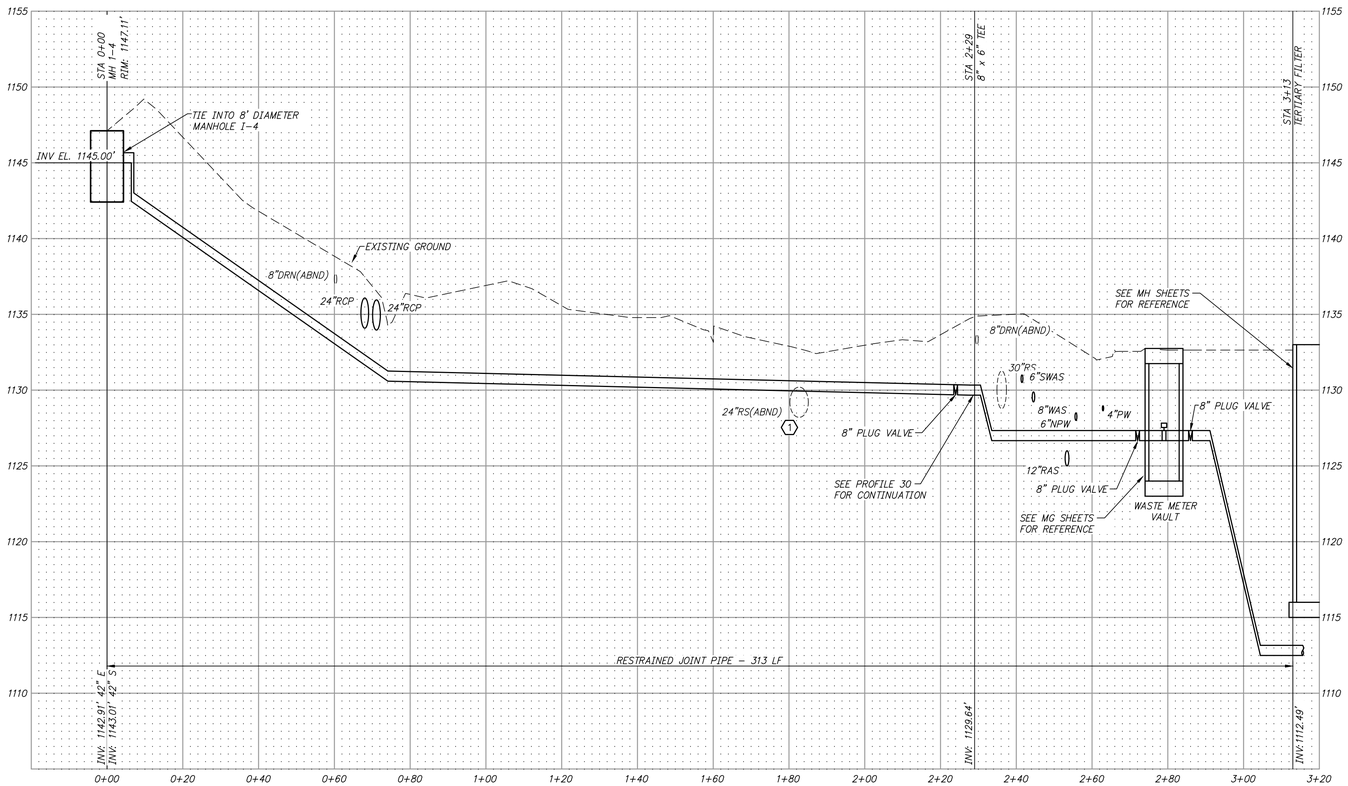
SITE PIPING PROFILES X

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C–33

SHEET NO.
C–33

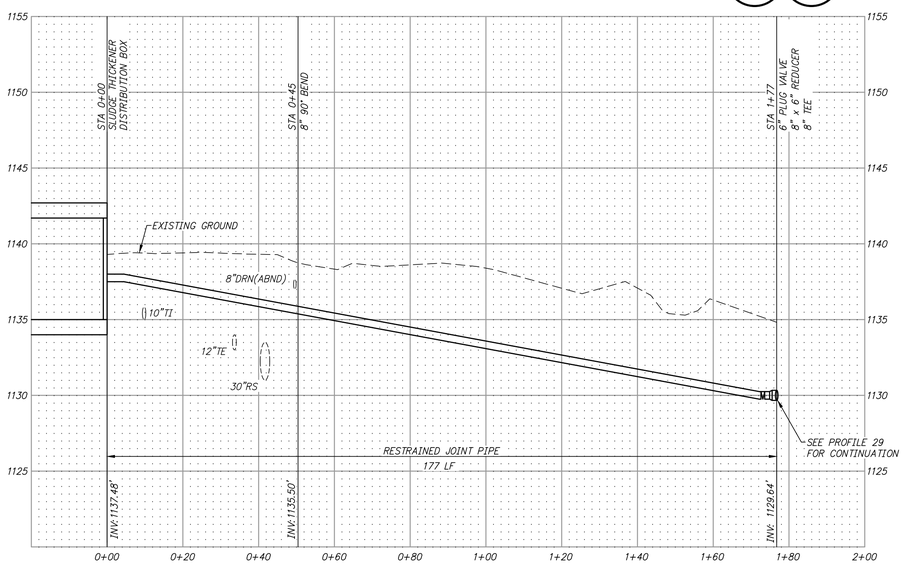
\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-33.DWG, 3/19/2025 8:33 AM, MATT WEIR, LAYOUT1



8" FW-DI

PROFILE 29 (C-21) / 29 (C-22)

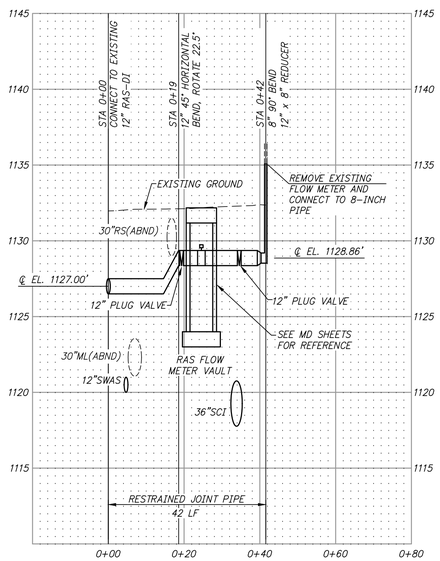
H: 1"=20'; V: 1"=5'



6" FW-DI

PROFILE 30 (C-22)

H: 1"=20'; V: 1"=5'



12" RAS-DI

RAS PUMP STATION NO. 1 METER VAULT NO. 1

PROFILE 31 (C-22)

H: 1"=20'; V: 1"=5'

NOTES:

1. *LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.*

KEYED NOTES:

(1) *McKISSIC FORCE MAIN TO BE ABANDONED PRIOR TO INSTALLATION OF 8" FW-DI.*

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY MORGAN
NOSNIHOJ YRRAHCAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE PIPING PROFILES XI

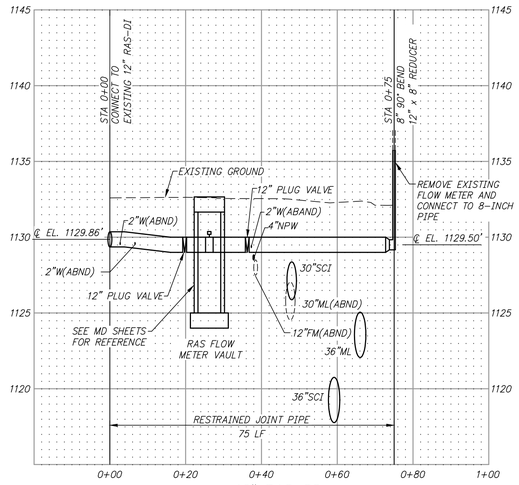
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-34

SHEET NO.
C-34

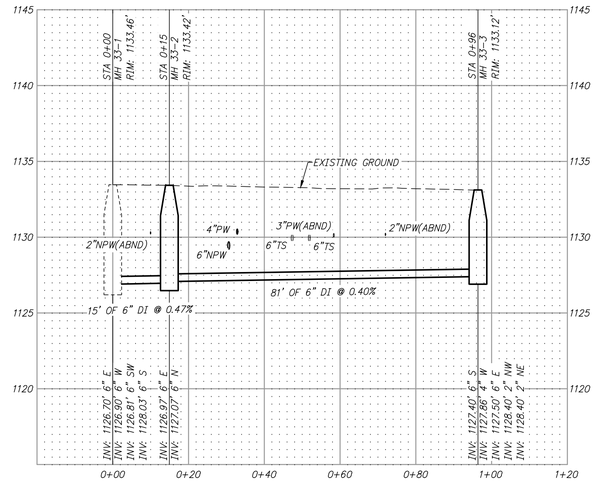
BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-34.DWG, 3/19/2025 8:34 AM, MATT WEIR, LAYOUT1



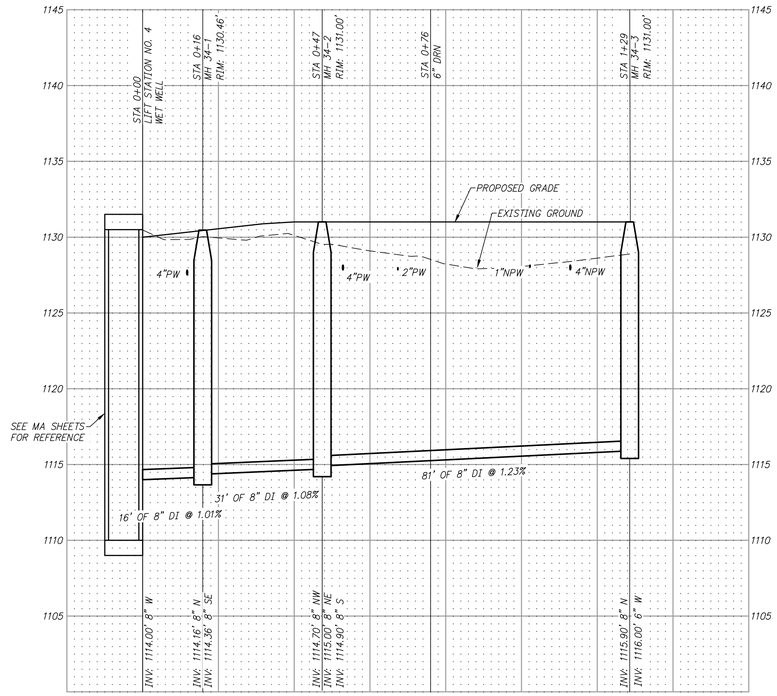
12" RAS-DI
RAS PUMP STATION NO. 1 METER VAULT NO. 2

PROFILE 32 / 32
H: 1"=20'; V: 1"=5'
C-21 / C-22



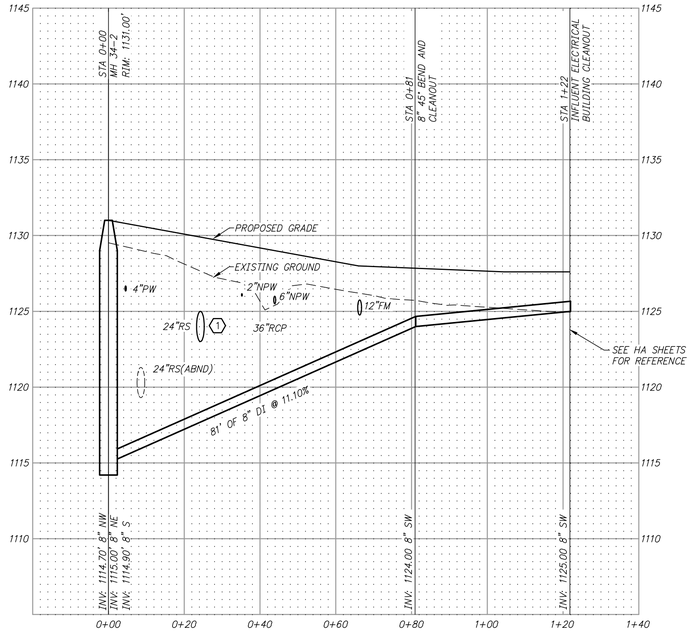
6" DRN-DI

PROFILE 33
H: 1"=20'; V: 1"=5'
C-22



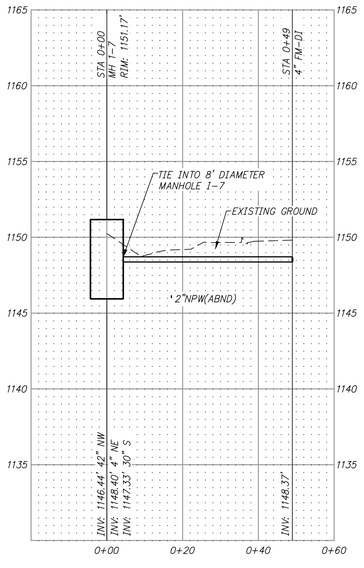
8" DRN-DI

PROFILE 34
H: 1"=20'; V: 1"=5'
C-20



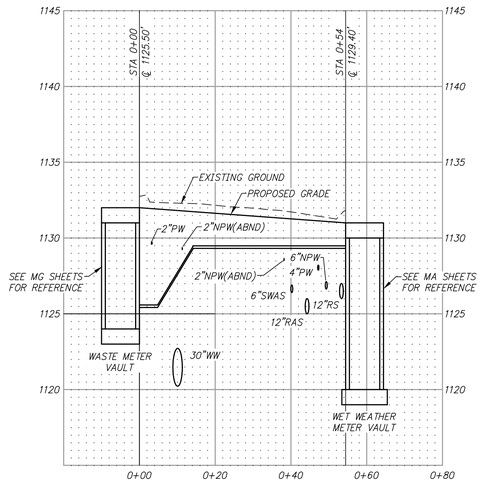
8" DRN-DI

PROFILE 35
H: 1"=20'; V: 1"=5'
C-20



4" FM-DI

PROFILE 36 / 36
H: 1"=20'; V: 1"=5'
C-22 / C-23



2" FM-PVC

PROFILE 37
H: 1"=20'; V: 1"=5'
C-22

NOTES:

1. LINES TO BE ABANDONED ARE TO BE ABANDONED AS ALLOWED BY SEQUENCE OF CONSTRUCTION.
2. ALL MANHOLES ARE TO BE CAST-IN-PLACE.

KEYED NOTES:

(1) McKISSIC FORCE MAIN TO BE TEMPORARILY RELOCATED DURING CONSTRUCTION OF INFLUENT BUILDING AND RELATED FACILITIES.

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JONES
No. 24115
NOSNIHOJ YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE PIPING PROFILES XII

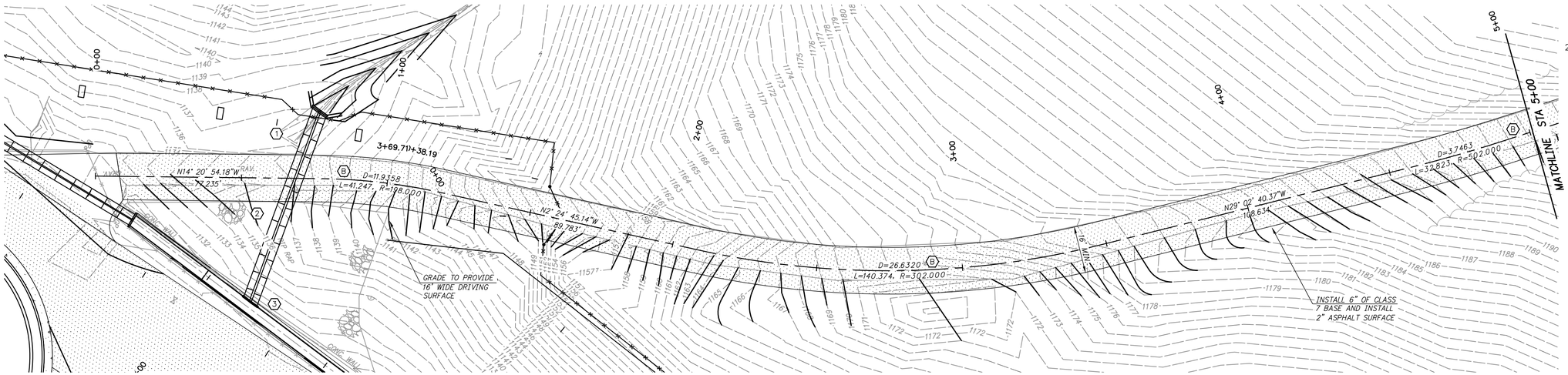
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-35

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
C-35

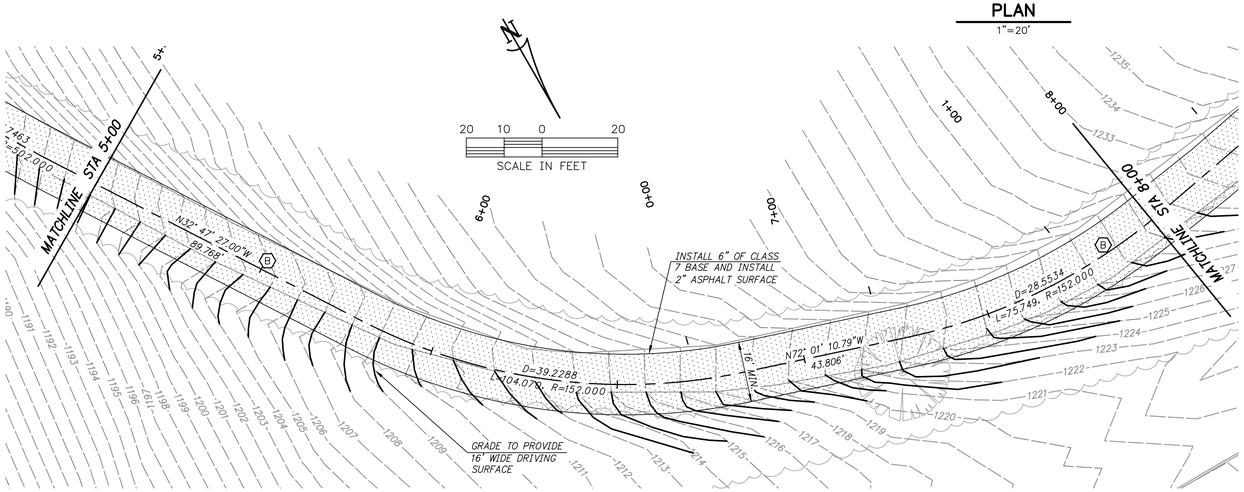
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-35.DWG, 3/20/2025 4:57 PM, JOSH DURHAM, LAYOUT1



WEST ACCESS DRIVE

PLAN

1"=20'



WEST ACCESS DRIVE

PLAN

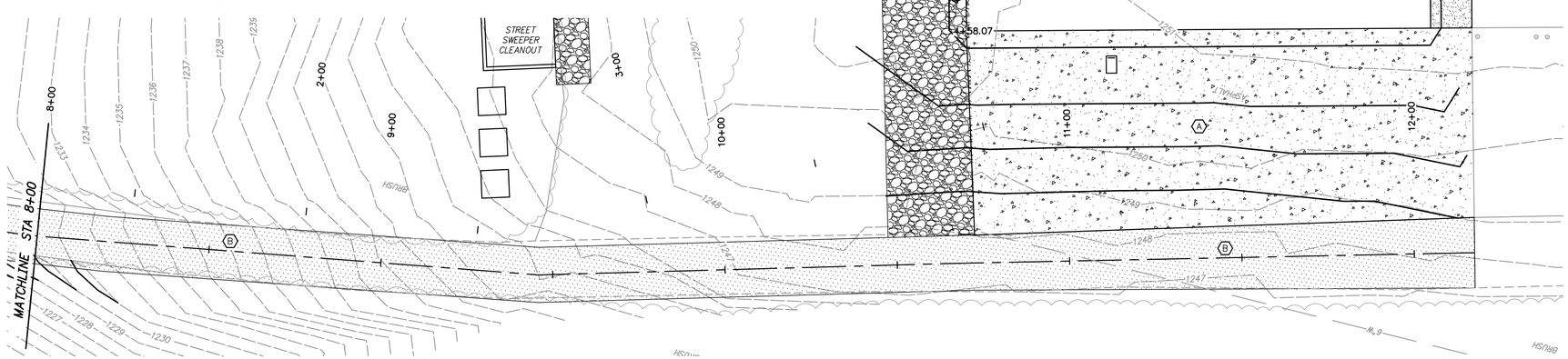
1"=20'

KEYED NOTES

1. CONSTRUCT CONCRETE HEADWALL INV: 1135.00
2. INSTALL DOUBLE 24" STORM DRAIN (70 LF)
3. CONNECT 24" STORM DRAIN TO CONCRETE CHANNEL INV: 1129.00

KEYED PAVEMENT TYPES

- A — CONCRETE PAVEMENT
- B — ASPHALT PAVEMENT



WEST ACCESS DRIVE

PLAN

1"=20'

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 12169 — MATTHEW A. WEIR — 3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

WEST ACCESS DRIVE

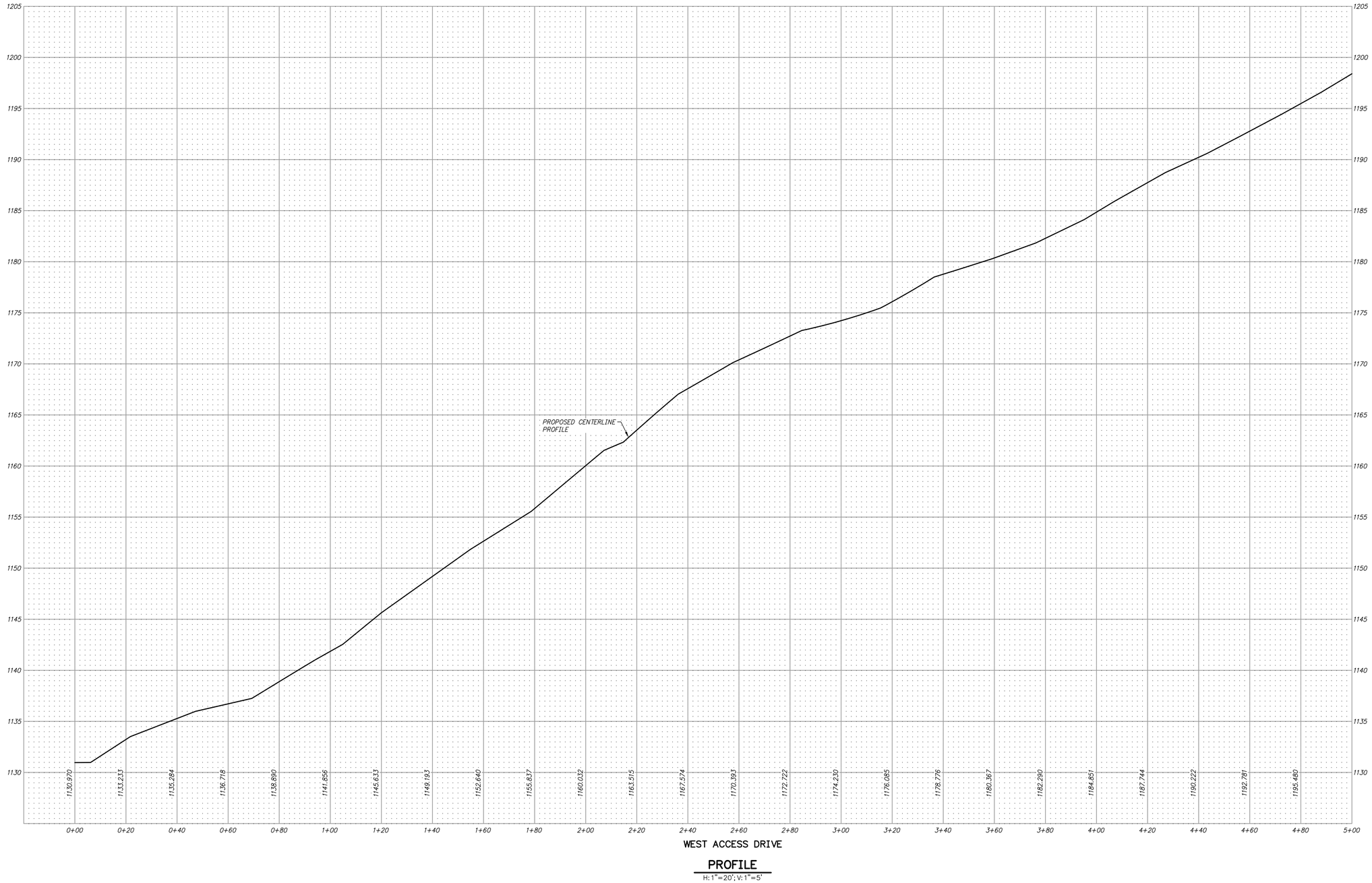
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-36

SHEET NO.
C-36

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-36.DWG, 3/19/2025 8:36 AM, MATT WEIR, LAYOUT1



PROFILE

H: 1"=20'; V: 1"=5'

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12169
LEIGH ANN YOUNG
3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

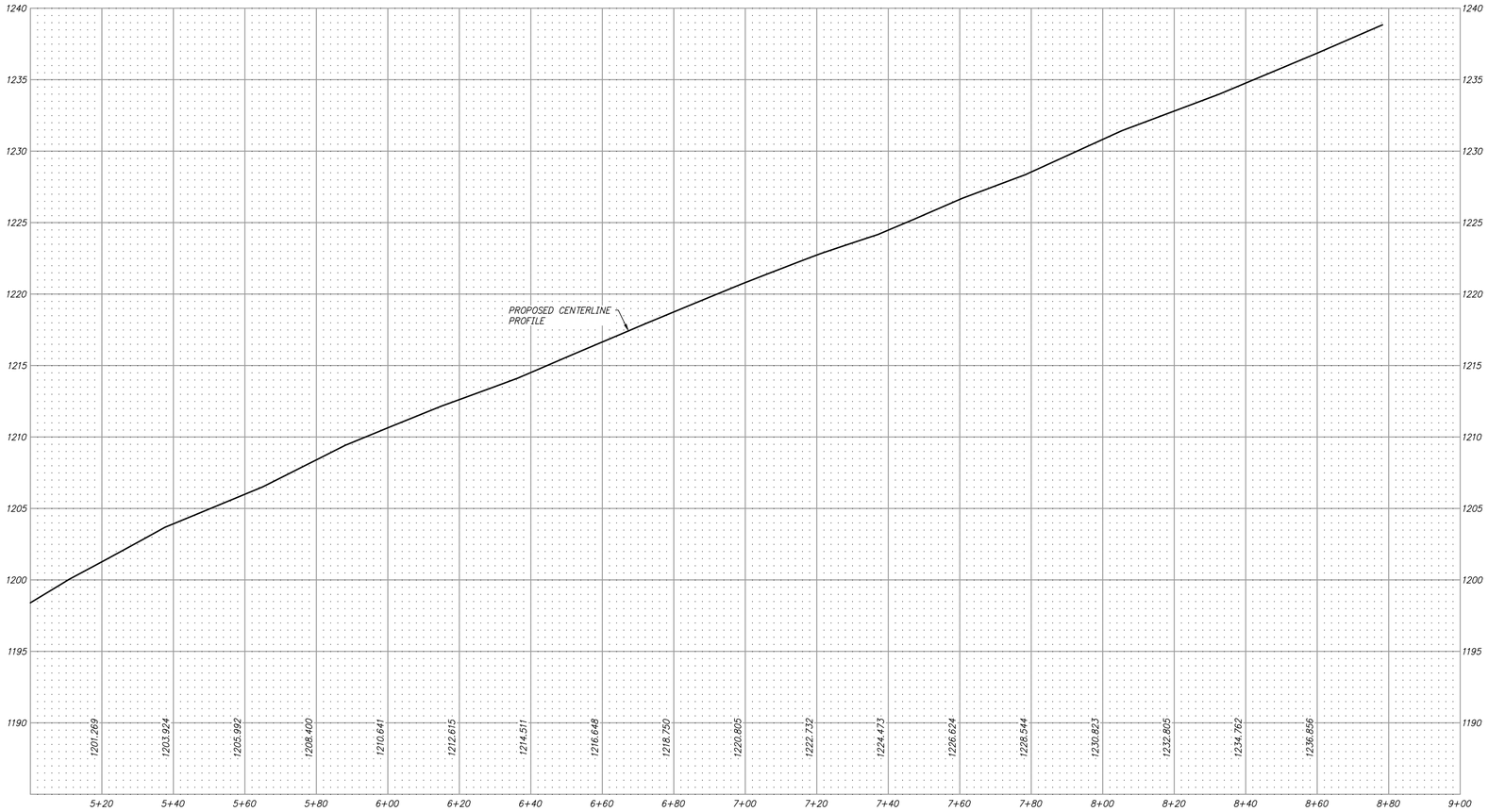
WEST ACCESS DRIVE
PROFILE 1

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-37

SHEET NO.
C-37

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-37.DWG, 3/19/2025 8:37 AM, MATT WEIR, LAYOUT1



WEST ACCESS DRIVE

PROFILE

H: 1"=20'; V: 1"=5'

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-38.DWG, 3/19/2025 8:37 AM, MATT WEIR, LAYOUT1

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12185
ELLIS WEIR
3/21/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

WEST ACCESS DRIVE
PROFILE II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-38

SHEET NO.
C-38

BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12169
ELLIS YANCEY
3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

42-INCH INFLUENT CLEARING AND GRADING

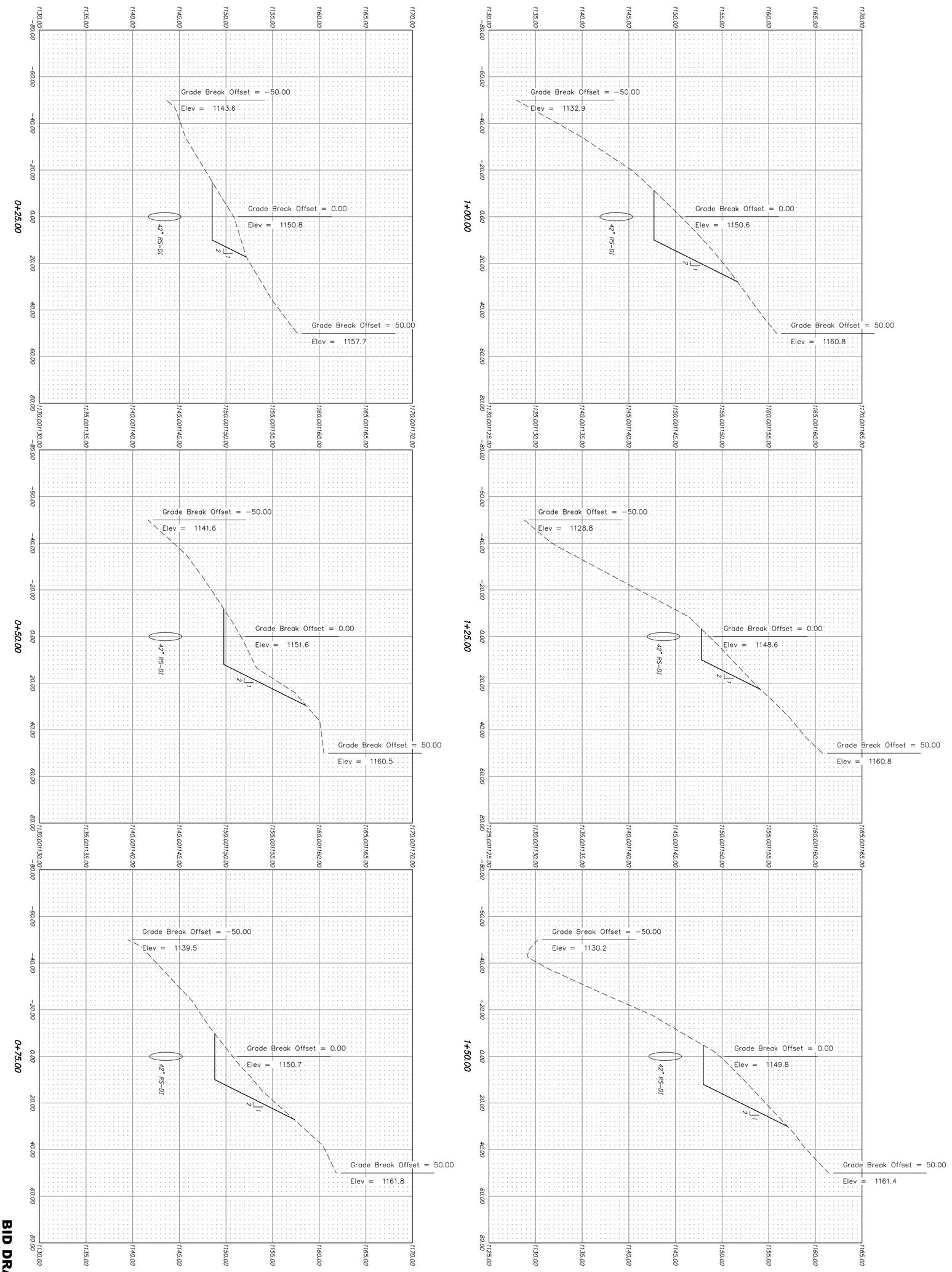
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-39

SHEET NO.
C-39

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB\HAWKINS-WEIR\LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-39.DWG, 3/19/2025 8:37 AM, MATT WEIR, LAYOUT1



BID DRAWINGS
MARCH 21, 2025

SHEET NO. C-40

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-40

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

42-INCH INFLUENT CROSS SECTIONS I

FOR: BENTONVILLE WASTEWATER UTILITIES

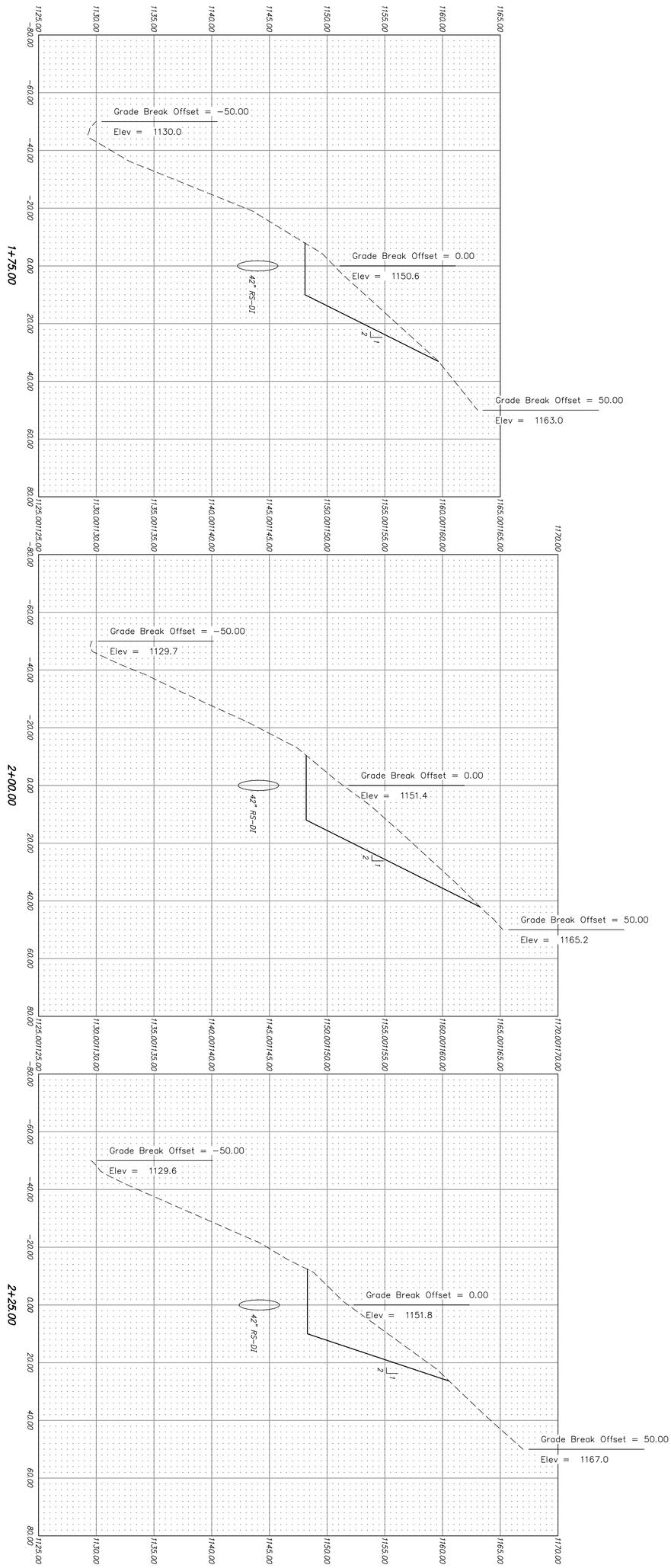
HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12185
ELLIS YANCEY
3/21/25

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY
1"



BID DRAWINGS
MARCH 21, 2025

SHEET NO. C-41

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-41

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

42-INCH INFLUENT CROSS SECTIONS II

FOR: BENTONVILLE WASTEWATER UTILITIES

HAWKINS WEIR ENGINEERS, INC.

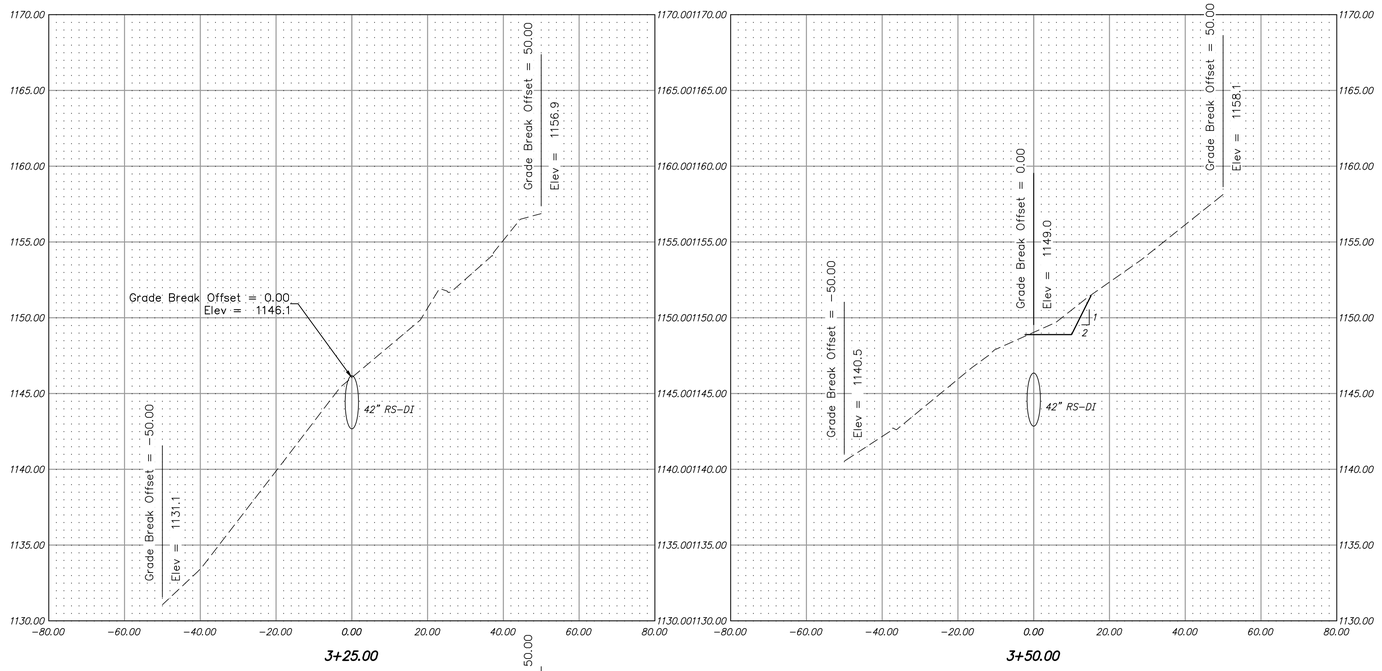
BLACK & VEATCH

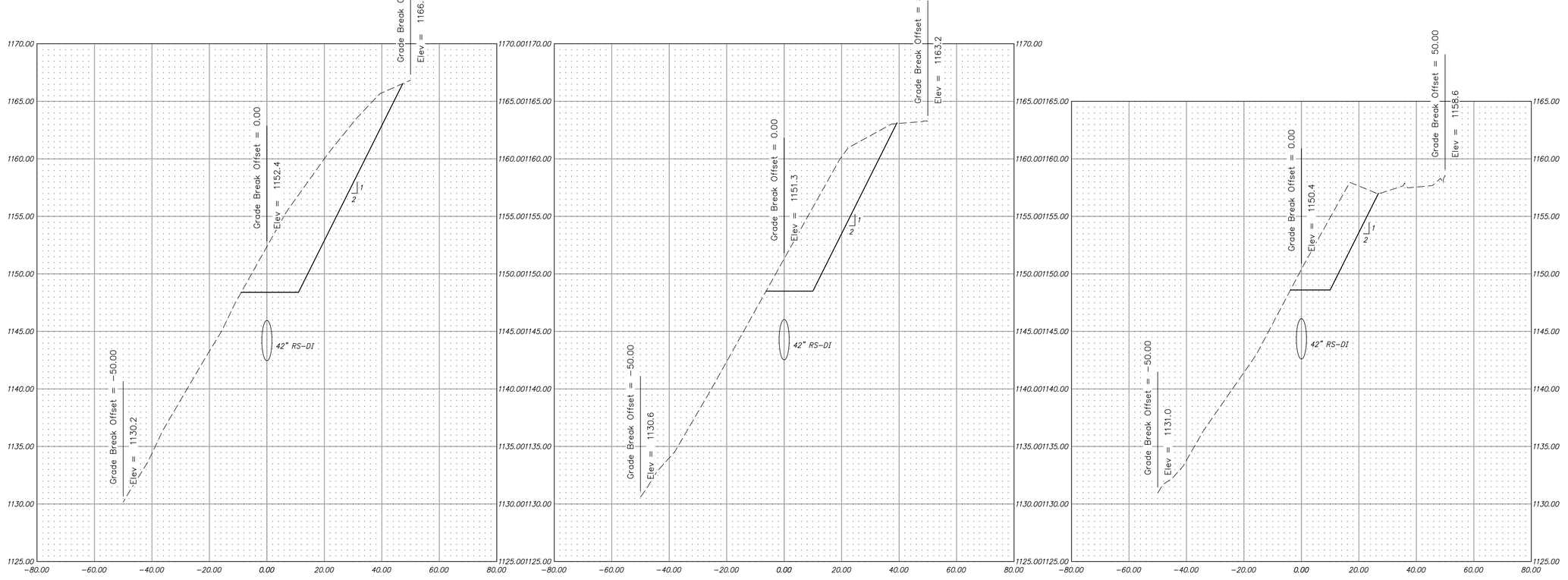
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12185
ELLIS YANCEY
3/21/25

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

ONE INCH
IF NOT ONE INCH
SCALE ACCORDINGLY
1"





BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12185
LEE ELLIS YANCEY
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

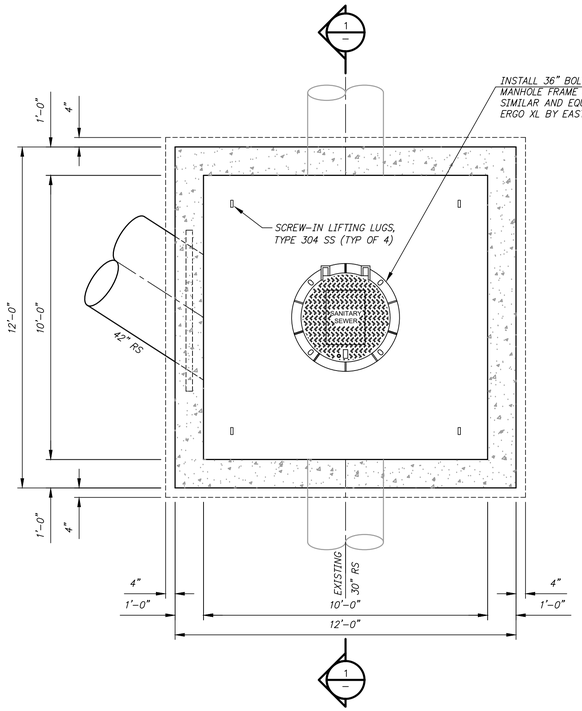
42-INCH INFLUENT CROSS SECTIONS III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-42

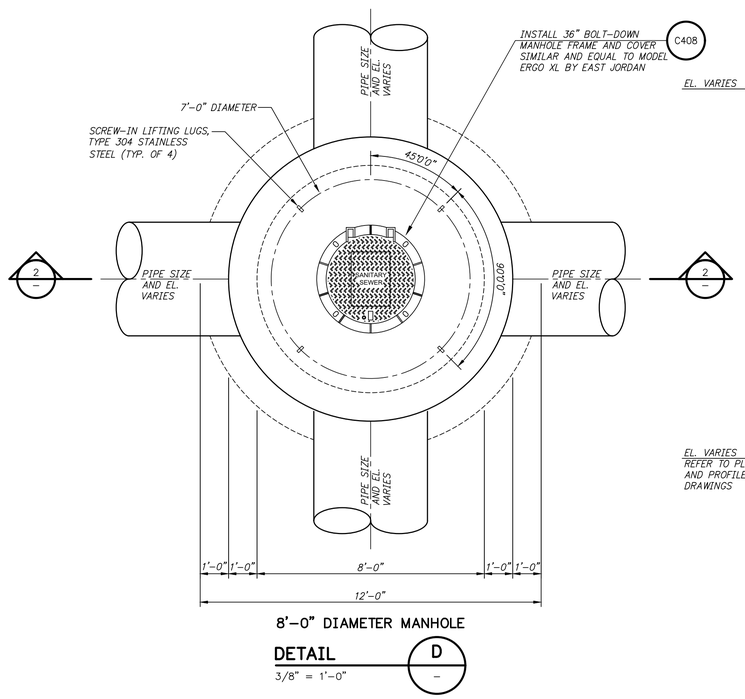
SHEET NO.
C-42

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-42.DWG, 3/19/2025 8:39 AM, MATT WEIR, LAYOUT4



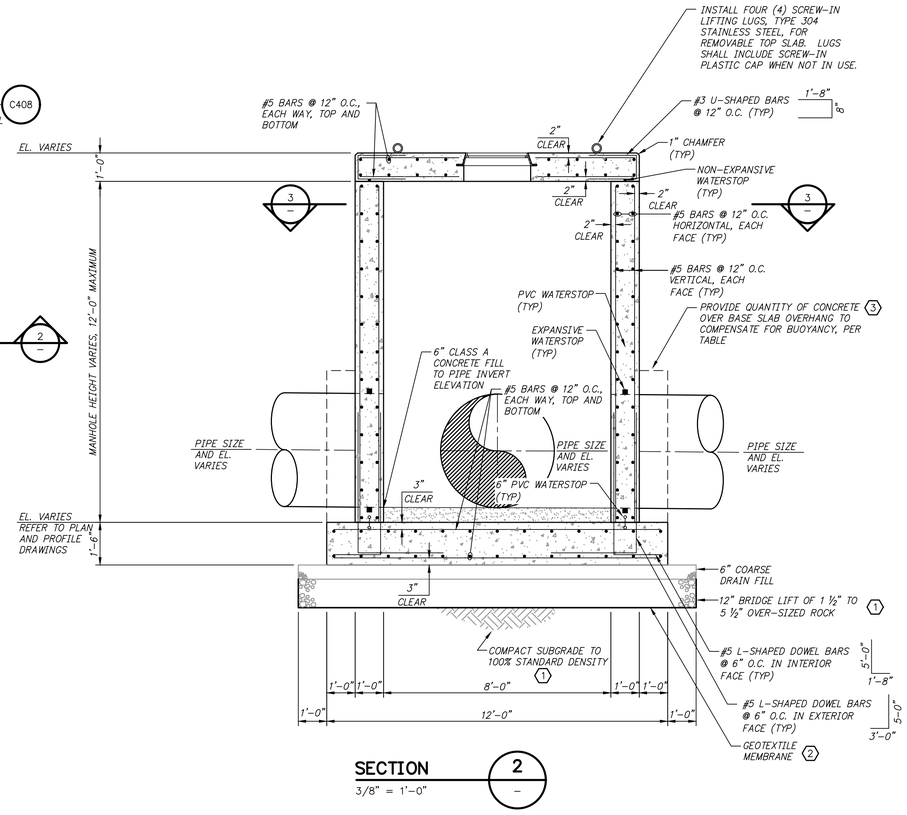
MANHOLE I-7

DETAIL C 3/8"=1'-0"

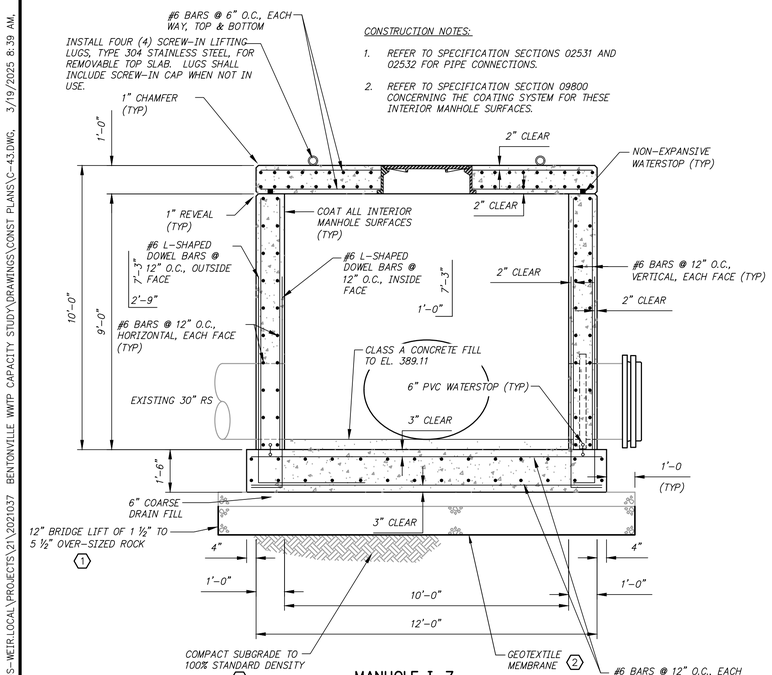


8'-0" DIAMETER MANHOLE

DETAIL D 3/8" = 1'-0"

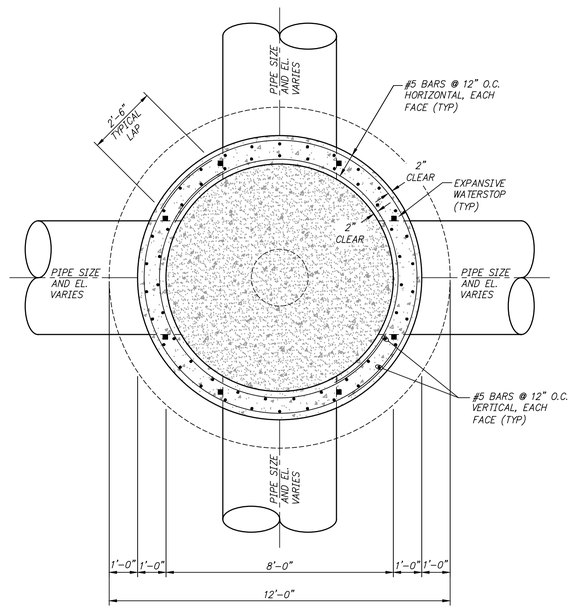


SECTION 2 3/8" = 1'-0"



MANHOLE I-7

SECTION 1 3/8"=1'-0"



8'-0" DIAMETER MANHOLE

SECTION 3 3/8" = 1'-0"

NOTES:

1. *REFER TO SPECIFICATION SECTIONS 02531 AND 02532 FOR PIPE CONNECTIONS.*
2. *REFER TO SPECIFICATION SECTION 09800 CONCERNING THE COATING SYSTEM FOR THESE INTERIOR MANHOLE SURFACES.*
3. *COARSE DRAIN FILL PER ASTM C33 (¾" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
4. *ALL EXPOSED CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
2. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE BOTTOM AND SIDES OF THE BRIDGE LIFT.*
3. *MINIMUM CONCRETE REQUIRED TO COMPENSATE FOR BUOYANCY, AS SHOWN IN THE TABLE TO THE RIGHT:*

MINIMUM CONCRETE REQUIRED TO COMPENSATE FOR BUOYANCY (CY)

DEPTH (FT)	MANHOLE DIAMETER (FT)	
	8	10
4	0	0
6	0	2
8	1	4
10	1	6
12	2	8
14	3	10
16	4	13
18	5	15
20	6	17
22	7	19
24	8	21
26	9	23
28	10	26
30	11	28

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER LUIS M. LEY No. 12169 3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

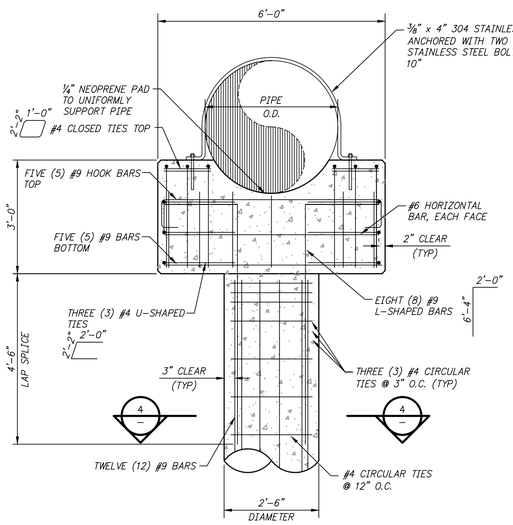
42-INCH INFLUENT MANHOLE DETAILS

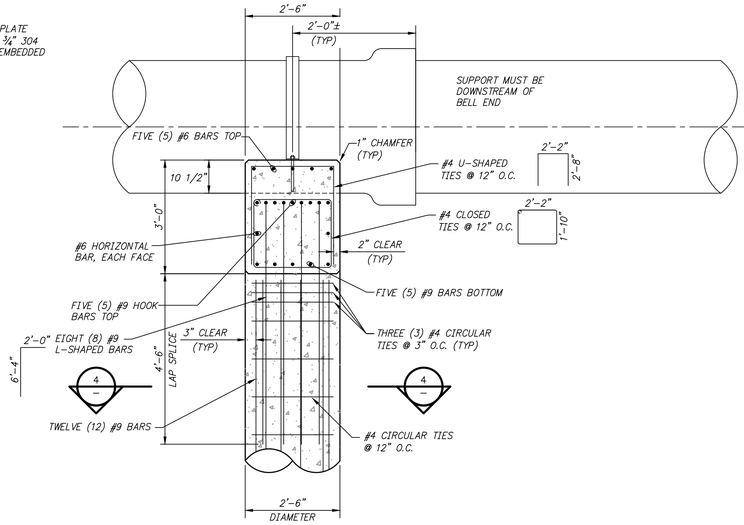
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-43

SHEET NO.
C-43

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-43.DWG, 3/19/2025 8:39 AM, MATT WEIR, LAYOUT5

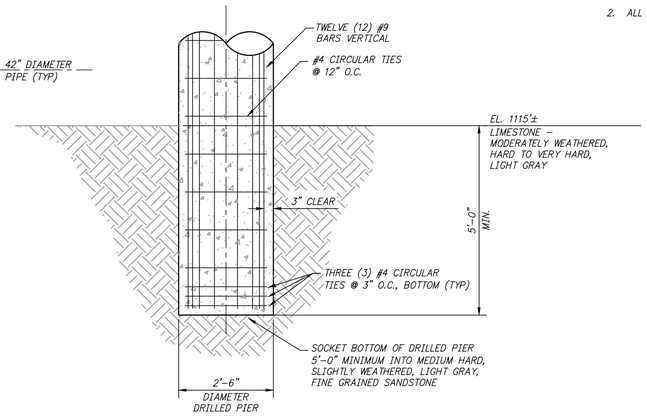




AERIAL PIPE SUPPORT

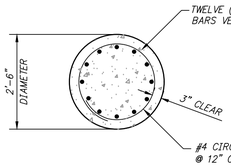
DETAIL E

1/2"=1'-0"



NOTES:

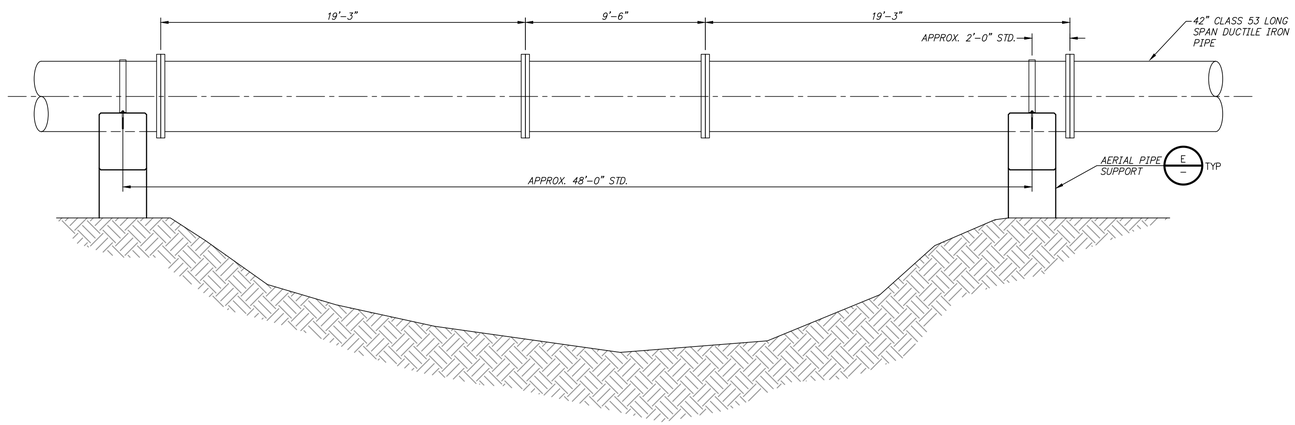
1. COORDINATE AERIAL CROSSING WITH CIVIL DRAWINGS.
2. ALL EXPOSED CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.



AERIAL PIPE SUPPORT

SECTION 4

1/2"=1'-0"



AERIAL PIPE SPAN

DETAIL F

1/4"=1'-0"

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER ELLIS WEIR No. 12169 3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

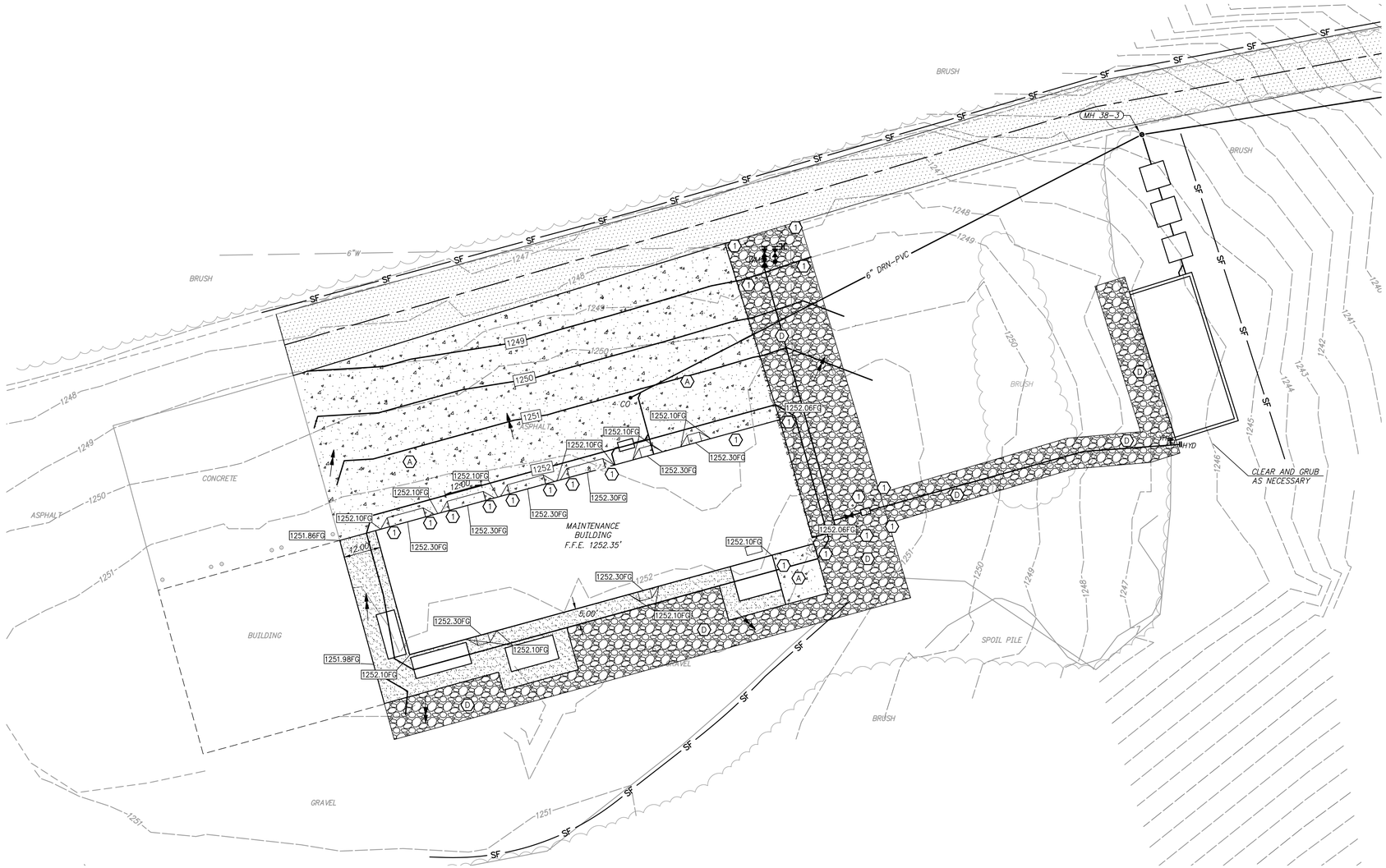
AERIAL PIPE SUPPORTS DETAIL AND SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-44

SHEET NO. C-44

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-44.DWG, 3/19/2025 8:40 AM, MATT WEIR, LAYOUT1



MAINTENANCE BUILDING

PLAN

1"=20'

N

20 10 0 20

SCALE IN FEET

KEYED PAVEMENT TYPES

A	CONCRETE PAVEMENT	C204
B	ASPHALT PAVEMENT	A C-12
C	PERMEABLE PAVEMENT	B C-12
D	GRAVEL PAVEMENT	C205
E	CONCRETE SIDEWALK	C202
A	TYPE A CURB & GUTTER	C210
B	TYPE B CURB & GUTTER	C2701
A	THICKENED EDGE SIDEWALK	C212
A	TYPE D CURB	C702

LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10E	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

LEGEND

W W	STRAW WATTLE	C605
SF	SILT FENCE	C604
	DIRECTION OF STORMWATER FLOW	
DC	DITCH CHECK	C602
000000	INLET PROTECTION	C607

KEYED NOTES

1 INSTALL TRAFFIC BOLLARD

NOTES:

1. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
2. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
3. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
MATTHEW A. WEIR
REGISTERED PROFESSIONAL ENGINEER
No. 11710
BLANK, PE/PLS

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

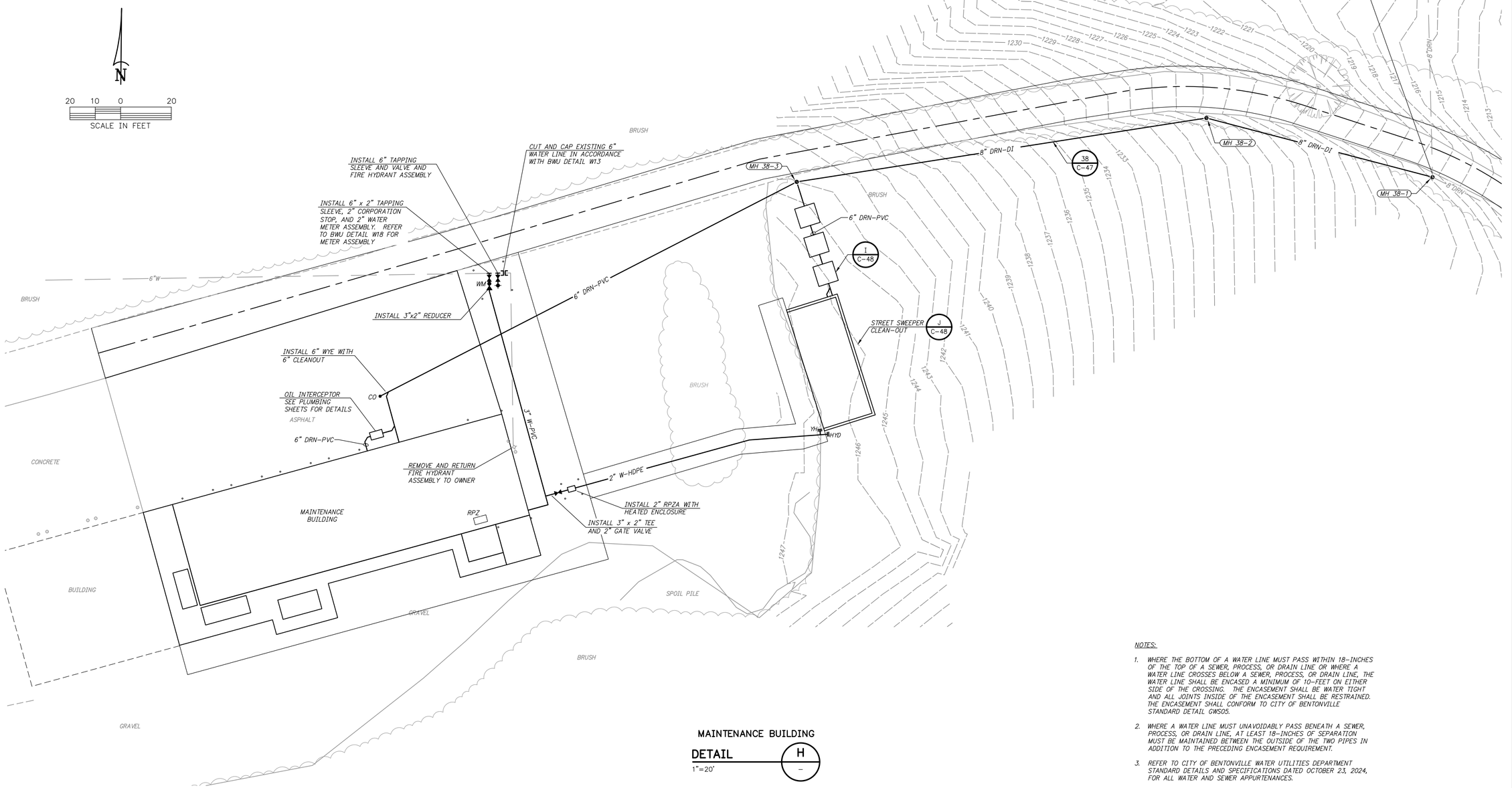
MAINTENANCE BUILDING
GRADING AND EROSION CONTROL PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-45

SHEET NO.
C-45

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-45.DWG, 3/20/2025 8:29 AM, MATT WEIR, LAYOUT1



MAINTENANCE BUILDING
DETAIL H
1"=20'

NOTES:

1. WHERE THE BOTTOM OF A WATER LINE MUST PASS WITHIN 18-INCHES OF THE TOP OF A SEWER, PROCESS, OR DRAIN LINE OR WHERE A WATER LINE CROSSES BELOW A SEWER, PROCESS, OR DRAIN LINE, THE WATER LINE SHALL BE ENCASED A MINIMUM OF 10-FEET ON EITHER SIDE OF THE CROSSING. THE ENCASEMENT SHALL BE WATER TIGHT AND ALL JOINTS INSIDE OF THE ENCASEMENT SHALL BE RESTRAINED. THE ENCASEMENT SHALL CONFORM TO CITY OF BENTONVILLE STANDARD DETAIL GWS05.
2. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER, PROCESS, OR DRAIN LINE, AT LEAST 18-INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT.
3. REFER TO CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS DATED OCTOBER 23, 2024, FOR ALL WATER AND SEWER APPURTENANCES.
4. CUTTING AND CAPPING OF AN EXISTING PIPE SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD DETAIL W13. ALL CUT AND CAP DESIGNATIONS ARE IDENTIFIED ON THE D SHEETS.
5. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
6. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OFVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
7. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER ZACHARY JOSEPH MORGAN 25-21415 NOSHINGTON

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

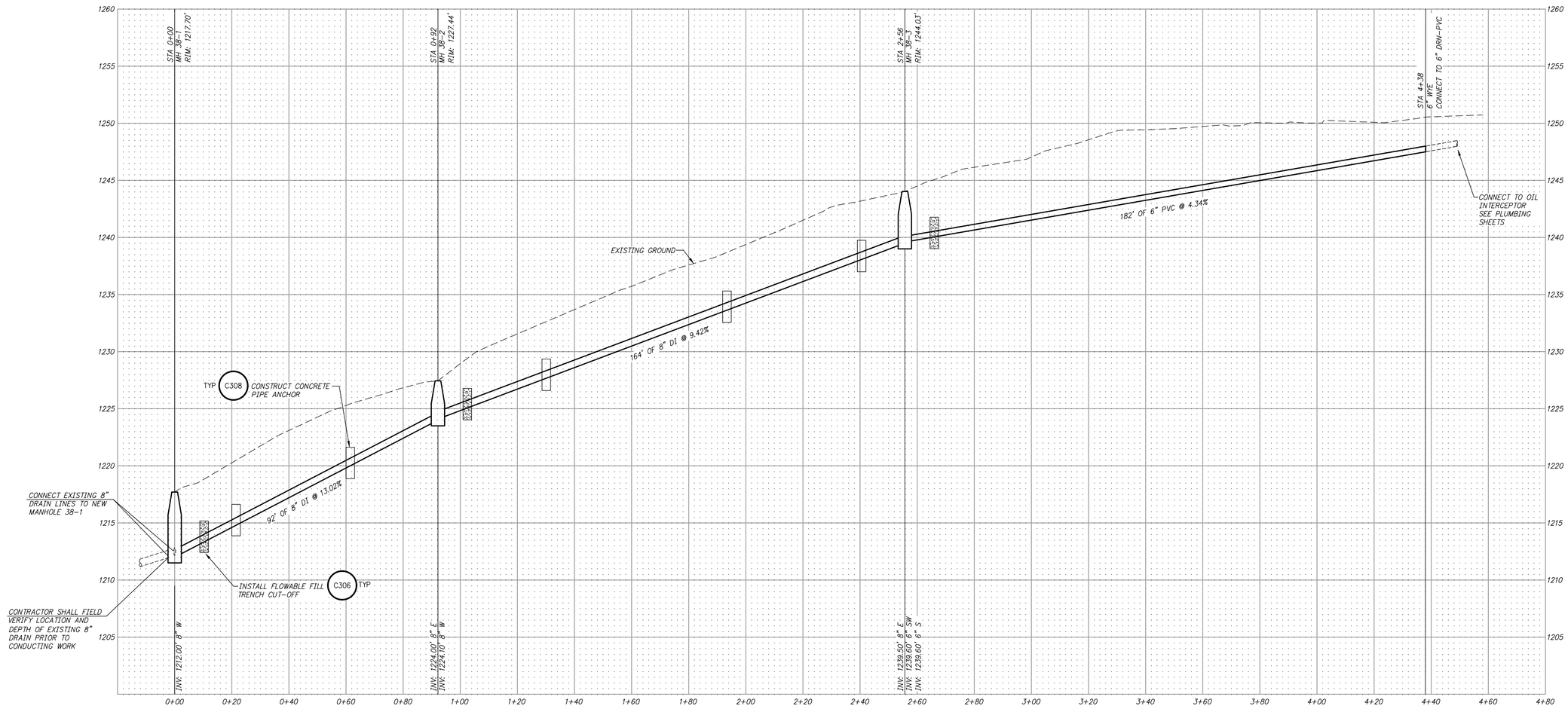
MAINTENANCE BUILDING SITE PIPING PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-46

SHEET NO.
C-46

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-46.DWG, 3/20/2025 8:30 AM, MATT WEIR, LAYOUT1



8" DRN-PVC

PROFILE 38

H: 1"=20'; V: 1"=5'

C-46

NOTES:

1. ALL MANHOLES SHALL BE CAST-IN-PLACE.

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
ZACHARY M. JONES
NO. 24145
NOSNHOJ M. YRAHCAZ

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING
SITE PIPING PROFILES

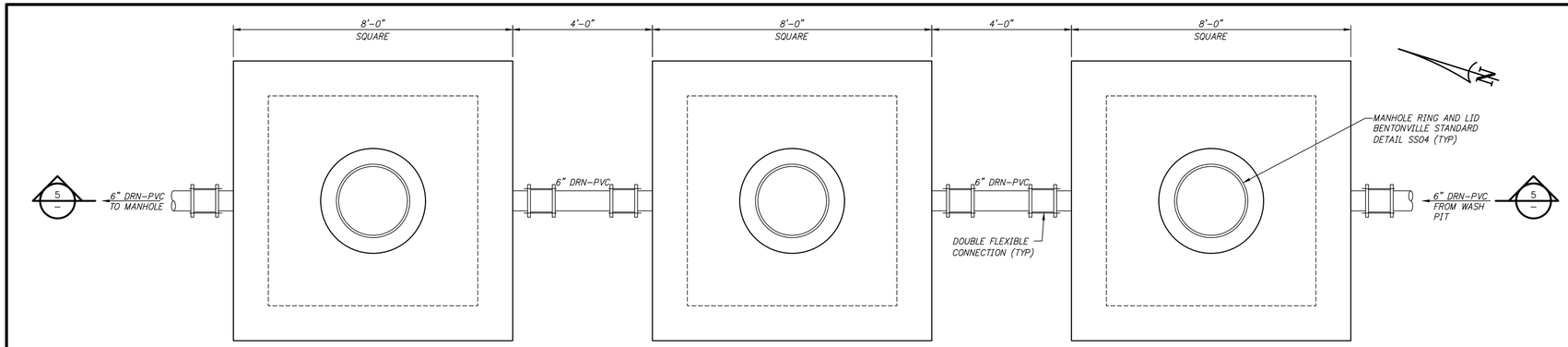
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-47

SHEET NO.
C-47

BID DRAWINGS
MARCH 21, 2025

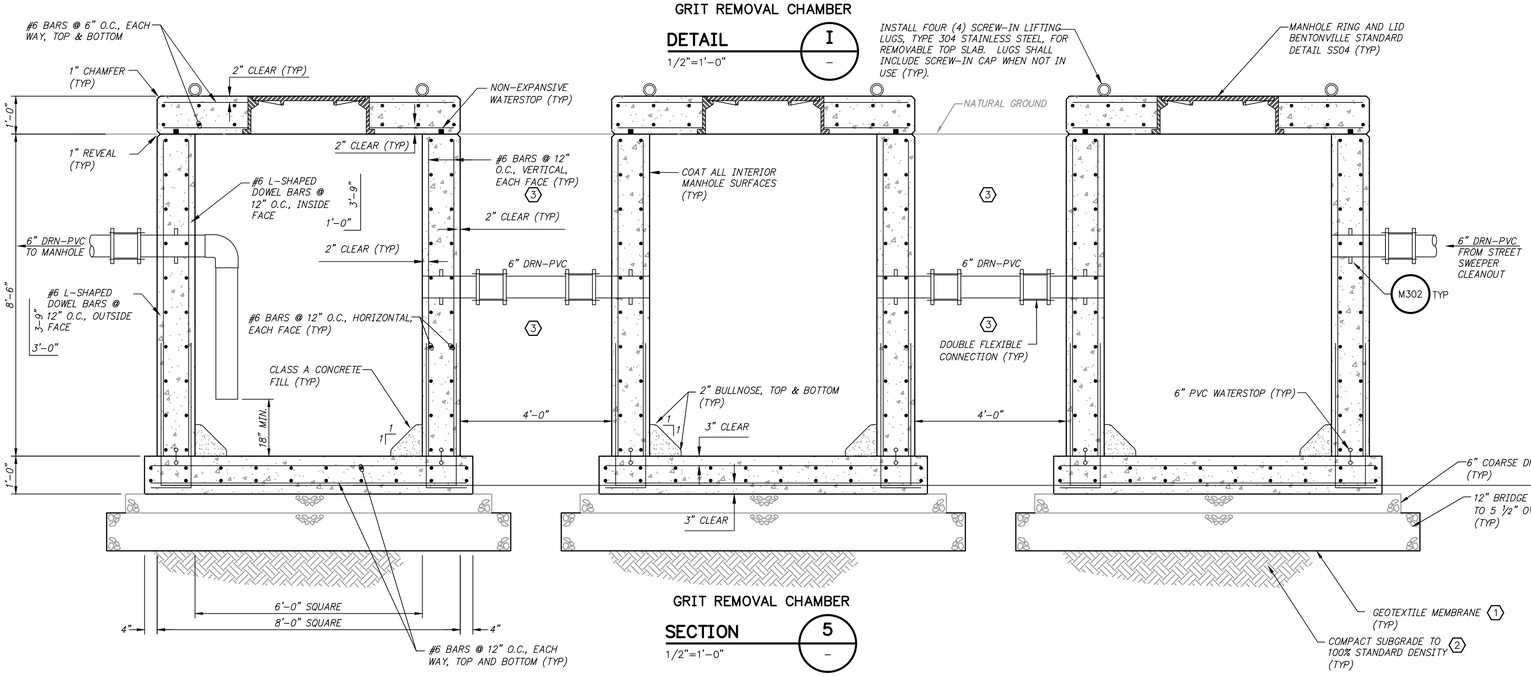
\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-47.DWG, 3/19/2025 8:41 AM, MATT WEIR, LAYOUT1



GRIT REMOVAL CHAMBER

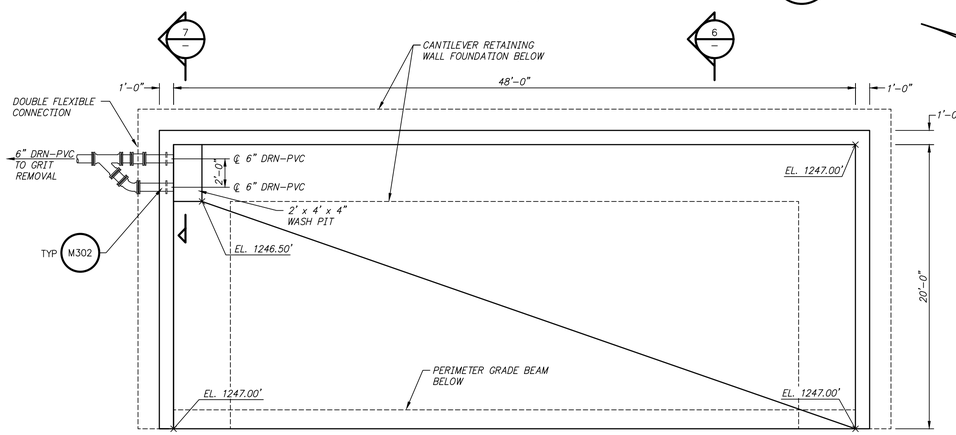
DETAIL I

1/2"=1'-0"



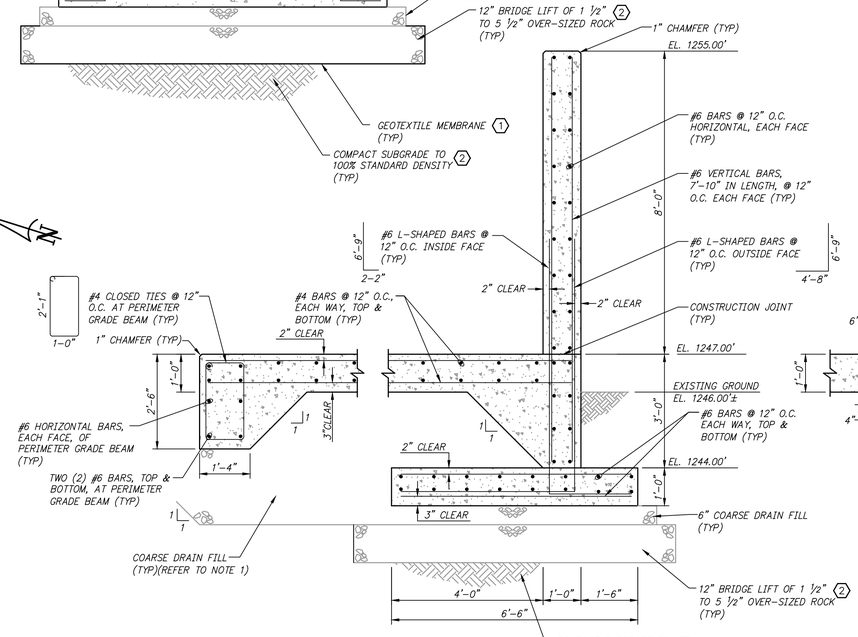
GRIT REMOVAL CHAMBER SECTION 5

1/2"=1'-0"



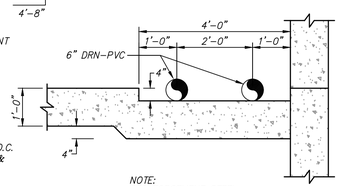
STREET SWEEPER CLEAN-OUT DETAIL J

3/16"=1'-0"



STREET SWEEPER CLEAN-OUT SECTION 6

1/2"=1'-0"



NOTE: REINFORCEMENT STEEL OMITTED FOR CLARITY.

STREET SWEEPER CLEAN-OUT SECTION 7

1/2"=1'-0"

NOTES:

1. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].
2. ALL STRUCTURES SHALL BE CAST-IN-PLACE OR APPROVED PRECAST AND INCLUDE WIRE MESH REINFORCEMENT STEEL CONFORMING TO ASTM A 185.
3. CONCRETE SHALL BE CLASS C, 4,000 PSI.
4. MANHOLE FRAME TO BE EMBEDDED IN CLASS 1 CONCRETE.
5. ALL EXPOSED CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
2. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. BACKFILL WITH CLASS 7 AGGREGATE BASE COURSE

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

STREET SWEEPER CLEAN-OUT DETAILS AND SECTIONS

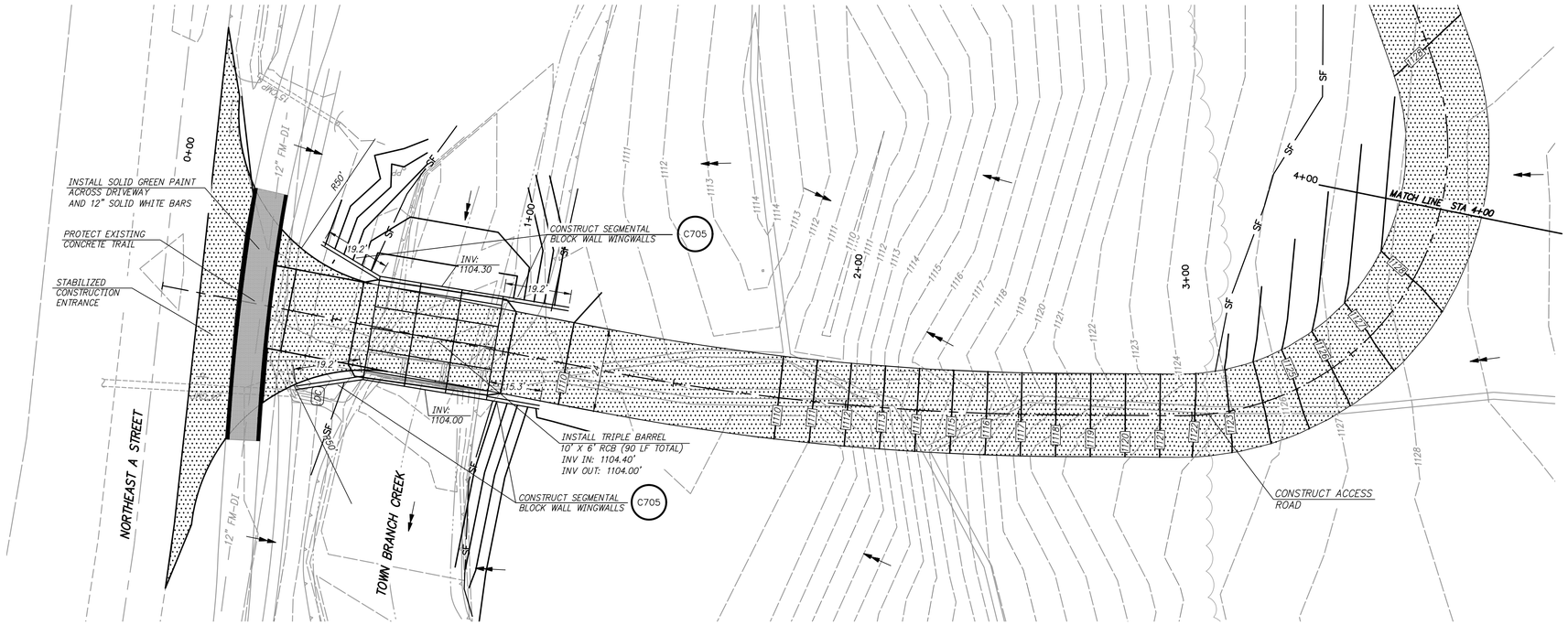
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: ZMJ
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-48

SHEET NO. C-48

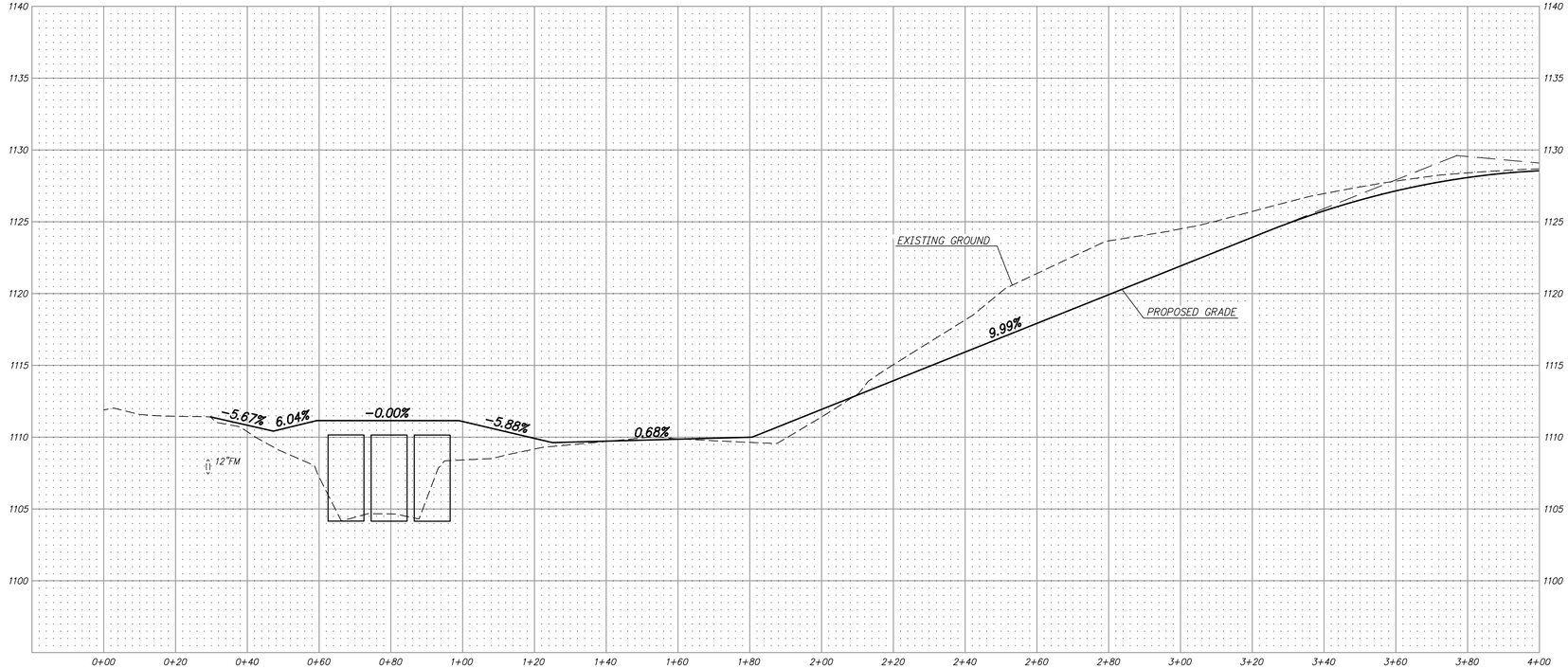
BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-48.DWG, 3/19/2025 8:41 AM, MATT WEIR, LAYOUT1



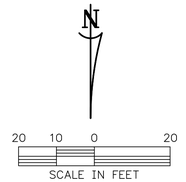
TEMPORARY NORTH ACCESS DRIVE
STA 0+00 TO STA 4+00

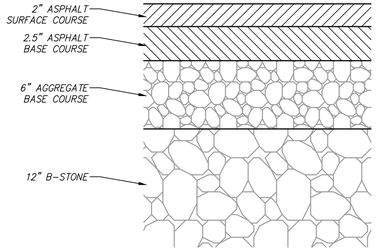
PLAN
1"=20'



TEMPORARY NORTH ACCESS DRIVE
STA 0+00 TO STA 4+00

PROFILE
H: 1"=20'; V: 1"=5'





TEMPORARY NORTHERN ACCESS ROAD

SECTION 8
N.T.S.

LEGEND

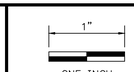
1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10F	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

LEGEND

W W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

NOTES:

1. RADIUS ON NORTH SIDE OF DRIVEWAY MAY BE ADJUSTED DEPENDING ON LIMITING TRUCK ACCESS FROM THE NORTH
2. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, REMOVE ASPHALT, PLACE TOP SOIL AND SEED
3. EXISTING CONCRETE AND EARTHEN TRAILS SHALL BE RESTORED TO ORIGINAL CONDITIONS. THE CROSSING OF TOWN BRANCH SHALL BE RESTORED TO EXISTING CONDITIONS INCLUDING NATIVE STONE TRAIL APPROACH PAVING. EXTRA BOX CULVERT SECTIONS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE SOUTHERN SEGMENTAL BLOCK WALL WINGWALLS SHOULD BE REMOVED AND REINSTALLED AT THE END OF THE BOX CULVERT.
4. CLEARING AND GRUBBING SHALL BE LIMITED TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS.
5. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
6. BEUD DESIGN LAYOUT DRAWING TAKES PRECEDENCE OVER ANY ELECTRIC INFORMATION SHOWN ON THE SITE UTILITY PLANS.
7. ELECTRIC FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE ELECTRIC SPECIFICATIONS FOUND ON THE WEBSITE. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.
8. FOR ALL RIGHTS-OF-WAY OPEN TO VEHICULAR TRAFFIC, CONTRACTOR SHALL PROVIDE A PEDESTRIAN AND BICYCLE ACCESSIBLE ROUTE DURING ALL PHASES OF CONSTRUCTION. LIMITED CLOSURES OF 24 HOURS OR LESS MAY BE APPROVED BY THE CITY ENGINEER.



ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

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HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TEMPORARY NORTH ACCESS DRIVE
STA 0+00 TO STA 4+00

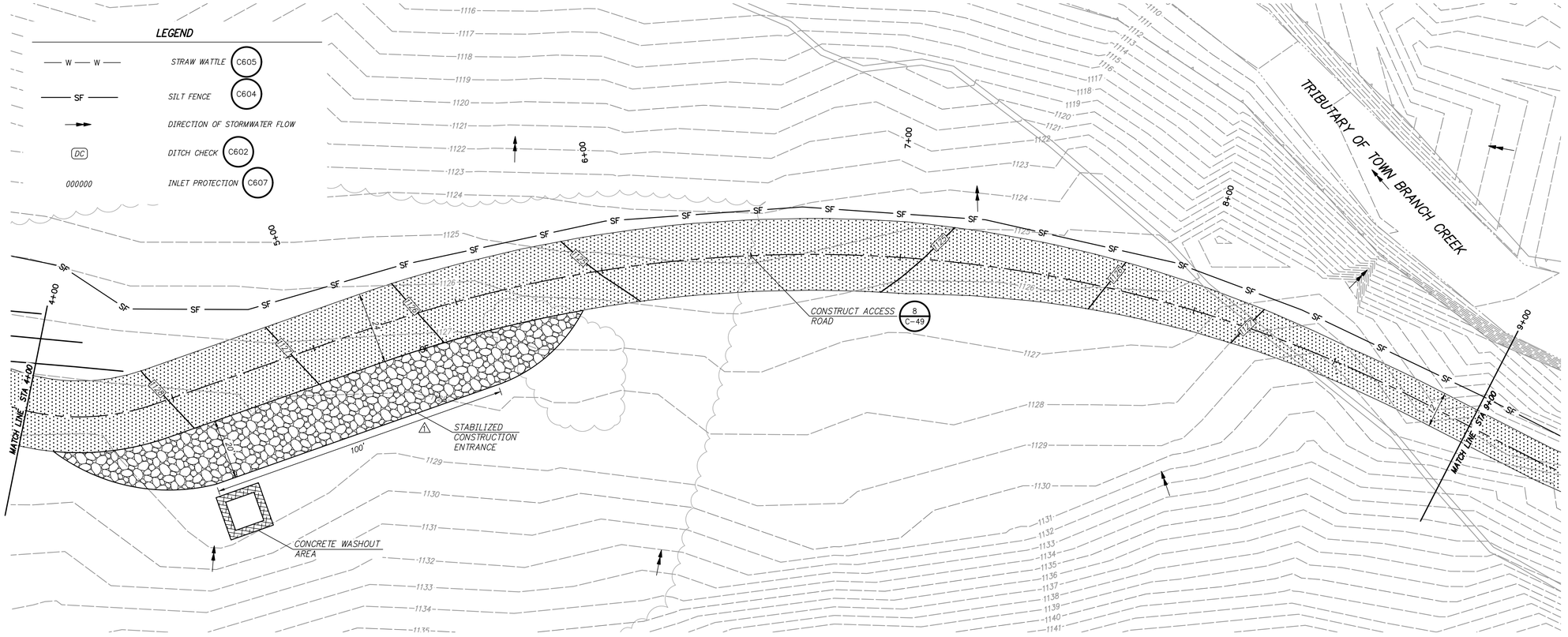
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-49

SHEET NO.
C-49

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB-HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-49.DWG, 3/19/2025 8:42 AM, MATT WEIR, LAYOUT1

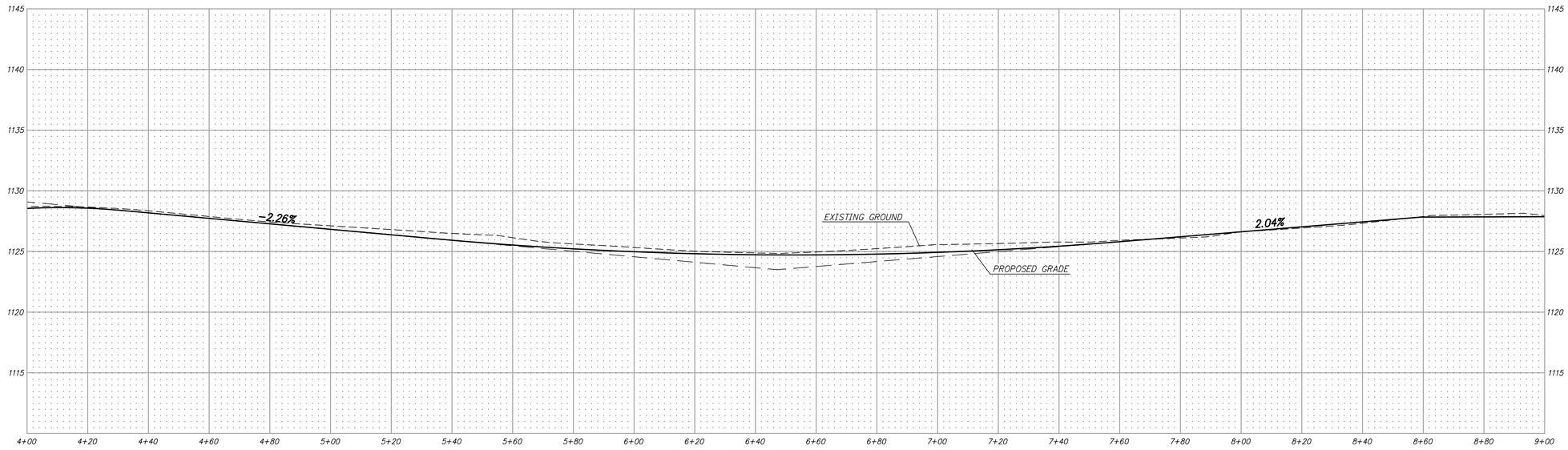


NOTES:

1. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, REMOVE ASPHALT, PLACE TOP SOIL AND SEED.
2. EXISTING CONCRETE AND EARTHEN TRAILS SHALL BE RESTORED TO ORIGINAL CONDITIONS.
3. CLEARING AND GRUBBING SHALL BE LIMITED TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS.

TEMPORARY NORTH ACCESS DRIVE
STA 4+00 TO STA 9+00

PLAN
1"=20'



TEMPORARY NORTH ACCESS DRIVE
STA 4+00 TO STA 9+00

PROFILE
H: 1"=20'; V: 1"=5'

BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

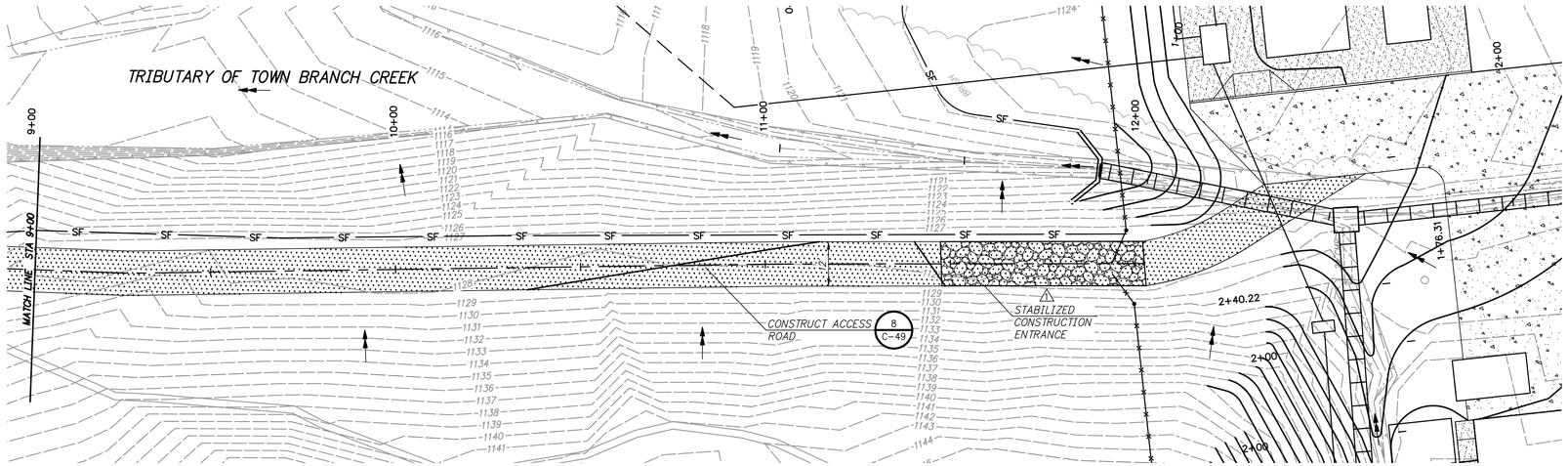
TEMPORARY NORTH ACCESS DRIVE
STA 4+00 TO STA 9+00

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-50

SHEET NO.
C-50

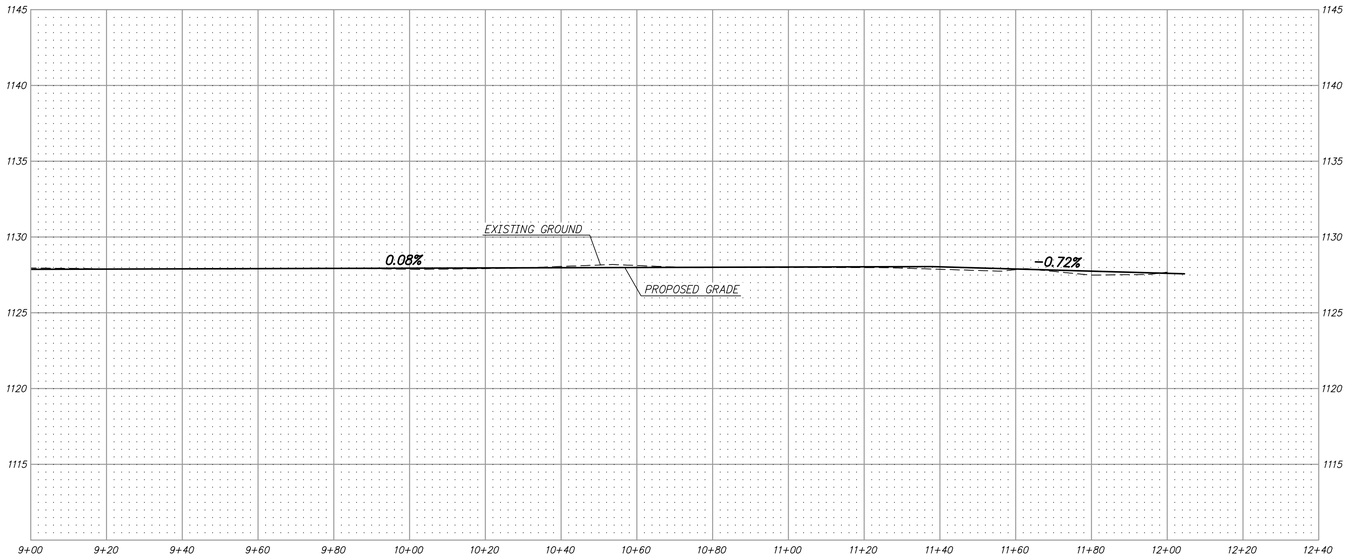
\\HWEI-VB\HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-50.DWG, 3/19/2025 8:43 AM, MATT WEIR, LAYOUT1



TEMPORARY NORTH ACCESS DRIVE
STA 9+00 TO END

PLAN

1"=20'



TEMPORARY NORTH ACCESS DRIVE
STA 9+00 TO END

PROFILE

H: 1"=20'; V: 1"=5'

20 10 0 20

SCALE IN FEET

NOTES:

1. *AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, REMOVE ASPHALT, PLACE TOP SOIL AND SEED.*
2. *EXISTING CONCRETE AND EARTHEN TRAILS SHALL BE RESTORED TO ORIGINAL CONDITIONS.*
3. *CLEARING AND GRUBBING SHALL BE LIMITED TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS.*

LEGEND

1152.10T/C	PROPOSED SPOT ELEVATION TOP OF CURB
1152.10FL	PROPOSED SPOT ELEVATION FLOWLINE
1153	FINISHED CONTOUR
	SURFACE FLOW DIRECTION

LEGEND

W W	STRAW WATTLE C605
SF	SILT FENCE C604
	DIRECTION OF STORMWATER FLOW
DC	DITCH CHECK C602
000000	INLET PROTECTION C607

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS
BRANDON A. PEACOCK
REGISTERED PROFESSIONAL ENGINEER
No. 17710
BLACK & PEACOCK

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TEMPORARY NORTH ACCESS DRIVE
STA 9+00 TO END

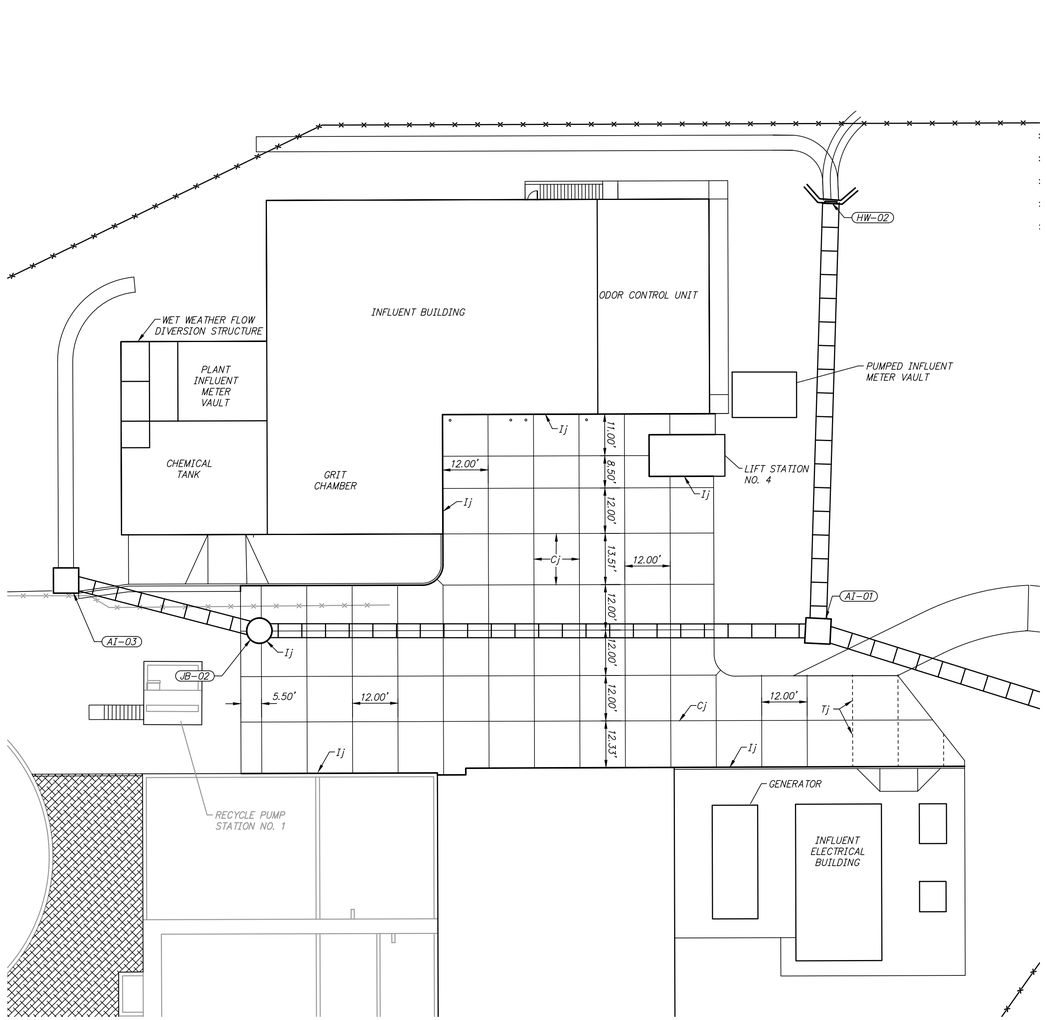
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-51

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
C-51

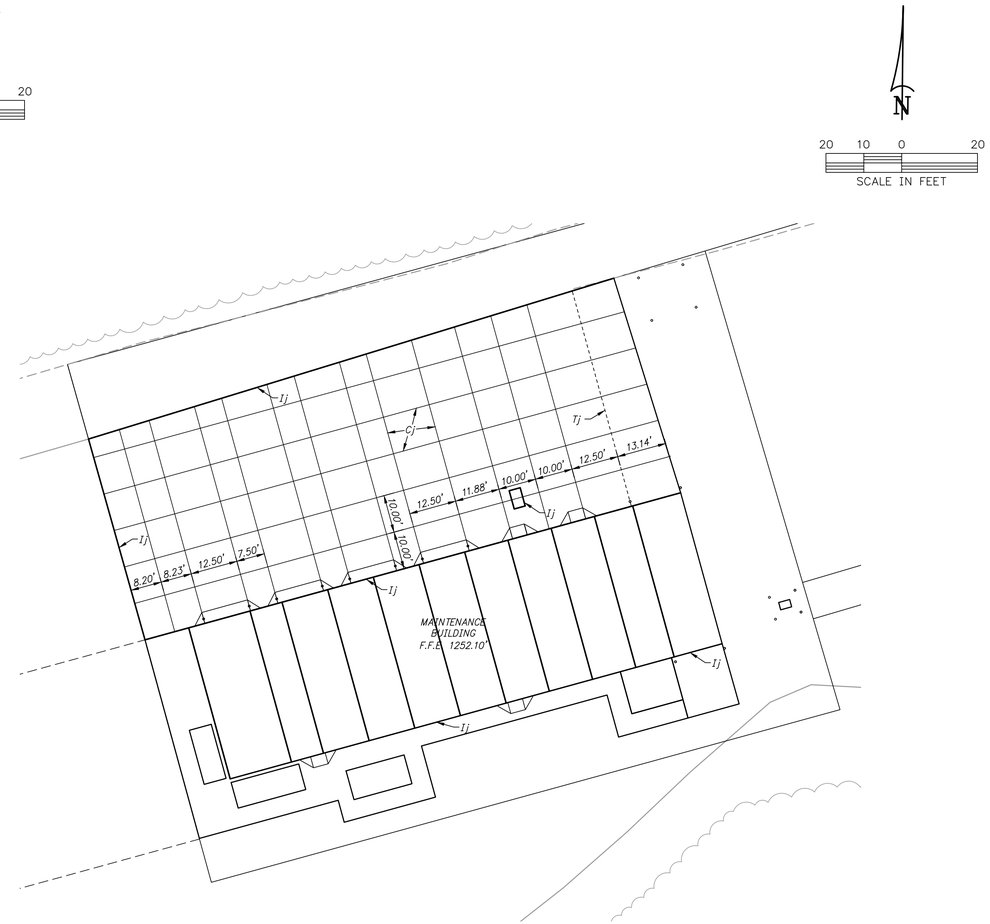
\\HWEI-VB\HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-51.DWG, 3/19/2025 8:43 AM, MATT WEIR, LAYOUT1



INFLUENT BUILDING

PLAN

1"=20'



MAINTENANCE BUILDING

PLAN

1"=20'

LEGEND

———	CONSTRUCTION/CONTRACTION JOINT	Cj
- - - - -	TIED CONTRACTION JOINT	Tj
———	ISOLATION JOINT	Ij

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CONCRETE JOINTING PLANS

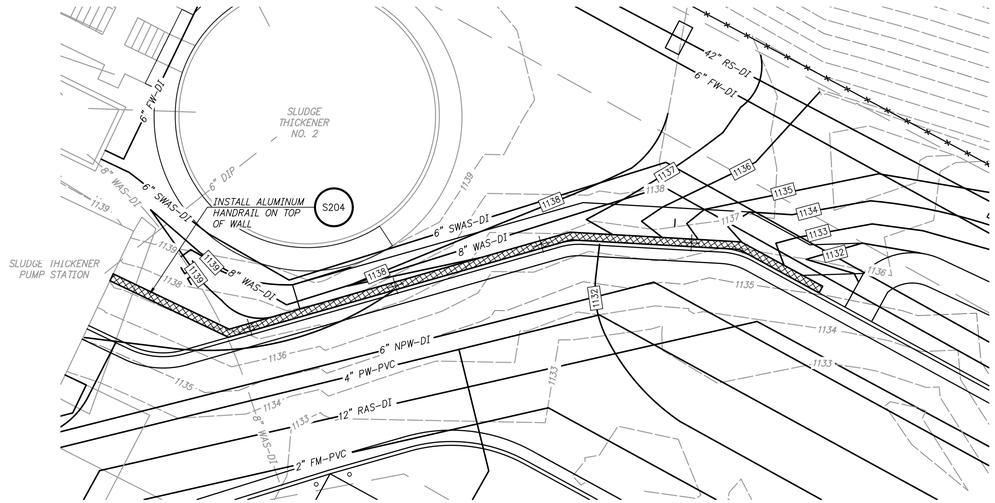
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BAP
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-52

SHEET NO.
C-52

BID DRAWINGS
MARCH 21, 2025

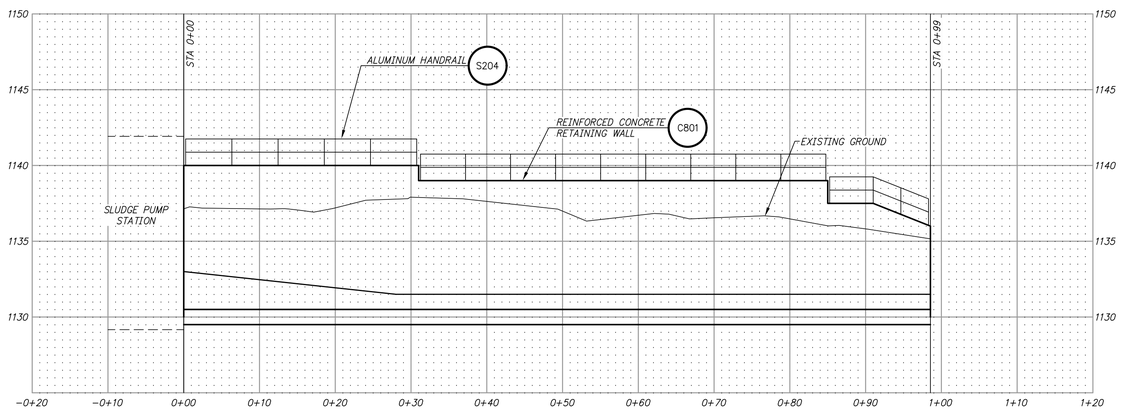
\\HWEI-VB\HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-52.DWG, 3/19/2025 8:44 AM, MATT WEIR, LAYOUT1



RETAINING WALL

PLAN

1"=10'



RETAINING WALL

PROFILE

H: 1"=10'; V: 1"=5'

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE
⚠ REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205
3/21/25

HAWKINS WEIR ENGINEERS, INC.

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

RETAINING WALL DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: C-53

SHEET NO.
⚠C-53

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\C-53.DWG, 3/19/2025 1:42 PM, MATT WEIR, LAYOUT1

GENERAL CONSTRUCTION NOTES – MISCELLANEOUS:

1. CONTRACTOR SHALL UNCOVER EXISTING SEWER LINES, WATER LINES, AND OTHER SITE PIPING TO VERIFY GRADES AND SIZES PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ALSO LOCATE AND VERIFY EXISTING UTILITIES AND STORM DRAINAGE THAT ARE IN THE VICINITY OF THE CONSTRUCTION PRIOR TO COMMENCING WORK AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS. THE CONTRACTOR PROCEEDS AT HIS OWN RISK IF UTILITIES ARE NOT UNCOVERED AND VERIFIED AHEAD OF TRENCHING ACTIVITIES TWO WEEKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL SUBMIT A PLAN OF ACTION DETAILING CONSTRUCTION SEQUENCE AND METHODS USED TO MAINTAIN EXISTING SERVICES TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL.

2. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION SHOWN ON THE PLANS. IN ACCORDANCE WITH THE ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, AT LEAST 48-HOURS PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE ARKANSAS ONE CALL CENTER, (800) 482-8998 OR 811, AND ARRANGE FOR THE LOCATION AND MARKING OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL OBSERVE ANY REQUIREMENTS, INCLUDING REQUIREMENTS TO HAND DIG NEAR EXISTING UTILITIES, OF THE UTILITY OWNER/OPERATOR REGARDING WORK NEAR THEIR FACILITIES AND SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. THE COST TO REPAIR ANY DAMAGE CAUSED BY THE CONTRACTOR TO PROPERLY MARKED UTILITIES, AS WELL AS ANY FINES OR PENALTIES THAT ARE A RESULT OF THE DAMAGE OR FAILURE TO FOLLOW THE REQUIREMENTS OF THE ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. RESTORATION, RELOCATION OR REPAIR OF OTHER UTILITY SERVICES WHICH ARE IN CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION.

4. THE CONSTRUCTION PLANS INDICATE THE LOCATION OF TEMPORARY BENCHMARKS. USE ONLY THOSE BENCHMARKS NOTED AS TBM FOR ELEVATION DATUM. THE CONSTRUCTION PLANS INCLUDE RIM AND INVERT ELEVATIONS ON EXISTING MANHOLES AND DRAINAGE STRUCTURES FOR INFORMATION PURPOSES ONLY. DO NOT USE THESE ELEVATIONS AS BENCHMARKS UNDER ANY CIRCUMSTANCES. ALL EXISTING ELEVATIONS SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

5. PROTECT ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA DURING ALL PHASES OF CONSTRUCTION. A PROFESSIONAL LAND SURVEYOR MUST BE USED TO RE-ESTABLISH ANY DISTURBED MONUMENTATION AT NO ADDITIONAL COST TO THE OWNER.

6. PROVIDE TEMPORARY EXCAVATION SUPPORT SYSTEMS INCLUDING TRENCH BOXES, SHEETING, SHORING, AND BRACING TO INSURE THE SAFETY OF ALL PERSONNEL AND PROTECT ADJACENT UTILITIES AND STRUCTURES (NEW OR EXISTING) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND REQUIREMENTS.

7. CONTRACTOR SHALL REMOVE AND REPLACE FENCING AS NEEDED FOR CONSTRUCTION. TEMPORARY FENCING SHALL BE INSTALLED AS NEEDED FOR SECURITY OF FACILITIES. REPLACED FENCING SHALL BE EQUAL TO OR BETTER THAN ORIGINAL FENCING CONDITION.

8. SOIL BORING INFORMATION IS TAKEN FROM AN INVESTIGATION BY GTS, INC. DATED FEBRUARY 9, 2024 AND REVISED APRIL 5, 2024.

9. ACCESS BY THE OWNER TO THE EXISTING WATER RESOURCE RECOVERY FACILITY SHALL BE MAINTAINED AT ALL TIMES.

GENERAL CONSTRUCTION NOTES – SITE PIPING

1. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A PIPING LAYOUT AND FITTING SCHEDULE FOR REVIEW BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL ALSO PREPARE A SCHEDULE OF PIPE CONSTRUCTION ACTIVITIES AND SEQUENCE, INCLUDING THE ANTICIPATED LENGTH OF SERVICE INTERRUPTION. THE PIPING LAYOUT AND CONSTRUCTION SCHEDULE MUST BE APPROVED BY THE OWNER AND THE RESIDENT ENGINEER PRIOR TO CONSTRUCTION.

2. UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS SHEET, ALL BURIED PRESSURE PIPE SHALL BE RESTRAINED IN ACCORDANCE WITH SPECIFICATION SECTION 02516. PIPE MANUFACTURE SHALL FURNISH CERTIFICATION OF COMPLIANCE WITH REFERENCED STANDARDS.

3. PRESSURIZED WATER LINE PIPE SHALL BE INDICATED ON THE PLANS. ALL PIPING SHALL BE BEDDED WITH CLASS "B" BEDDING MATERIAL PER THE SPECIFICATIONS AND DETAILS.

   A. DUCTILE IRON WATER LINES SHALL BE CLASS 350 AND CEMENT LINED. ALL DUCTILE IRON PIPE SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT PER AWWA C105.

   B. PRESSURIZED DUCTILE IRON WATER LINES SHALL BE CONSTRUCTED OF UNRESTRAINED PUSH JOINT PIPE WITH RESTRAINED JOINT FITTINGS PLUS A MINIMUM OF 40-FT OF RESTRAINED JOINT PIPE IN ALL DIRECTIONS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THRUST BLOCKING SHALL BE PER THE BENTONVILLE WATER UTILITIES STANDARD SPECIFICATIONS, LATEST REVISION.

   C. PRESSURIZED PVC WATER LINES SHALL BE CONSTRUCTED OF UNRESTRAINED PUSH JOINT PIPE WITH RESTRAINED JOINT FITTINGS PLUS A MINIMUM OF 40-FT OF RESTRAINED JOINT PIPE IN ALL DIRECTIONS OF FITTINGS UNLESS SPECIFICALLY NOTED ON THE PLANS. THRUST BLOCKING SHALL BE PER THE BENTONVILLE WATER UTILITIES STANDARD SPECIFICATIONS, LATEST REVISION.

   D. ALL WATER LINES AND FORCE MAINS SHALL BE BURIED WITH TRACER WIRE. INSTALL TRACER WIRE TERMINALS AS SHOWN ON THE PLAN SHEETS. CONNECT EXISTING TRACER WIRE TO NEW TERMINALS WHERE APPLICABLE PER THE BENTONVILLE WATER UTILITIES STANDARD SPECIFICATIONS, LATEST REVISION.

   E. FORCE MAINS SHALL BE GREEN IN COLOR. WATER LINES SHALL BE BLUE IN COLOR. PLANT WATER LINES SHALL BE PURPLE IN COLOR.

4. ALL DUCTILE IRON FITTINGS SHALL BE RESTRAINED, MECHANICAL JOINT OR RESTRAINED, PUSH JOINT SIMILAR AND EQUAL TO FASTITE JOINT FITTINGS WITH MECHANICAL JOINT OR FLEX RING RESTRAINT. ALL MECHANICAL JOINTS SHALL UTILIZE A WEDGE ACTION RETAINER GLAND THAT SHALL BE SECURED WITH SET SCREWS. SET SCREWS SHALL BE TIGHTENED TO TORQUE LIMITS RECOMMENDED BY THE MANUFACTURER. MECHANICAL JOINT RESTRAINT SYSTEMS SHALL BE SIMILAR OR EQUAL TO MEGA-LUG SERIES BY EBAA IRON SALES, INC. OR APPROVED EQUAL. DUCTILE IRON FITTINGS SHALL HAVE THE FOLLOWING PRESSURE CLASSIFICATION: 3" TO 24", CLASS 350; 24" TO 48", CLASS 350.

5. INSTALL GATE VALVES, CONFORMING AWWA C515, WITH IRON BODIES, BRONZE MOUNTED, RESILIENT WEDGES, AND NON-RISING STEMS DESIGNED FOR 250 PSI MINIMUM WORKING PRESSURE RATING. VALVES SHALL INCLUDE O-RING PACKING AND OPEN COUNTERCLOCKWISE WITH A 2-INCH (2") AWWA NUT OPERATOR. GATE VALVES SHALL INCORPORATE STAINLESS STEEL, TYPE 304, BONNET AND STUFFING BOX BOLTS AND NUTS, WRENCH CAP SCREW, AND VALVE STEM. INSTALL MUELLER MODEL A-2361 MECHANICAL JOINT GATE VALVES, OR APPROVED EQUAL.

6. VALVE BOXES SHALL BE CAST IRON WITH SCREW TYPE EXTENSION. VALVE BOXES FOR POTABLE WATER (W) AND PLANT WATER (PW) SHALL INCLUDE A CAST IRON, DROP-IN LID MARKED WITH THE INSCRIPTION "WATER" CAST INTO THE TOP. VALVE BOXES FOR ALL OTHER PROCESS LINE SHALL INCLUDE LID WITH INSCRIPTION "DRAIN" CAST INTO THE TOP. VALVE BOX BASES SHALL BE OF THE PROPER SIZE FOR THE VALVE IT ID TO BE USED WITH, AND VALVE STEM EXTENSIONS SHALL BE INCLUDED AS SHOWN ON THE PLANS AND DETAILS. VALVE BOXES SHALL BE SIMILAR AND EQUAL TO TYLER TWO-PIECE VALVE BOX SERIES 6850 OR 6855, WITH 5 1/4 " SHAFT. THE BOXES SHALL BE OF SUCH SIZE AND LENGTH THAT THEY CAN BE ADJUSTED TO THE DEPTH OF COVER REQUIRED OVER THE PIPE AT THE VALVE LOCATION WITHOUT USING THE FULL EXTENSION. VALVE BOXES SHALL HAVE ONE PRIMING COAT AND TWO FINISH COATS OF COAL TAR.

7. UNLESS OTHERWISE SHOWN ON THE PLANS, THE MINIMUM DEPTH OF COVER FOR WATER OR PROCESS LINES IS 48-INCHES. WATER LINES UPSTREAM OF A WATER METER SHALL BE INSTALLED AT A MINIMUM DEPTH OF 48-INCHES.

8. ALL PROCESS LINES, DRAIN LINES, WATER LINES, AND MANHOLES SHALL BE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE SPECIFIED TESTS. ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER. ALL LINES SHALL BE CLEAN PRIOR TO PERFORMING TESTS. THE CONTRACTOR SHALL, AT HIS EXPENSE, CORRECT AND RETEST ALL SECTIONS OF LINE WHICH FAIL TO PASS THE TESTING. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.

9. TESTING WATER LINES – CHLORINATE AND STERILIZE THE WATER LINE IN ACCORDANCE WITH AWWA SPECIFICATIONS C651. TAKE WATER SAMPLES ON TWO CONSECUTIVE DAYS AND SUBMIT THEM TO THE ARKANSAS DEPARTMENT OF HEALTH FOR BACTERIOLOGICAL TESTING. SUBMIT SAMPLES NO LATER THAN WEDNESDAY OF THE NEXT CALENDAR WEEK. PERFORM A LEAKAGE TEST TO DETERMINE THE "AIR TIGHTNESS" OF THE LINE. PRESSURIZE THE WATER LINE IN ACCORDANCE WITH THE REQUIREMENTS IN SECTION 01666 TESTING OF PIPELINES AND MAINTAIN THAT PRESSURE FOR THE DURATION OF THE TEST. AFTER A PERIOD OF TWO HOURS, THE QUANTITY OF MAKEUP WATER REQUIRED IN THE LINE TO SHALL NOT EXCEED THE VOLUME INDICATED BY THE FORMULA:

$$L = \frac{S\,D\sqrt{P}}{148{,}000}$$

WHERE L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF THE PIPE, IN INCHES
P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN PSIG

10. PROVIDE ALL TEMPORARY TAPS, BLOW-OFFS, ECT., REQUIRED FOR FLUSHING, BACTERIOLOGICAL TESTING AND SAMPLING, AT NO ADDITIONAL COST TO THE OWNER.

11. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AT LEAST 48 HOURS PRIOR TO SCHEDULED CONNECTIONS OF POTABLE WATER MAINS OR ANY WORK INVOLVING WATER OR PROCESS PIPING. INTERRUPTION OF POTABLE, WASH WATER OR FIRE PROTECTION SERVICE SHALL BE KEPT TO A MINIMUM. SCHEDULING SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND RESIDENT ENGINEER.

12. THE CONTRACTOR SHALL MAINTAIN ALL OTHER ADJACENT WATER OR PROCESS LINES IN SERVICE DURING CONSTRUCTION, EXCEPT AS ALLOWED BY THE OWNER AND THE RESIDENT ENGINEER. IN ALL CASES, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, PIPE SUPPORT AND / OR TRENCH BOXES TO MAINTAIN THE INTEGRITY OF EXISTING FACILITIES.

13. ALL SITE PIPING AND DRAINAGE CULVERTS, NOT SPECIFICALLY IDENTIFIED FOR DEMOLITION, SHALL BE PROTECTED DURING CONSTRUCTION AND MAINTAINED IN SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH THE OWNER AND THE ENGINEER. TEMPORARY RELOCATION OF PIPING OR CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY PIPING OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

14. CUT, PLUG AND BLOCK EXISTING LINES IDENTIFIED FOR ABANDONMENT. THIS SHALL INCLUDE THE REMOVAL AND SALVAGE OF ANY EXISTING GATE VALVES OR FIRE HYDRANTS TO THE OWNER AS NOTED ON THE PLANS. FIELD VERIFY TYPE AND SIZE OF EXISTING LINES IDENTIFIED FOR ABANDONMENT AND DEVISE A PLAN FOR SUCH WORK FOR THE APPROVAL OF THE ENGINEER. INSTALL POSITIVELY RESTRAINED PLUGS ON EXISTING LINE TERMINATIONS AND ABANDONED FIRE HYDRANT LEADS. AVOID ANY PROLONGED PERIODS OF SERVICE SHUT-OFF.

15. ALL MANHOLES SHALL BE CAST-IN-PLACE. 6' DIAMETER MANHOLE SHALL EITHER HAVE A CONCENTRIC CONE OR A TRANSITION SECTION AND A 4' DIAMETER CONCENTRIC CONE. 8' DIAMETER MANHOLES SHALL HAVE FLAT TOPS.

16. ALL TAPS 12-INCHES AND SMALLER ON EXISTING WATER MAINS SHALL BE PERFORMED BY THE BENTONVILLE WATER UTILITIES DEPARTMENT AND TAPS LARGER THAN 12-INCHES MUST BE COMPLETED BY A BENTONVILLE WATER UTILITIES DEPARTMENT APPROVED CONTRACTOR, PER SECTION 11.11 OF THE BENTONVILLE WATER UTILITIES STANDARD SPECIFICATIONS, LATEST REVISION.

17. THE CONTRACTOR SHALL FURNISH WATER METERS 4-INCHES AND LARGER AND THE BENTONVILLE WATER UTILITIES DEPARTMENT SHALL FURNISH WATER METERS 3-INCHES AND SMALLER.

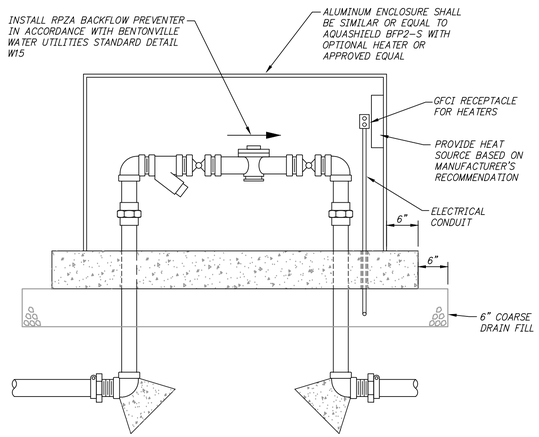
REFER TO THE STANDARD DETAILS FOR THE CITY OF BENTONVILLE, LATEST REVISION. WHERE ANY CONFLICT EXISTS BETWEEN THE STANDARD DETAILS SHOWN ON THE PLANS AND THE CITY OF BENTONVILLE STANDARD DETAILS, THE CITY OF BENTONVILLE STANDARD DETAILS SHALL GOVERN.

MANHOLE TABLE

MANHOLE	NORTHING	EASTING
MH 1-1	757404.38	663637.75
MH 1-2	757285.78	663652.22
MH 1-3	757104.78	663574.92
MH 1-4	757098.29	663534.54
MH 1-5	756611.75	663463.87
MH 1-6	756492.97	663460.44
MH 1-7	756482.44	663470.48
MH 33-2	756640.75	663574.59
MH 33-3	756717.93	663600.74
MH 34-1	757476.24	663729.11
MH 34-2	757451.43	663748.59
MH 34-3	757374.58	663722.36
MH 38-1	757548.33	663320.21
MH 38-2	757571.67	663231.04
MH 38-3	757546.47	663069.49

DRAINAGE STRUCTURE TABLE

STRUCTURE	NORTHING	EASTING
AI-01	757518.34	663792.43
AI-03	757335.02	663715.24
HW-01	757572.88	663832.58
HW-02	757558.39	663686.59
HW-03	756979.59	663586.99
HW-03A	756978.95	663589.15
HW-04	756922.08	663570.40
HW-04A	756921.31	663572.63
HW-05	757026.97	663605.26
HW-05A	757024.01	663604.07
HW-06	757033.09	663535.94
HW-06A	757030.15	663534.80
JB-02	757378.95	663744.35



RPZA BACKFLOW PREVENTER

DETAIL C101
NTS

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12169 MATTHEW A. WEIR 3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

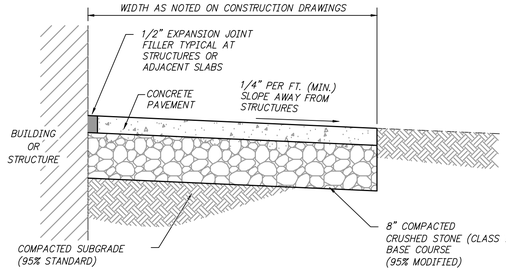
CIVIL DETAILS I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-01

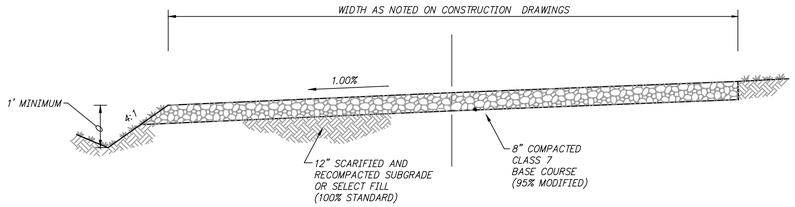
SHEET NO.
CZ-1

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-01.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1



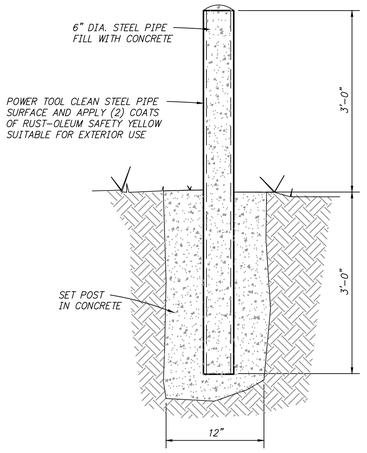
PAVEMENT/SIDEWALK SECTION
ADJACENT TO STRUCTURES

DETAIL C201
NTS



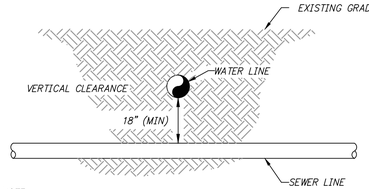
PAVEMENT SECTION – GRAVEL ACCESS ROAD

DETAIL C203
N.T.S.



TRAFFIC BOLLARD

DETAIL C205
NTS

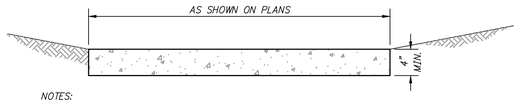


NOTE:

1. WATER MAINS AND SANITARY SEWERS SHALL BE CONSTRUCTED AS FAR APART AS PRACTICABLE, AND SHALL BE SEPARATED BY UNDISTURBED AND COMPACTED EARTH. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER LINES OR OTHER SOURCES OF CONTAMINATION. WATER LINES AND SEWERS SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON WRITTEN APPROVAL OF THE ARKANSAS DEPARTMENT OF HEALTH. WATER MAINS NECESSARILY IN CLOSE PROXIMITY TO SEWERS MUST BE PLACED SO THAT THE BOTTOM OF THE WATER LINE WILL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE AT ITS HIGHEST POINT. IF THIS DISTANCE MUST BE UNAVOIDABLY REDUCED, THE WATER LINE OR THE SEWER LINE MUST BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATERTIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING. ANY JOINT IN THE ENCASEMENT PIPE IS TO MECHANICALLY RESTRAINED. THE ENCASEMENT PIPE MAY BE VENTED TO THE SURFACE IF CARRYING WATER OR SEWER UNDER PRESSURE. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH A SEWER LINE, AT LEAST 18 INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT. EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH.

WATER/SEWER LINE SEPARATION

DETAIL C206
NTS

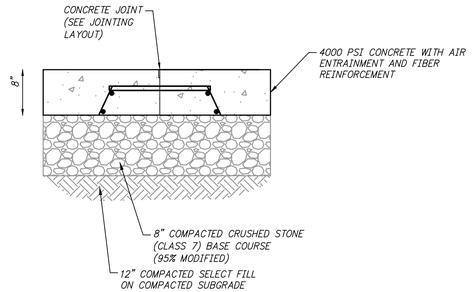


NOTES:

1. ALL CONCRETE SHALL BE CLASS 3500 psi., AIR-ENTRAINED, FIBER REINFORCED.
2. THE SUBGRADE FOR RAMP AND SIDEWALK CONSTRUCTION IS TO BE FIRM AND UNYIELDING SOIL, COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR.
3. 1/2" EXPANSION JOINT SHALL BE PLACED AT COLD JOINTS, AT BEGINNING AND END OF RETURN, AND AT MAXIMUM OF 100' INTERVALS.
4. CONTRACTION JOINTS SHALL BE CUT AT INTERVALS MATCHING THE SIDEWALK WIDTH WITH A MAXIMUM SPACING OF 6'. CONTRACTION JOINTS IN RAMP AREAS SHALL BE AT 5' MAX. SPACING. DEPTH OF JOINTS SHALL BE EQUAL TO T/4.

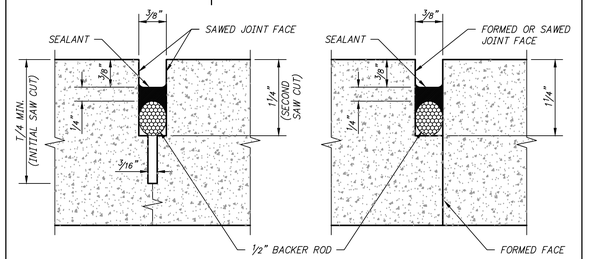
SIDEWALK

DETAIL C202
NTS



JOINTED PLAIN CONCRETE PAVEMENT

DETAIL C204
NTS

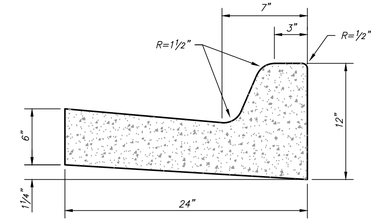


DETAIL 1
CONTRACTION JOINT

DETAIL 2
CONSTRUCTION JOINT

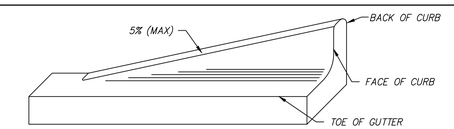
LONGITUDINAL OR TRANSVERSE JOINT

DETAIL C208
NTS



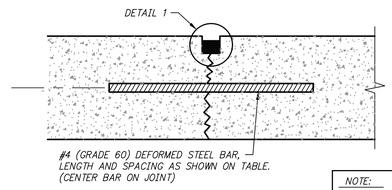
TYPE "A" CURB & GUTTER

SECTION C210
N.T.S.



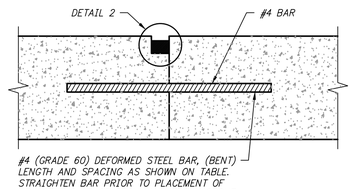
ROLLED DOWN CURB

DETAIL C211
N.T.S.



SECTION –
TIED CONTRACTION JOINT

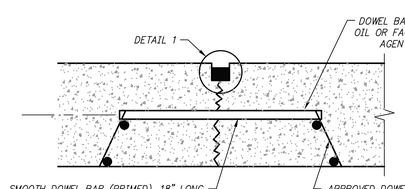
NOTE:
DO NOT PLACE TIE-BAR WITHIN 15" OF A TRANSVERSE JOINT.



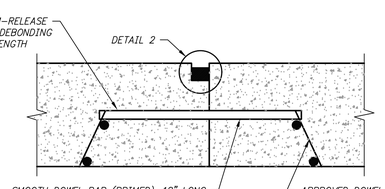
SECTION –
TIED CONSTRUCTION JOINT

TIEBAR DIMENSIONS

SLAB DEPTH INCH	TIEBAR SIZE INCH	TIEBAR SPACING			
		DISTANCE TO NEAREST FREE EDGE OR TO NEAREST JOINT WHERE MOVEMENT CAN OCCUR			
		10'	12'	14'	24'
6	1/2 x 24	30"	30"	30"	23"
6 1/2	1/2 x 24	30"	30"	30"	21"
7	1/2 x 24	30"	30"	30"	20"
7 1/2	1/2 x 24	30"	30"	30"	18"
8	1/2 x 24	30"	30"	30"	17"
8 1/2	1/2 x 24	30"	30"	28"	16"
9	1/2 x 30	36"	36"	36"	24"



SECTION –
CONTRACTION JOINT



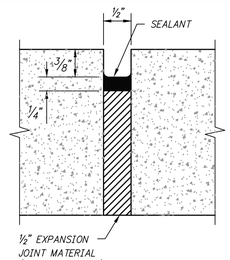
SECTION –
CONSTRUCTION JOINT

DOWEL SIZE

SLAB DEPTH INCH	DOWEL DIAMETER INCH
6	1
7	1
8	1 1/4
9	1 1/4

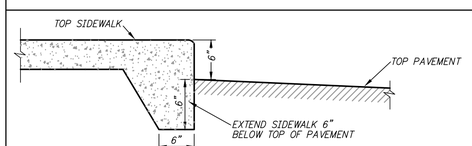
CONCRETE JOINTING

DETAIL C207
NTS



EXPANSION JOINT

DETAIL C209
NTS



SIDEWALK AT PARKING SURFACE
ROLL DOWN EDGE

DETAIL C212
N.T.S.

BID DRAWINGS
MARCH 21, 2025

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12169
LEVI E. YOUNG
12/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-02

SHEET NO.
CZ-2

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-02.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1

1. INSTALL BACKFILL MATERIAL AND SURFACE REPAIRS AS SPECIFIED AND IN ACCORDANCE WITH THE CITY OF BENTONVILLE MINIMUM DESIGN STANDARD SPECIFICATION FOR STREETS.
2. FLOWABLE FILL SHALL BE PROTECTED WITH BRIDGE PLATES OR A TEMPORARY SURFACE SEAL OF CLASS 7 BASE COURSE UNTIL FINAL REPAIR IS INSTALLED. COLD MIX ASPHALT CONCRETE IS NOT ACCEPTABLE FOR FINAL REPAIR.
3. FLOWABLE FILL SHALL BE ALLOWED TO CURE FOR A PERIOD OF NOT LESS THAN 24 HOURS PRIOR TO PLACEMENT OF SURFACE.
4. FLOWABLE FILL IS TO BE INSTALLED TO NEAT LINES.
5. FLOWABLE FILL SHALL BE PROTECTED FROM FREEZING OR TOO RAPID CURING.
6. CONCRETE REPAIR SURFACE SHALL BE FINISHED WITH A ROUGH BROOMED TEXTURE, OR MATCHING EXISTING ADJACENT SURFACES.
7. CONCRETE REPAIRS SHALL NOT BE OPENED FOR TRAFFIC FOR A PERIOD OF NOT LESS THAN 72 HOURS FOLLOWING PLACEMENT. BRIDGE PLATES SHALL BE USED TO PROTECT CONCRETE ON ANY LANES REQUIRED TO BE OPENED.
8. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
9. BEDDING, BACKFILL AND COMPACTION WITH NATIVE MATERIALS IS CONSIDERED INCIDENTAL TO THE PIPE OR STRUCTURE ITEM. MATERIAL COSTS FOR SELECT AND FLOWABLE FILL WILL BE PAID SEPARATELY, IF INDICATED IN THE BID FORM.
10. GRANULAR BACKFILL AND BEDDING SHALL BE 3/4" MAX. TO NO.4 CRUSHED STONE OR GRAVEL PER THE SPECIFICATIONS.
11. FOR DEEP TRENCHES, DEPTH OF FLOWABLE FILL SHALL BE A MAXIMUM OF 4' DEEP, AS MEASURED DOWN FROM THE SUBGRADE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. GRANULAR BACKFILL MATERIAL SHALL BE USED FROM BOTTOM OF FLOWABLE FILL TO THE TOP OF PIPE ZONE.
12. SURFACE PATCH SHALL EXTEND A MINIMUM OF 12" OUTSIDE EDGE OF EXCAVATION. FOR CONCRETE PAVEMENT AND APRONS, SAWCUTS WITHIN 5 FEET OF AN EXISTING JOINT SHALL BE REMOVED AND REPLACED TO THE EXISTING JOINT. LONGITUDINAL SAWCUTS SHALL NOT FALL WITHIN 12 INCHES OF THE TIRE PATH.
13. FOR EXCAVATIONS REQUIRED TO INSTALL MORE THAN ONE (1) PROCESS PIPE IN THE SAME TRENCH OR IN CONVERGING ADJACENT TRENCHES THAT DO NOT ADHERE TO TYPICAL TRENCH WIDTHS AS SHOWN IN THE TRENCHING AND TRENCH BACKFILL DETAILS SHOWN ON THIS SHEET, THE CONTRACTOR SHALL BACKFILL WITH CLASS 7 AGGREGATE BASE COURSE FOR THE ENTIRE DEPTH OF THE TRENCH EXCLUDING THE REPLACEMENT OF SURFACE PAVEMENTS.

GENERAL NOTES – TRENCHING

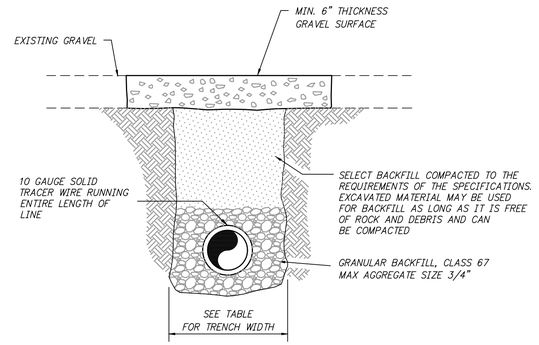
DETAIL C301
NTS

BEDDING DEPTH TABLE

STORM DRAIN
.10 X PIPE I.D. (4" MIN)
WATER LINE
.25 X PIPE I.D. (4" MIN)
SEWER LINE
6" MIN.

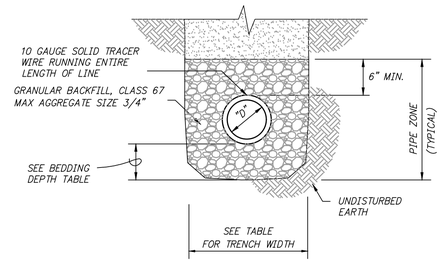
TRENCH WIDTH TABLE

STORM DRAIN
OD + 18" MIN. OD + 36" MAX.
WATER LINE
MINIMUM 18" OR OD + 12" OD + 24" MAX.
SEWER LINE
OD + 18" MIN. OD + 30" MAX.



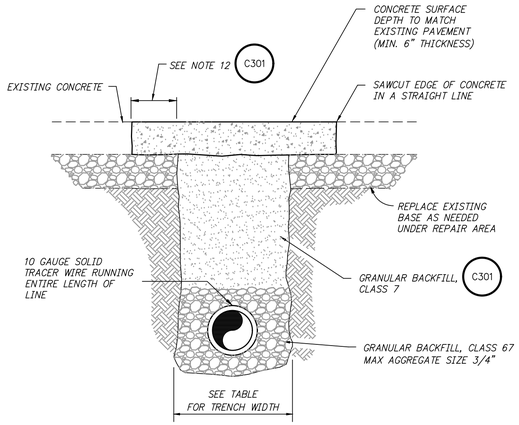
TRENCH BACKFILL
GRAVEL AREAS

DETAIL C302
NTS



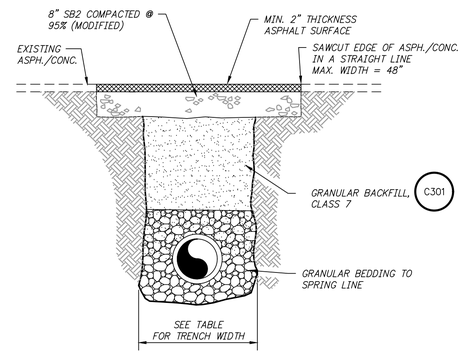
CLASS "B" COMPACTED
GRANULAR BEDDING AND BACKFILL

DETAIL C303
NTS



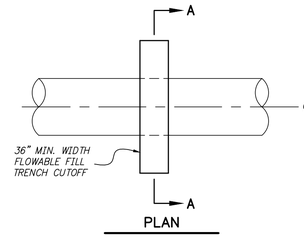
TRENCH BACKFILL
CONCRETE AREAS

DETAIL C304
NTS

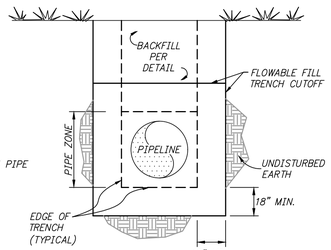


ASPHALT STREET & DRIVEWAY
CROSSING REPAIR

SECTION C305
N.T.S.



PLAN



SECTION A–A

FLOWABLE FILL
TRENCH CUTOFF

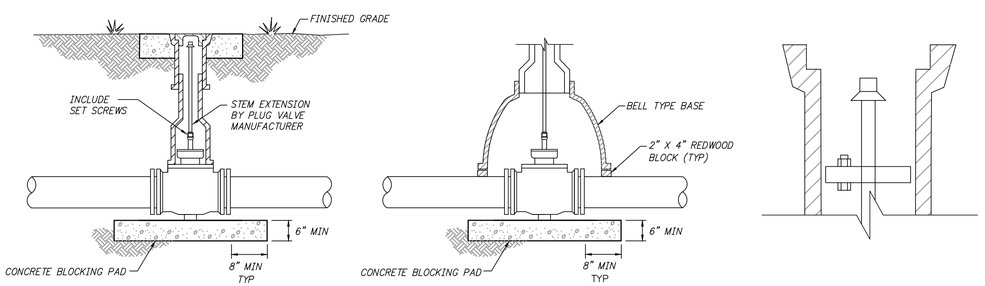
DETAIL C306
NTS

NOTES:

1. FLOWABLE FILL TRENCH CUT OFFS SHALL BE INSTALLED WHERE SHOWN ON THE PLANS.
2. ADDITIONAL EXCAVATION REQUIRED FOR INSTALLATION OF CUTOFF TRENCH WILL NOT BE PAID FOR SEPARATELY AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

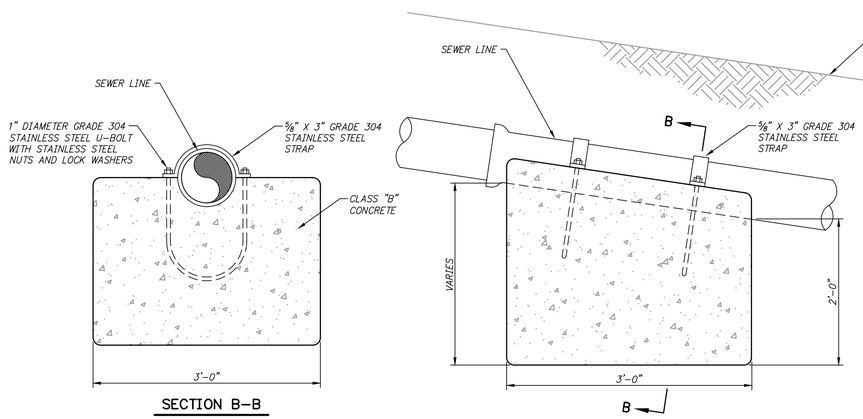
NOTE:

1. PLUG VALVES SHALL BE ECCENTRIC VAL-MATIC, DEZURIK OR APPROVED EQUAL.
2. FOR PLUG VALVES, 8" AND LARGER, INSTALL A SIDE MOUNTED, TOTALLY ENCLOSED, SEALED WORM GEAR ACTUATOR WITH VALVE BOX AND STEM EXTENSION.
3. VALVE BOX: USE TYLER TWO-PIECE SERIES 6850, TYLER THREE-PIECE SERIES 6860 WITH BELL BASE OR CAST-IRON, SCREW-TYPE VALVE BOX BY PLUG VALVE MANUFACTURER.
4. USE TYLER VALVE BOX EXTENSIONS OR EQUAL FOR DEEP VALVES.
5. VALVES WITH AN OPERATING NUT DEEPER THAN 42-INCHES SHALL BE EQUIPPED WITH A STAINLESS STEEL STEM EXTENSION. TOP OF NUT ON STEM EXTENSION MUST BE WITHIN 6" OF FINISHED GRADE
6. PRECAST COLLARS ARE NOT ACCEPTABLE



PLUG VALVE WITH
VALVE BOX

DETAIL C307
NTS



SECTION B–B

NOTES:

1. CAST-IN-PLACE PIPE ANCHORS WILL BE CONSIDERED BY THE ENGINEER.
2. PIPE ANCHOR SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE BELL OF THE PIPE AS SHOWN IN THE DETAIL.

TYPICAL GRAVITY PIPE
ANCHOR BLOCK

DETAIL C308
NTS

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12185
LEY
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS III

FOR: BENTONVILLE WASTEWATER UTILITIES

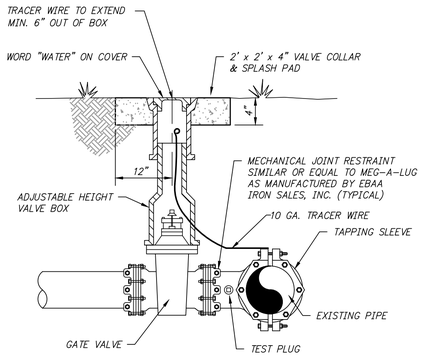
DATE:	MARCH 2025
SCALE:	AS SHOWN
DESIGNED BY:	LEY
DRAWN BY:	MAW
HWEI NO.:	2021037
FILENAME:	CZ-03

SHEET NO.
CZ-3

\\HWEI-WB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-03.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1

NOTE:

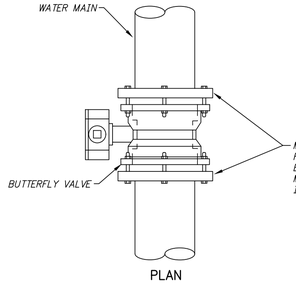
1. FOR VALVES UP TO 12", USE TYLER TWO-PIECE SERIES 6850 OR EQUAL.
2. FOR VALVES LARGER THAN 12", USE TYLER THREE-PIECE SERIES 6860 VALVE BOX W/BELL TYPE BASE OR EQUAL.
3. USE TYLER VALVE BOX EXTENSIONS OR EQUAL FOR DEEP VALVES.
4. VALVES WITH AN OPERATING NUT DEEPER THAN 42" SHALL BE EQUIPPED WITH A STAINLESS STEEL STEM EXTENSION. TOP OF NUT ON STEM EXTENSION MUST BE WITHIN 6" OF FINISHED GRADE.
5. PRECAST COLLARS ARE NOT ACCEPTABLE.
6. IF EXTENSION PIECE IS NEEDED, PVC C900 WATER PIPE MAY BE USED.
7. EXTENSION PIECE MAY BE CUT TO LENGTH DESIRED.
8. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
9. PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4-FT. DEPTH.
10. ALL TAPS 12-INCHES AND SMALLER ON EXISTING WATER MAINS SHALL BE PERFORMED BY THE BENTONVILLE WATER UTILITIES DEPARTMENT AND TAPS LARGER THAN 12-INCHES MUST BE COMPLETED BY A BENTONVILLE WATER UTILITIES DEPARTMENT APPROVED CONTRACTOR, PER SECTION 11.11 OF THE BENTONVILLE WATER UTILITIES STANDARD SPECIFICATIONS, LATEST REVISION.



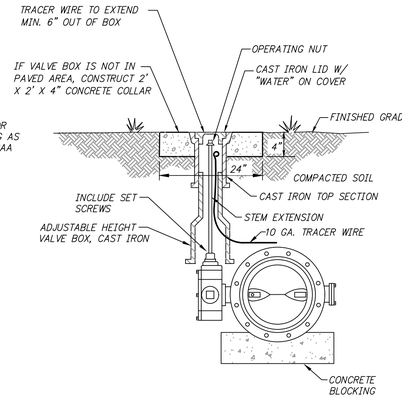
TAPPING SLEEVE AND VALVE

DETAIL C401

NTS



PLAN



PROFILE

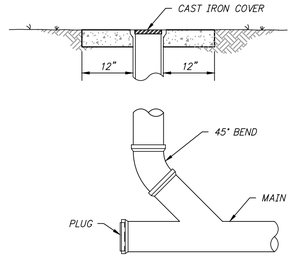
NOTE:

1. FOR VALVES UP TO 12", USE TYLER TWO-PIECE SERIES 6850 OR EQUAL.
2. FOR VALVES LARGER THAN 12", USE TYLER THREE-PIECE SERIES 6860 VALVE BOX W/BELL TYPE BASE OR EQUAL.
3. USE TYLER VALVE BOX EXTENSIONS OR EQUAL FOR DEEP VALVES.
4. VALVES WITH AN OPERATING NUT DEEPER THAN 42" SHALL BE EQUIPPED WITH A STAINLESS STEEL STEM EXTENSION. TOP OF NUT ON STEM EXTENSION MUST BE WITHIN 6" OF FINISHED GRADE.
5. PRECAST COLLARS ARE NOT ACCEPTABLE.
6. IF EXTENSION PIECE IS NEEDED, PVC C900 WATER PIPE MAY BE USED.
7. EXTENSION PIECE MAY BE CUT TO LENGTH DESIRED.
8. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
9. PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4-FT. DEPTH.

BUTTERFLY VALVE DETAIL

DETAIL C402

N.T.S.



CLEANOUT

DETAIL C403

N.T.S.

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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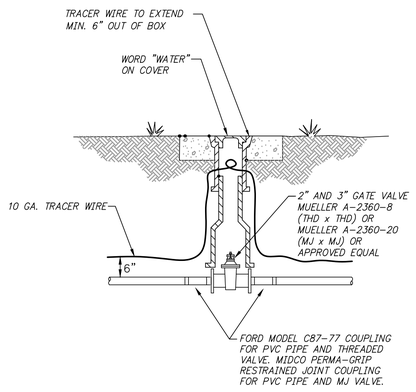
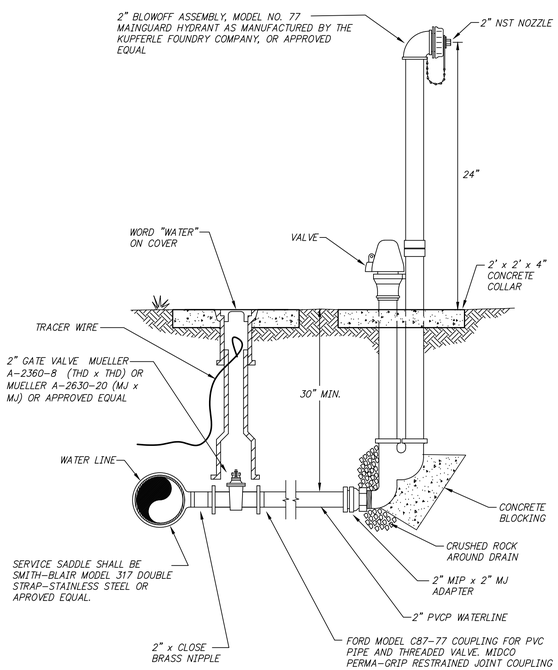
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12105
ELLIS M. WEIR
3/19/25



2" AND 3" RESILIENT SEAT GATE VALVE

DETAIL C405

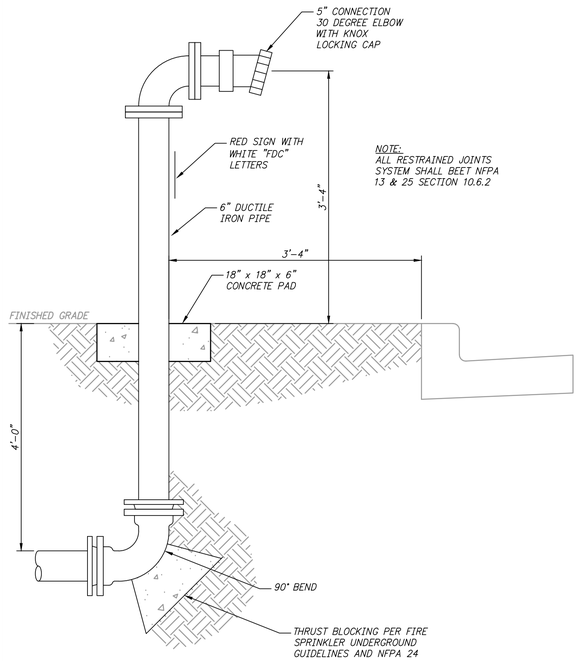
N.T.S.



BLOWOFF HYDRANT

DETAIL C406

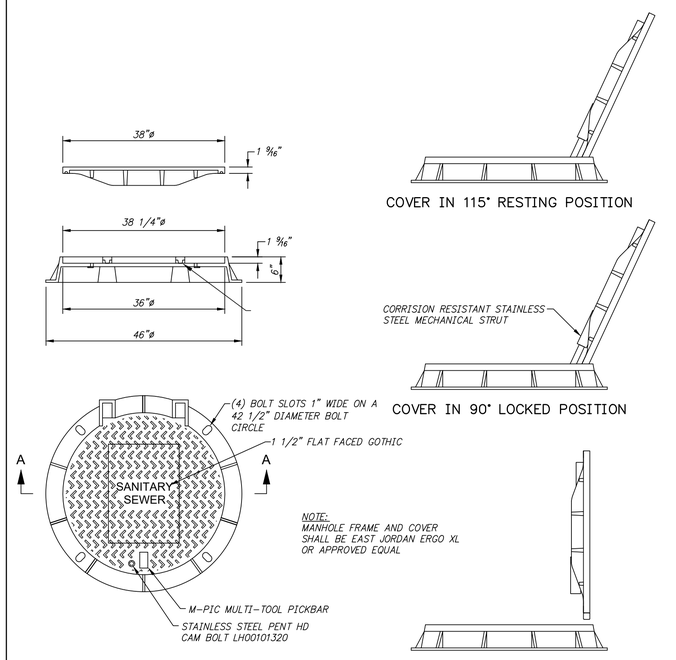
NTS



FIRE DEPARTMENT CONNECTION

DETAIL C407

NTS



HINGED
MANHOLE FRAME AND COVER

DETAIL C408

N.T.S.

BID DRAWINGS
MARCH 21, 2025

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

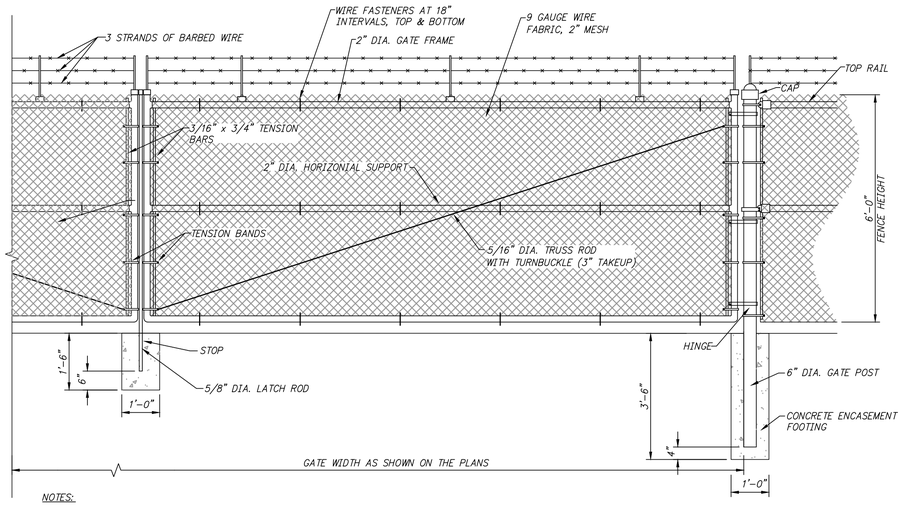
CIVIL DETAILS IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-04

SHEET NO.
CZ-4

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-04.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1

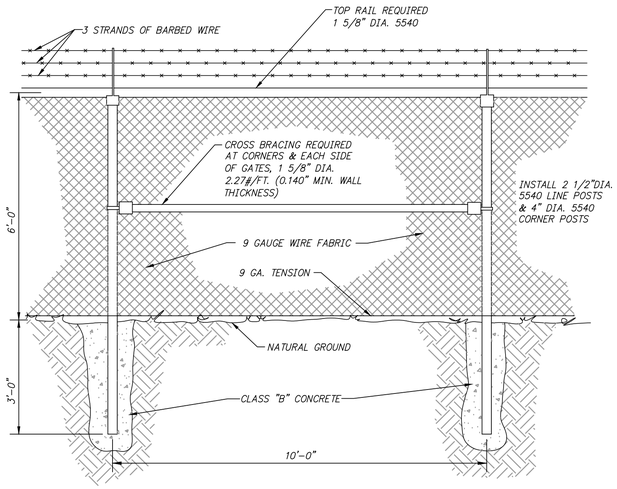


NOTES:

1. FABRIC: ALL CHAIN-LINK FENCE FABRIC SHALL CONSIST OF WOVEN WIRE IN THE FORM OF APPROXIMATELY UNIFORM SQUARE MESH, HAVING PARALLEL SIDES AND HORIZONTAL AND VERTICAL DIAGONALS OF APPROXIMATELY UNIFORM DIMENSIONS. ALL FABRIC TO BE BLACK VINYL COATED.
2. GATE FRAMES: GATE FRAMES SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.
3. HINGES: HINGES SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.
4. LATCHES AND STOPS: LATCHES AND STOPS SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.
5. PULL PANELS: STRETCHING OPERATIONS SHALL BE REPEATED AT APPROXIMATELY EVERY 100-FT. FOR EACH RUN OF FENCE. INSTALL PULL PANELS AT SHARP BREAKS IN VERTICAL GRADES. IN ALL CASES, PULL PANEL SPACING SHALL NOT EXCEED 250-FT.
6. GATE HINGES: SHALL BE BULLDOG STYLE HINGES.
7. ALL POSTS, PIPE, SUPPORTS, AND HARDWARE SHALL BE POWDER COATED, BLACK.

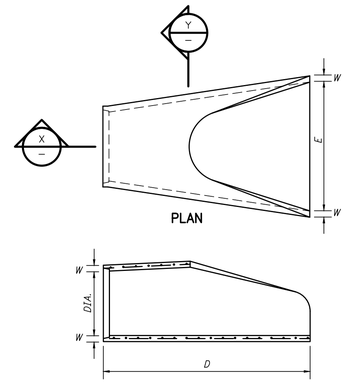
CHAIN LINK FENCE GATE

DETAIL C501
NTS



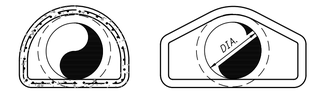
CHAIN LINK SECURITY FENCE

DETAIL C502
NTS



SECTION X-X

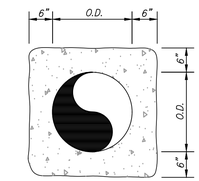
DIA.	WALL	D	MAX.
18"	2½"	6'-1"	3'-0"
24"	3"	6'-1½"	4'-0"
30"	3½"	6'-1¾"	5'-0"
36"	4"	8'-1¾"	6'-0"
42"	4½"	8'-2"	6'-6"
48"	5"	8'-2"	7'-0"
54"	5½"	8'-4"	7'-6"
60"	6"	8'-4"	8'-0"
72"	7"	8'-4"	9'-0"



SECTION Y-Y END VIEW

FLARED END SECTION

DETAIL C503
NTS

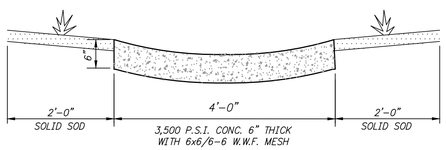


NOTE:

1. CONCRETE ENCASEMENT SHALL NOT BE UTILIZED FOR PVC PIPES.

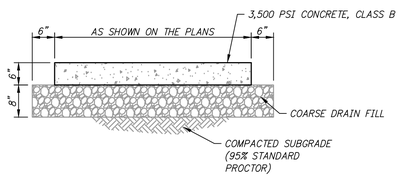
CONCRETE ENCASEMENT

DETAIL C504
N.T.S.



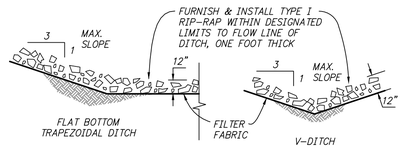
CONCRETE DRAINAGE SWALE

DETAIL C505
N.T.S.



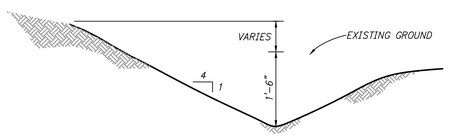
HOUSEKEEPING PAD

DETAIL C506
NTS



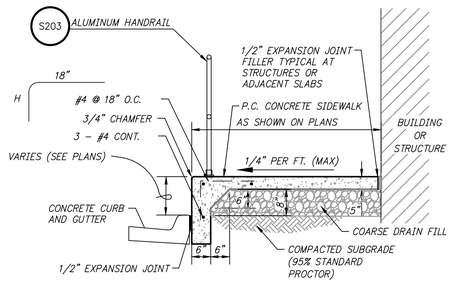
RIP RAP

DETAIL C507
N.T.S.



EARTHEN "V" DITCH

DETAIL C508
N.T.S.



CONCRETE SIDEWALK WITH TURNED DOWN EDGE

DETAIL C509
N.T.S.

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12105 CHRISTOPHER LUIS WEIR 3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS V

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-05

SHEET NO.
CZ-5

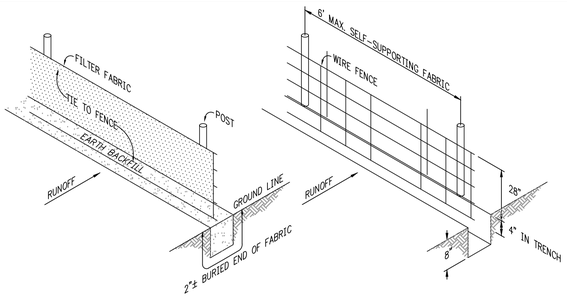
BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-05.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1

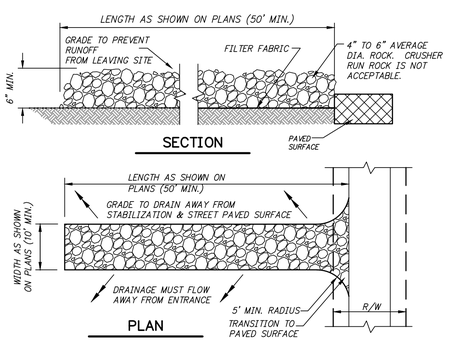
EROSION CONTROL NOTES:

1. A STORM WATER POLLUTION PREVENTION PLAN (SWP3) WILL BE PRODUCED BY THE OWNER (OPERATOR) FOR THE PROJECT TO BE COVERED UNDER THE ARKANSAS GENERAL PERMIT ARR150000. THE CONTRACTOR SHALL BE REQUIRED TO SIGN A COPY OF THE SWP3 AS FILED BY THE OWNER TO CONFIRM ASSOCIATION AND COMPLIANCE WITH THE REQUIREMENTS.
2. THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT THE SWP3 ACCORDING TO THE REQUIREMENTS OF THE GENERAL PERMIT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL PAY ALL COSTS ASSOCIATED WITH FINES OR PENALTIES THAT MAY BE IMPOSED BY THE GOVERNMENTAL AUTHORITY FOR THE FAILURE OF THE CONTRACTOR, THE CONTRACTOR'S SUBCONTRACTORS, THE CONTRACTOR'S SUPPLIERS OR THE CONTRACTOR'S AGENTS HAVING ACCESS TO THE SITE TO COMPLY WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND/OR TO COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN. THE OWNER SHALL BE ENTITLED TO WITHHOLD SUCH FROM CONTRACT FUNDS THAT MAY BE DUE TO THE CONTRACTOR AND/OR CLAIM THROUGH THE APPROPRIATE COURT HAVING JURISDICTION.
4. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE POSTING AND MAINTENANCE OF NOTICES IN THE AREA OF THE CONSTRUCTION WITH INFORMATION AS REQUIRED BY ADEQ REGULATION.
5. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN AND UPDATE RECORDS AND INSPECTION REPORTS REQUIRED BY THE GENERAL PERMIT FOR STORM WATER DISCHARGES AND THE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN. COPIES OF ALL DOCUMENTS SHALL BE AVAILABLE AT ALL TIMES AND PROVIDED TO THE OWNER AND/OR THE OWNER'S REPRESENTATIVE UPON DEMAND AND SHALL BE DELIVERED TO THE OWNER PRIOR TO FINAL PAYMENT.
6. INFORMATION REGARDING THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERTINENT REGULATION MAY BE ACCESSED AT www.adeq.state.ar.us
7. SILT FENCES SHALL BE PLACED ALONG THE LIMITS OF CONSTRUCTION SLOPES TO PREVENT SOIL FROM LEAVING THE CONSTRUCTION AREA.
8. WORK SHALL NOT COMMENCE UNTIL EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.
9. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE AS NEEDED TO MAINTAIN EFFECTIVENESS OF THE STRUCTURE. AS A MINIMUM, SILT SHALL BE REMOVED WHEN SEDIMENT DEPTH EXCEEDS HALF THE FABRIC HEIGHT. AFTER THE SILT FENCE IS NO LONGER NEEDED, THE SILT FENCE AND ALL DEPOSITED SEDIMENT SHALL BE REMOVED AND DISPOSED OF OFF SITE BY THE CONTRACTOR.
10. THE EXCAVATION AND MOVING OF SOIL MATERIALS, SHALL BE SCHEDULED SO THAT THE SMALLEST POSSIBLE AREAS WILL BE UNPROTECTED FROM EROSION FOR THE SHORTEST TIME FEASIBLE.
11. TEMPORARY SEEDING AND MULCH SHALL BE APPLIED TO PROTECT DISTURBED AREAS FROM EROSION. FINAL RESTORATION SHALL BE PER SPECIFICATIONS.
12. THE LOCATIONS OF THE CONCRETE WASHOUT AND THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE DETERMINED BY THE CONTRACTOR.
13. STREET SHALL BE SWEPT AS NECESSARY TO MINIMIZE OFFSITE TRACKING OF SEDIMENT.
14. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES (BMP'S).

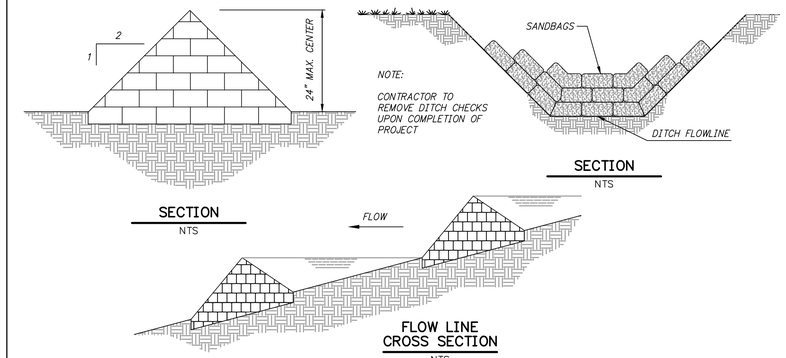
EROSION CONTROL NOTES
DETAIL C601
N.T.S.



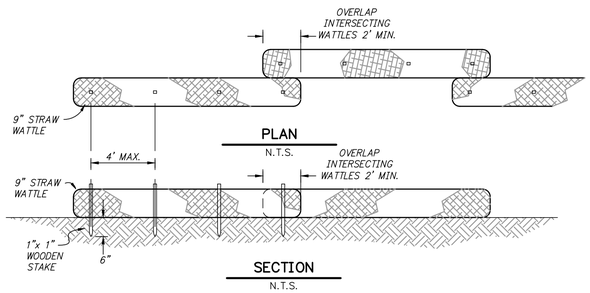
SILT FENCE
DETAIL C604
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
DETAIL C606
N.T.S.



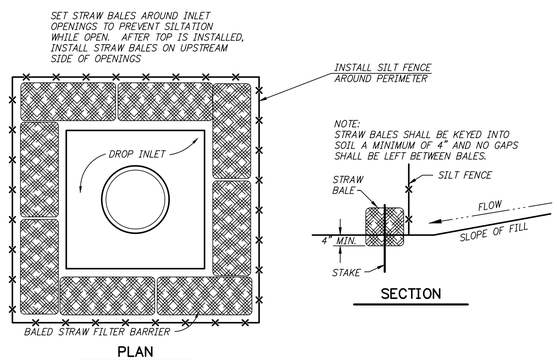
DITCH CHECK
DETAIL C602
N.T.S.



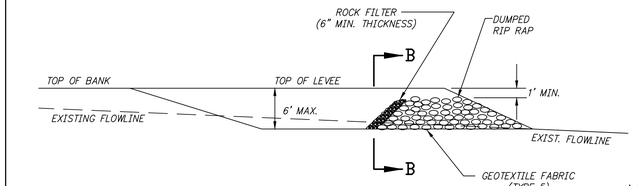
STRAW WATTLE NOTES:

1. STAKES SHALL BE 1"x1" WOODEN TIMBER DRIVEN THROUGH THE STRAW WATTLE AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND.
2. REMOVE AND DISPOSE OF SEDIMENT WHEN ACCUMULATION COVERS 33% OF THE WATTLE HEIGHT.

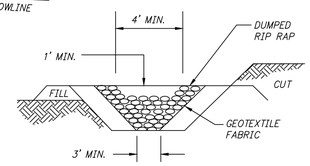
STRAW WATTLE INSTALLATION
DETAIL C605
N.T.S.



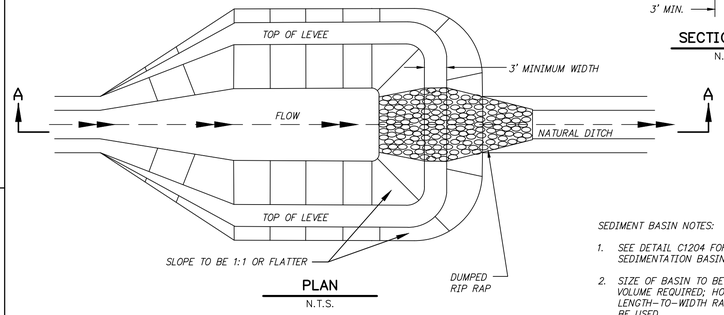
BALED STRAW FILTER BARRIER
DETAIL C607
N.T.S.



SECTION A–A
N.T.S.



SECTION B–B
N.T.S.

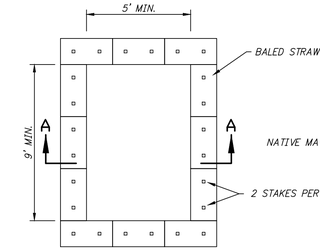


PLAN
N.T.S.

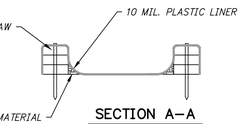
TEMPORARY SEDIMENT BASIN WITH RIP RAP OUTLET
DETAIL C603
N.T.S.

SEDIMENT BASIN NOTES:

1. SEE DETAIL C1204 FOR GENERAL SEDIMENTATION BASIN REQUIREMENTS
2. SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.
3. MAXIMUM DRAINAGE AREA IS 10 TO 20 ACRES UNLESS APPROVED BY ENGINEER.



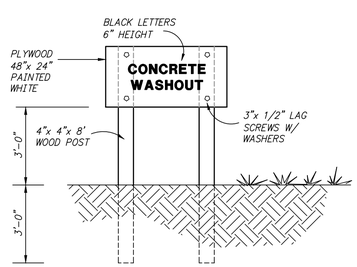
BALE CONFIGURATION
PLAN
N.T.S.



SECTION A–A
N.T.S.

CONCRETE WASHOUT NOTES:

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. STAKES SHALL BE A MINIMUM OF 48" IN LENGTH. STAKES SHALL BE EITHER 2" x 2" OAK TIMBER, 2.5" DIA. SCH. 40 STEEL POSTS, OR STANDARD STEEL "T" OR "U" POSTS.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS.
4. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF FOUR (4) INCHES.
5. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT AREA 75% FULL.
6. AT THE END OF CONSTRUCTION, THE CONCRETE WASHOUT AREA AND ALL WASTE CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE. WHEN THE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE TOPSOILED AND SODDED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.



ABOVE GRADE
CONCRETE WASHOUT
DETAIL C608
N.T.S.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JUSTIN M. LEY
No. 12109
REGISTERED PROFESSIONAL ENGINEER
ILLINOIS
3/11/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS VI

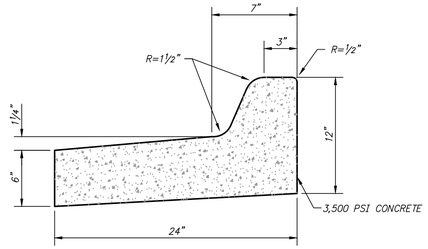
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-06

SHEET NO.
CZ-6

BID DRAWINGS
MARCH 21, 2025

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-06.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1



TYPE "B"
CURB & GUTTER

SECTION C701
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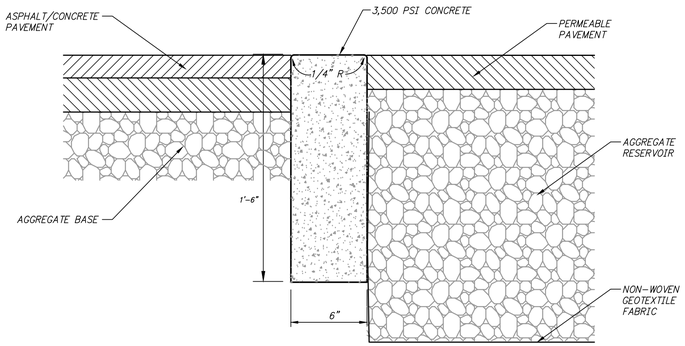

TYPE "D" CURB
BARRIER BETWEEN PERMEABLE PAVEMENTS

SECTION C702
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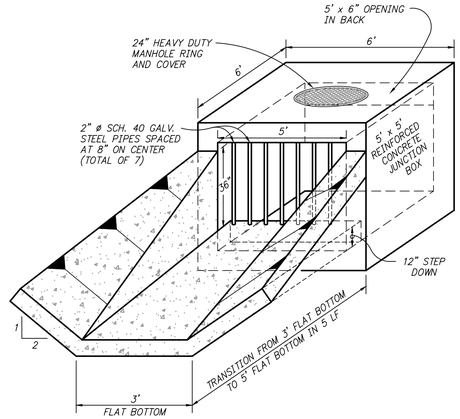
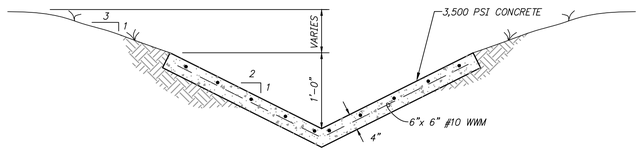


ISOMETRIC VIEW
AREA SURFACE DRAINAGE INLET

DETAIL C703
N.T.S.



CONCRETE "V" DITCH

DETAIL C704
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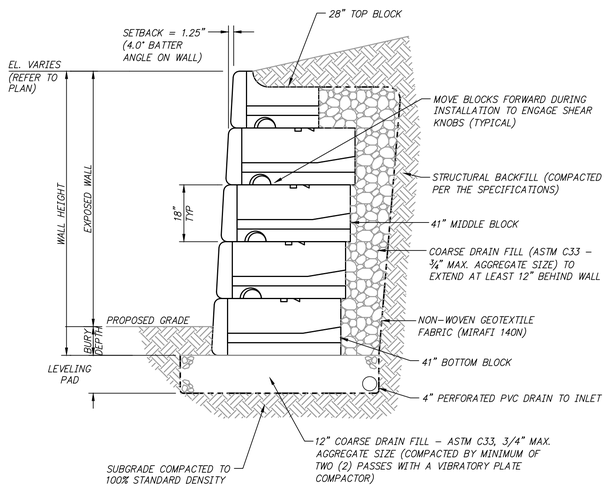
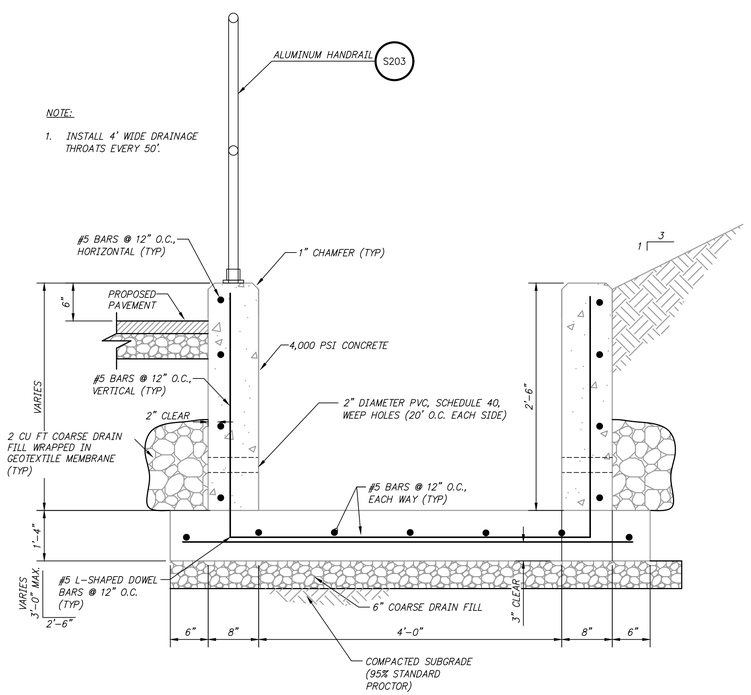


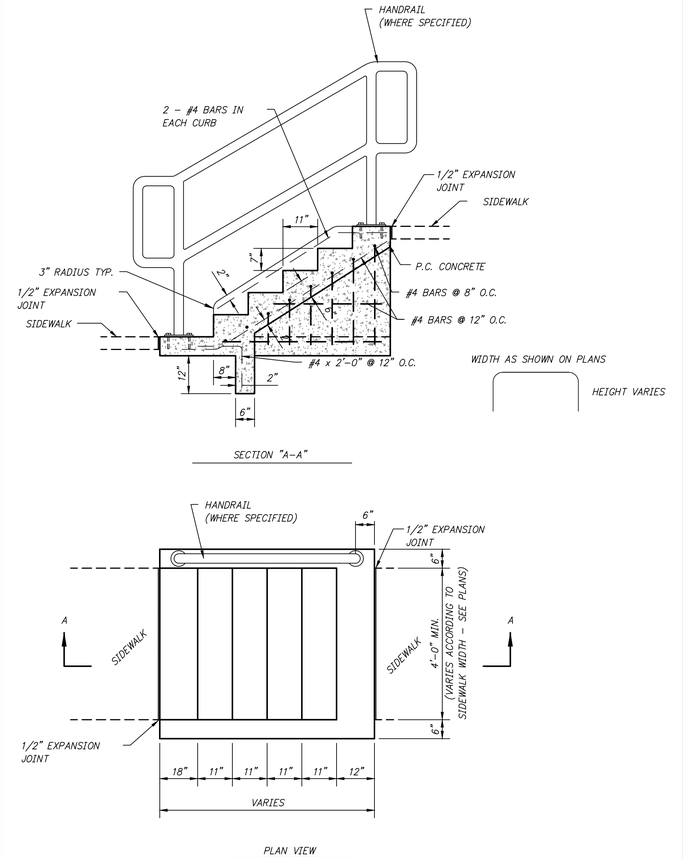
SEGMENTAL BLOCK RETAINING WALL

DETAIL C705
N.T.S.



CONCRETE RECTANGULAR CHANNEL

DETAIL C706
N.T.S.



CONCRETE STEPS

DETAIL C707
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12169
ELLIS WEIR
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS VII

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-07

SHEET NO.
CZ-7

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-07.DWG, 3/19/2025 8:45 AM, MATT WEIR, LAYOUT1

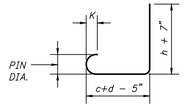
GENERAL NOTES

THE PAY ITEM FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CLASS A CONCRETE, INCLUDING REINFORCING STEEL AND EXCAVATION FOR THE STRUCTURES UNLESS OTHERWISE CALLED FOR.

SAND AND GRAVEL OR STONE (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

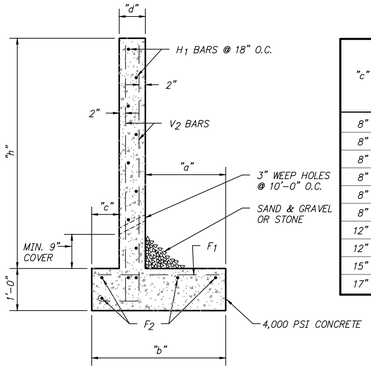
3" WEEP HOLES (MAX. SPACING 10'-0" O.C.). THE CONTRACTOR WILL BE REQUIRED TO PLACE CONSTRUCTION JOINTS ON 20' TO 25' CENTERS AND EXPANSION JOINTS ON 60' TO 75' CENTERS.

BENDING DIAGRAM



V_1 BARS

BAR SIZE	K	PIN DIA.
#3	4"	2¼"
#4	4"	3"
#5	5"	3¾"



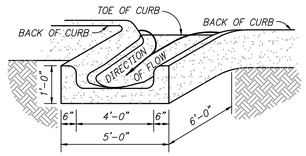
STEEL SCHEDULE

"c"	"d"	"h"	"a"	"b"	V_1 BARS		F_1 BARS		#3 BARS		
					SIZE	SPACING	SIZE	SPACING	H_1 SPACING	V_2 SPACING	F_2 NO. REQ'D
8"	8"	1'-0"	8"	2'-0"	#3	12"	#3	18"	18"	18"	5
8"	8"	2'-0"	8"	2'-0"	#3	12"	#3	18"	18"	18"	5
8"	8"	3'-0"	8"	2'-0"	#3	12"	#3	18"	18"	18"	5
8"	8"	4'-0"	1'-2"	2'-6"	#3	12"	#3	12"	18"	18"	5
8"	8"	5'-0"	1'-8"	3'-0"	#3	9"	#3	9"	18"	18"	5
8"	8"	6'-0"	2'-2"	3'-6"	#3	6"	#3	6"	18"	18"	6
12"	8"	7'-0"	2'-4"	4'-0"	#4	8"	#4	8"	18"	18"	6
12"	8"	8'-0"	2'-10"	4'-6"	#4	6"	#4	6"	18"	18"	6
15"	10"	9'-0"	2'-11"	5'-0"	#4	5"	#4	5"	18"	18"	6
17"	10"	10'-0"	3'-3"	5'-6"	#4	6"	#4	6"	18"	18"	7

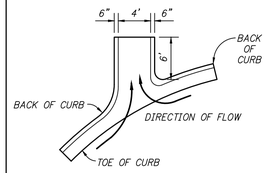
REINFORCED CONCRETE RETAINING WALL

DETAIL C801

N.T.S.



ISOMETRIC VIEW
DRAINAGE CHUTE DETAIL



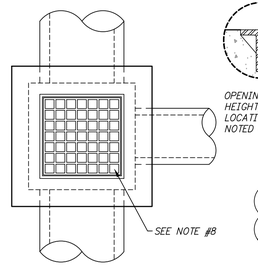
DRAINAGE CHUTE

DETAIL C802

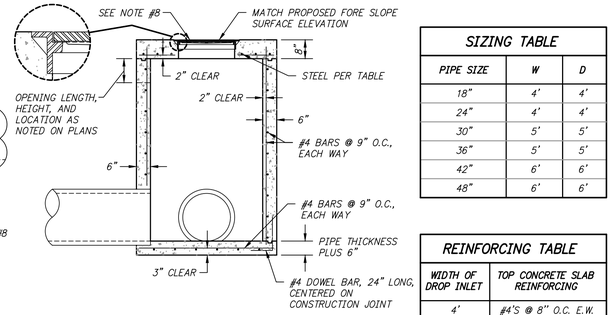
N.T.S.

NOTES:

1. ALL CONCRETE SHALL BE 4000 psi.
2. ALL EXPOSED CONCRETE SHALL HAVE A CLASS 2, RUBBED FINISH.
4. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4".
5. 2" DIAMETER WEEP HOLES SHALL BE INSTALLED 4'-0" O.C. AT BOTTOM OF HEADWALLS.
6. HIGH POINT OF HEADWALL SHALL NOT PROJECT MORE THAN 3" ABOVE SLOPE.



PLAN



NOTES:

1. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS APPROVED BY ENGINEER.
2. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 1½".
3. PROVIDE ¾" CHAMFER ON ALL EXPOSED CORNERS.
4. ALL REINFORCING BARS SHALL HAVE 1½" MINIMUM COVER.
5. PLASTIC COATED STEPS SHALL BE INSTALLED IN ALL JUNCTION BOXES 4'-0" IN DEPTH OR GREATER.
6. EXTENSION LENGTHS SHOWN ON THE PLANS SHALL BE TAKEN TO MEAN CLEAR OPENING LENGTH, NOT INCLUDING WIDTHS OF SUPPORTS.
7. CONCRETE FOR JUNCTION BOXES TO BE CLASS C, 4000 PSI, 6.0 BAG MIX WITH 4–7% AIR ENTRAINMENT.
8. USE HEAVY DUTY FRAME AND GRATE SIMILAR OR EQUAL TO EAST JORDAN IRON WORKS PRODUCT # 5370 FRAME AND GRATE FOR AREA INLET AND GRATED INLET. USE HEAVY DUTY FRAME AND LID SIMILAR OR EQUAL TO EAST JORDAN IRON WORKS PRODUCT # 1606 FRAME AND LID FOR JUNCTION BOX.

SIZING TABLE

PIPE SIZE	W	D
18"	4'	4'
24"	4'	4'
30"	5'	5'
36"	5'	5'
42"	6'	6'
48"	6'	6'

REINFORCING TABLE

WIDTH OF DROP INLET	TOP CONCRETE SLAB REINFORCING
4'	#4'S @ 8" O.C. E.W.
5'	#4'S @ 7" O.C. E.W.
6'	#5'S @ 9" O.C. E.W.

AREA INLET OR JUNCTION BOX

DETAIL C803

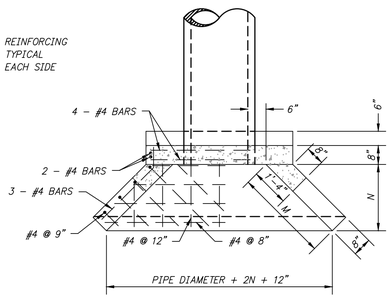
N.T.S.

DIMENSIONS

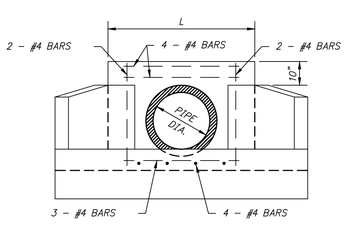
I.D.	E	L+E	T	H	K	L	M	N
18"	2'-6"	6'-6"	9"	2'-8"	1'-7"	4'-0"	2'-1 1/4"	1'-6"
24"	3'-0"	7'-6"	9"	3'-2"	1'-10"	4'-6"	2'-10"	2'-0"
30"	3'-9"	8'-10"	10"	3'-8"	2'-1"	5'-1"	3'-6 1/2"	2'-6"
36"	4'-6"	10'-4"	10"	4'-2"	2'-4"	5'-8"	4'-3"	3'-0"
42"	5'-3"	11'-6"	10"	4'-8"	2'-8"	6'-3"	4'-11 1/2"	3'-6"
48"	6'-0"	12'-10"	12"	5'-5"	3'-2"	6'-10"	5'-8"	4'-0"

HEADWALLS WITH 45° WINGWALLS

DIAMETER	CONC. QTY CY	
	SINGLE PIPE	DOUBLE PIPE
18"	0.84	1.16
24"	1.19	1.65
30"	1.82	2.53
36"	2.29	3.26
42"	2.90	4.18
48"	4.02	5.86



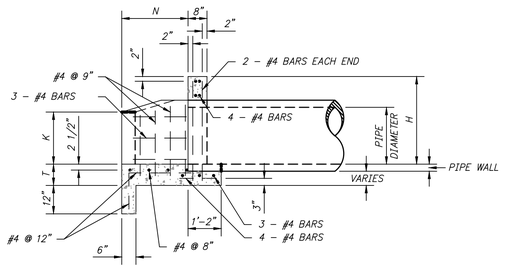
PLAN VIEW



ELEVATION

HEADWALL SINGLE PIPE

N.T.S.

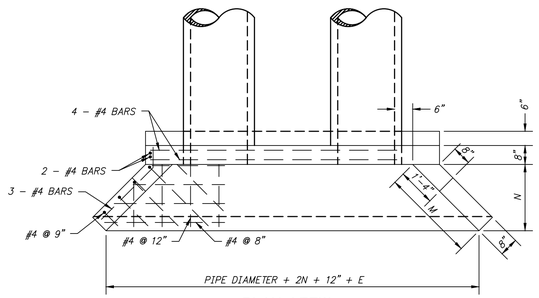


SECTION

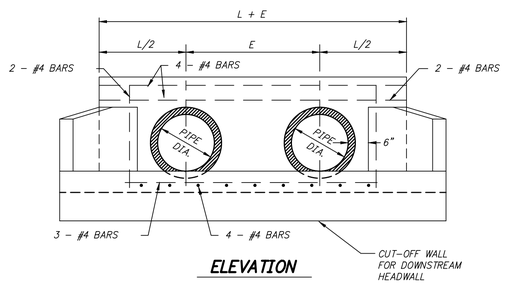
HEADWALL WITH 45° WINGWALLS

N.T.S.

DR.4.1



PLAN VIEW



ELEVATION

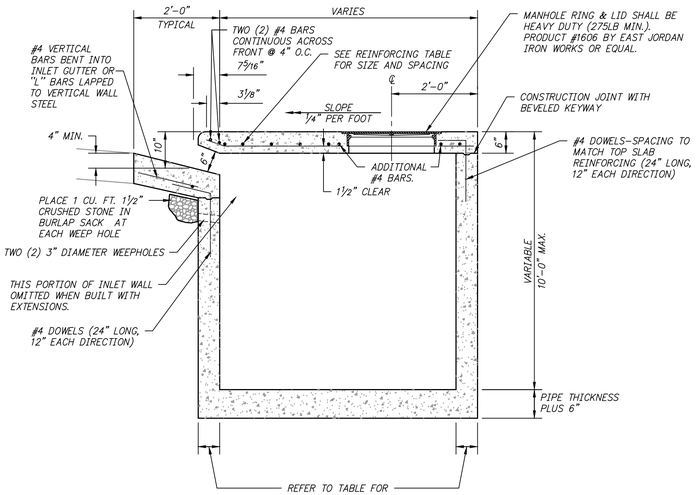
HEADWALL DOUBLE PIPE

N.T.S.

HEADWALLS

DETAIL C804

N.T.S.



CIRCULAR DROP INLET/ JUNCTION BOX

DETAIL C805

N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 12185 — ELLIS WEIR — 3/10/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CIVIL DETAILS VIII

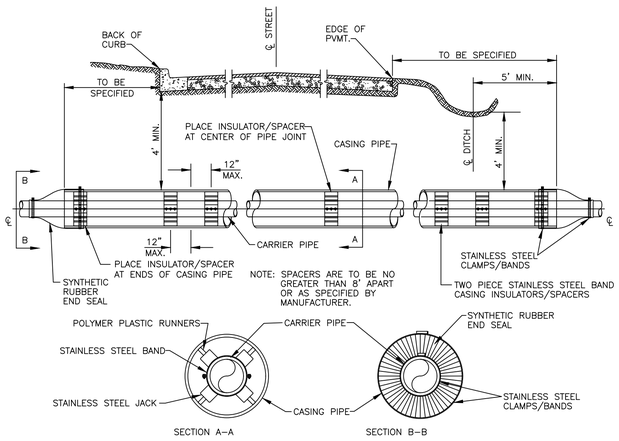
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LEY
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: CZ-08

SHEET NO.
CZ–8

\\HWEI-VB.HAWKINS-WEIR.LOCAL\PROJECTS\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\CZ-08.DWG, 3/10/2025 8:45 AM, MATT WEIR, LAYOUT1

ENCASEMENT DETAIL



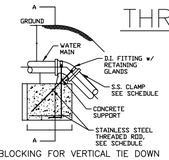
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

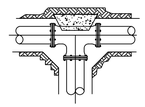
*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

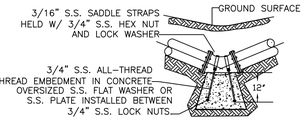
THRUST BLOCKING



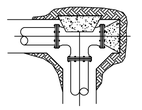
BLOCKING FOR VERTICAL TIE DOWN



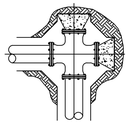
BLOCKING FOR TEE



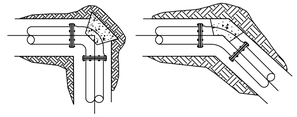
TYPICAL BLOCKING FOR VERTICAL BENDS



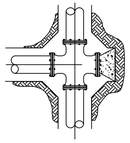
SPECIAL BLOCKING OF TEE & PLUG (WHEN DIRECTED BY WATER DEPT.)



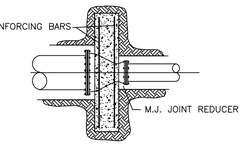
TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



TYPICAL BLOCKING FOR HORIZONTAL BENDS



TYPICAL SECTION OF CROSS & PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



THRUST SUPPORT FOR REDUCER (SIZE TO BE DETERMINED BY WATER DEPT.)

NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS			ROD DIA.
		45°	22 1/2°	11 1/4°	
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

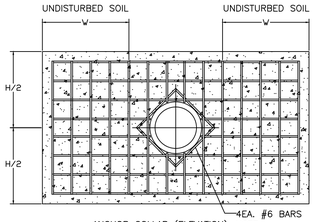
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS				REINFORCING BARS	
	W	H	T	M	"A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



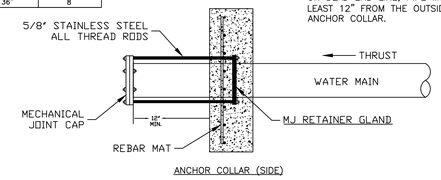
ANCHOR COLLAR (ELEVATION)

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

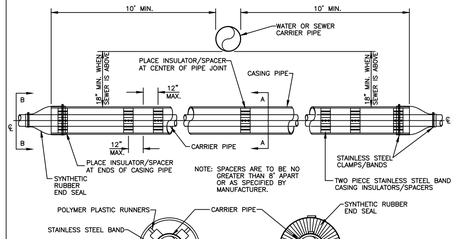


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



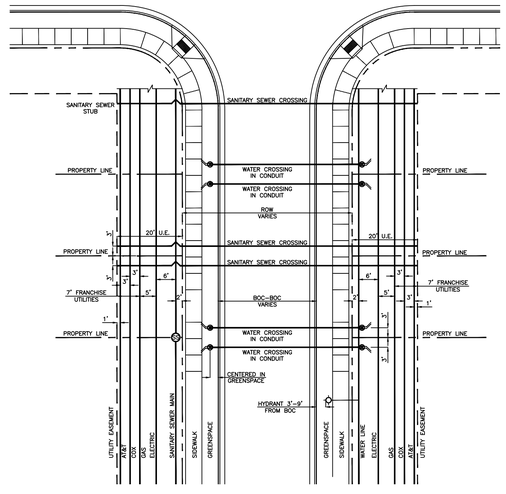
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

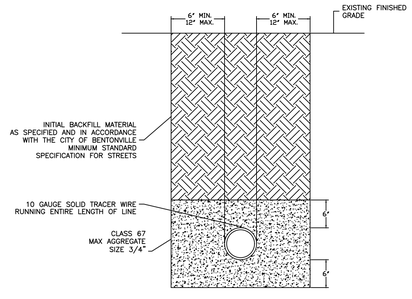
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

THE CITY OF WATER B UTILITIES BENTONVILLE

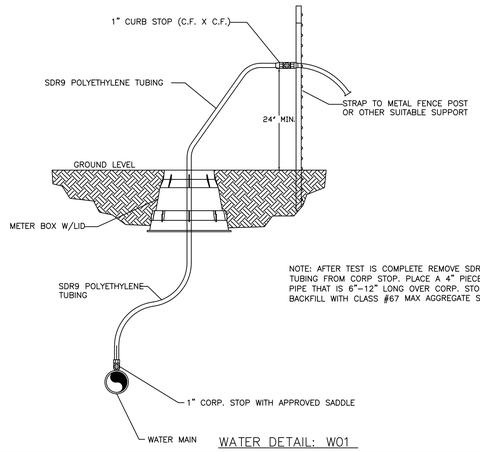
3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER/SEWER DETAILS

REVISION:
2024

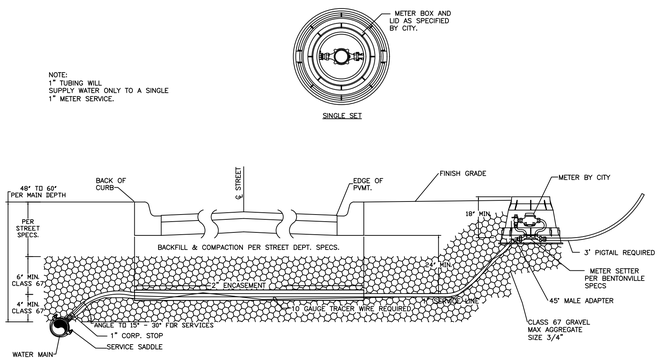
DRAWN BY:	JS	DATE:	08/27/2024
APPROVED BY:	AW	DATE:	08/27/2024
SHEET NUMBER:	1	OF	1

TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



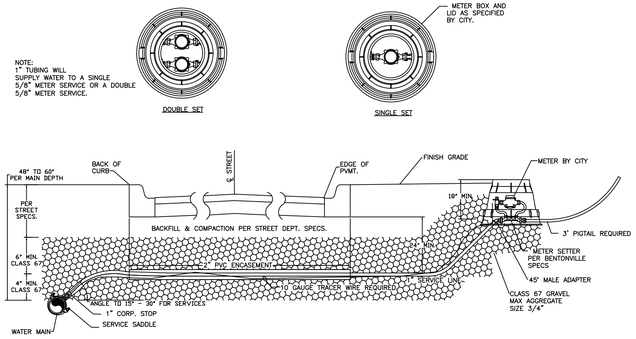
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



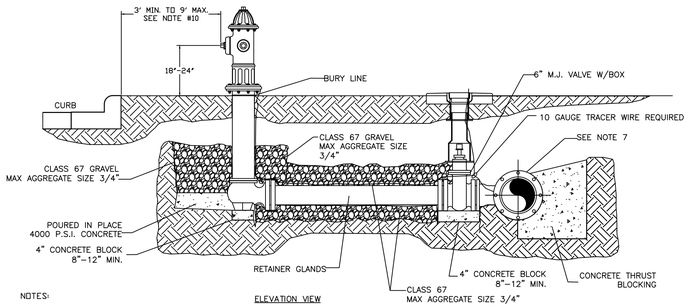
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

FIRE HYDRANT DETAIL W/ RETAINER GLANDS



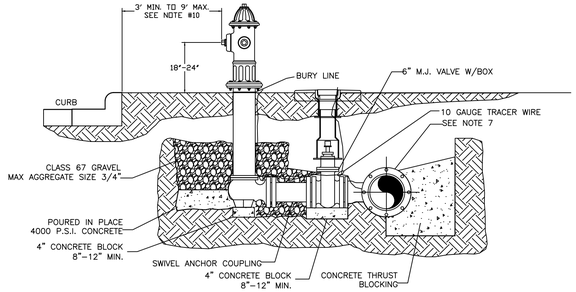
ELEVATION VIEW

NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRIVING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



ELEVATION VIEW

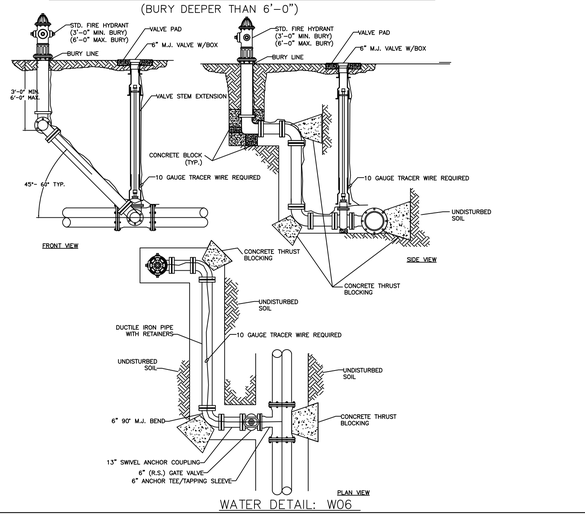
NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRIVING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W05

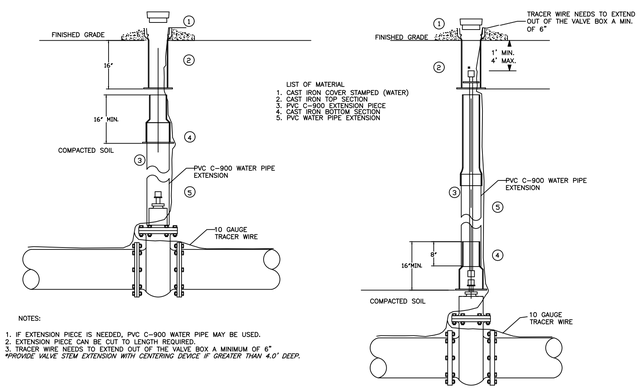
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'-0")



WATER DETAIL: W06

VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



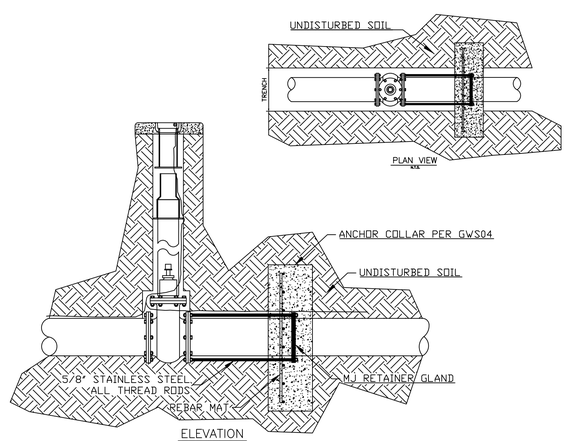
NOTES:

1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6"

*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

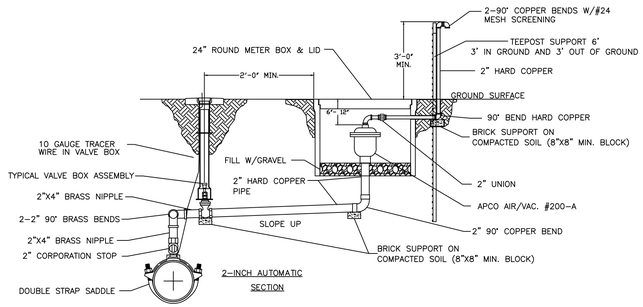
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:

1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

THE CITY OF WATER B UTILITIES BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

CALL BEFORE YOU DIG
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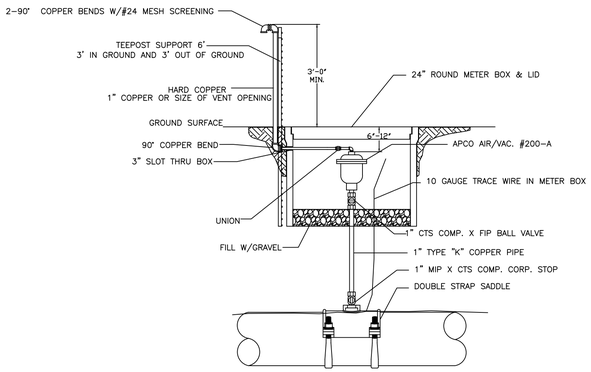
ARKANSAS ONE-CALL SYS.

REVISION:
2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 1	OF 2

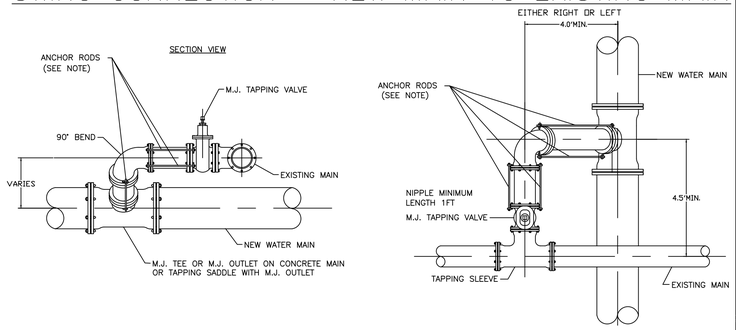
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

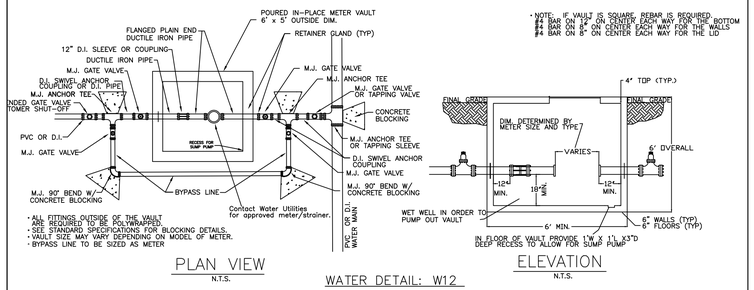
ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11

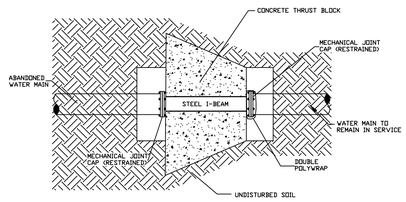
METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

(DIMENSIONS MAY VARY FOR METER SIZES)



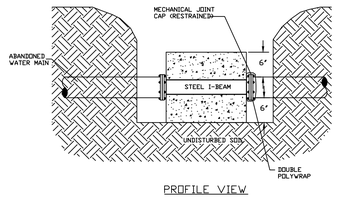
WATER DETAIL: W12

CUT/CAP DETAIL



PLAN VIEW

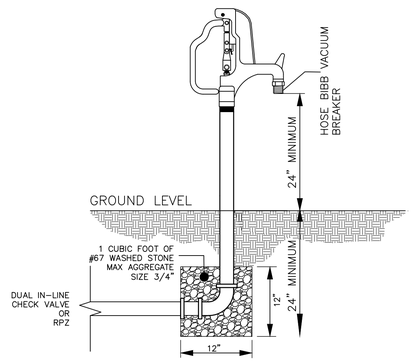
* STEEL I-BEAM TO BE SIZED BY PROJECT ENGINEER AND INCLUDED IN THE PROJECT SUBMITTAL.



PROFILE VIEW

WATER DETAIL: W13

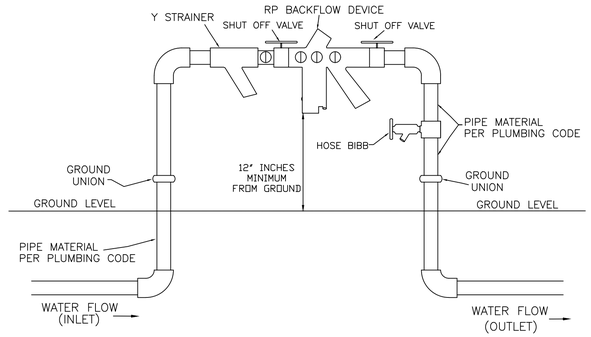
FROST FREE HOSE BIBB WITH BACKFLOW PREVENTION



ELEVATION
N.T.S.

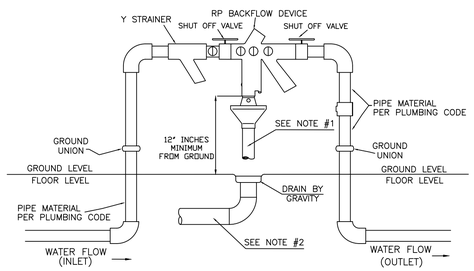
WATER DETAIL: W14

REDUCED PRESSURE (RP) BACKFLOW EXTERIOR IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP) BACKFLOW INTERIOR DOMESTIC OR IRRIGATION

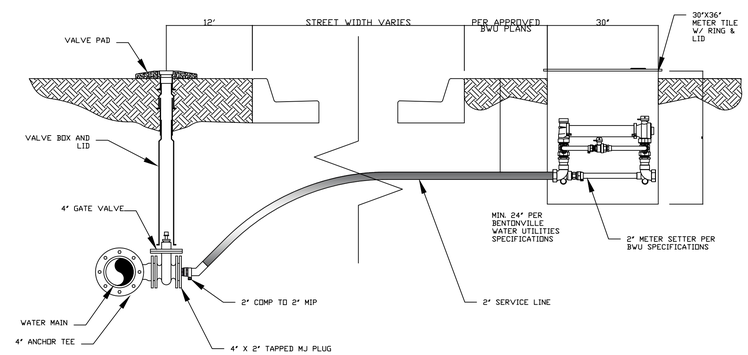


INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

WATER SERVICE DETAIL 2"



ELEVATION
N.T.S.

*ALL FITTINGS W/O PART NUMBER SHALL BE PER SPECIFICATIONS
*ALL FITTINGS MUST BE ANCHORED TO VALVE OR METER SETTER. NO IN-LINE FITTINGS WILL BE PERMITTED.

WATER DETAIL: W18

THE CITY OF WATER B UTILITIES BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

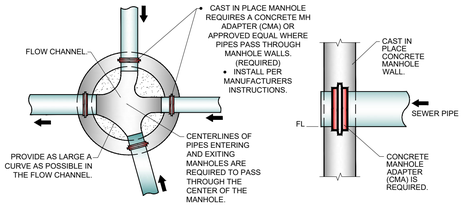
CALL BEFORE YOU DIG 1-800-482-8998 ARKANSAS ONE-CALL SYSTEM

REVISION:
2024

NOTES:

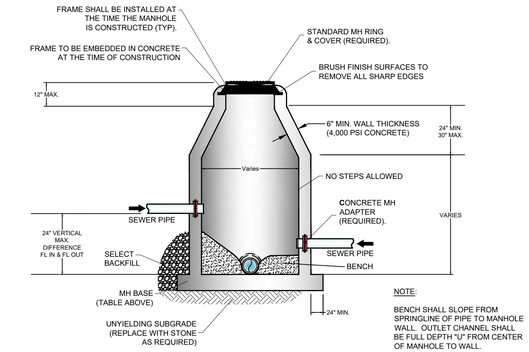
DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 2	OF 2

SANITARY SEWER
CAST IN PLACE MANHOLE



MANHOLE FLOW CHANNEL

CONCRETE MANHOLE ADAPTER (CMA) DETAIL



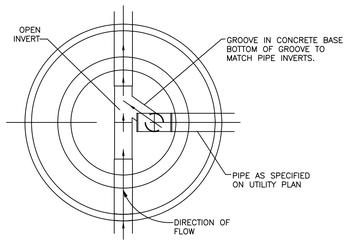
NOTE:
BENCH SHALL SLOPE FROM SPRINGLINE OF PIPE TO MANHOLE WALL. OUTLET CHANNEL SHALL BE FULL DEPTH "U" FROM CENTER OF MANHOLE TO WALL.

Pipe Size	Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
12" OR LESS	4' DIA	6"	8"	24"
15" TO 24"	5' DIA	8"	10"	24"
>24"	6' DIA	8"	12"	30"

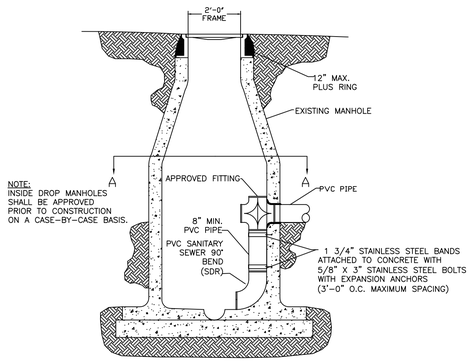
MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

SANITARY SEWER
INTERIOR DROP MANHOLE



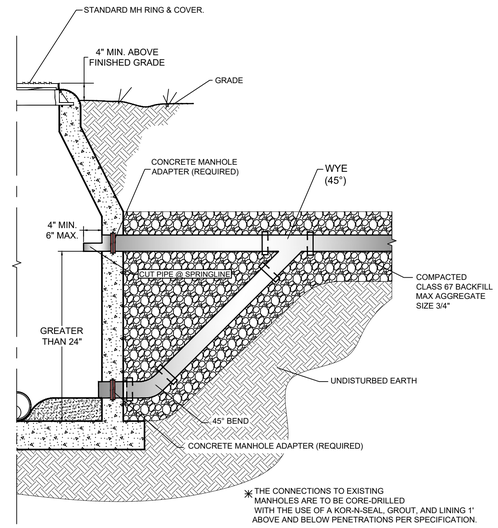
SECTION A-A



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

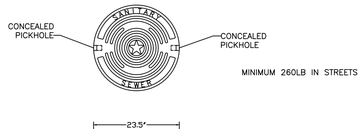
SANITARY SEWER DETAIL: SS02

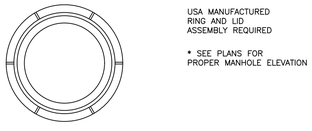
SANITARY SEWER
EXTERIOR DROP MANHOLE

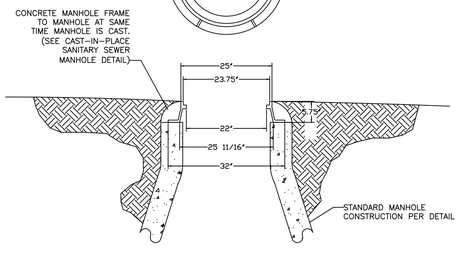


SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME

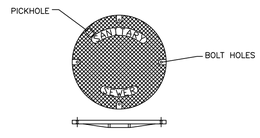


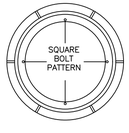


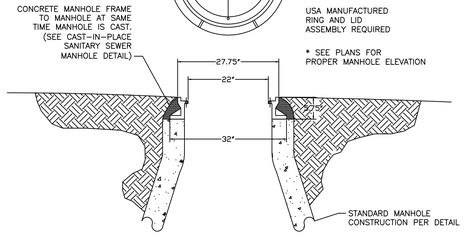


SANITARY SEWER DETAIL: SS04

WATER TIGHT BOLTED MANHOLE
LID & FRAME

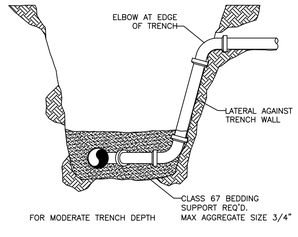




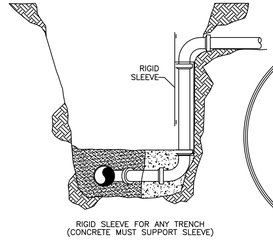


SANITARY SEWER DETAIL: SS05

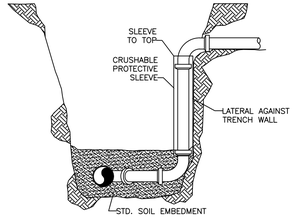
SANITARY SEWER
SERVICE WYE



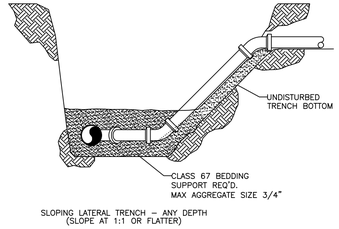
FOR MODERATE TRENCH DEPTH



RIGID SLEEVE FOR ANY TRENCH (CONCRETE MUST SUPPORT SLEEVE)



CRUSHABLE SLEEVE – ANY DEPTH
(SLEEVE OF NEAR ZERO COLUMN STRENGTH)

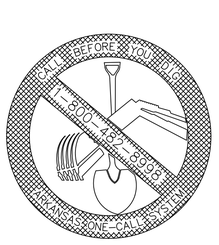


SLOPING LATERAL TRENCH – ANY DEPTH
(SLOPE AT 1:1 OR FLATTER)

SANITARY SEWER DETAIL: SS06

THE CITY OF BENTONVILLE WATER UTILITIES
3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

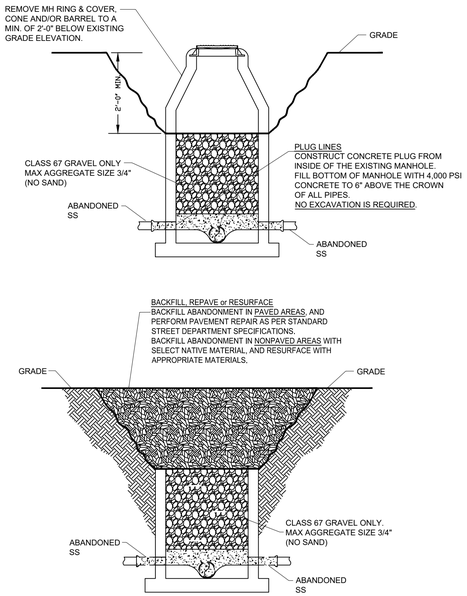
SAN.SEWER DETAILS



REVISION:
2024

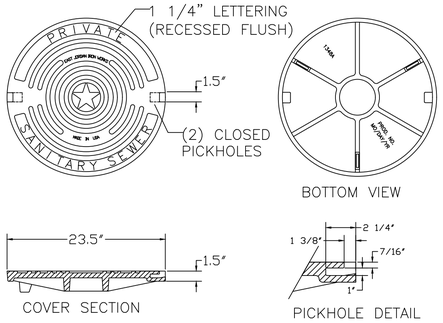
DRAWN BY:	JS	DATE:	08/27/2024
APPROVED BY:	AW	DATE:	08/27/2024
SHEET NUMBER:	1	OF	2

SANITARY SEWER MANHOLE ABANDONMENT



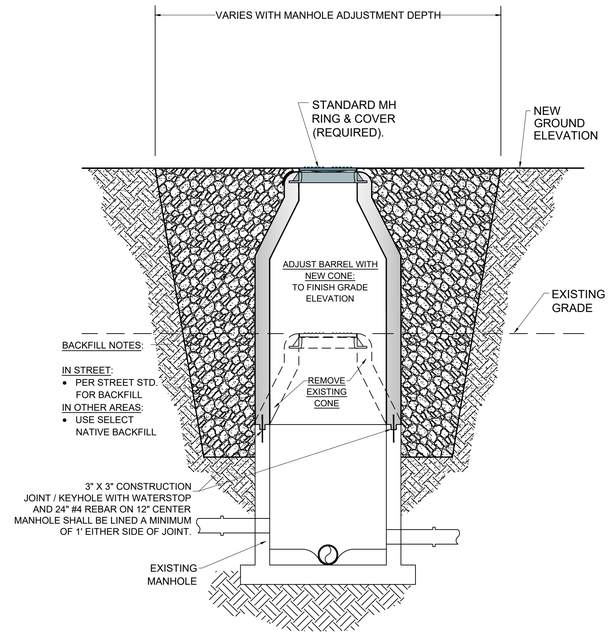
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

THE CITY OF WATER B UTILITIES BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

CALL BEFORE YOU DIG
1-800-482-8998
ARKANSAS ONE-CALL SYSTEM

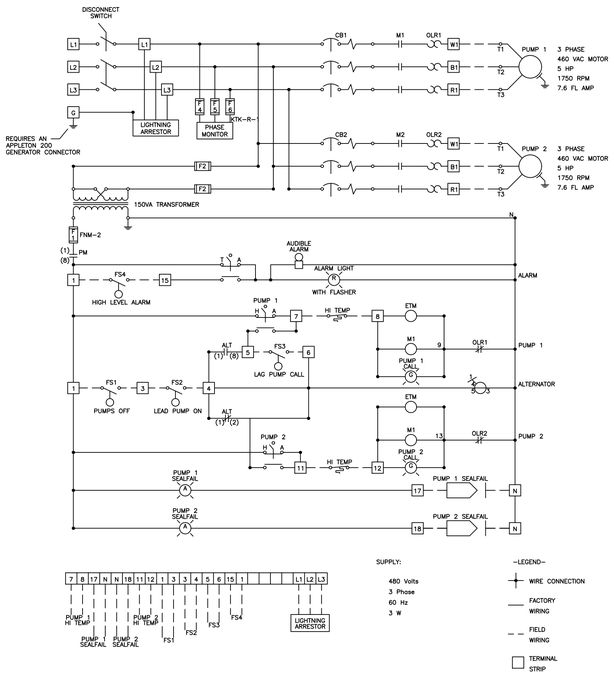
REVISION:
2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 2	OF 2

DUPLEX PUMP CONTROL PANEL

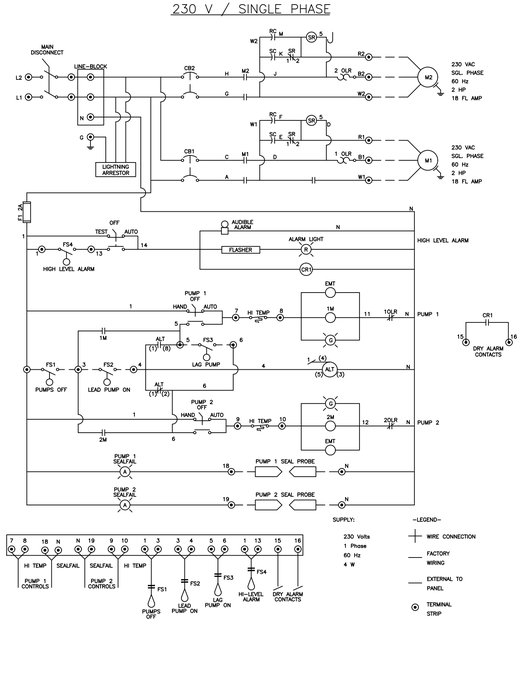
480 V / 3 PHASE



LIFT STATION DETAILS: LS01

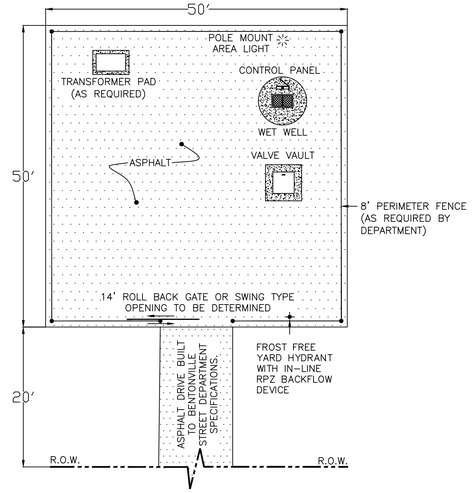
DUPLEX PUMP CONTROL PANEL

230 V / SINGLE PHASE



LIFT STATION DETAILS: LS02

LIFT STATION SITE DETAIL



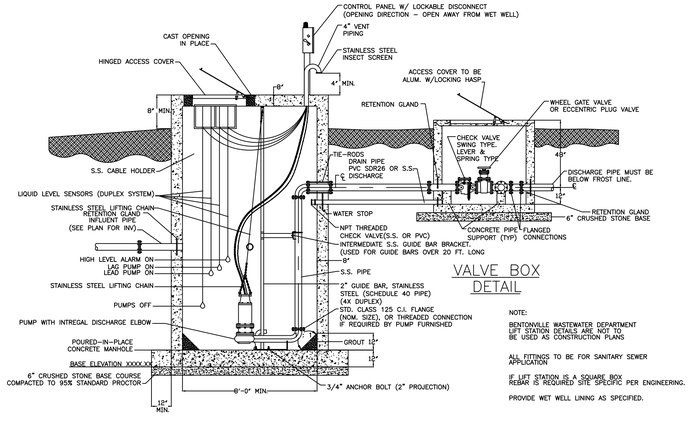
*ACTUAL SITE LAYOUT MAY VARY

BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

LIFT STATION DETAILS: LS03

LIFT STATION DETAIL

NON-CLOG PUMPS 5 HP AND UP



VALVE BOX DETAIL

NOTE:
BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

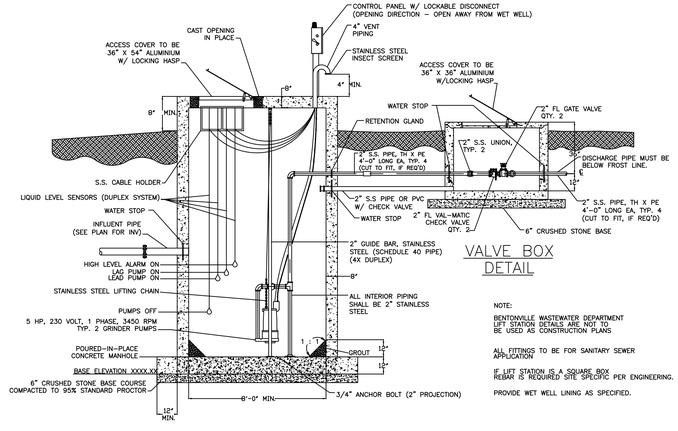
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

LIFT STATION DETAILS: LS04

LIFT STATION DETAIL

GRINDER PUMPS 5 HP AND LESS



VALVE BOX DETAIL

NOTE:
BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

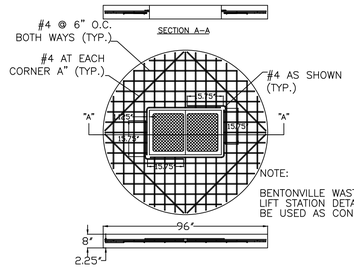
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

LIFT STATION DETAILS: LS05

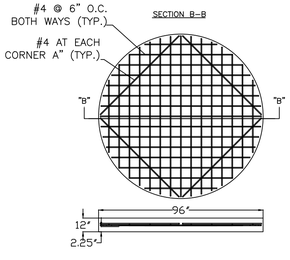
WET WELL AND VALVE VAULT

TOP SLAB REINFORCEMENT DETAIL



NOTE:
BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

BOTTOM SLAB REINFORCEMENT DETAIL



LIFT STATION DETAILS: LS06

THE CITY OF BENTONVILLE WATER UTILITIES

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

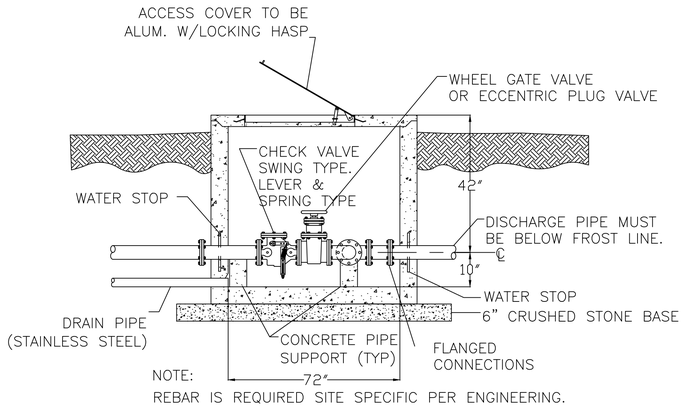
LIFT STATION DETAILS

REVISION:
2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 1	OF 2

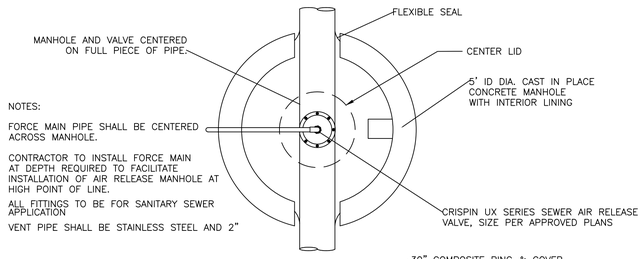
LIFT STATION VALVE VAULT DETAIL



NOTE:
REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

LIFT STATION DETAILS: LS07

AIR VACUUM/RELEASE MANHOLE FOR FORCE MAIN



NOTES:

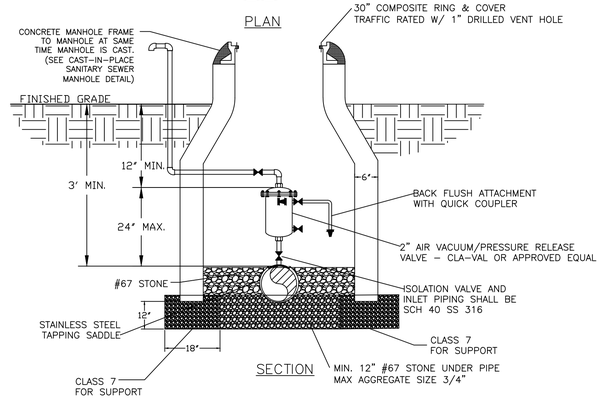
FORCE MAIN PIPE SHALL BE CENTERED ACROSS MANHOLE.

CONTRACTOR TO INSTALL FORCE MAIN AT DEPTH REQUIRED TO FACILITATE INSTALLATION OF AIR RELEASE MANHOLE AT HIGH POINT OF LINE.

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

VENT PIPE SHALL BE STAINLESS STEEL AND 2"

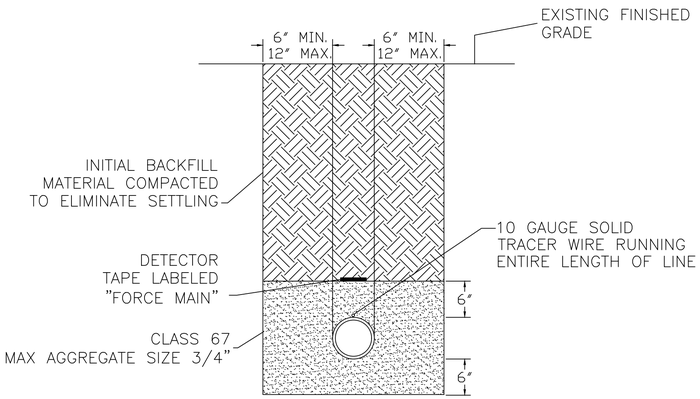
PLAN



SECTION

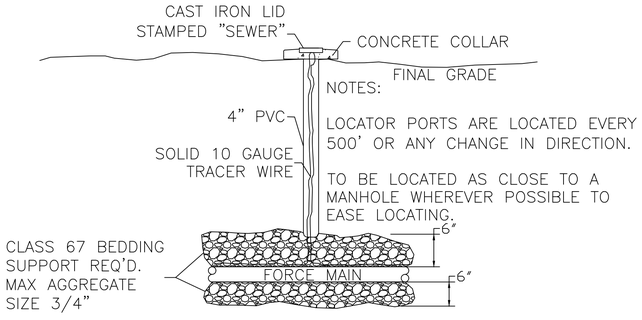
LIFT STATION DETAILS: LS08

TYPICAL BEDDING DETAIL FOR FORCE MAIN



LIFT STATION DETAILS: LS09

TRACER WIRE PORT



NOTES:

LOCATOR PORTS ARE LOCATED EVERY 500' OR ANY CHANGE IN DIRECTION.

TO BE LOCATED AS CLOSE TO A MANHOLE WHEREVER POSSIBLE TO EASE LOCATING.

LIFT STATION DETAILS: LS10

THE CITY OF WATER UTILITIES BENTONVILLE
3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

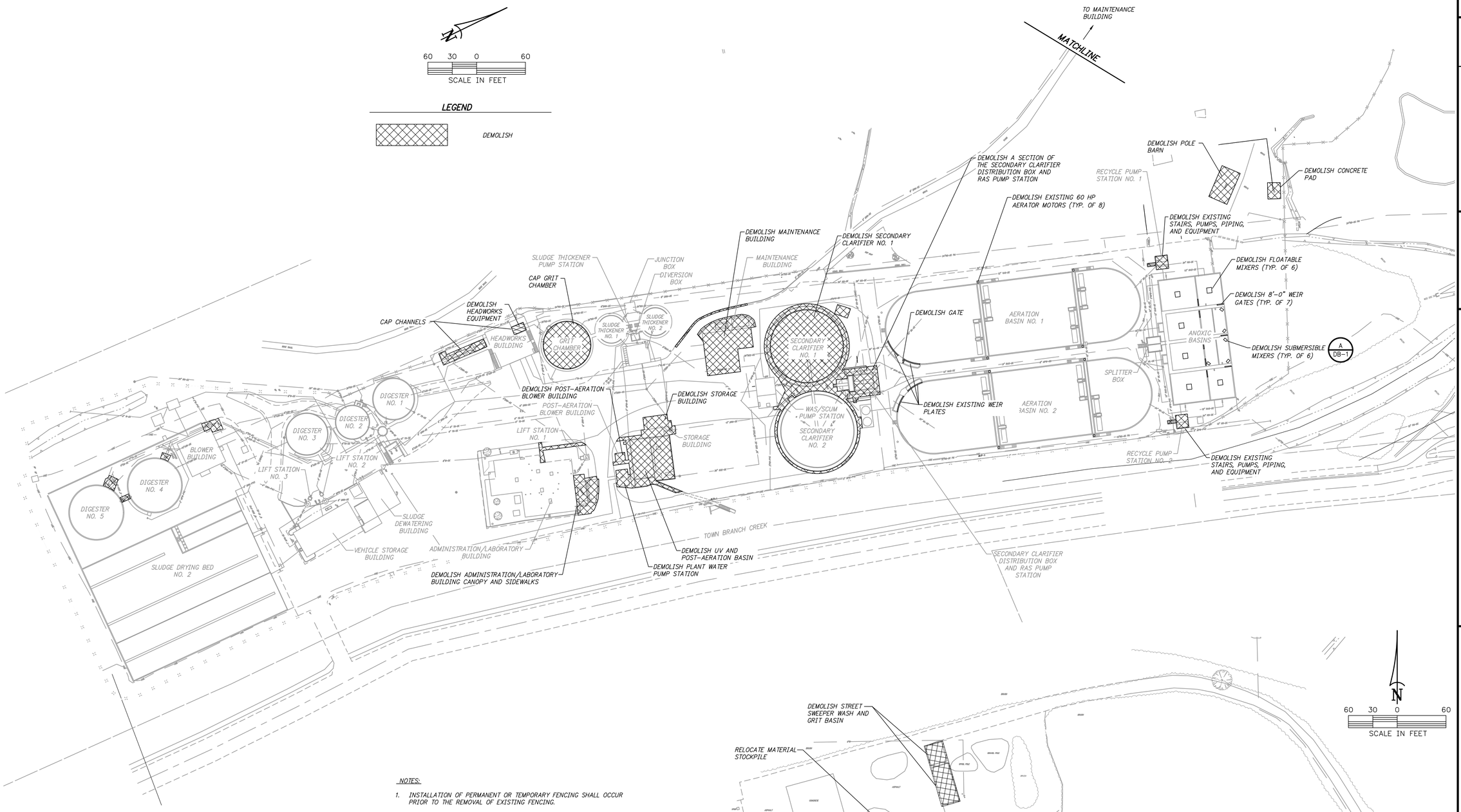
LIFT STATION DETAILS

CALL BEFORE YOU DIG 1-800-482-8998 ARKANSAS ONE-CALL SYSTEM

REVISION:
2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 2	OF 2



NOTES:

1. INSTALLATION OF PERMANENT OR TEMPORARY FENCING SHALL OCCUR PRIOR TO THE REMOVAL OF EXISTING FENCING.
2. ABANDONMENT OF POTABLE, NON-POTABLE, AND PLANT WATER LINES SHALL OCCUR FOLLOWING THE INSTALLATION AND ACTIVATION OF SERVICE OF ALL NEW WATER LINES.
3. DEMOLITION SCHEDULE SHALL BE BASED ON THE SEQUENCE OF CONSTRUCTION. PROCESS UNITS SHALL NOT BE REMOVED FROM SERVICE PRIOR TO REPLACEMENT UNITS BEING COMPLETE, TESTED, AND READY FOR SERVICE.
4. ELECTRICAL DEMOLITION IS SHOWN ON SHEETS E-1 THROUGH E-7.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED DEMOLITION PERMITS.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
JOSHUA S. DUNN
No. 15597
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE DEMOLITION PLAN

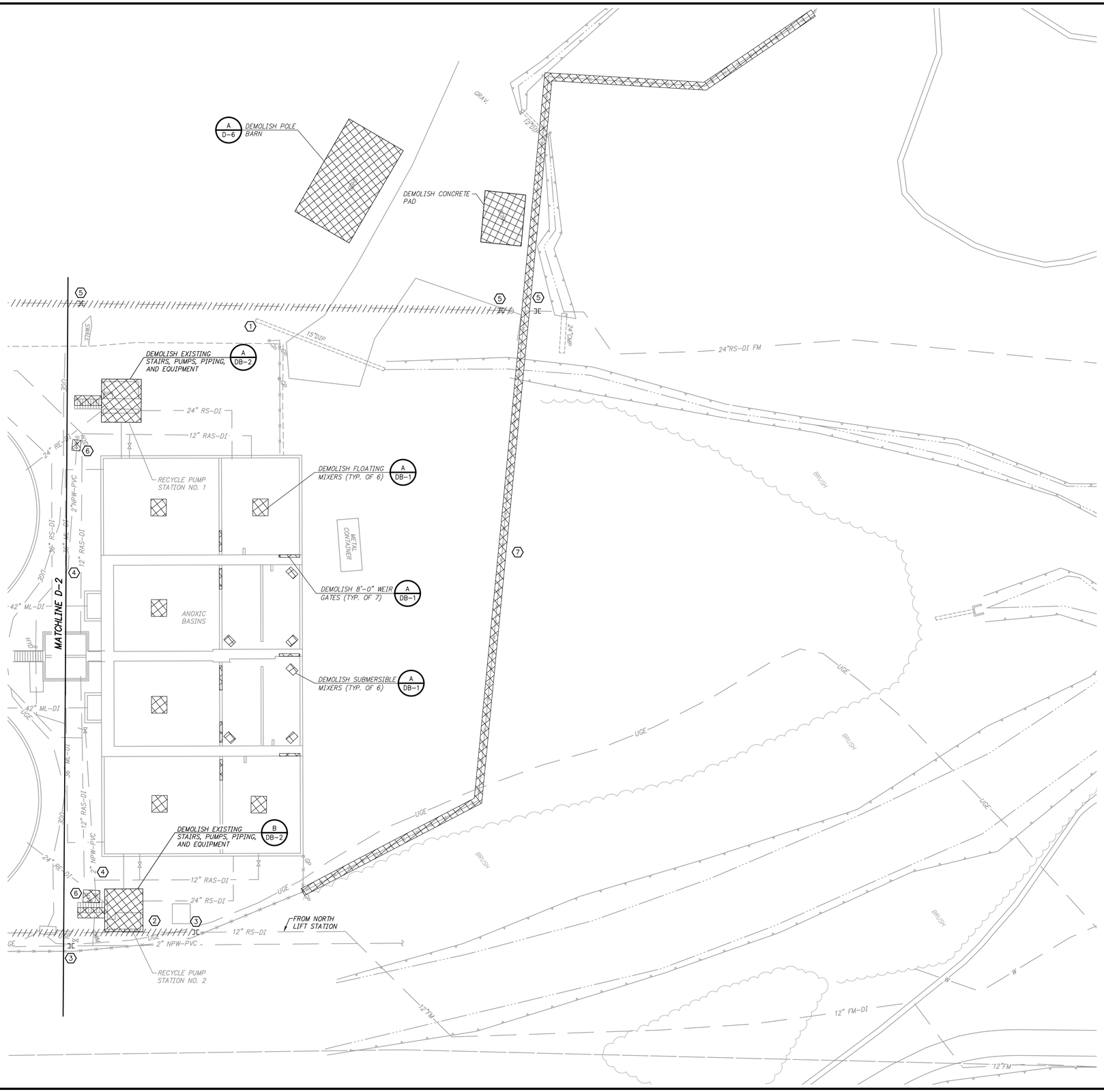
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=60'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-01

SHEET NO.
D-1

BID DRAWINGS
MARCH 21, 2025

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-01.DWG, 3/19/2025 9:08 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

LEGEND

DEMOLISH

ABANDON

NOTES:

1. *DIMENSIONS AND HORIZONTAL LOCATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *INSTALLATION OF PERMANENT OR TEMPORARY FENCING SHALL OCCUR PRIOR TO THE REMOVAL OF EXISTING FENCING.*
3. *CUT, CAP, AND ABANDONMENT OF THE 12-INCH FORCE MAIN FROM NORTH PUMP STATION AND THE 24-INCH FORCE MAIN FROM MCKISSIC PUMP STATION SHALL FOLLOW THE TIE OVER OF EACH FORCE MAIN TO THE NEW INFLUENT BUILDING.*
4. *ABANDONMENT OF POTABLE, NON-POTABLE, AND PLANT WATER LINES SHALL OCCUR FOLLOWING THE INSTALLATION AND ACTIVATION OF SERVICE OF ALL NEW WATER LINES.*
5. *DEMOLITION OF THE MIXERS AND RECYCLE PUMPS SHALL BE COORDINATED WITH THE OVERALL CONSTRUCTION SEQUENCE. ONE (1) BNR TRAIN SHALL REMAIN IN SERVICE AT ALL TIMES.*

KEYED NOTES:

1. *PLUG AND ABANDON 24" DIP FORCE MAIN FROM MCKISSIC PUMP STATION*
2. *PLUG AND ABANDON 12" DIP FORCE MAIN FROM NORTH PUMP STATION*
3. *CUT AND CAP EXISTING LINE*
4. *ABANDON NON-POTABLE WATER LINE*
5. *CUT AND CAP EXITING 24" DIP FORCE MAIN AND ABANDON SECTIONS OF PIPE AS PERMITTED BY SEQUENCE OF CONSTRUCTION. SEE SHEET C-20 FOR DETAIL.*
6. *REMOVE AND DISPOSE OF YARD OR FLUSHING HYDRANT.*
7. *REMOVE AND DISPOSE OF FENCE.*

BID DRAWINGS
MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOSHUA S. DUNIVAN
LICENSED PROFESSIONAL ENGINEER
No. 15397
3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

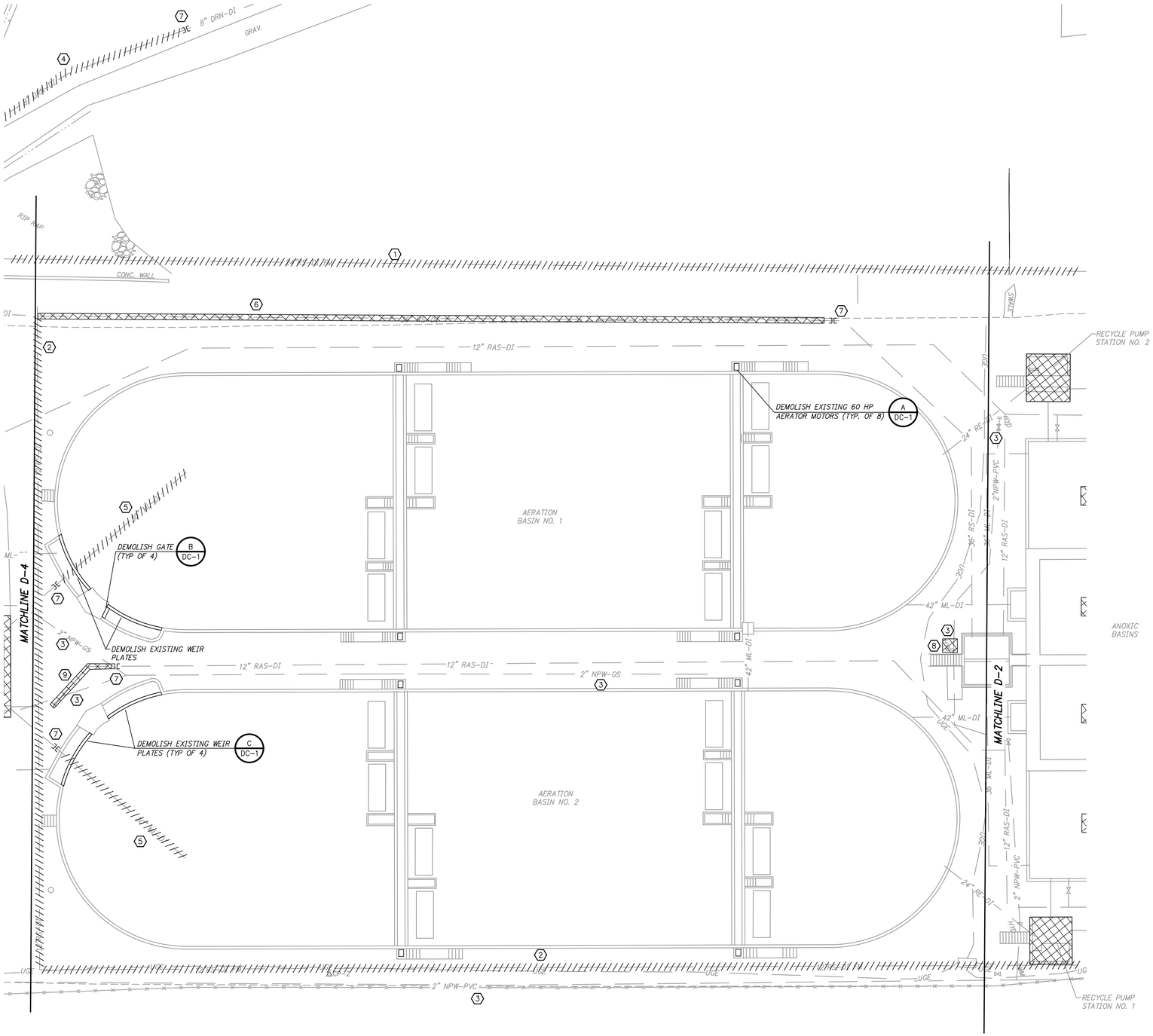
SITE DEMOLITION I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-02

SHEET NO.
D-2

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-02.DWG, 3/19/2025 9:09 AM, MATT WEIR, LAYOUT1



20 10 0 20

SCALE IN FEET

LEGEND

DEMOLISH

ABANDON

NOTES:

1. DIMENSIONS AND HORIZONTAL LOCATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. ABANDONMENT OF POTABLE, NON-POTABLE, AND PLANT WATER LINES SHALL OCCUR FOLLOWING THE INSTALLATION AND ACTIVATION OF SERVICE OF ALL NEW WATER LINES.
3. CUT, CAP, AND ABANDONMENT OF THE 8-INCH DRAIN FROM THE COMPOSTING PAD STORMWATER RETENTION BASIN SHALL OCCUR FOLLOWING IT'S TIE OVER TO THE NEW 42-INCH GRAVITY SEWER MAIN.
4. CUT AND CAP OF THE 36-INCH RAW SEWER SHALL OCCUR FOLLOWING THE TIE OVER OF THE NEW 36-INCH RAW SEWER FROM THE NEW INFLUENT BUILDING AND THE TIE OVER OF THE NEW 12-INCH RAW SEWER FROM THE SLUDGE THICKENER JUNCTION BOX.
5. DEMOLITION OF THE EXISTING AERATION MOTORS SHALL BE SEQUENCED SUCH THAT ONLY ONE (1) AERATOR IS OUT OF SERVICE AT ANY GIVEN TIME.

KEYED NOTES:

1. PLUG AND ABANDON 24" DIP FORCE MAIN FROM MCKISSIC PUMP STATION
2. PLUG AND ABANDON 12" DIP FORCE MAIN FROM NORTH PUMP STATION
3. ABANDON ALL EXISTING PLANT WATER AND NON-POTABLE WATER LINES
4. ABANDON 8" DIP DRAIN FROM COMPOSTING PAD STORMWATER RETENTION BASIN
5. ABANDON MIXED LIQUOR LINE FROM AERATION BASIN
6. REMOVE AND DISPOSE OF 36" RAW SEWER LINE
7. CUT AND CAP EXISTING LINE
8. REMOVE AND DISPOSE OF YARD OR FLUSHING HYDRANT
9. REMOVE AND DISPOSE OF 12" RAS LINE

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
JOSHUA S. DUGGAN
No. 15397
LICENSED PROFESSIONAL ENGINEER
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

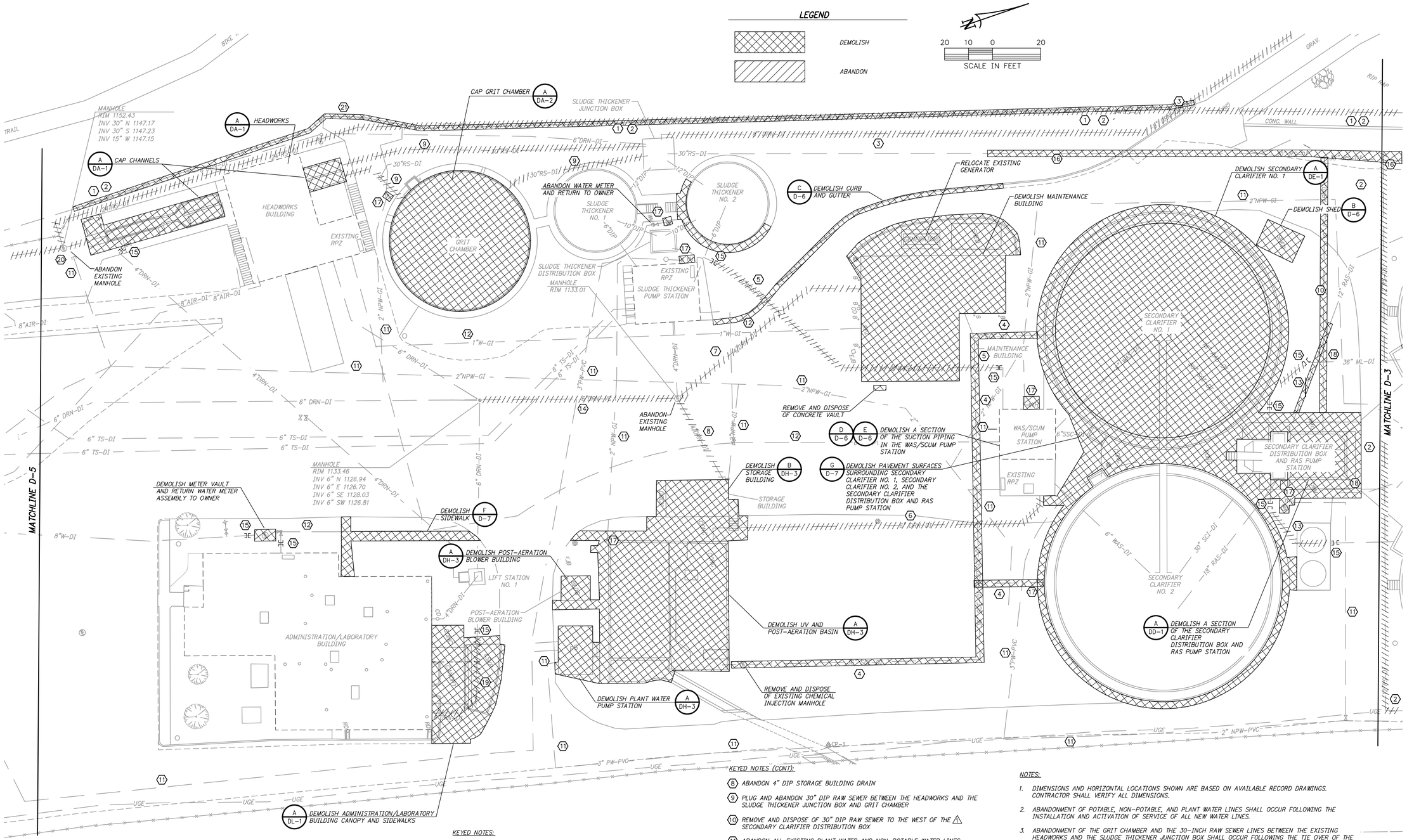
SITE DEMOLITION II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-03

SHEET NO.
D-3

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-03.DWG, 3/19/2025 9:09 AM, MATT WEIR, LAYOUT1



KEYED NOTES:

1. PLUG AND ABANDON 24" DIP FORCE MAIN FROM MCKISSIC PUMP STATION
2. PLUG AND ABANDON 12" DIP FORCE MAIN FROM NORTH PUMP STATION
3. PLUG AND ABANDON COMPOSTING PAD 8" DIP DRAIN FROM STORMWATER RETENTION BASIN
4. REMOVE AND DISPOSE OF SECONDARY CLARIFIER EFFLUENT LINES
5. ABANDON 8" DIP WAS/SCUM PUMP STATION FORCE MAIN
6. ABANDON 6" DIP FLUSHING DRAIN BETWEEN THE POST-AERATION BASIN AND THE WAS/SCUM PUMP STATION
7. ABANDON 4" DIP MAINTENANCE BUILDING DRAIN

KEYED NOTES (CONT):

8. ABANDON 4" DIP STORAGE BUILDING DRAIN
9. PLUG AND ABANDON 30" DIP RAW SEWER BETWEEN THE HEADWORKS AND THE SLUDGE THICKENER JUNCTION BOX AND GRIT CHAMBER
10. REMOVE AND DISPOSE OF 30" DIP RAW SEWER TO THE WEST OF THE SECONDARY CLARIFIER DISTRIBUTION BOX
11. ABANDON ALL EXISTING PLANT WATER AND NON-POTABLE WATER LINES
12. ABANDON POTABLE WATER LINE
13. ABANDON A SECTION OF THE 36" DIP MIXED LIQUOR
14. PLUG AND ABANDON 6" VC DRAIN
15. CUT AND CAP EXISTING LINE
16. REMOVE AND DISPOSE OF 30" AND 36" RAW SEWER
17. REMOVE AND DISPOSE OF YARD OR FLUSHING HYDRANT
18. REMOVE AND DISPOSE OF 12" RAS LINE
19. PLUG AND ABANDON 6" DIP ADMIN/LAB BUILDING DRAIN
20. ABANDON 30" DIP RAW SEWER
21. REMOVE AND DISPOSE OF FENCE

NOTES:

1. DIMENSIONS AND HORIZONTAL LOCATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. ABANDONMENT OF POTABLE, NON-POTABLE, AND PLANT WATER LINES SHALL OCCUR FOLLOWING THE INSTALLATION AND ACTIVATION OF SERVICE OF ALL NEW WATER LINES.
3. ABANDONMENT OF THE GRIT CHAMBER AND THE 30-INCH RAW SEWER LINES BETWEEN THE EXISTING HEADWORKS AND THE SLUDGE THICKENER JUNCTION BOX SHALL OCCUR FOLLOWING THE TIE OVER OF THE 30-INCH GRAVITY SEWER AND THE 4-INCH FORCE MAIN FROM THE EXISTING INFLUENT CHANNEL TO THE NEW 42-INCH GRAVITY SEWER MAIN.
4. REMOVAL OF THE SECONDARY CLARIFIER EFFLUENT LINES SHALL OCCUR AS NEEDED TO FACILITATE CONSTRUCTION OF PROPOSED FACILITIES AND SHALL ONLY OCCUR FOLLOWING THE TEMPORARY OR PERMANENT CONNECTION OF THE SECONDARY CLARIFIER EFFLUENT TROUGHS TO THE EXISTING OR PROPOSED POST-AERATION BASIN. REFERENCE SEQUENCE OF CONSTRUCTION FOR FURTHER DETAIL.
5. ABANDONMENT OF THE 8-INCH WAS/SCUM FORCE MAIN SHALL OCCUR FOLLOWING THE INSTALLATION OF THE NEW WAS/SCUM FORCE MAIN.
6. ABANDONMENT OF THE 6-INCH FLUSHING DRAIN BETWEEN THE POST-AERATION BASIN AND THE WAS/SCUM PUMP STATION SHALL OCCUR FOLLOWING THE INSTALLATION OF THE NEW 6-INCH FLUSHING DRAIN AND CONNECTION AT SECONDARY CLARIFIER NO. 2
7. ABANDONMENT OF THE MAINTENANCE BUILDING AND STORAGE BUILDING DRAINS SHALL OCCUR FOLLOWING THE ABANDONMENT OF EACH STRUCTURE.

BID DRAWINGS
MARCH 21, 2025

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS
JOSHUA S. DUNCAN
LICENSED PROFESSIONAL ENGINEER
No. 15597
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

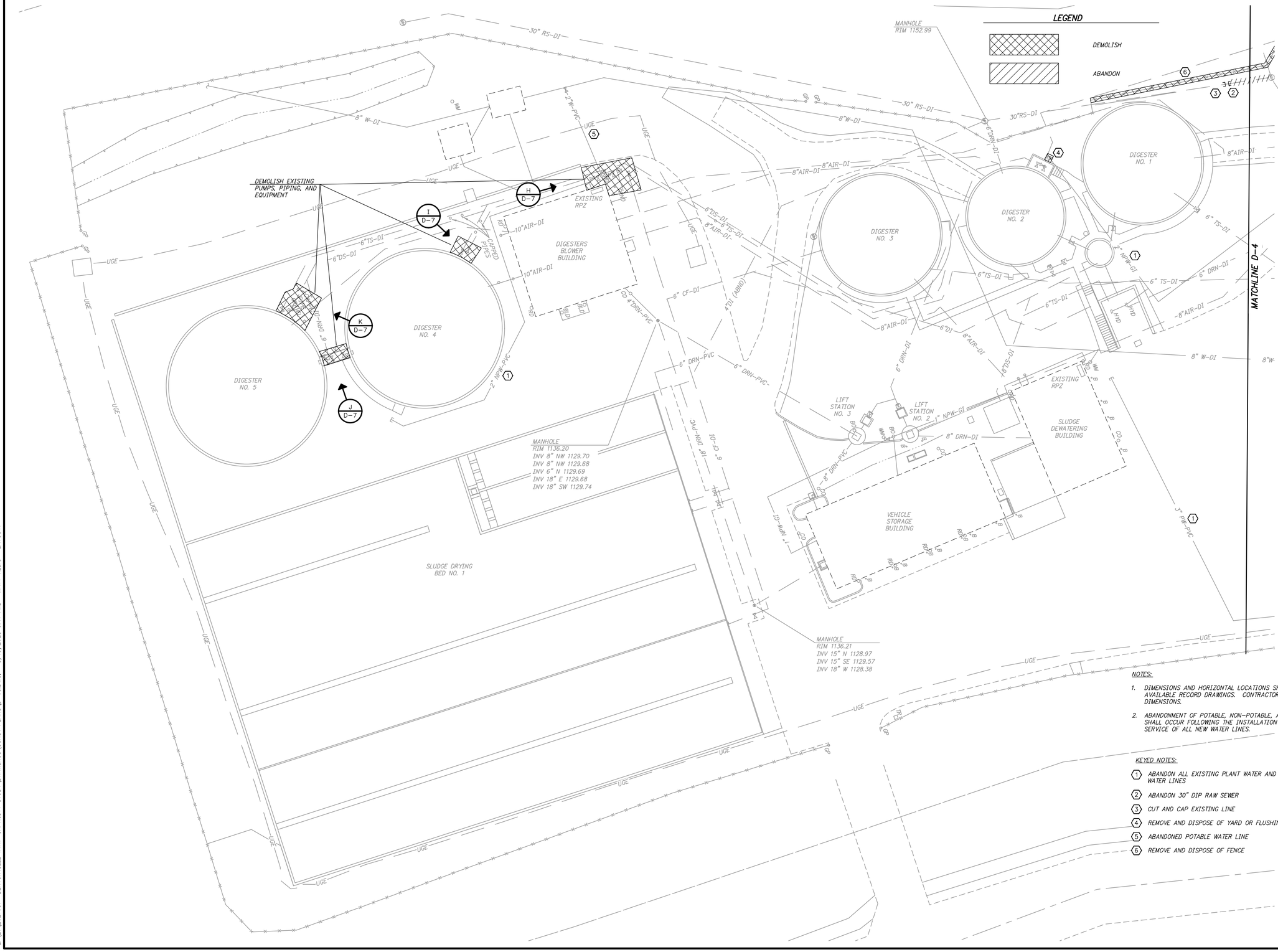
SITE DEMOLITION III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-04

SHEET NO.
D-4

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-04.DWG, 3/19/2025 9:10 AM, MATT MEIR, LAYOUT1



NOTES:

1. DIMENSIONS AND HORIZONTAL LOCATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. ABANDONMENT OF POTABLE, NON-POTABLE, AND PLANT WATER LINES SHALL OCCUR FOLLOWING THE INSTALLATION AND ACTIVATION OF SERVICE OF ALL NEW WATER LINES.

KEYED NOTES:

1. ABANDON ALL EXISTING PLANT WATER AND NON-POTABLE WATER LINES
2. ABANDON 30" DIP RAW SEWER
3. CUT AND CAP EXISTING LINE
4. REMOVE AND DISPOSE OF YARD OR FLUSHING HYDRANT
5. ABANDONED POTABLE WATER LINE
6. REMOVE AND DISPOSE OF FENCE

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE DEMOLITION IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-05

SHEET NO.
D-5

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-05.DWG, 3/19/2025 9:11 AM, MATT WEIR, LAYOUT1

NORTH POLE BARN

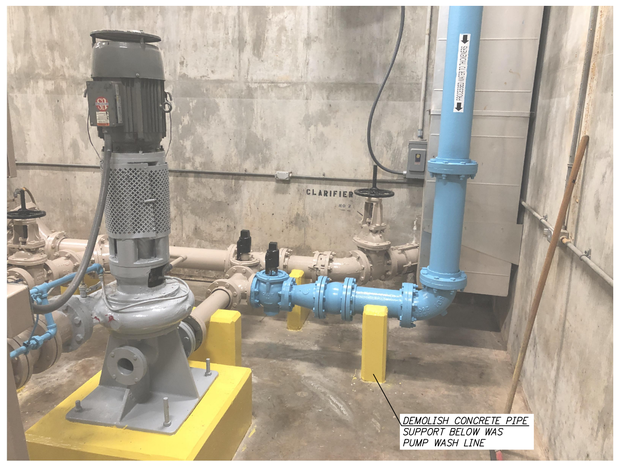
PHOTOGRAPH A D-2

SHED

PHOTOGRAPH B D-4

MAINTENANCE BUILDING PAVEMENT

PHOTOGRAPH C D-4



WAS PUMP WASH LINE

PHOTOGRAPH D D-4

WAS PUMP STATION PIPING

PHOTOGRAPH E D-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOSHUA S. DURHAM
LICENSED PROFESSIONAL ENGINEER
No. 15387
3/19/25

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SITE DEMOLITION PHOTOS I

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: NO SCALE
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-06

SHEET NO.
D-6

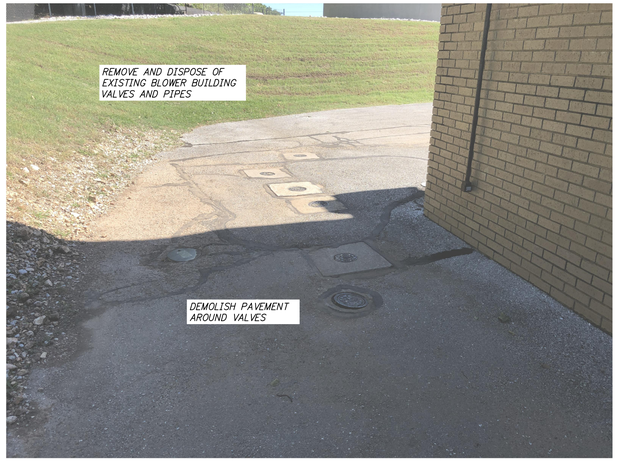
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-06.DWG, 3/19/2025 9:11 AM, MATT WEIR, LAYOUT1

ADMIINISTRATION BUILDING SIDEWALK

PHOTOGRAPH F D-4

SECONDARY CLARIFIER NOS. 2 AND 3
WATER SERVICE LINE

PHOTOGRAPH G D-4



BLOWER BUILDING VALVES

PHOTOGRAPH H D-5

DIGESTER NO. 4 VALVES

PHOTOGRAPH I D-5

VALVES BETWEEN
DIGESTER NOS. 4 AND 5

PHOTOGRAPH J D-5

DIGESTER NO. 5 VALVES

PHOTOGRAPH K D-5

NOTES:

1. *REFER TO CIVIL SHEETS FOR PAVEMENT REPAIRS*
2. *REFER TO MECHANICAL SHEETS FOR EQUIPMENT INSTALLATION REQUIREMENTS*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
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No. 15397
JOSHUA S. DURHAM
3/19/25

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

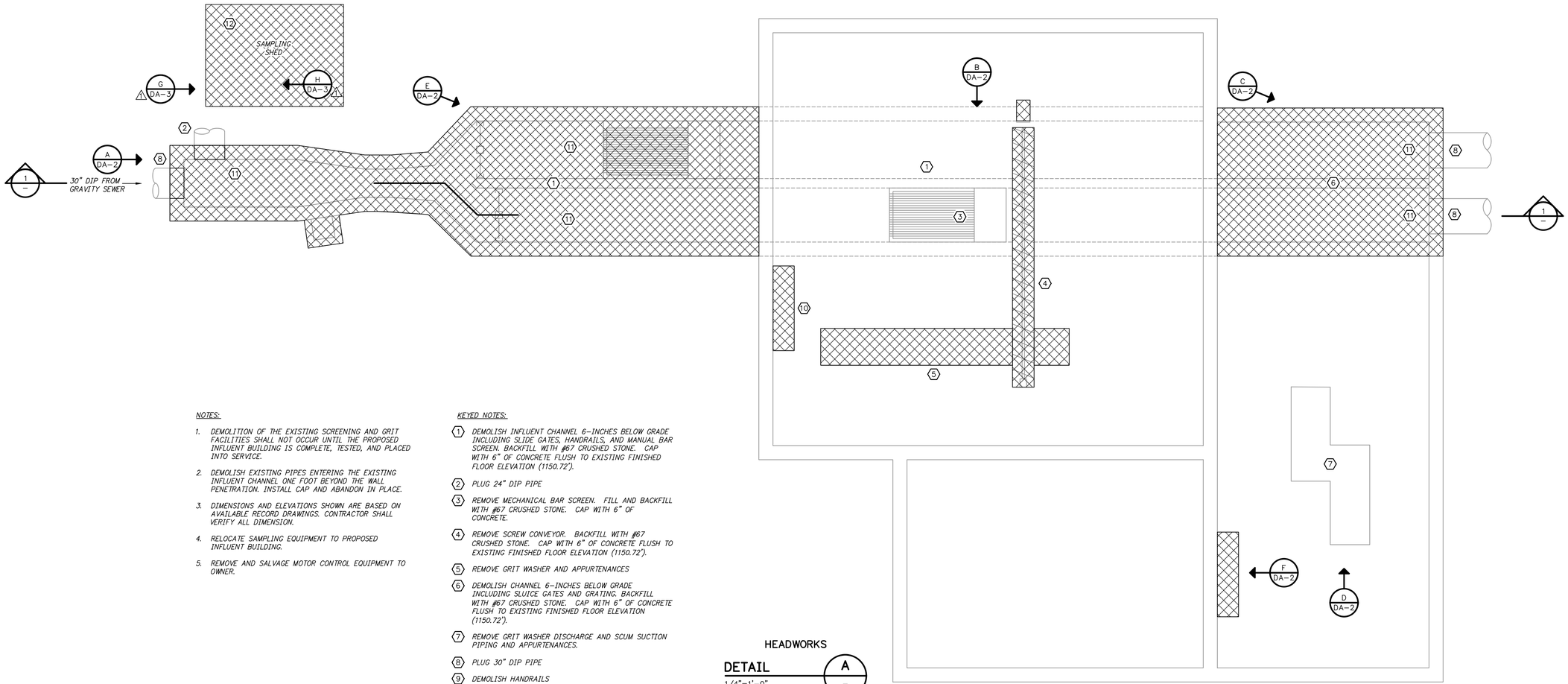
SITE DEMOLITION PHOTOS II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: NO SCALE
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: D-07

SHEET NO.
D-7

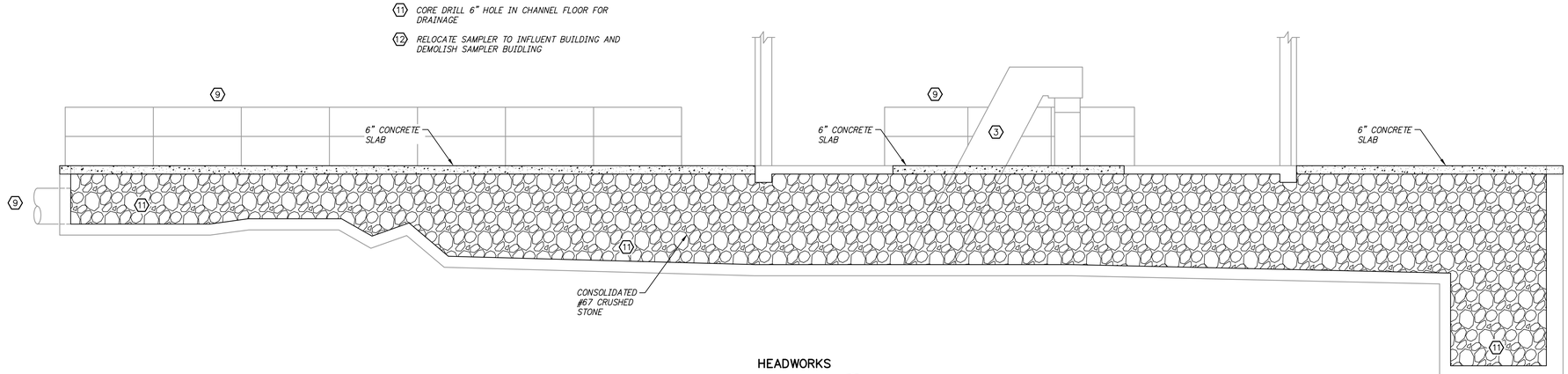
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\D-07.DWG, 3/19/2025 9:12 AM, MATT WEIR, LAYOUT1



HEADWORKS

DETAIL A

1/4"=1'-0"



HEADWORKS

SECTION 1

1/4"=1'-0"

NOTES:

1. *DEMOLITION OF THE EXISTING SCREENING AND GRIT FACILITIES SHALL NOT OCCUR UNTIL THE PROPOSED INFLUENT BUILDING IS COMPLETE, TESTED, AND PLACED INTO SERVICE.*
2. *DEMOLISH EXISTING PIPES ENTERING THE EXISTING INFLUENT CHANNEL ONE FOOT BEYOND THE WALL PENETRATION. INSTALL CAP AND ABANDON IN PLACE.*
3. *DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSION.*
4. *RELOCATE SAMPLING EQUIPMENT TO PROPOSED INFLUENT BUILDING.*
5. *REMOVE AND SALVAGE MOTOR CONTROL EQUIPMENT TO OWNER.*

KEYED NOTES:

1. *DEMOLISH INFLUENT CHANNEL 6-INCHES BELOW GRADE INCLUDING SLIDE GATES, HANDRAILS, AND MANUAL BAR SCREEN. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').*
2. *PLUG 24" DIP PIPE*
3. *REMOVE MECHANICAL BAR SCREEN. FILL AND BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE.*
4. *REMOVE SCREW CONVEYOR. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').*
5. *REMOVE GRIT WASHER AND APPURTENANCES*
6. *DEMOLISH CHANNEL 6-INCHES BELOW GRADE INCLUDING SLUICE GATES AND GRATING. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').*
7. *REMOVE GRIT WASHER DISCHARGE AND SCUM SUCTION PIPING AND APPURTENANCES.*
8. *PLUG 30" DIP PIPE*
9. *DEMOLISH HANDRAILS*
10. *REMOVE AND DISPOSE OF ALL EQUIPMENT CONTROL PANELS ALONG WALLS*
11. *CORE DRILL 6" HOLE IN CHANNEL FLOOR FOR DRAINAGE*
12. *RELOCATE SAMPLER TO INFLUENT BUILDING AND DEMOLISH SAMPLER BUILDLING*

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 15597
JOSHUA S. DUNIVAN
3/21/25

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BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

HEADWORKS DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DA-01

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
DA-1

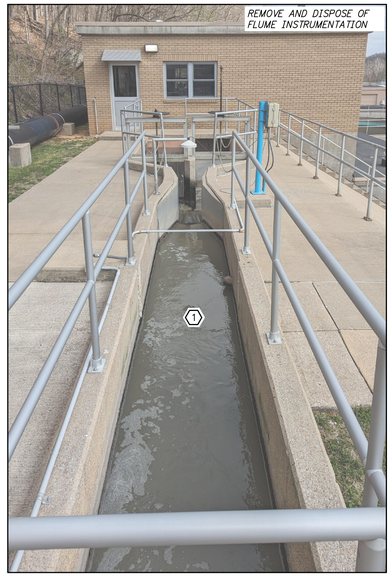
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DA-01.DWG, 3/19/2025 9:12 AM, MATT WEIR, LAYOUT1

KEYED NOTES:

1. DEMOLISH INFLUENT CHANNEL 6–INCHES BELOW GRADE INCLUDING SLIDE GATES, HANDRAILS, AND MANUAL BAR SCREEN. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').
2. REMOVE MECHANICAL BAR SCREEN. FILL AND BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE.
3. REMOVE SCREW CONVEYOR. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').
4. DEMOLISH CHANNEL 6–INCHES BELOW GRADE INCLUDING SLUICE GATES AND GRATING. BACKFILL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH TO EXISTING FINISHED FLOOR ELEVATION (1150.72').
5. DEMOLISH HANDRAIL AND CURB.
6. DEMOLISH CONTROL PANELS.
7. REMOVE AND DISPOSE OF GRIT CLASSIFIER.

⚠ NOTES:

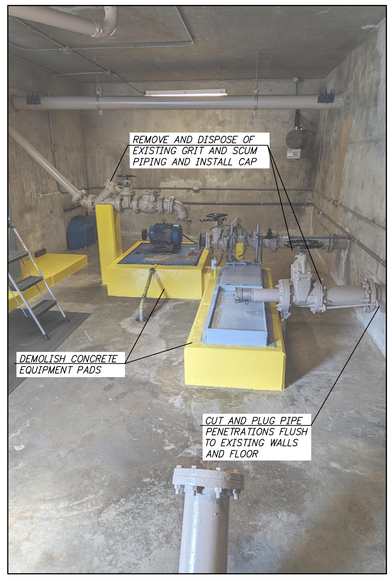
1. DEMOLISH ELECTRICAL EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL DEMOLITION PLANS SHOWN ON THE ELECTRICAL SHEETS.



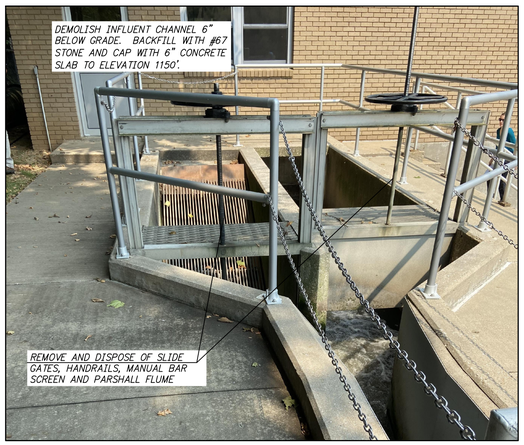
PHOTOGRAPH A
N.T.S.

PHOTOGRAPH B
N.T.S.

PHOTOGRAPH C
N.T.S.



PHOTOGRAPH D
N.T.S.



PHOTOGRAPH E
N.T.S.

PHOTOGRAPH F ⚠
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
⚠ BID SET	03/14/2025

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STATE OF ARKANSAS
JOSHUA S. DUNAWAY
LICENSED PROFESSIONAL ENGINEER
No. 15397
3/19/25

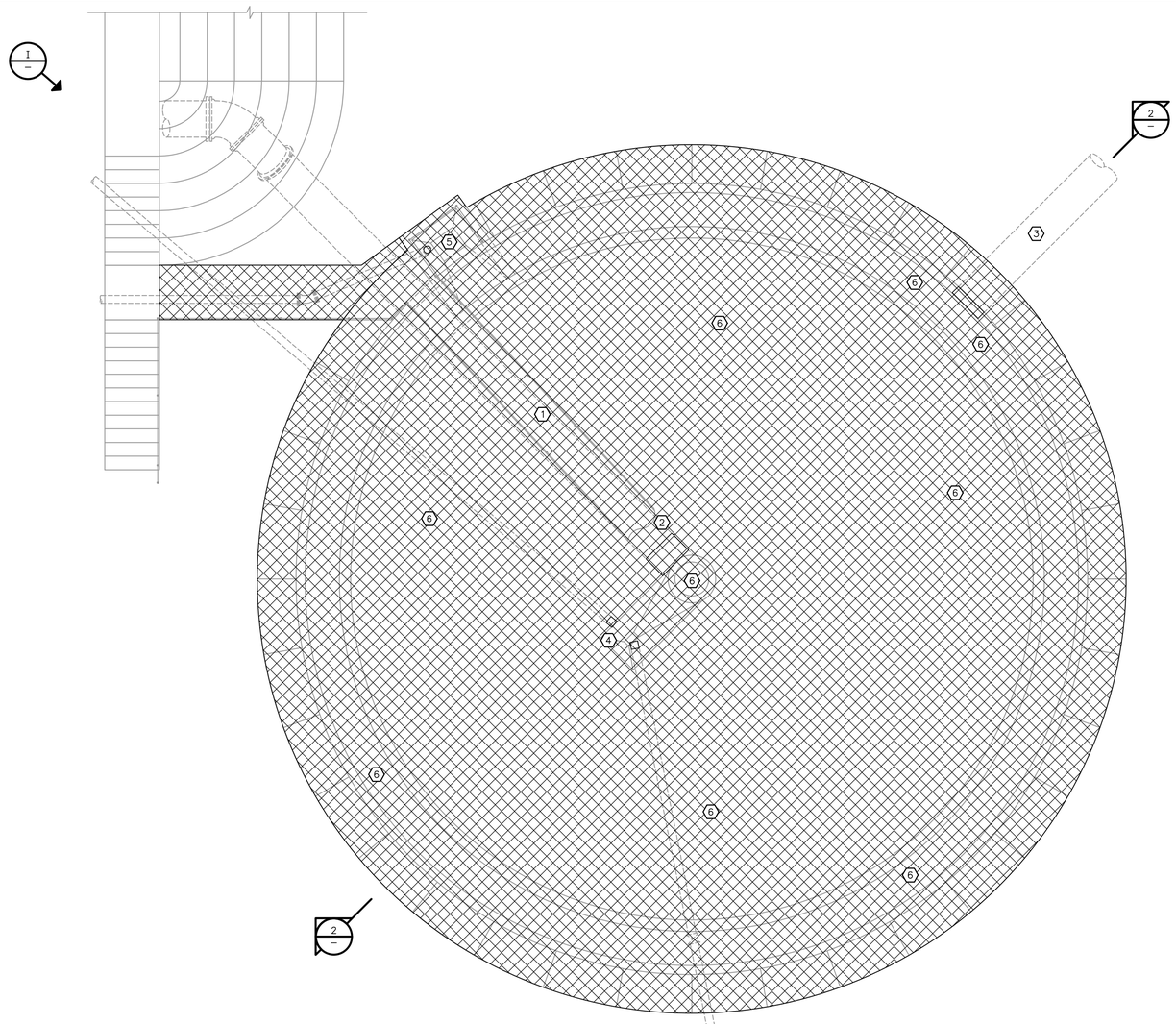
HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
HEADWORKS DEMOLITION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DA–02

SHEET NO.
DA–2

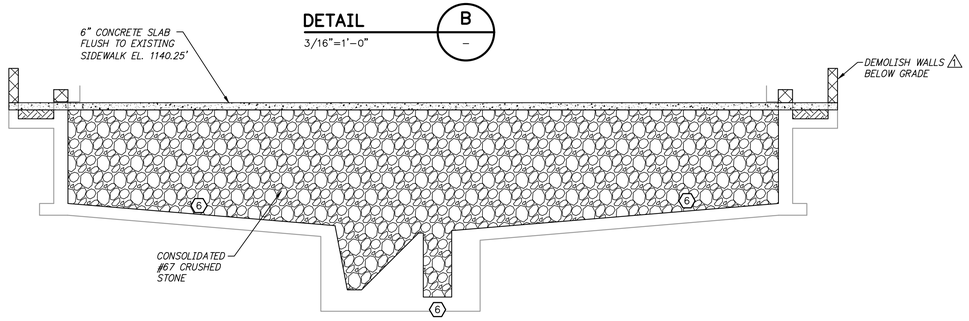
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DA-02.DWG, 3/19/2025 9:13 AM, MATT WEIR, LAYOUT1



GRIT CHAMBER

DETAIL B

3/16"=1'-0"



GRIT CHAMBER

SECTION 2

1/4"=1'-0"

PHOTOGRAPH G

N.T.S.

PHOTOGRAPH H

N.T.S.

PHOTOGRAPH I

N.T.S.

LEGEND

DEMOLISH

ABANDON

KEYED NOTES:

1. REMOVE AND DISPOSE OF EXISTING WALKWAY, GRIT REMOVAL, AND SCUM REMOVAL EQUIPMENT. SEE NOTE 3.
2. PLUG AND ABANDON 30" DIP INFLUENT PIPE
3. PLUG AND ABANDON 30" DIP EFFLUENT PIPE
4. PLUG AND ABANDON 6" DIP GRIT SUCTION PIPE
5. PLUG AND ABANDON 6" DIP SCUM SUCTION PIPE
6. CORE DRILL 6" HOLE IN BASIN FLOOR FOR DRAINAGE

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL DISPOSE OF ALL MATERIAL AND EQUIPMENT REMOVED OR DEMOLISHED.
3. FOLLOWING THE REMOVAL OF ALL EXISTING GRIT AND SCUM EQUIPMENT AND PROPOSED PIPE ABANDONMENTS, FILL AND COMPACT CHANNEL WITH #67 CRUSHED STONE. CAP WITH 6" OF CONCRETE FLUSH WITH THE TOP OF THE SIDEWALKS.
4. SEE SITE PIPING PLAN FOR THE CONTINUATION OF THE PIPE ABANDONMENTS.

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 15597 JOSHUA S. DUGGAN 3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

GRIT CHAMBER DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DA-03

BID DRAWINGS

MARCH 21, 2025

SHEET NO.

DA-3

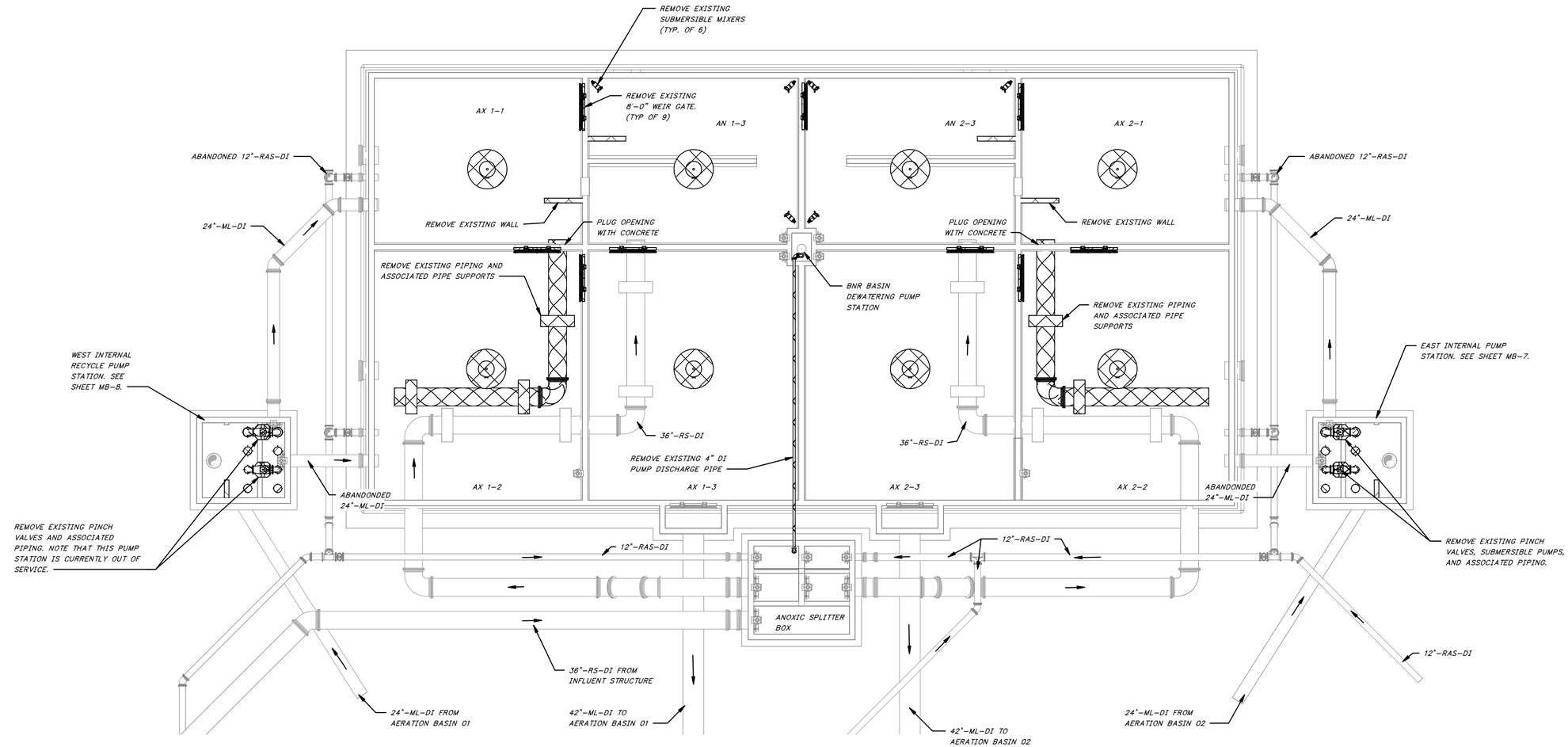
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DA-03.DWG, 3/19/2025 9:14 AM, MATT WEIR, LAYOUT1

1/23/2025 12:02:14 PM / MD / BNR BASINS DEMOLITION

Autodesk Docs://4110144 - Bentonville Water Resource Recovery Facility Improvements/M-BNR Basin.rvt

GENERAL NOTES:

1. SEE SPECIFICATION SECTIONS 02070 SELECTIVE DEMOLITION AND 03740 MODIFICATION OR REPAIR OF EXISTING CONCRETE



BNR BASIN INTERMEDIATE LEVEL

DETAIL A
3/32" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE AT FULL IF NOT ONE SCALE

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 22360
3/21/2025
AMANDA K. JOHNSON

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

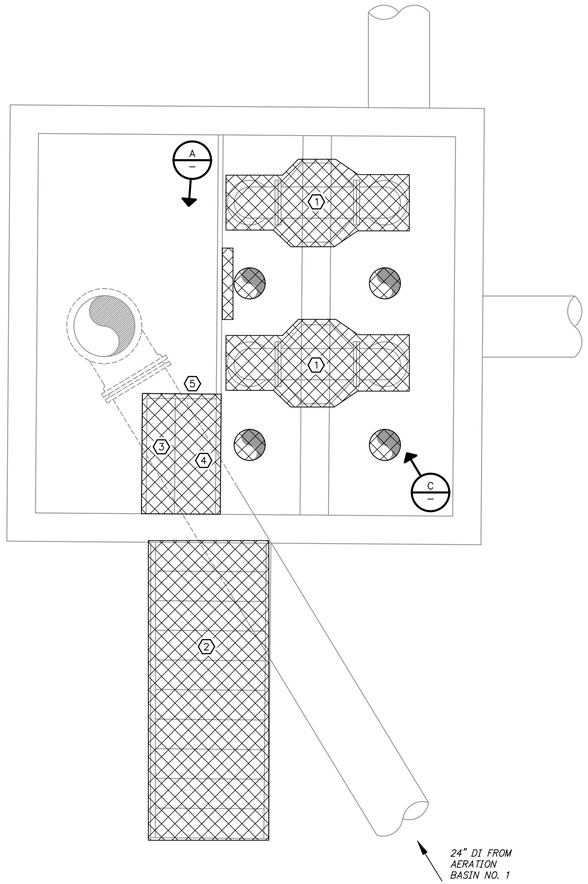
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

BNR BASINS DEMOLITION

BENTONVILLE, ARKANSAS

DATE: MARCH 2025
SCALE: 3/32" = 1'-0"
DESIGNED BY: BGM
DRAWN BY: MD
HWEI NO.: 2021037
FILENAME: M-BNR BASIN

SHEET
DB-1



RECYCLE PUMP STATION NO. 1

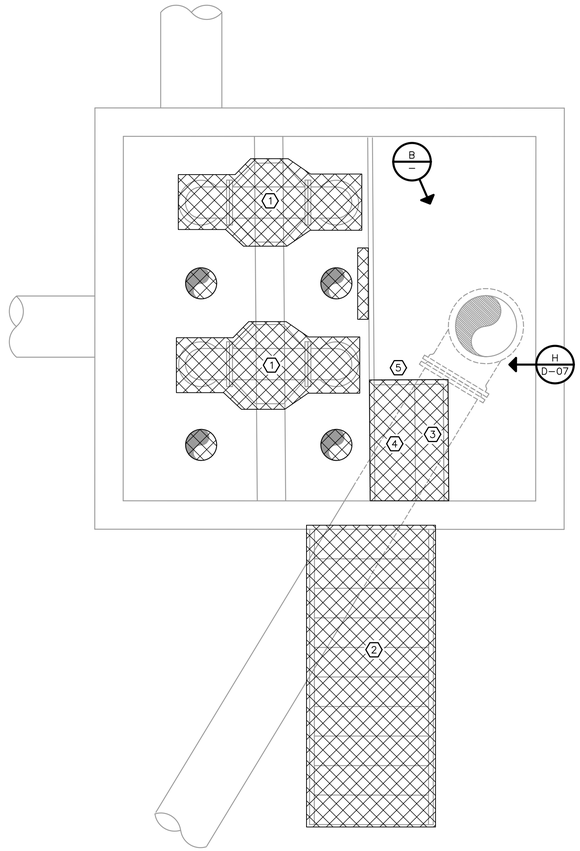
DETAIL A – 3/8"=1'–0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. SEQUENCE OF DEMOLITION AND CONSTRUCTION SO THAT ONE (1) RECYCLE PUMP STATION IS MAINTAINED IN SERVICE AT ALL TIMES.
3. PATCH ALL PIPE PENETRATIONS WITH NON–SHRINK GROUT.

KEYED NOTES:

1. REMOVE AND DISPOSE OF EXISTING PUMP, PIPING, AND ELECTRICAL EQUIPMENT
2. DEMOLISH EXISTING CONCRETE STAIRS
3. DEMOLISH CONCRETE WALL
4. REMOVE AND DISPOSE OF ALUMINUM GRATING
5. REMOVE AND DISPOSE OF ALUMINUM HANDRAIL

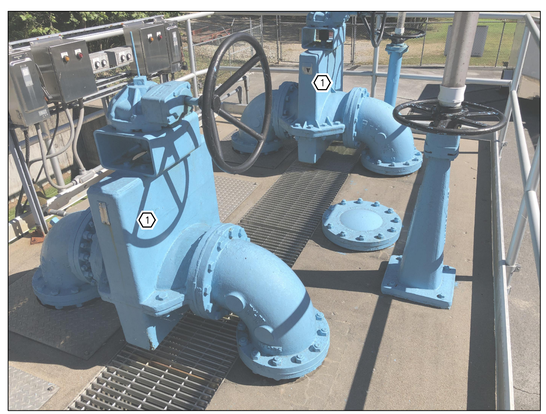


RECYCLE PUMP STATION NO. 2

DETAIL B – 3/8"=1'–0"

PHOTOGRAPH A – N.T.S.

PHOTOGRAPH B – N.T.S.



PHOTOGRAPH C – N.T.S.

PHOTOGRAPH D – N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE
⚠1 REVISED FOR BID SET	03/21/2025

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LICENSED PROFESSIONAL ENGINEER
No. 19387
JOSHUA S. DUNIVAN
03/21/25

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BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EAST AND WEST
RECYCLE PUMP STATIONS
DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: DB–02

SHEET NO.
DB–2

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DB–02.DWG, 3/19/2025 9:14 AM, MATT WEIR, LAYOUT1

1/23/2025 12:37:13 PM / MD / AERATION BASINS DEMOLITION

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/M-Aeration Basin.rvt

KEYED NOTES:

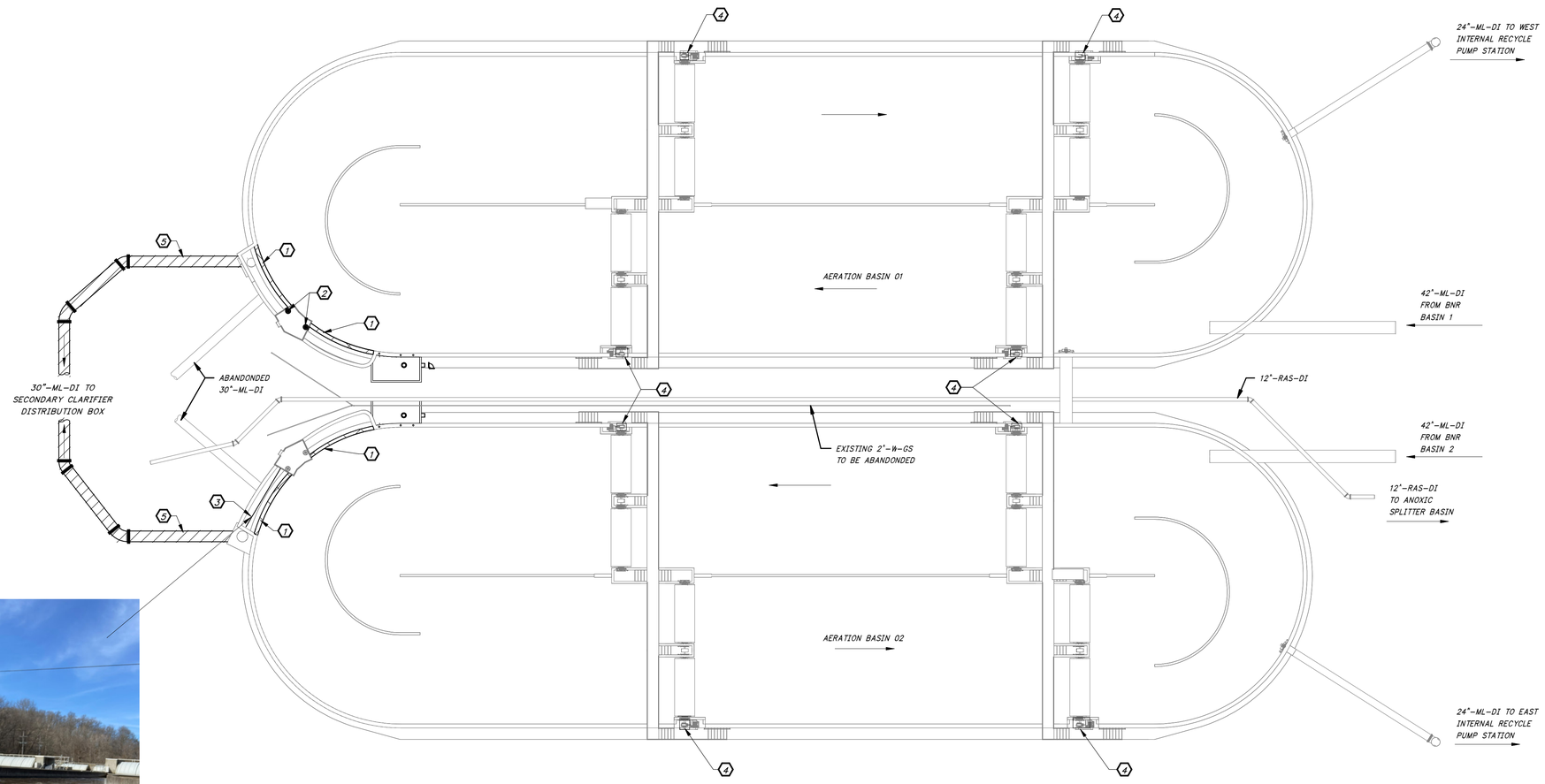
(1) DEMOLISH EXISTING 20' LONG ROTATING PIPE PLATE WEIR ASSEMBLY.

(2) DEMOLISH EXISTING ROTATING PIPE PLATE WEIR GATES.

(3) DEMOLISH EXISTING CHEMICAL FEED PIPING AND APPURTENANCES.

(4) DEMOLISH EXISTING AERATOR MOTOR.

(5) REMOVE EXISTING 30-INCH PIPE, FITTINGS AND APPURTENANCES AND REPLACE WITH 36-INCH DI PIPE, FITTINGS AND APPURTENANCES. CONTRACTOR TO FIELD VERIFY PIPE SIZE PRIOR TO REMOVAL AND ORDERING MATERIALS. IF EXISTING PIPE IS 36-INCH, CONTRACTOR SHALL COORDINATE WITH ENGINEER AND OWNER.



AERATION BASINS

DETAIL A
1" = 20'-0"

REMOVE EXISTING PIPING, VALVES, AND APPURTENANCES FOR ALUM FEED.

DETAIL 2
6" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

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

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 22360
3/21/2025
AMANDA K. JOHNSON

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

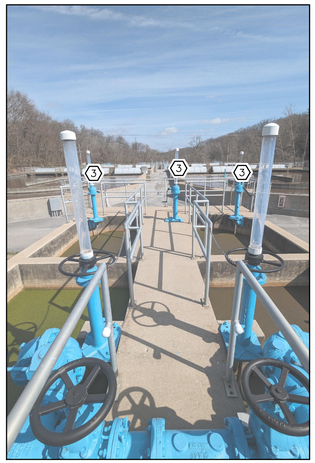
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

AERATION BASINS DEMOLITION

BENTONVILLE, ARKANSAS

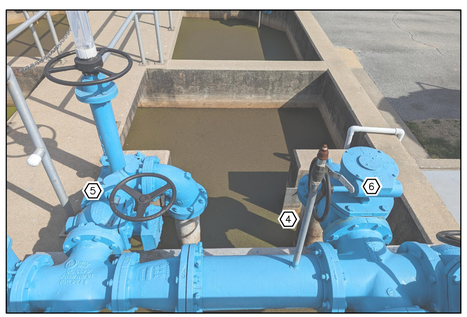
DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BGM
DRAWN BY: MD
HWEI NO.: 2021037
FILENAME: M-AERATION BASIN

SHEET NO.
DC-1



PHOTOGRAPH A
N.T.S.

PHOTOGRAPH B
N.T.S.



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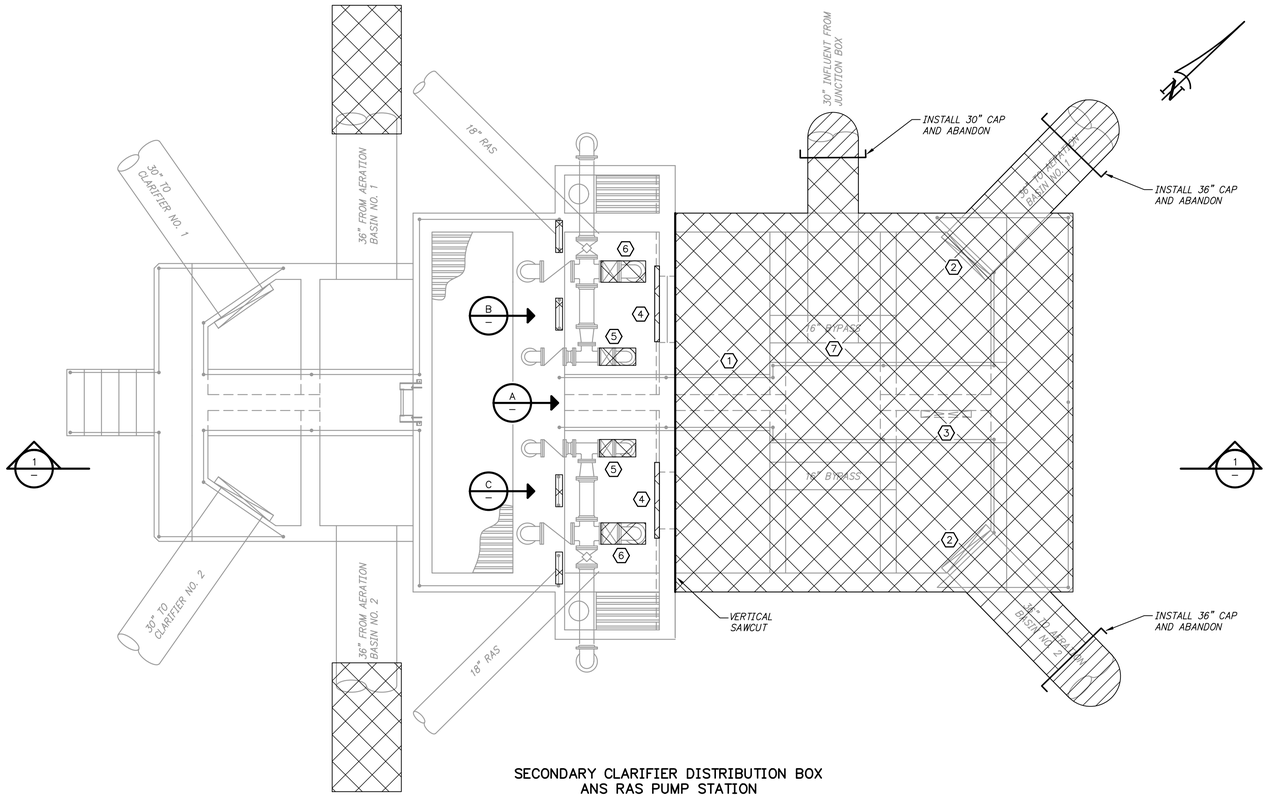
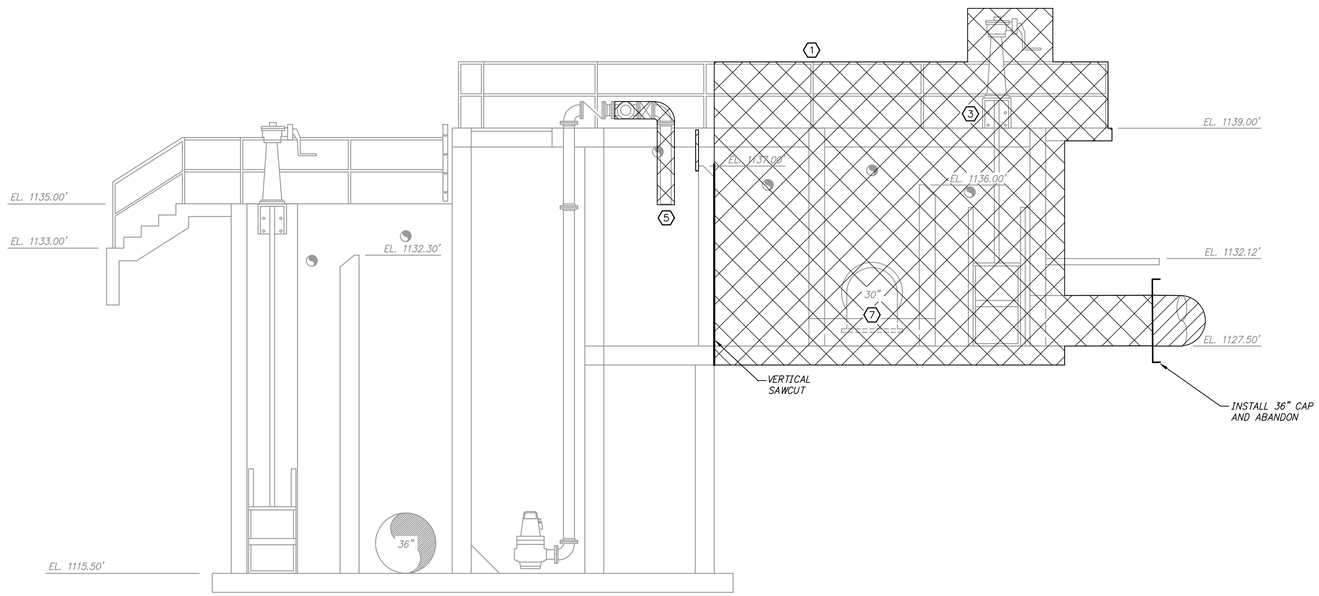
N.T.S.



SECONDARY CLARIFIER DISTRIBUTION BOX
ANS RAS PUMP STATION

DETAIL A
1/4"=1'-0"



SECTION 1
1/4"=1'-0"

NOTES:

1. SEQUENCE DEMOLITION AND CONSTRUCTION SO THAT ONE (1) AERATION BASIN IS MAINTAINED IN SERVICE AT ALL TIMES.
2. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
3. CONTRACTOR SHALL DISPOSE OF ALL MATERIAL AND EQUIPMENT REMOVED OR DEMOLISHED.
4. SEE SITE PIPING PLAN FOR CONTINUATION OF PIPE ABANDONMENT.

KEYED NOTES:

1. DEMOLISH EXISTING HANDRAIL
2. REMOVE 36-INCH SLUICE GATE
3. REMOVE 24-INCH SLUICE GATE
4. REMOVE RECTANGULAR WEIR PLATE AND WEIR GATE
5. REMOVE 6-INCH GATE VALVE AND 90 DEGREE BEND AND INSTALL CAP.
6. REMOVE 8-INCH GATE VALVE AND 90 DEGREE BEND AND INSTALL CAP.
7. REMOVE 30-INCH 90 DEGREE BEND

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOSHUA S. DUNN
LICENSED PROFESSIONAL ENGINEER
No. 15397
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SECONDARY CLARIFIER DISTRIBUTION BOX AND RAS PUMP STATION DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DD-01

SHEET NO.
DD-1

BID DRAWINGS
MARCH 21, 2025

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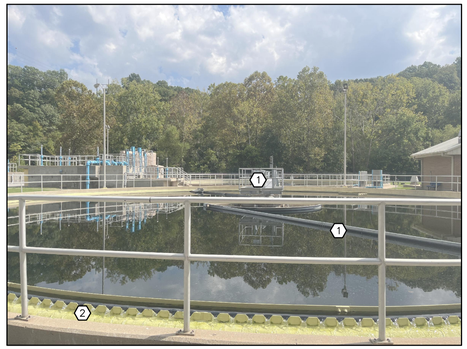
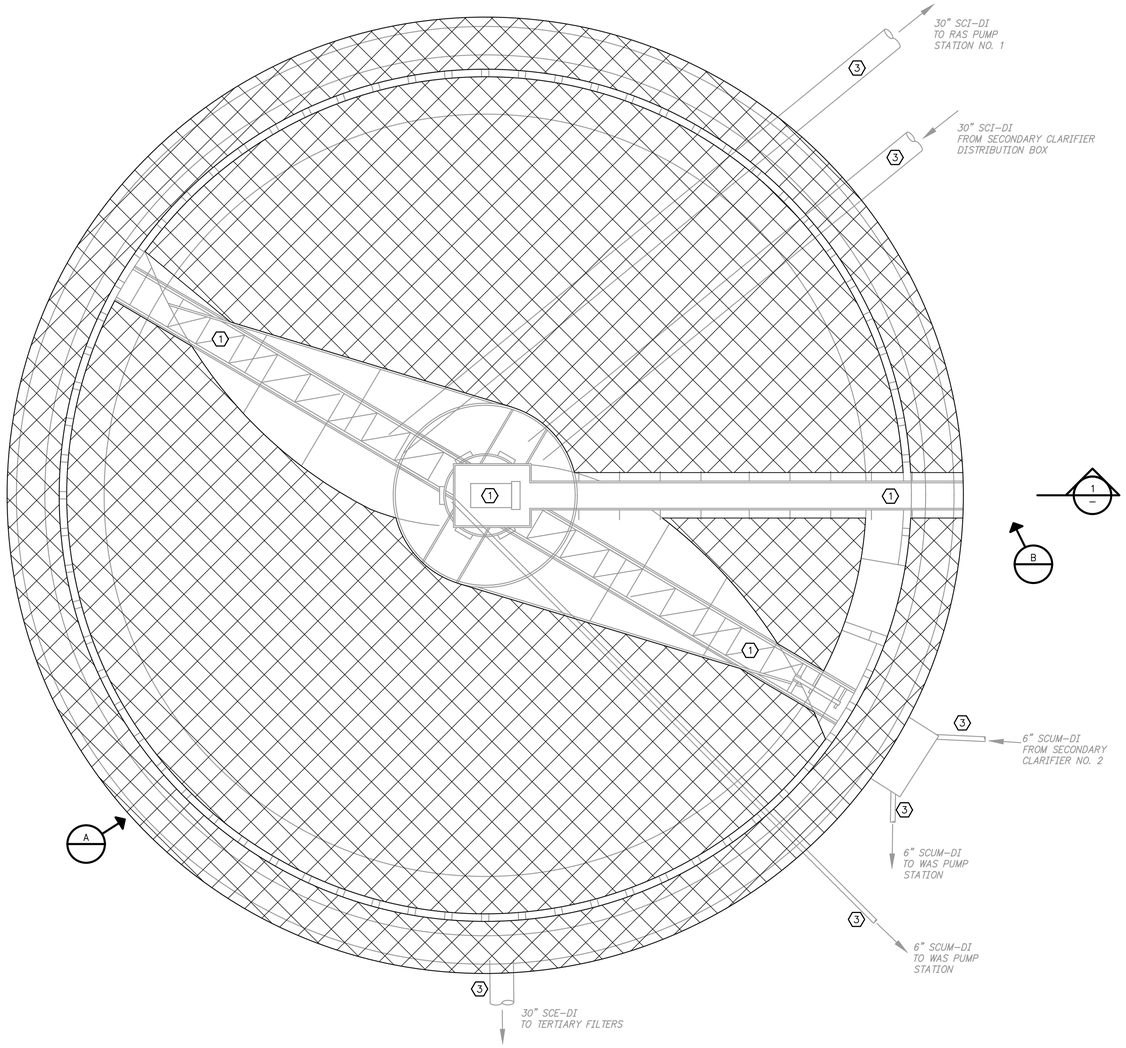


SECONDARY CLARIFIER NO. 1

PHOTOGRAPH A –

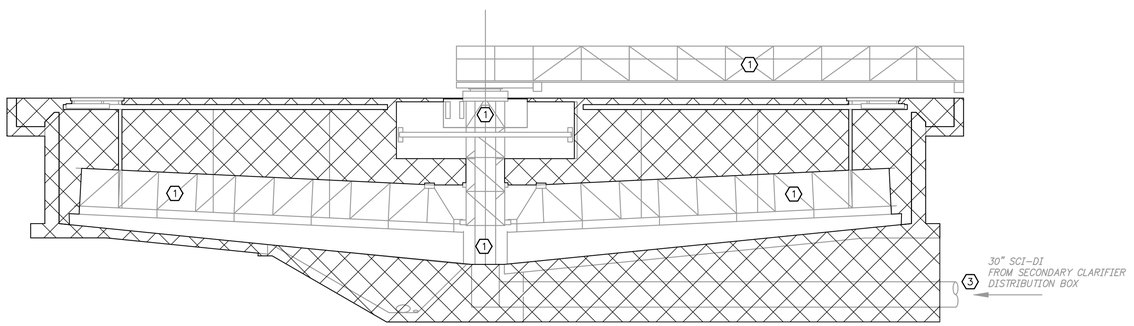
SECONDARY CLARIFIER NO. 1 (RIGHT)

PHOTOGRAPH B –



SECONDARY CLARIFIER NO. 1

DETAIL A – 1/8"=1'-0"



SECTION 1 – 1/8"=1'-0"

NOTES:

1. *DIMENSIONS AND ELEVATIONS ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.*
2. *CONSTRUCTION SEQUENCE SHALL BE SUCH THAT TWO (2) SECONDARY CLARIFIERS REMAIN IN SERVICE AT ALL TIMES.*
3. *CONTRACTOR SHALL DISPOSE OF ALL MATERIAL AND EQUIPMENT REMOVED OR DEMOLISHED.*

KEYED NOTES:

1. *EXISTING SECONDARY CLARIFIER MECHANISM SHALL BE SALVAGED AND STORED ON SITE, AND SHALL BE REINSTALLED FOLLOWING RECONSTRUCTION OF SECONDARY CLARIFIER NO. 1. CLARIFIER MECHANISM SHALL BE STORED IN ACCORDANCE WITH CLARIFIER MECHANISM MANUFACTURER REQUIREMENTS FOR NEW MECHANISMS. REFER TO SPECIFICATIONS SECTION 11225.*
2. *DEMOLISH AND DISPOSE OF SECONDARY CLARIFIER STRUCTURE, SLAB AND STRUCTURAL ELEMENTS. INCLUDING RAILINGS.*
3. *DEMOLISH ALL EXISTING PIPES ONE FOOT BEYOND ENCASEMENT WITHIN THE EXISTING SECONDARY CLARIFIER SLAB. EXISTING PIPE BEYOND FOOTING OF CLARIFIER SHALL BE PROTECTED AND CAPPED DURING CONSTRUCTION OF PROPOSED SECONDARY CLARIFIER STRUCTURE. EXISTING PIPE SHALL BE RECONNECTED TO THE PROPOSED PIPE PENETRATIONS FROM THE ENCASEMENT OF THE PROPOSED SECONDARY CLARIFIER STRUCTURE.*

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 15397
JOSHUA S. DUGGAN
3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SECONDARY CLARIFIER NO. 1
DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DE-01

SHEET NO.
DE-1

BID DRAWINGS
MARCH 21, 2025

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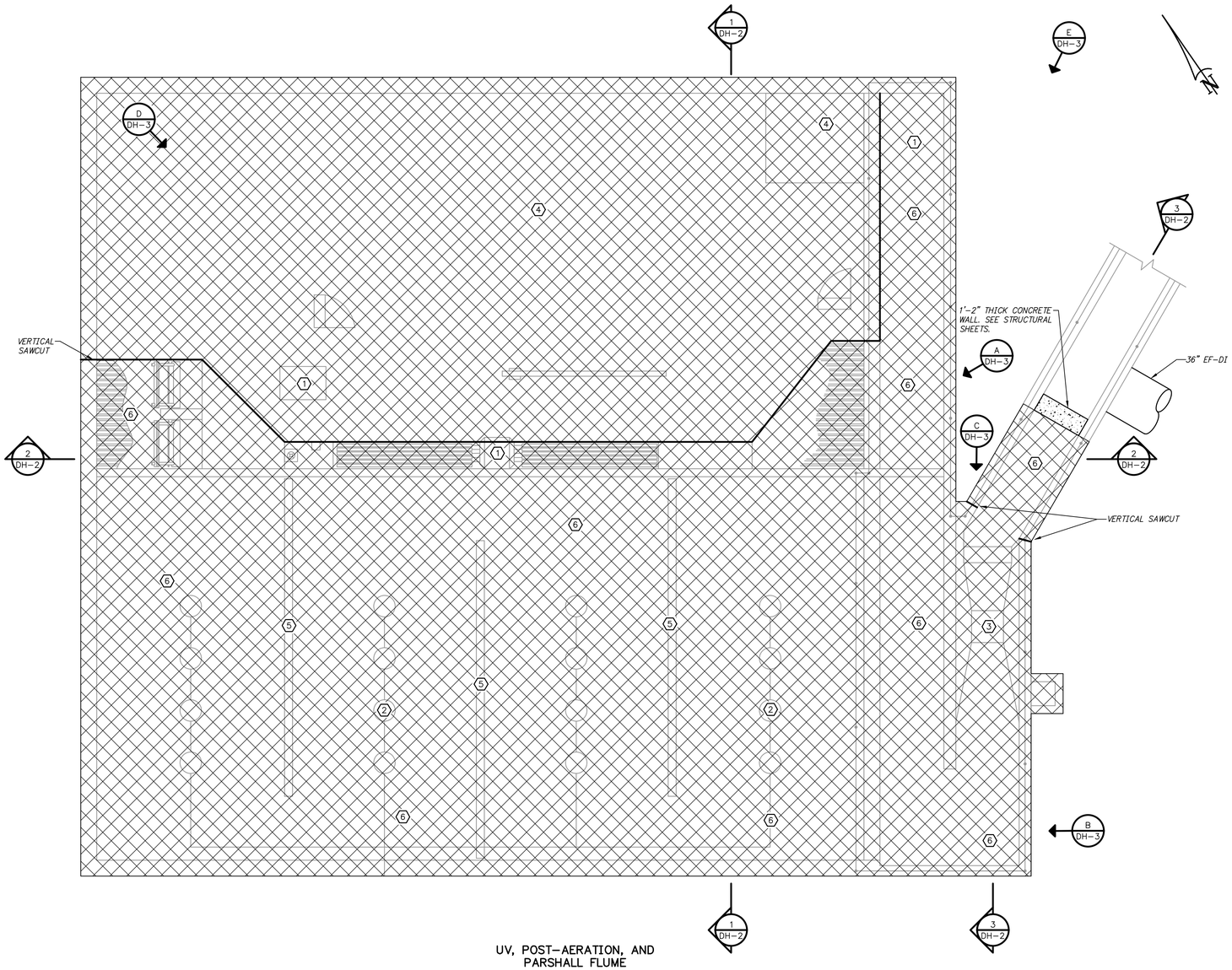
KEYED NOTES:

1. REMOVE EXISTING UV DISINFECTION EQUIPMENT FROM THE UV CHANNEL. RETURN UV CONTROL SYSTEM EQUIPMENT TO THE OWNER. INSTALL CONSOLIDATED #67 CRUSHED STONE.
2. REMOVE EXISTING EQUIPMENT AND AIR PIPING FROM THE EXISTING POST AERATION BASIN. DEMOLISH THE EXISTING BASIN STRUCTURE 24-INCHES BELOW GRADE AND INSTALL CONSOLIDATED #67 CRUSHED STONE.
3. DEMOLISH EXISTING PARSHALL FLUME UP TO THE EXISTING EFFLUENT CHANNEL. DEMOLISH 24-INCHES BELOW GRADE AND INSTALL CONSOLIDATED #67 CRUSHED STONE.
4. DEMOLISH CONCRETE TOP SLAB 24-INCHES BELOW GRADE AND INSTALL CONSOLIDATED #67 CRUSHED STONE.
5. DEMOLISH EXISTING BAFFLE WALLS.
6. CORE DRILL 6" HOLE INTO BASIN SLAB FOR DRAINAGE.

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. DEMOLITION OF THE EXISTING UV DISINFECTION SYSTEM, POST AERATION BASIN, AND PARSHALL FLUME SHALL NOT BE COMPLETED UNTIL THE PROPOSED SYSTEMS ARE COMPLETE, TESTED, AND PLACED INTO SERVICE.
3. SEE SITE PAVING PLANS FOR SURFACE REPAIR OVER DEMOLISHED STRUCTURES.



UV, POST-AERATION, AND PARSHALL FLUME

DETAIL A

1/4"=1'-0"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 15597 JOSHUA S. DUNCAN 3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

UV, POST AERATION, AND PARSHALL FLUME DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DH-01

SHEET NO. DH-1

BID DRAWINGS
MARCH 21, 2025

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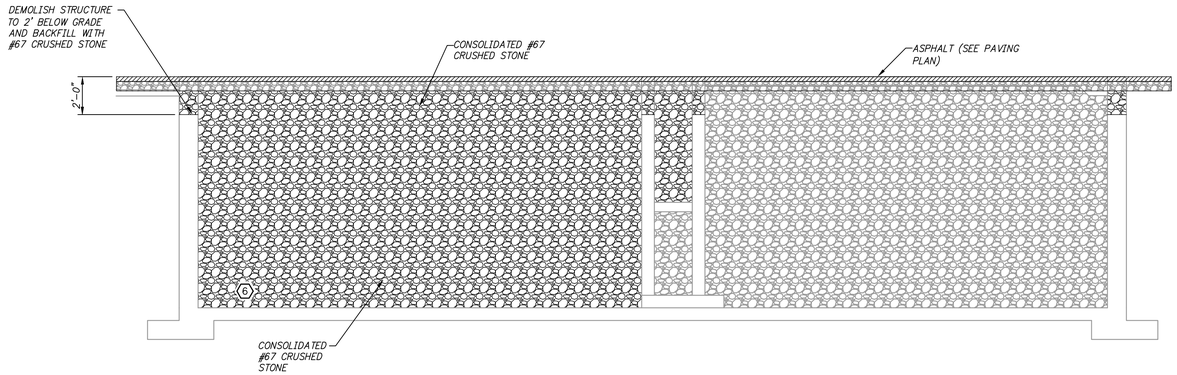
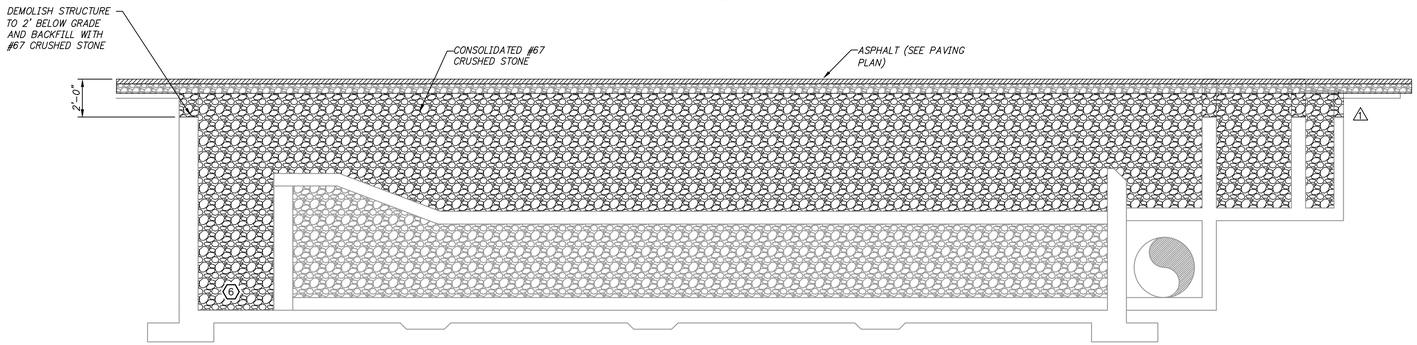
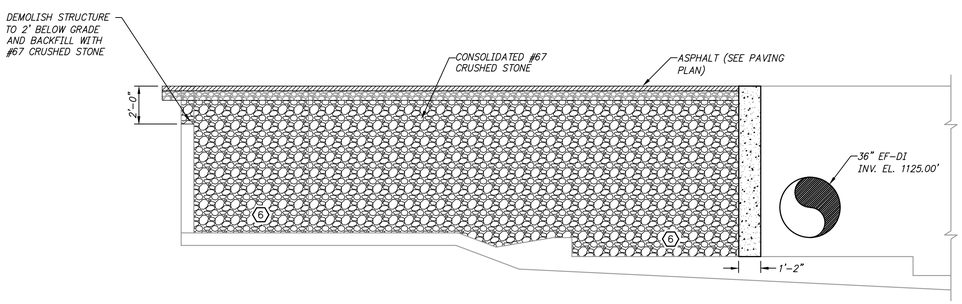


SECTION 1 — 1/4"=1'-0" — DH-1



SECTION 2 — 1/4"=1'-0" — DH-1



SECTION 3 — 1/4"=1'-0" — DH-1

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. DEMOLITION OF THE EXISTING UV DISINFECTION SYSTEM, POST AERATION BASIN, AND PARSHALL FLUME SHALL NOT BE COMPLETED UNTIL THE PROPOSED SYSTEMS ARE COMPLETE, TESTED, AND PLACED INTO SERVICE.
3. SEE SITE PAVING PLANS FOR SURFACE REPAIR OVER DEMOLISHED STRUCTURES.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 REVISED FOR BID SET	03/21/2025

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 19597 — JOSHUA S. DUNN — 3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

UV, POST AERATION, AND PARSHALL FLUME DEMOLITION

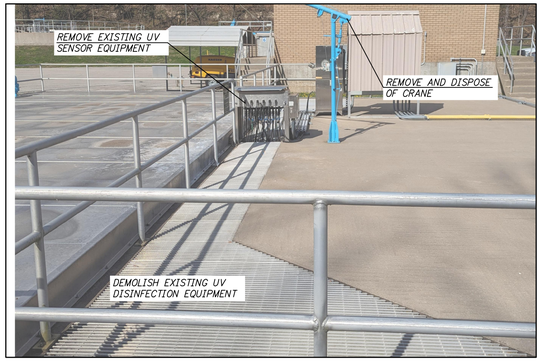
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DH-02

SHEET NO. DH-2

BID DRAWINGS
MARCH 21, 2025

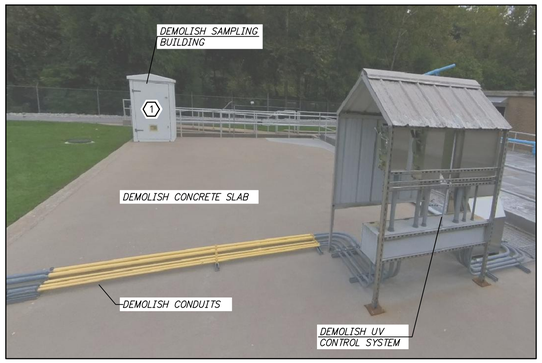
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DH-02.DWG, 3/19/2025 9:16 AM, MATT WEIR, LAYOUT1



PHOTOGRAPH A
N.T.S. DH-1

PHOTOGRAPH B
N.T.S. DH-1

PHOTOGRAPH C
N.T.S. DH-1



PHOTOGRAPH D
N.T.S. DH-1

PHOTOGRAPH E
N.T.S. DH-1

KEYED NOTES:

1. SALVAGE SAMPLING EQUIPMENT TO THE OWNER.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOSHUA S. DERRICK
LICENSED PROFESSIONAL ENGINEER
No. 15597
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

UV, POST AERATION, AND PARSHALL FLUME PHOTOGRAPHS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: DH-03

SHEET NO.
DH-3

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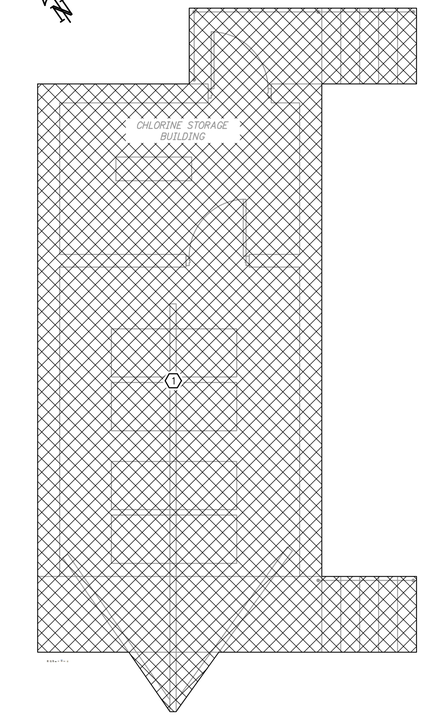


CHLORINE STORAGE BUILDING

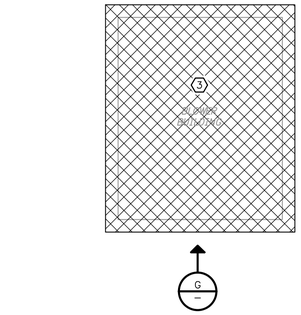
DETAIL B – 1/4"=1'-0"

KEYED NOTES:

1. *DEMOLISH EXISTING CHLORINE STORAGE BUILDING AND SAMPLING BUILDING.*
2. *REMOVE AND DISPOSE OF PLANT WATER PUMPS AND APPURTENANCES WITHIN THE STRUCTURE. PLUG AND ABANDON IN PLACE PLANT WATER LINES IN THE STRUCTURE BASEMENT. DEMOLISH EXISTING STRUCTURE 48-INCHES BELOW GRADE AND INSTALL PAVEMENT.*
3. *REMOVE AND DISPOSE OF EXISTING POST AERATION BLOWER EQUIPMENT AND AIR PIPING. DEMOLISH EXISTING BLOWER BUILDING STRUCTURE.*
4. *CORE DRILL 6" HOLE IN STRUCTURE SLAB FOR DRAINAGE.*

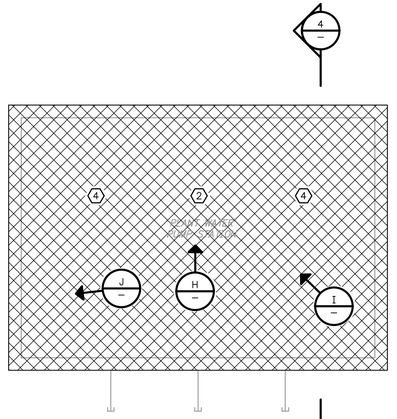
NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *DEMOLITION OF THE EXISTING PLANT WATER PUMP STATION SHALL NOT BE COMPLETED UNTIL THE PROPOSED PLANT WATER PUMPS ARE COMPLETE, TESTED, AND PLACED INTO SERVICE.*



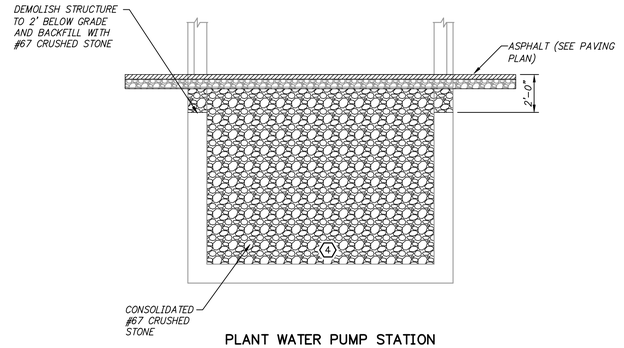
BLOWER BUILDING

DETAIL C – 1/4"=1'-0"



PLANT WATER PUMP STATION

DETAIL D – 1/4"=1'-0"

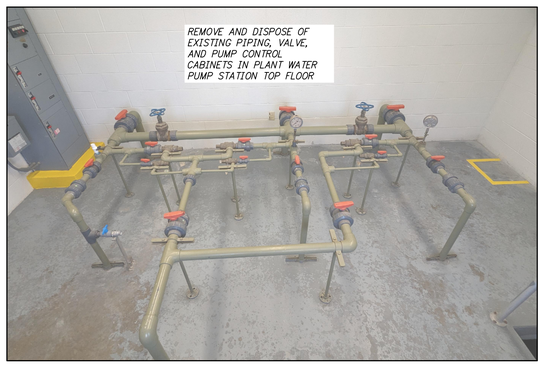


PLANT WATER PUMP STATION

SECTION 4 – 1/4"=1'-0"

PHOTOGRAPH F – N.T.S.

PHOTOGRAPH G – N.T.S.



PHOTOGRAPH H – N.T.S.

PHOTOGRAPH I – N.T.S.

PHOTOGRAPH J – N.T.S.

BID DRAWINGS
MARCH 21, 2025

1" ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS – JOSHUA S. DURHAM – LICENSED PROFESSIONAL ENGINEER – No. 19597 – 3/19/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

CHLORINE BUILDING, PLANT WATER PUMP STATION, AND BLOWER BUILDING DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DH-04

SHEET NO. DH-4

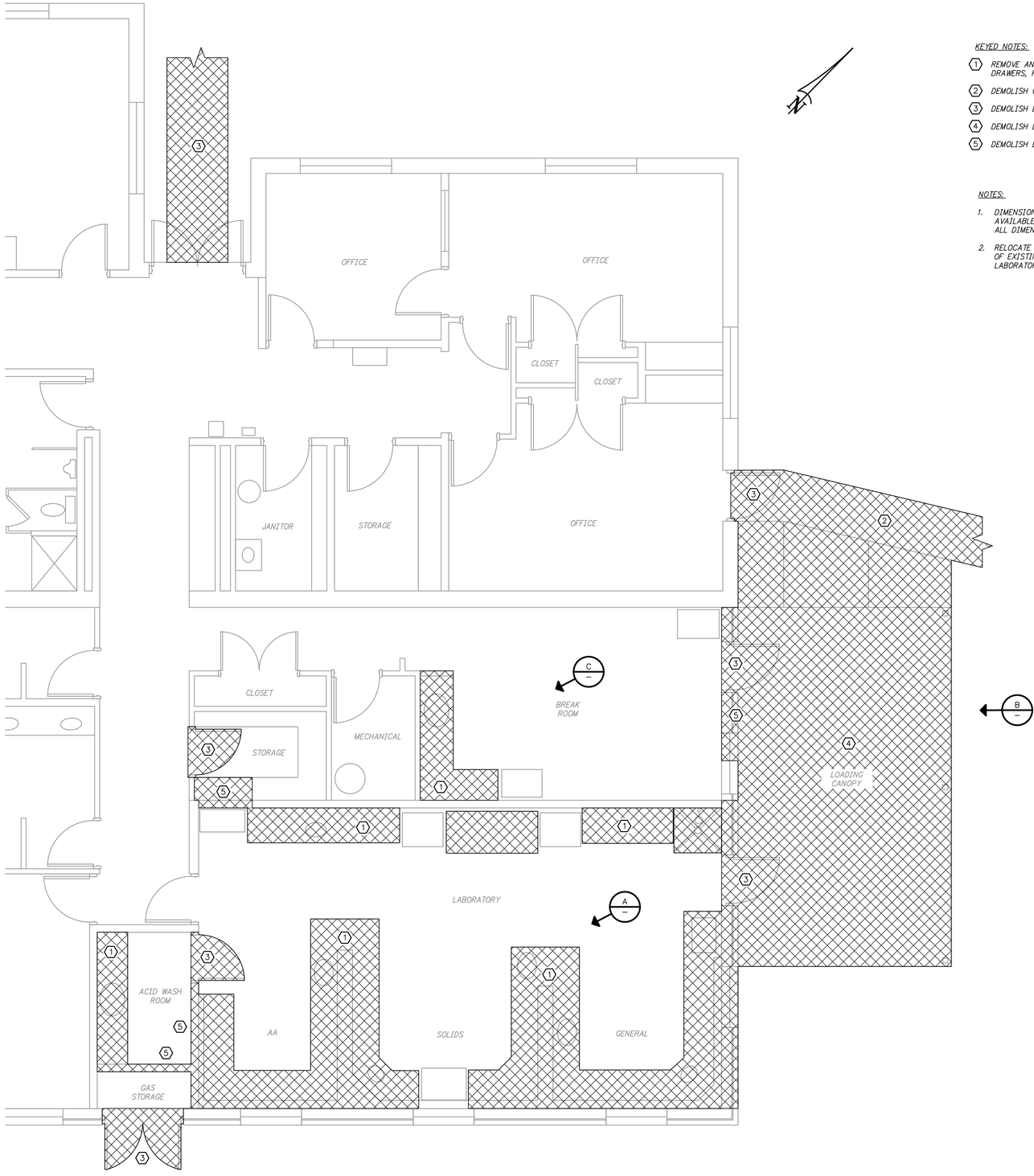
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DH-04.DWG, 3/19/2025 9:17 AM, MATT WEIR, LAYOUT1

PHOTOGRAPH A
N.T.S.

PHOTOGRAPH B
N.T.S.

PHOTOGRAPH C
N.T.S.

PHOTOGRAPH D
N.T.S.



ADMINISTRATION/LABORATORY BUILDING
DETAIL A
1/4"=1'-0"

KEYED NOTES:

1. *REMOVE AND DISPOSE OF EXISTING LAB BENCHES, CABINETS, DRAWERS, HOOD, AND SINKS.*
2. *DEMOLISH CONCRETE SIDEWALK*
3. *DEMOLISH DOOR*
4. *DEMOLISH LOADING CANOPY*
5. *DEMOLISH EXISTING WALL*

NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *RELOCATE LABORATORY EQUIPMENT PRIOR TO DEMOLITION OF EXISTING LABORATORY. MAINTAIN NECESSARY LABORATORY FUNCTION.*

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 19397
JOSHUA S. DURHAM
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION/LABORATORY BUILDING DEMOLITION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DL-01

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
DL-1

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DL-01.DWG, 3/19/2025 9:18 AM, MATT WEIR, LAYOUT1

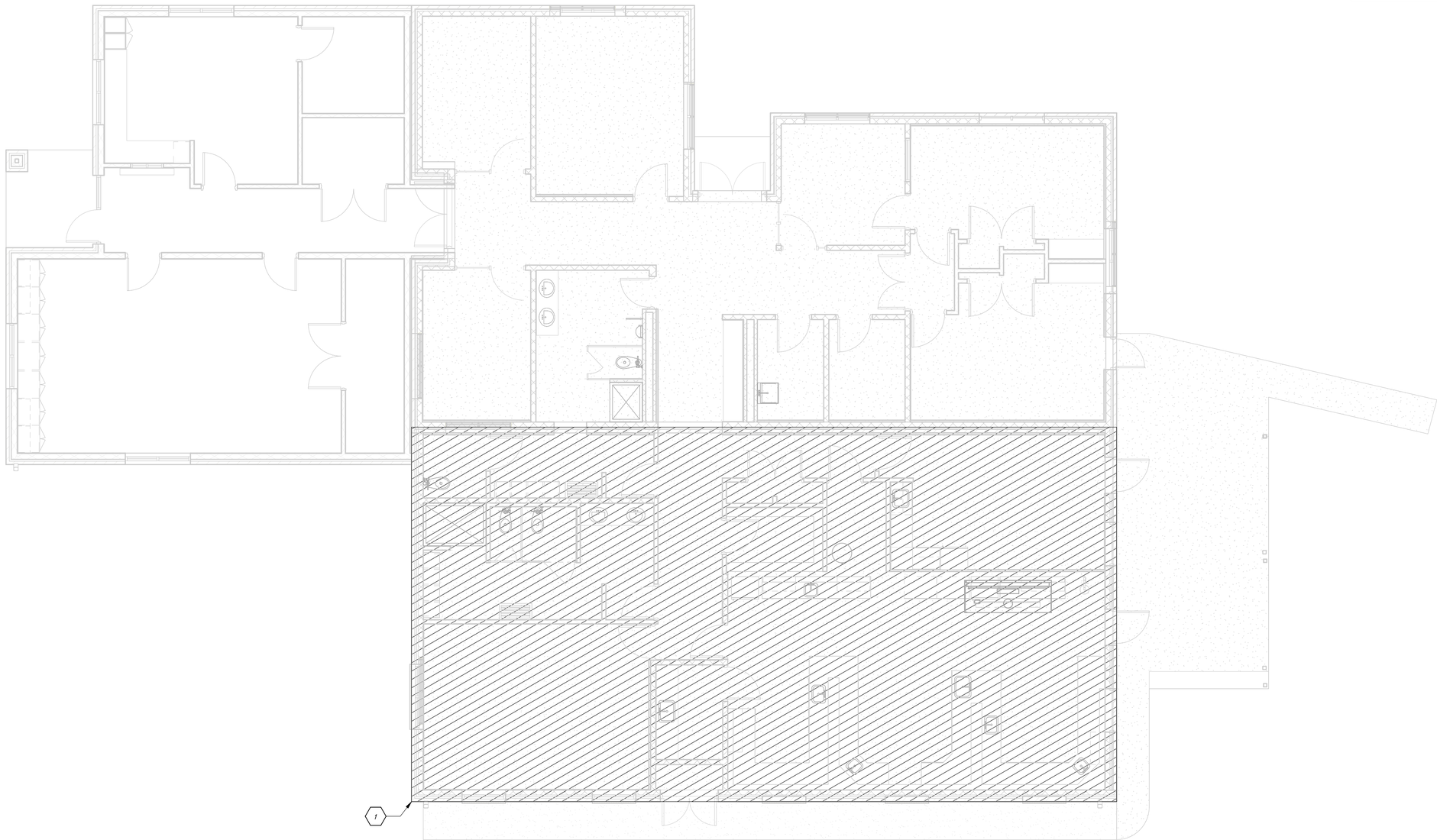
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/H-OPS ADMIN LAB BLDG.rvt
2/12/2025 3:55:45 PM / CSP / HVAC

GENERAL SHEET NOTES

1. SEE DRAWING H-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.

SHEET KEYNOTES

1. CONTRACTOR SHALL REMOVE EXISTING RTU-1 (SERVING LABORATORY), RTU-2 (SERVING CORRIDOR), FUME HOOD EXHAUST FAN, TOILET EXHAUST FAN, LABORATORY GENERAL EXHAUST FANS (1 & 2), NON-OPERATING FAN ABOVE THE BREAKROOM, AND ALL THE ASSOCIATED DUCTWORK, INSULATION, DAMPERS, DAMPER ACTUATORS, AIR TERMINALS, SUPPORTS, EQUIPMENT CURBS, LOUVER, THERMOSTAT, POWER, AND CONTROL CABLING, INCLUDING CONDUITS AND PANELS. THE HVAC CONTRACTOR SHALL COORDINATE WITH THE CIVIL CONTRACTOR TO CLOSE ANY UNWANTED ROOF AND WALL OPENINGS AND FINISH THEM ACCORDING TO THE NEW ARCHITECTURAL INTENT.



ADMINISTRATION / LABORATORY BUILDING

DETAIL B
3/16" = 1'-0"

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 17959
MICHAEL FRANCON ROTH
3/21/2025

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

HVAC
DEMOLITION ADMINISTRATION / LABORATORY BUILDING FLOOR PLAN
CITY OF BENTONVILLE, ARKANSAS

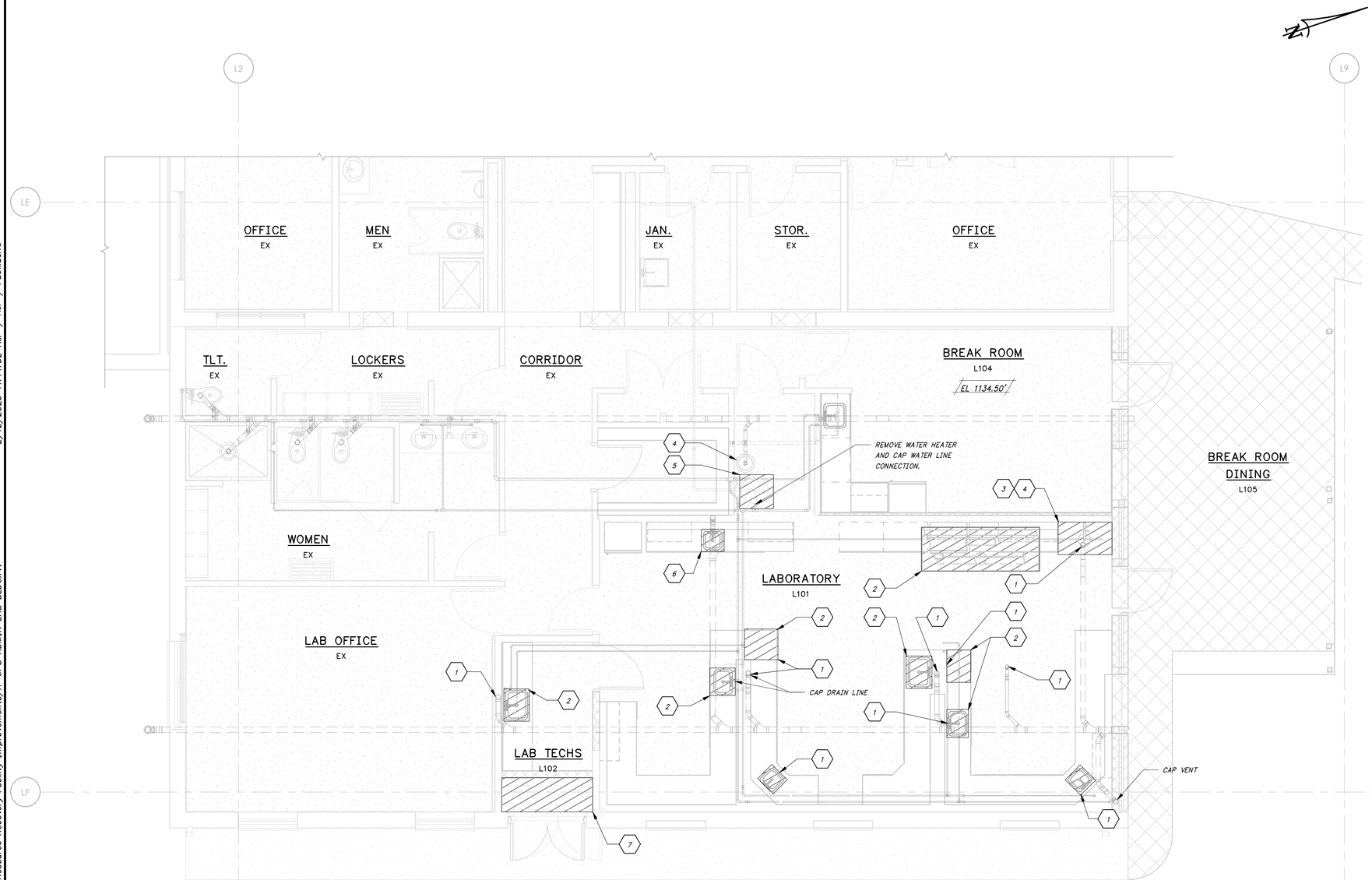
BID DRAWINGS
MARCH 21, 2025

6' 4' 2' 0' 5' 10'
3/16" = 1'-0"

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: AK
DRAWN BY: CSP
HWEI NO.: 2021037
FILENAME: H-OPS ADMIN

SHEET NO.
DL-2

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/H-OPS ADMIN LAB BLDG.rvt
2/12/2025 11:14:32 AM / AJP / PLUMBING



ADMINISTRATION / LABORATORY BUILDING

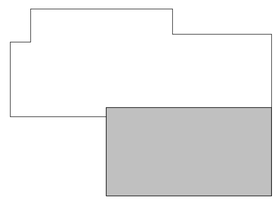
DETAIL C
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE DRAWING H-2 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO THE EXISTING CONSTRUCTION PRIOR THE START OF THE WORK. ANY MINOR ADJUSTMENTS AND CORRECTIONS SHALL BE NOTED, COMPLETED, AND RECTIFIED AS REQUIRED. REPORT SIGNIFICANT VARIATIONS TO THE ENGINEER.
3. EXISTING SERVICES THAT ARE NOT SHOWN, BUT ARE DISCOVERED DURING DEMOLITION, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BY THE CONTRACTOR FOR PROPER COORDINATION.

SHEET KEYNOTES

1. THE PLUMBING DEMOLITION WORK SHALL INCLUDE DISCONNECT, DRAIN AND CAP THE FOLLOWING PIPING: 1) DOMESTIC COLD WATER, 2) DOMESTIC HOT WATER, 3) SANITARY DRAIN. EXISTING PIPING AND EQUIPMENT LOCATIONS ARE APPROXIMATE. VERIFY EXACT LOCATIONS AND ELEVATIONS IN FIELD.
2. ISOLATE AND DRAIN ASSOCIATED PIPING. DISCONNECT KITCHEN SINK, FUME HOOD, DISH WASHER HOT WATER AND COLD WATER, AND ALL ASSOCIATED APPURTENANCES. REMOVE SINK, FUME HOOD, DISH WASHER AND DELIVER TO OWNER OR DISPOSE AS DIRECTED BY OWNER. CAP WATER AND DRAIN LINES.
3. ISOLATE AND DRAIN ASSOCIATED PIPING. DISCONNECT WATER SUPPLIES FOR EMERGENCY SHOWER AND ALL ASSOCIATED APPURTENANCES. CAP WATER AND DRAIN LINES. REFER TO ELECTRICAL & INSTRUMENTATION DRAWINGS FOR ANY FLOW SWITCHES/ALARMS DEMOLITION.
4. REMOVE EXISTING FLOOR DRAIN GRATES AND PLUG (WITH THE EXPANDABLE RUBBER TYPE) WASTE LINE BELOW FLOOR SLAB.
5. REMOVE AND REPLACE EXISTING WATER HEATER. SEE PLUMBING DRAWINGS FOR NEW LOCATION AND WATER HEATER SCHEDULE. DEMOLISH WITH ALL APPURTENANCES.
6. ISOLATE AND DRAIN ASSOCIATED PIPING. DISCONNECT WATER SUPPLIES FOR SINK AND ALL ASSOCIATED APPURTENANCES. CAP WATER AND DRAIN LINES.
7. EXISTING DI SYSTEM TO BE RELOCATED. SEE SHEET HL-3 FOR NEW LOCATION.



KEY PLAN
NTS

BID DRAWINGS
MARCH 21, 2025

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

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 17959
MICHAEL FRANCON ROTH
3/21/2025

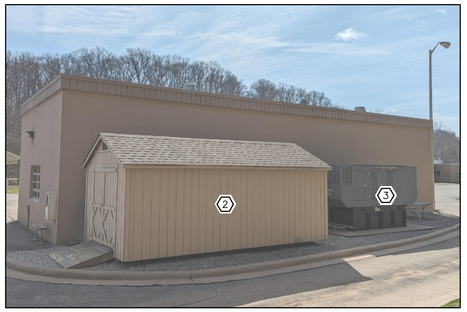
HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PLUMBING
DEMOLITION ADMINISTRATION / LABORATORY BUILDING FLOOR PLAN
CITY OF BENTONVILLE, ARKANSAS

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: SAM
DRAWN BY: AJP
HWEI NO.: 2021037
FILENAME: H-OPS ADMIN

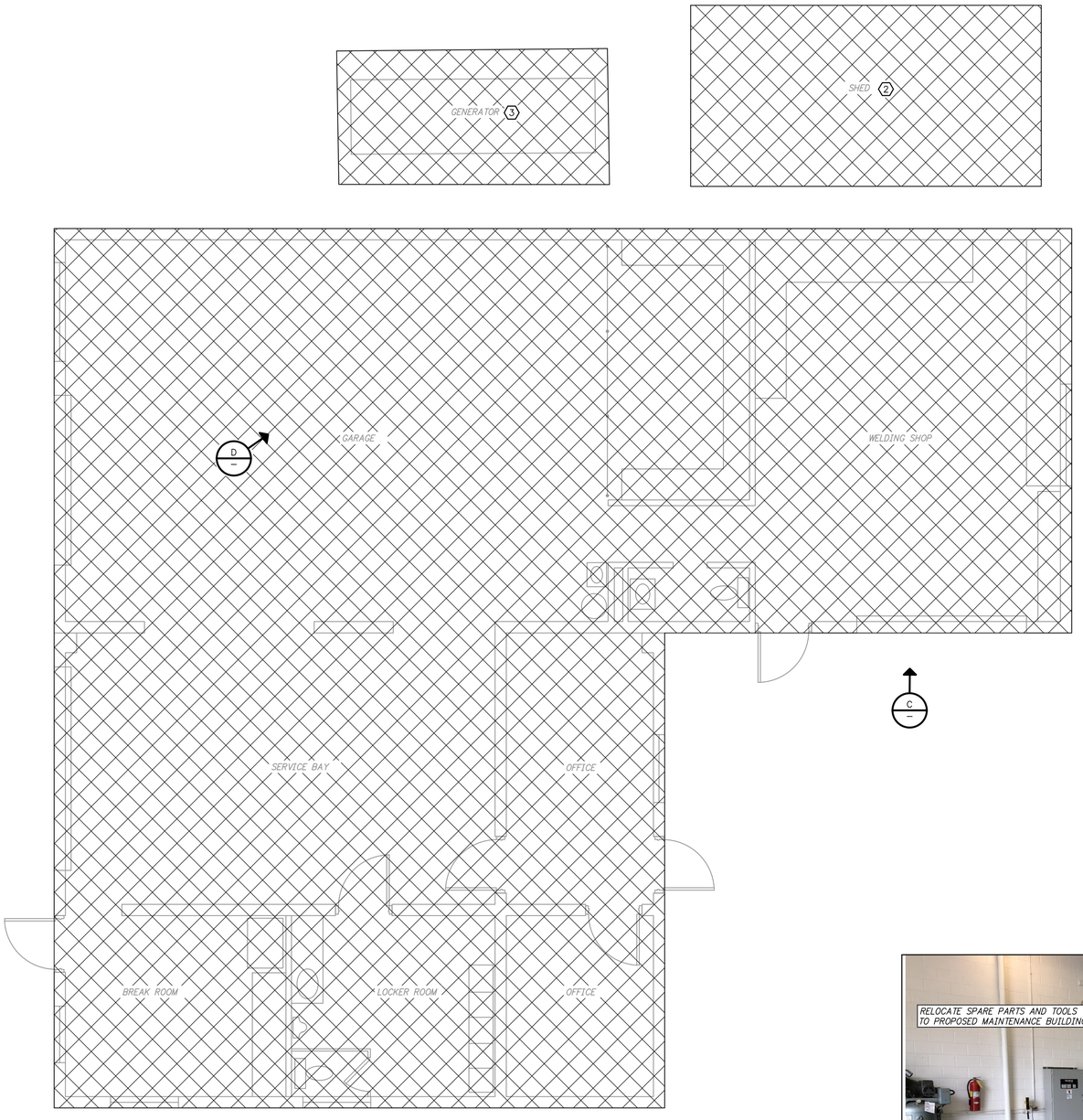
SHEET NO.
DL-3



PHOTOGRAPH A
N.T.S.

PHOTOGRAPH B
N.T.S.

PHOTOGRAPH C
N.T.S.



EXISTING MAINTENANCE BUILDING
DETAIL A
1/4"=1'-0"

KEYED NOTES:

1. DEMOLITION EXISTING MAINTENANCE BUILDING
2. DEMOLISH EXISTING STORAGE SHED
3. RELOCATE THE EXISTING GENERATOR TO PROPOSED MAINTENANCE BUILDING FOLLOWING TEMPORARY SERVICE TO POWER THE EXISTING UV EQUIPMENT

NOTES:

1. DEMOLITION OF THE EXISTING MAINTENANCE BUILDING SHALL NOT BE COMPLETED UNTIL THE PROPOSED MAINTENANCE BUILDING IS COMPLETE AND ACCEPTED BY THE OWNER.
2. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
3. COORDINATE WITH OWNER TO RELOCATE TOOLS, EQUIPMENT, AND SPARE PARTS TO THE PROPOSED MAINTENANCE BUILDING PRIOR TO COMMENCEMENT OF DEMOLITION.

PHOTOGRAPH D
N.T.S.

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 15397
JOSHUA S. DUGGAN
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING DEMOLITION

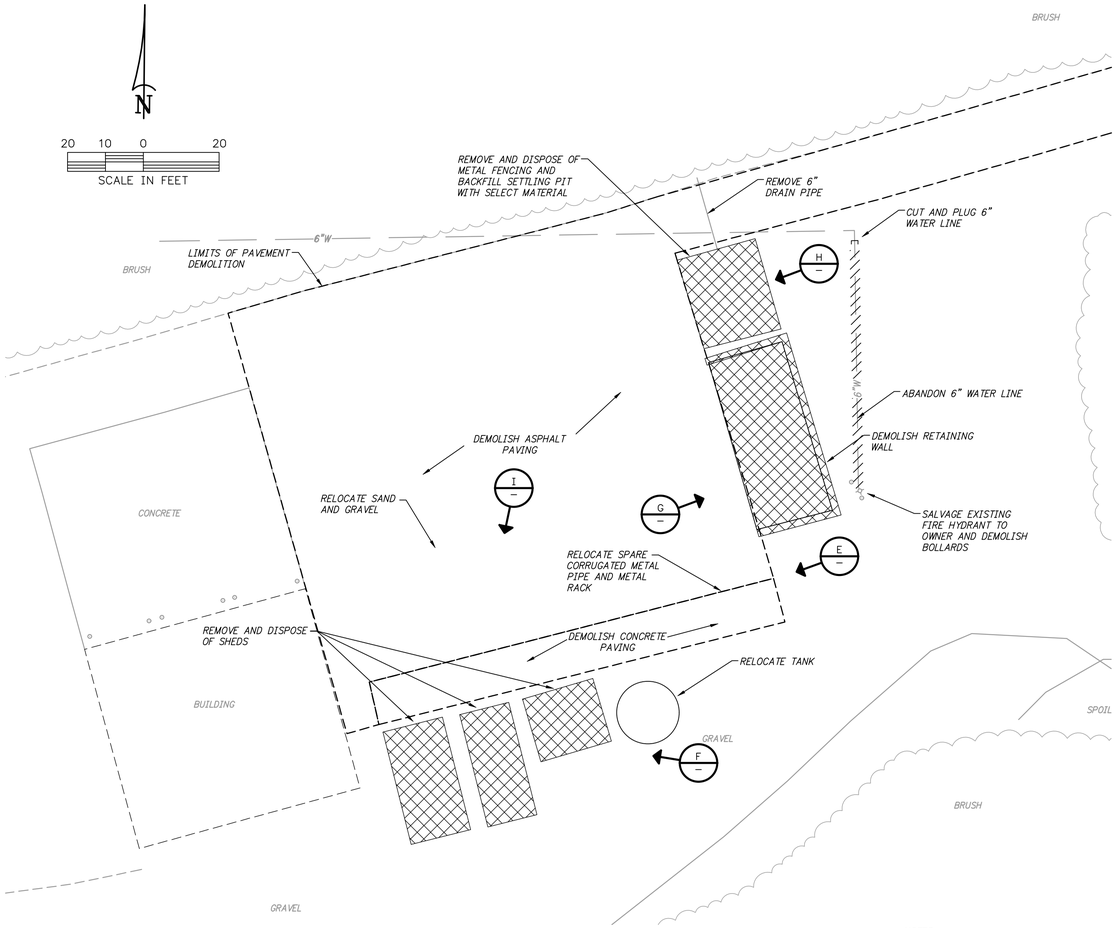
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DM-01

SHEET NO.
DM-1

BID DRAWINGS
MARCH 21, 2025

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DM-01.DWG, 3/19/2025 9:18 AM, MATT WEIR, LAYOUT1



MAINTENANCE BUILDING

DETAIL A
1"=20'

NOTES:

1. COORDINATE THE RELOCATION AND REMOVAL OF MATERIALS AND EQUIPMENT ON SITE WITH THE BETONVILLE STREET DEPARTMENT PRIOR TO COMMENCING DEMOLITION.

LEGEND

DEMOLISH

ABANDON

PHOTOGRAPH G
N.T.S.

PHOTOGRAPH H
N.T.S.

PHOTOGRAPH E
N.T.S.

PHOTOGRAPH F
N.T.S.

PHOTOGRAPH I
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 15597
JOSHUA S. DUNAWAY
3/19/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING SITE DEMOLITION PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1"=20'
DESIGNED BY: JSD
DRAWN BY: MAW
HWEI NO.: 2021037
FILENAME: DM-02

SHEET NO.
DM-2

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\DM-02.DWG, 3/19/2025 9:19 AM, MATT WEIR, LAYOUT1

LEGEND

- VERTICAL TURBINE PUMP
- CENTRIFUGAL PUMP
- LOBE PUMP
- SUBMERSIBLE PUMP
- DIAPHRAGM PUMP
- PROGRESSIVE METERING PUMP
- MIXER
- BLOWER
- PERISTALTIC PUMP
- STATIC MIXER
- CALIBRATION CYLINDER
- PARSHALL FLUME
- RECTANGULAR WEIR
- ULTRASONIC LEVEL SENSOR
- ELECTROMAGNETIC FLOWMETER
- COMPOUND FLOWMETER
- FLOWMETER
- VENTURI FLOWMETER
- FLOWMETER (ROTAMETER)
- LEVEL INDICATING TRANSMITTER
- LEVEL TRANSMITTER
- PRESSURE INDICATING TRANSMITTER
- POSITION INDICATING TRANSMITTER
- PRESSURE SWITCH
- LIMIT SWITCH
- DIFFERENTIAL PRESSURE SWITCH
- FLOAT SWITCH
- ELECTRIC MOTOR OR MOTOR OPERATOR
- SOLENOID
- MIXER
- PULSATION DAMPENER
- PRESSURE GAUGE
- FILTER INLET/SILENCER
- AIR COMPRESSOR
- INTAKE SCREEN
- WYE STRAINER
- REDUCER
- UNION
- ISOLATOR
- YARD HYDRANT
- MANHOLE
- DRAIN
- CAMLOCK CONNECTION
- BASKET STRAINER (BST)
- FLOOR DRAIN (FD)
- FLOOR DRAIN CLEANOUT (CO)
- HOSE STATION OR HOSE BIBB (HB)
- HOSE REEL
- PIPE CLAMP OR STRAP
- PIPE CLAMP OR STRAP (SECTION OR ELEVATION)
- PIPE CLAMP OR STRAP (PLAN VIEW)
- SAFETY SHOWER AND EYEWASH
- SAFETY EYEWASH
- FLEXIBLE CONNECTION
- INSECT SCREEN
- TRAP
- DIAPHRAGM VALVE
- PUMP MOTOR
- BUTTERFLY DAMPERS
- FLOW ELEMENT
- HEAT TRACE PIPING
- HEAT EXCHANGER
- DIAPHRAGM SEAL
- QUICK-CONNECT ADAPTER
- DOUBLE DISC CHECK VALVE (DDV)
- DUCKBILL CHECK VALVE (DCV)
- CHECK VALVE (CV)
- FLAP CHECK VALVE (FCV)
- INJECTION CHECK VALVE (ICV)
- REDUCED PRESSURE BACKFLOW PREVENTER (RPZA)
- BALL VALVE–NORMALLY OPEN (BA)
- BALL VALVE–NORMALLY CLOSED (BA)
- BUTTERFLY VALVE (BV)
- KNIFE GATE VALVE (KGV)
- GATE VALVE–NORMALLY OPEN (GV)
- GATE VALVE–NORMALLY CLOSED (GV)
- PLUG VALVE–NORMALLY OPEN (PV)
- PLUG VALVE–NORMALLY CLOSED (PV)
- DIAPHRAGM VALVE WITH SOLENOID
- FLOW REGULATING VALVE (FRV)
- PRESSURE REDUCING REGULATOR (PRR)
- BACK PRESSURE VALVE (BPV)
- PRESSURE RELIEF VALVE (PRV)
- SURGE RELIEF VALVE (SRV)
- SOLENOID VALVE (SOL)
- GLOBE VALVE (GL)
- PINCH VALVE (PIN)
- THREE–WAY VALVE (TWV)
- AIR RELEASE VALVE (ARV)
- ANTI SIPHON VALVE (ASV)
- SLUICE GATE (SG)
- FLOAT VALVE (FLV)
- VACUUM BREAKER
- CHEMICAL INJECTION QUILL
- MIXING VALVE (MV)
- THROTTLE VALVE
- PDSH — PRESSURE DIFFERENTIAL SWITCH HIGH
- PDI — PRESSURE DIFFERENTIAL INDICATOR
- PI — PRESSURE INDICATOR
- LSH — LEVEL SWITCH HIGH
- LSL — LEVEL SWITCH LOW
- LSLL — LEVEL SWITCH LOW LOW
- FIT — FLOW INDICATOR TRANSMITTER
- FLOW ELEMENT
- TSH — TEMPERATURE SWITCH HIGH
- AE — ANALYSIS ELEMENT
- AIT — ANALYSIS INDICATOR TRANSMITTER

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20465
MARGARET E. KELCH

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
LEGEND

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P–01

SHEET NO.
P–1

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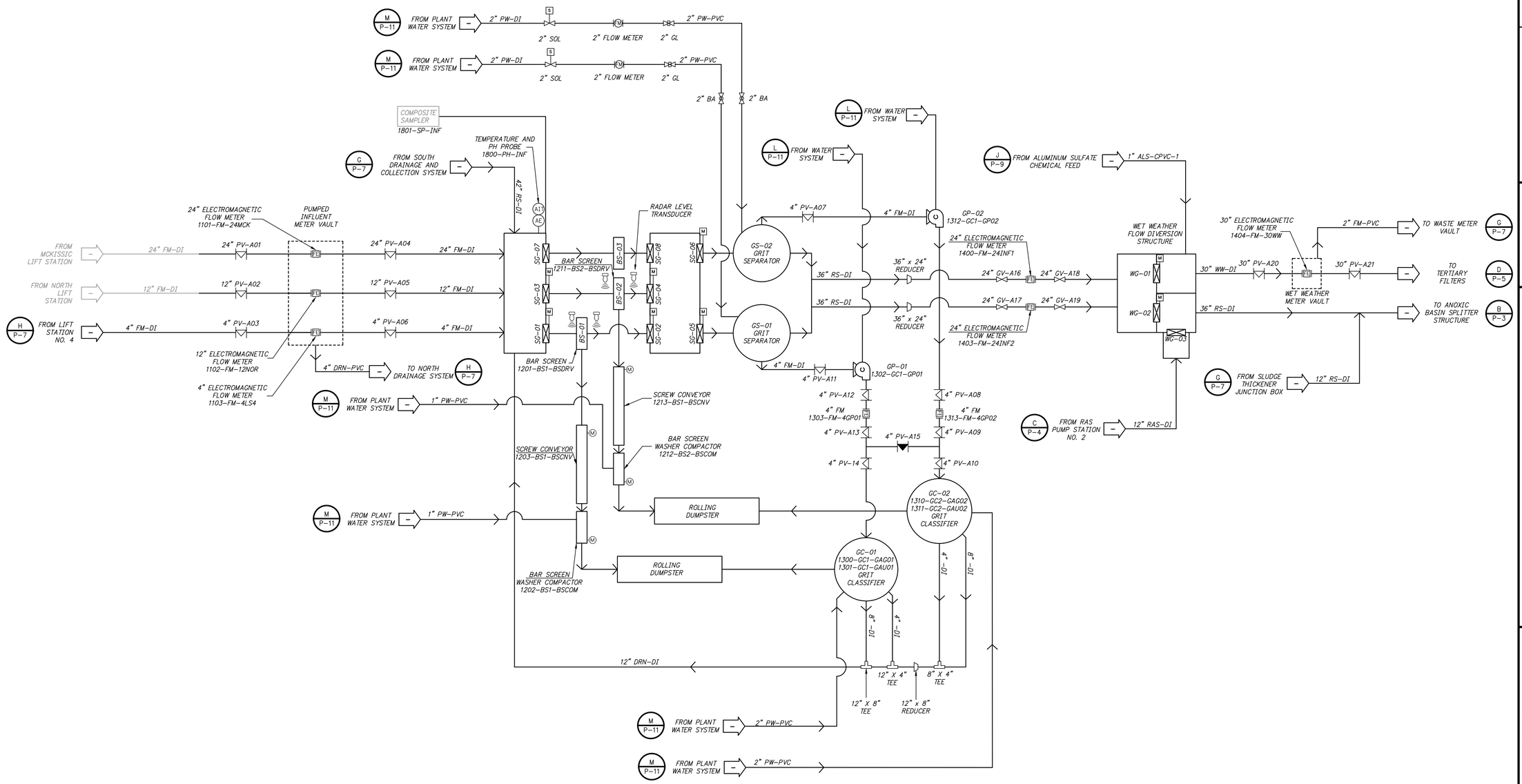

HEADWORKS

P&ID A –

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER MARGARET E. KEELICH No. 20465

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
HEADWORKS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-02

SHEET NO.
P-2

BID DRAWINGS
MARCH 21, 2025

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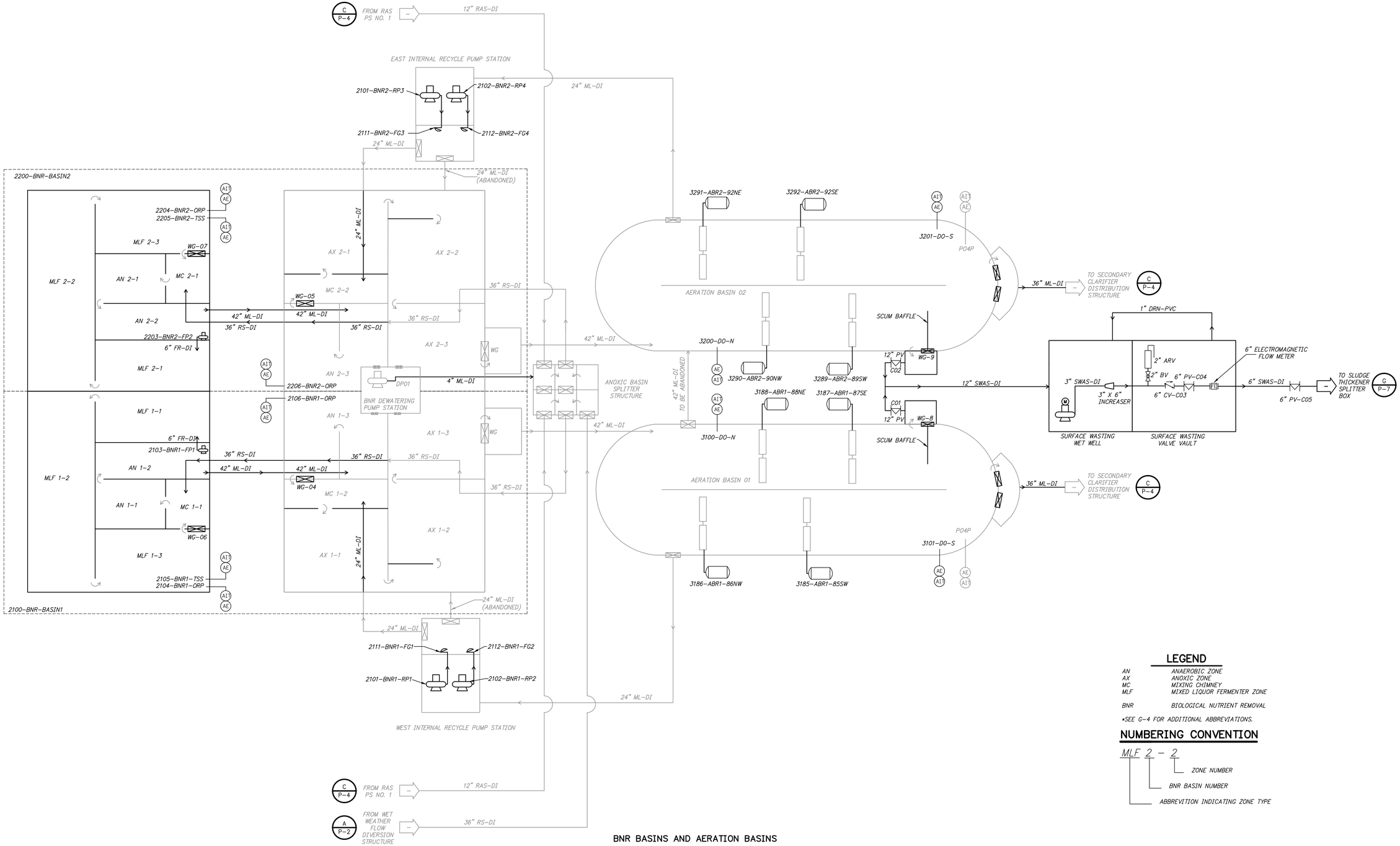

BNR BASINS AND AERATION BASINS

P & ID B –

LEGEND

AN	ANAEROBIC ZONE
AX	ANOXIC ZONE
MC	MIXING CHIMNEY
MLF	MIXED LIQUOR FERMENTER ZONE
BNR	BIOLOGICAL NUTRIENT REMOVAL

*SEE G-4 FOR ADDITIONAL ABBREVIATIONS.

NUMBERING CONVENTION

MLF 2 - 2

- MLF — ABBREVITION INDICATING ZONE TYPE
- 2 — BNR BASIN NUMBER
- 2 — ZONE NUMBER

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 22360
3/21/2025
AMANDA K. JOHNSON

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
BNR BASINS AND AERATION BASINS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: B&V
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-03

SHEET NO.
P-3

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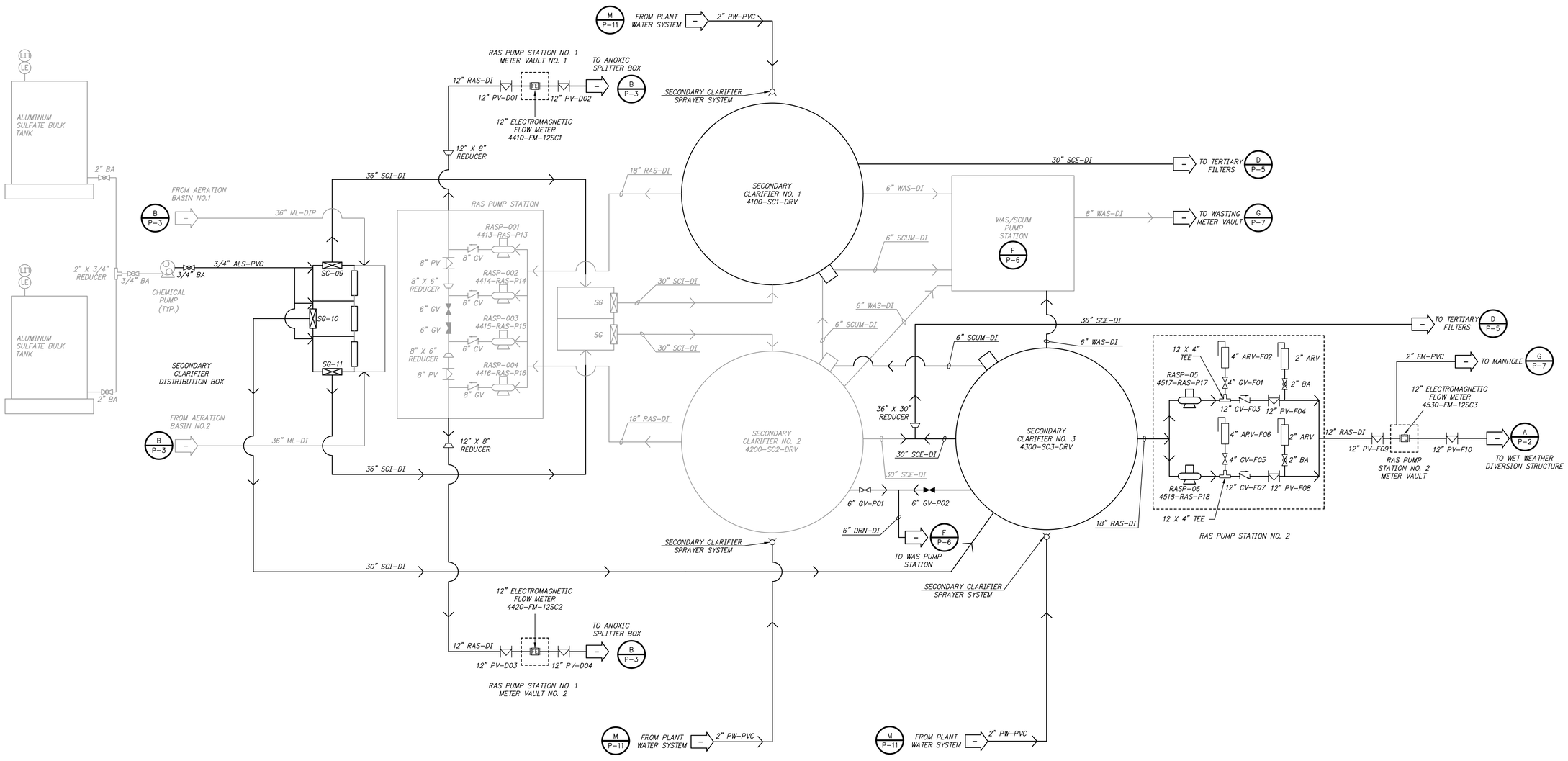

SECONDARY CLARIFIERS AND RAS PUMP STATIONS

P&ID C

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER MARGARET E. KELLEY No. 20465

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM SECONDARY CLARIFIERS AND RAS PUMP STATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-04

SHEET NO.
P-4

BID DRAWINGS
MARCH 21, 2025

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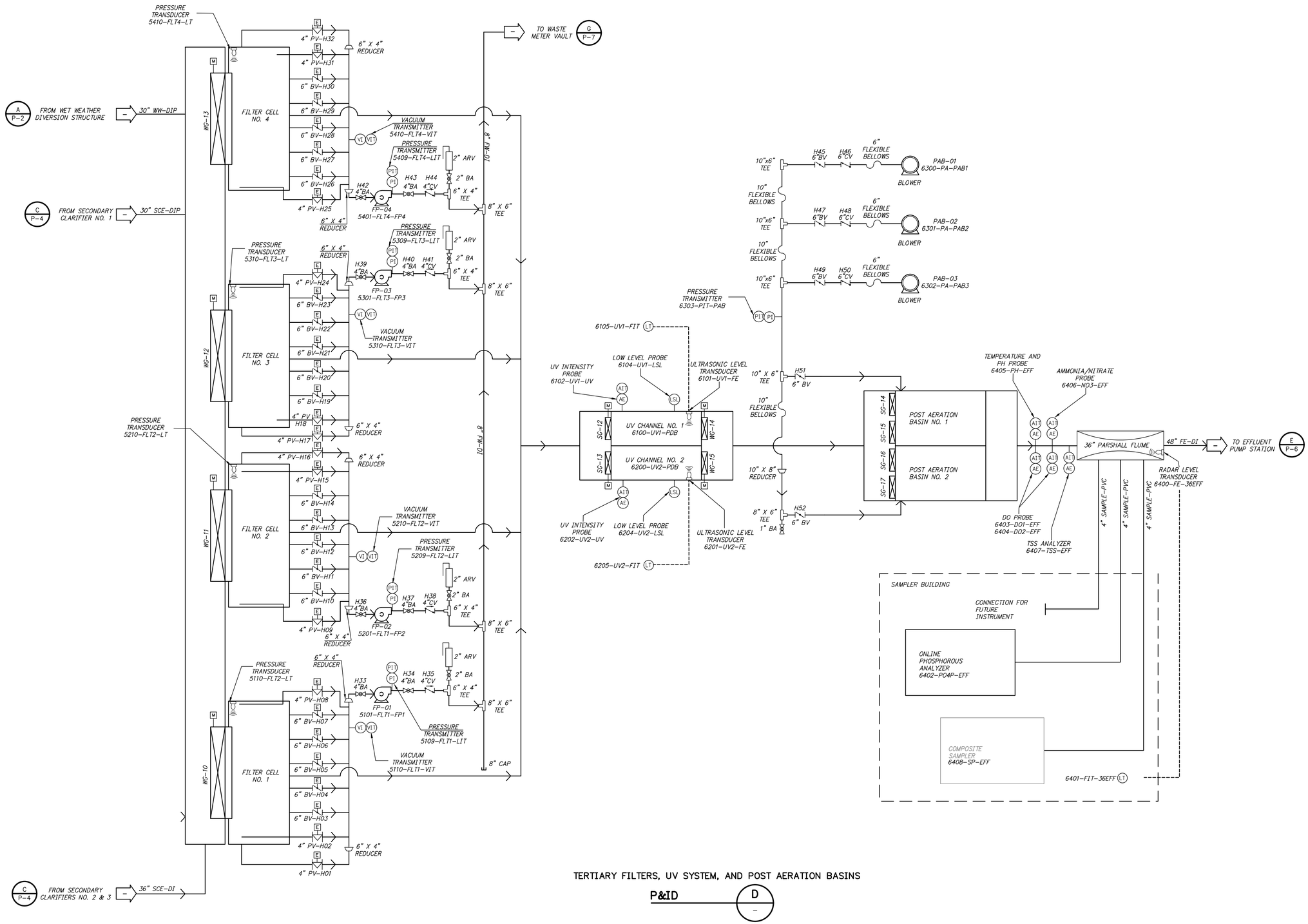

TERTIARY FILTERS, UV SYSTEM, AND POST AERATION BASINS

P&ID D –

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20465
Serving Safely
MARGARET E. KELLEY

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM TERTIARY FILTERS, UV SYSTEM, AND POST AERATION BASINS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-05

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
P-5

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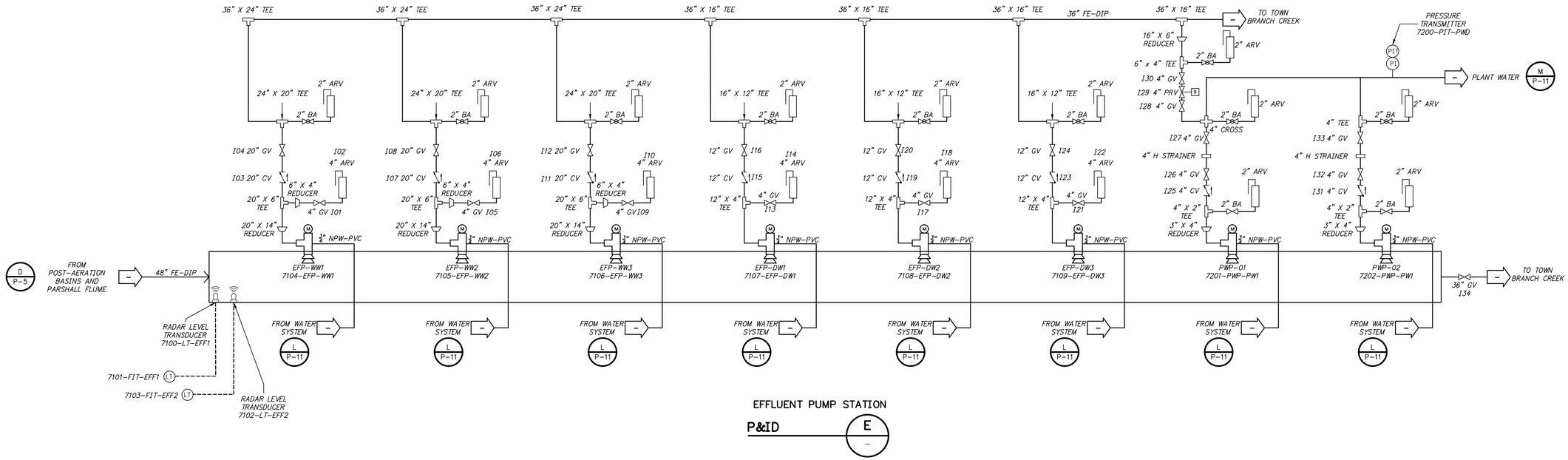
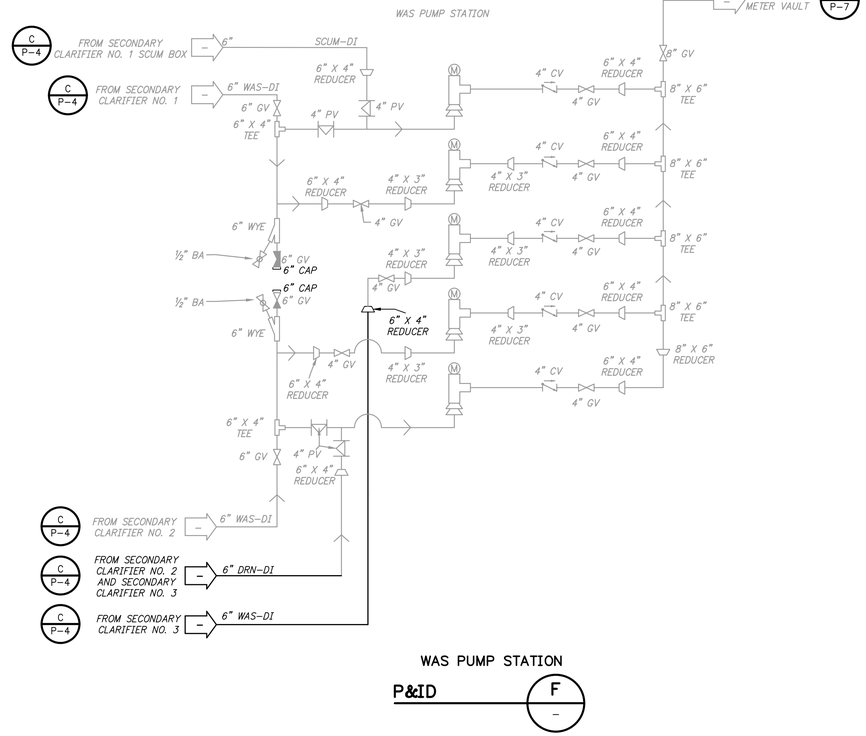


EFFLUENT PUMP STATION

P&ID E –



WAS PUMP STATION

P&ID F –

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

© HAWKINS-WEIR ENGINEERS, INC. 2025

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BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

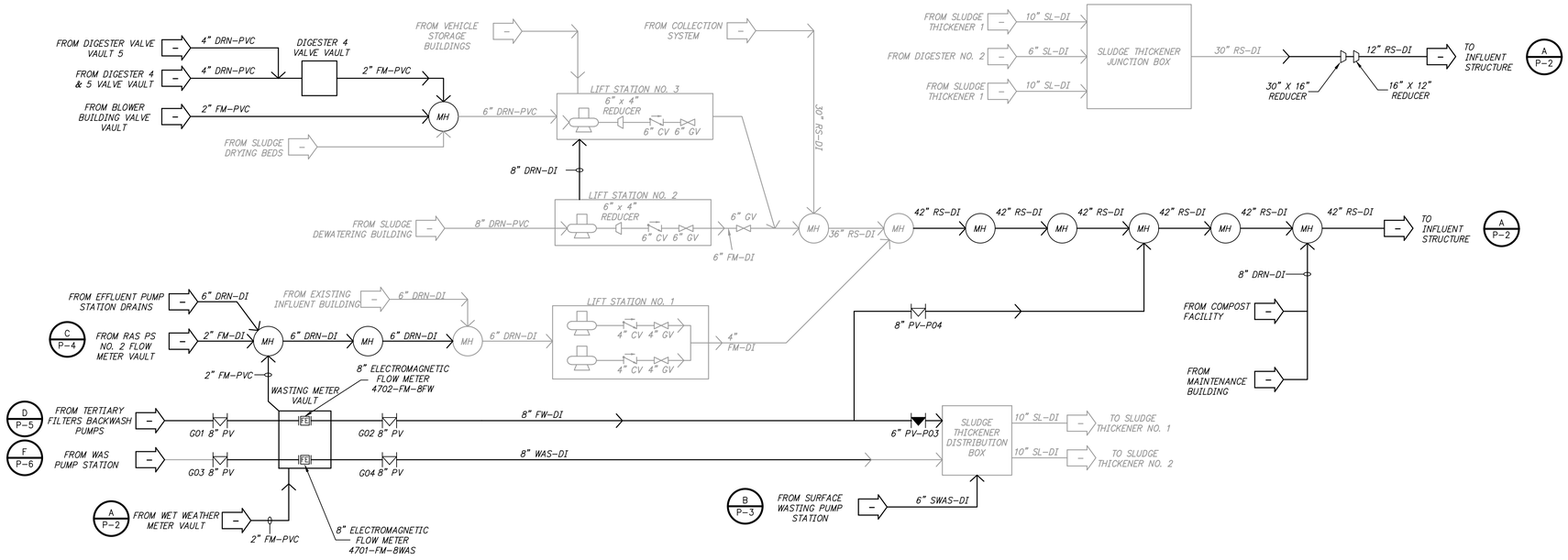
PROCESS AND INSTRUMENTATION DIAGRAM EFFLUENT PUMP STATION AND WAS PUMP STATION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-06

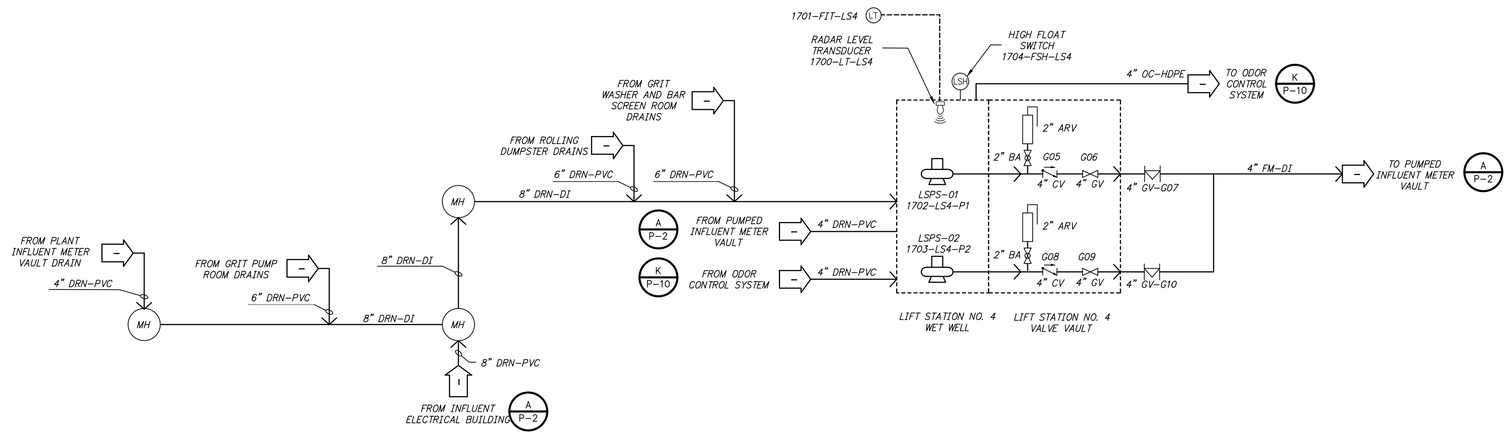
SHEET NO. P-6

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\P-06.DWG, 3/19/2025 9:25 AM, MATT WEIR, LAYOUT1



SOUTH DRAINAGE AND COLLECTION SYSTEM

P&ID G –



NORTH DRAINAGE AND COLLECTION SYSTEM

P&ID H –

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER MARGARET E. KELCH No. 20465

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM NORTH AND SOUTH DRAINAGE AND COLLECTION SYSTEMS

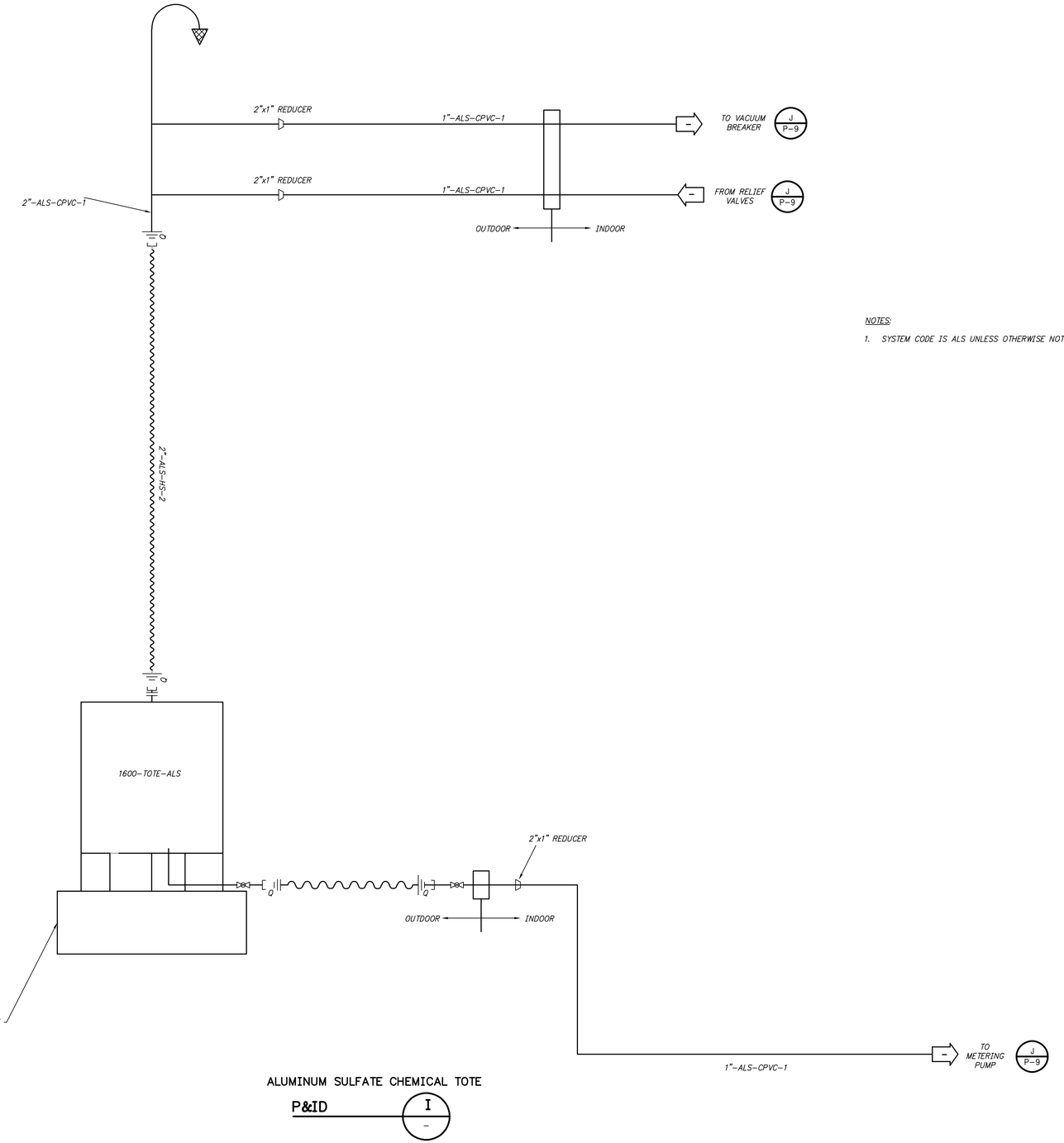
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-07

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
P-7

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\P-07.DWG, 3/19/2025 9:25 AM, MATT WEIR, LAYOUT1



NOTES:

1. SYSTEM CODE IS ALS UNLESS OTHERWISE NOTED

ALUMINUM SULFATE CHEMICAL TOTE

P&ID I –

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 22267
03/21/2025
BRIAN K. BLACKMAN

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

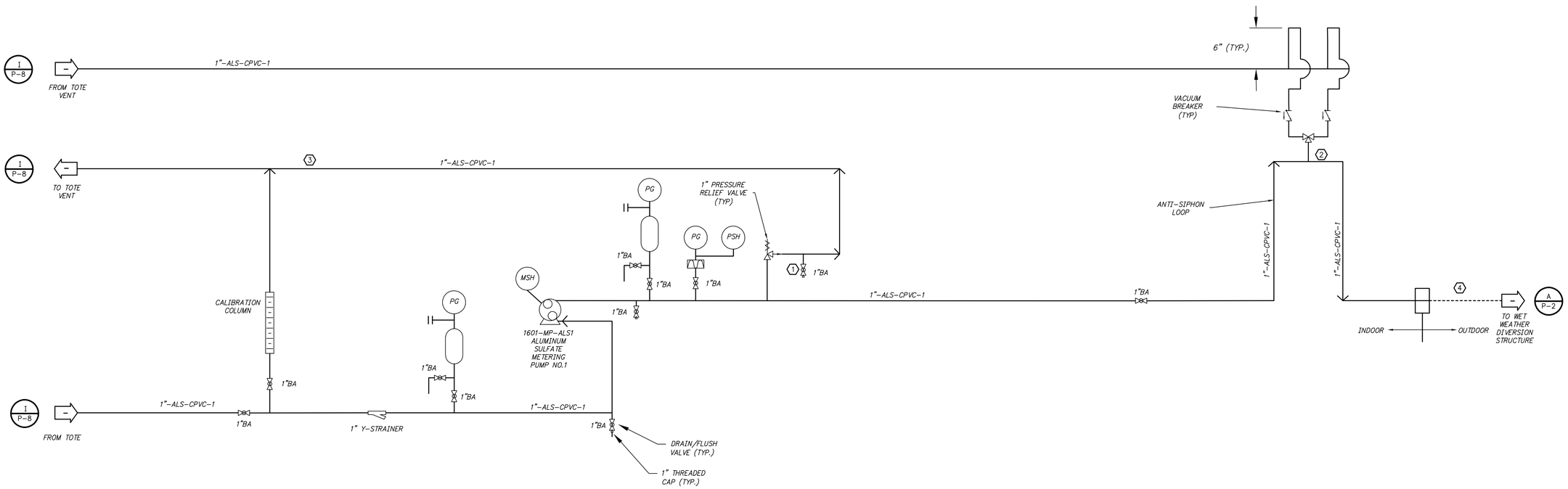
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
ALUMINUM SULFATE CHEMICAL TOTE
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: B&V
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-08

SHEET NO.
P-8

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\P-08.DWG, 1/14/2025 2:56 PM, DANIEL WILLIAMS, LAYOUT1



KEYED NOTES

1. A 6" LENGTH OF CLEAR PVC SHALL BE SUPPLIED AND SOLVENT WELDED IN PLACE AS SHOWN IN THE DRIP LEG.
2. TOP OF ANTI-SIPHON LOOP SHALL BE 2 FEET HIGHER THAN TOTE TOP.
3. ROUTE VENT HEADERS AT LEAST 12" ABOVE TOTE TOP.
4. OUTDOOR PUMP SUCTION AND DISCHARGE PIPE SHALL BE HEAT TRACED AND INSULATED AS SPECIFIED IN SECTION 15250

NOTES:

1. SEE LEGEND ON SHEET P-1
2. SYSTEM CODE ON INSTRUMENTATION IS ALS UNLESS OTHERWISE NOTED
3. LOCAL CONTROL DEVICES, SUCH AS INDICATING LIGHTS AND SWITCHES, LOCATED ON MCCs OR AT EQUIPMENT, MAY NOT BE SHOWN
4. REFER TO SPECIFICATION DIVISION 13 FOR FURTHER DETAIL ON PLC, SCADA CONTROL AND MONITORING

ALUMINUM SULFATE CHEMICAL FEED

P&ID J –

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 22387
03/21/2025
BRIGGS MAN

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
ALUMINUM SULFATE METERING PUMPS
FOR: BENTONVILLE WASTEWATER UTILITIES

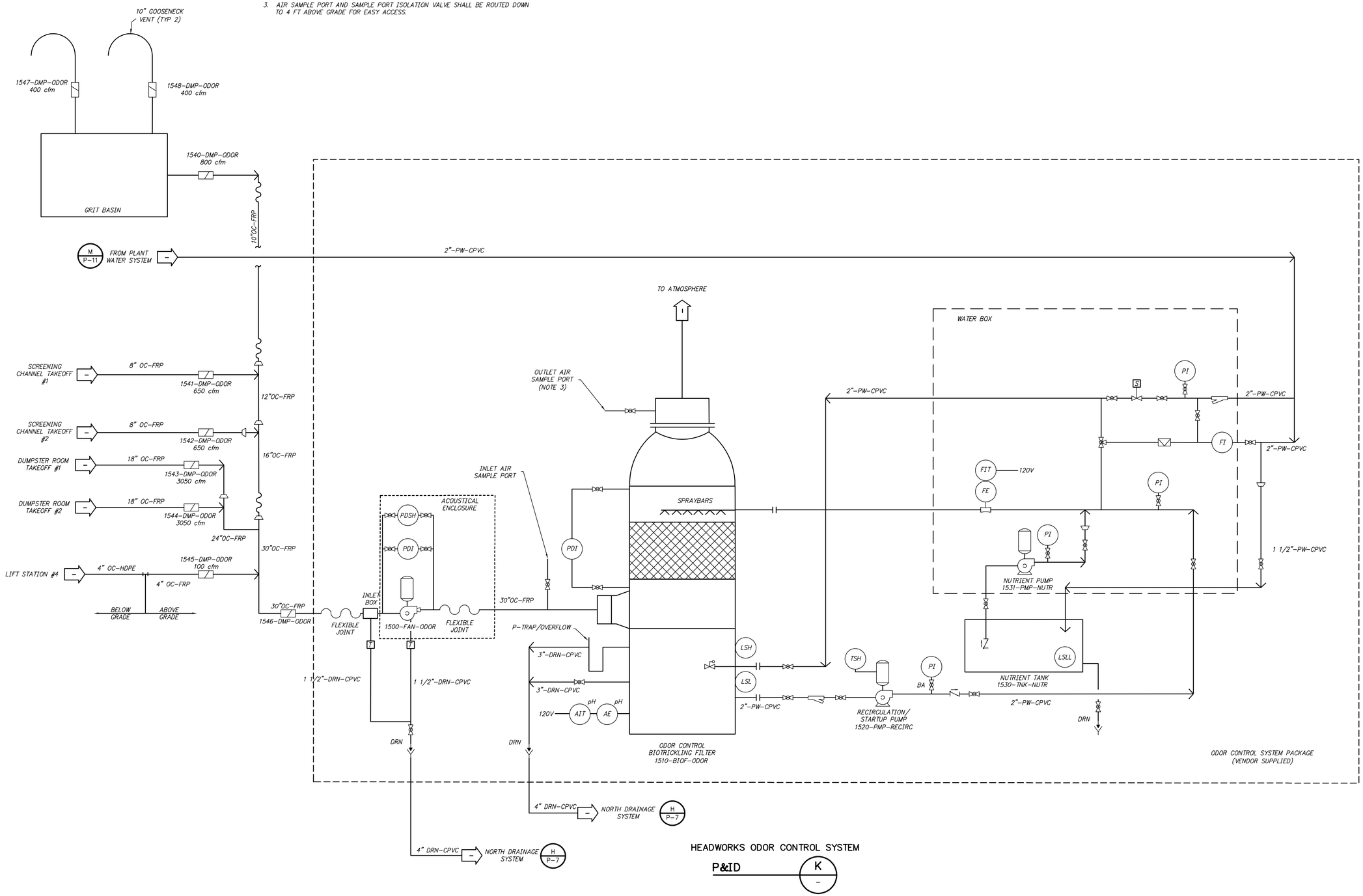
DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: B&V
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-09

SHEET NO.
P-9

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\P-09.DWG, 1/14/2025 2:57 PM, DANIEL WILLIAMS, LAYOUT1

NOTES:

1. SEE LEGEND ON SHEET P-1
2. ALL ABOVE GRADE CONDENSATE DRAINS AND IRRIGATION PIPING SHALL BE INSULATED AND HEAT TRACED AS SPECIFIED IN THE THERMAL INSULATION SPECIFICATION.
3. AIR SAMPLE PORT AND SAMPLE PORT ISOLATION VALVE SHALL BE ROUTED DOWN TO 4 FT ABOVE GRADE FOR EASY ACCESS.



HEADWORKS ODOR CONTROL SYSTEM

P&ID K –

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
MICHELE FRANCOM ROTH
No. 17959
3/21/2025

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
HEADWORKS ODOR CONTROL SYSTEM

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: B&V
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-10

SHEET NO.
P-10

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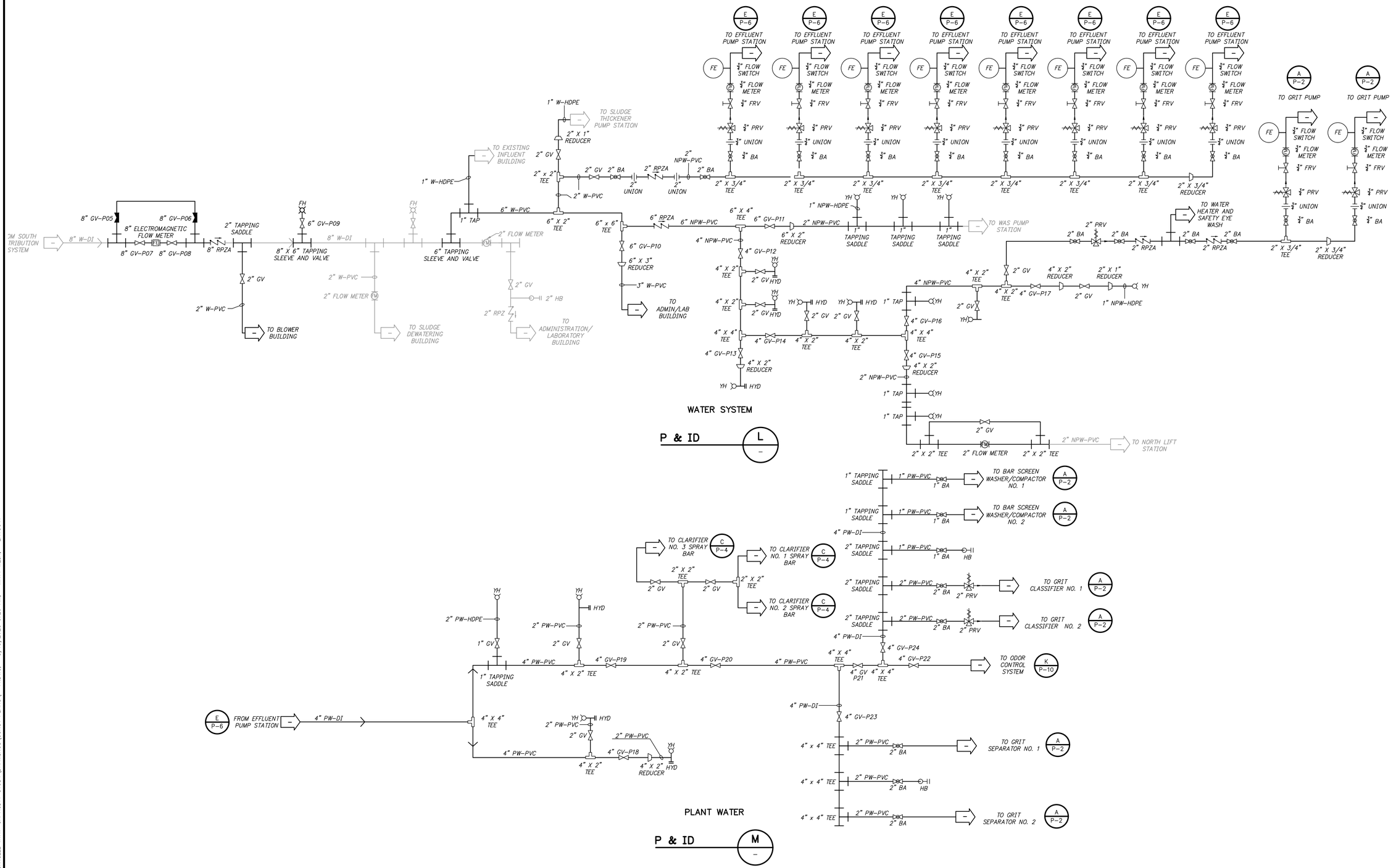

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

REVISION

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Serafina Margaret Keech
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20465

HAWKINS WEIR ENGINEERS, INC.

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM WATER SYSTEMS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: MEK
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-11

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
P-11

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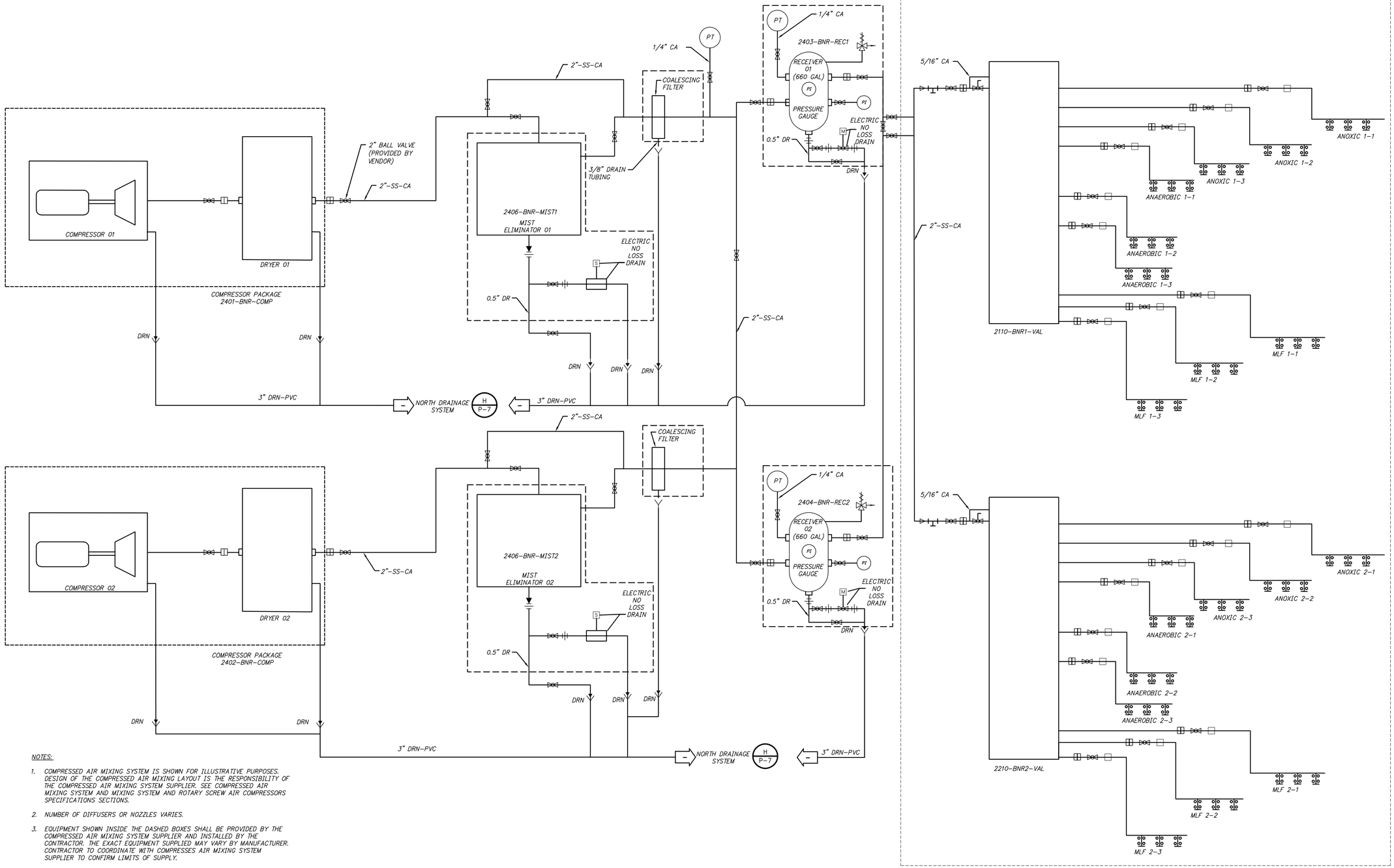

NOTES:

1. COMPRESSED AIR MIXING SYSTEM IS SHOWN FOR ILLUSTRATIVE PURPOSES. DESIGN OF THE COMPRESSED AIR MIXING LAYOUT IS THE RESPONSIBILITY OF THE COMPRESSED AIR MIXING SYSTEM SUPPLIER. SEE COMPRESSED AIR MIXING SYSTEM AND MIXING SYSTEM AND ROTARY SCREW AIR COMPRESSORS SPECIFICATIONS SECTIONS.
2. NUMBER OF DIFFUSERS OR NOZZLES VARIES.
3. EQUIPMENT SHOWN INSIDE THE DASHED BOXES SHALL BE PROVIDED BY THE COMPRESSED AIR MIXING SYSTEM SUPPLIER AND INSTALLED BY THE CONTRACTOR. THE EXACT EQUIPMENT SUPPLIED MAY VARY BY MANUFACTURER. CONTRACTOR TO COORDINATE WITH COMPRESSES AIR MIXING SYSTEM SUPPLIER TO CONFIRM LIMITS OF SUPPLY.
4. COMPRESSED AIR PIPING OUTDOORS AND ABOVE GRADE SHALL BE HEAT TRACED AND INSULATED AS SPECIFIED IN THE THERMAL INSULATION SPECIFICATION.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 22299
03.21.2025
LOREN OVERVIG

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PROCESS AND INSTRUMENTATION DIAGRAM
COMPRESSED AIR SYSTEM
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: N.T.S
DESIGNED BY: B&V
DRAWN BY: MKH
HWEI NO.: 2021037
FILENAME: P-12

SHEET NO.
P-12

Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\P-12.DWG, 1/14/2025 3:00 PM, DANIEL WILLIAMS, LAYOUT1

3/21/2025 2:53:07 PM / NJD / LIFE SAFETY PLAN & CODE ANALYSIS - INFLUENT BUILDING

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

GENERAL CODE INFORMATION & TABULAR DATA

FACILITY NAME
Bentonville Water Resource Recovery Facility Improvements

OWNER
City of Bentonville, Arkansas

FACILITY LOCATION
1901 NE A Street
Bentonville, AR 72712

COUNTY
Benton County

LOCAL FIRE DEPARTMENT
City of Bentonville Fire Department

WATER SUPPLY
City of Bentonville Utilities

REVIEWING AGENCIES
City of Bentonville
Arkansas Dept. of Health

APPLICABLE CODES (PER CITY OF BENTONVILLE):
City of Bentonville Amendments to the 2021 Arkansas Fire Prevention Code Vol. 1
2021 Arkansas Fire Prevention Code
(Vol. 1, 2 & 3 w/ Arkansas Amendments)
2021 Arkansas Mechanical Code
2020 National Electrical Code
2018 Arkansas Plumbing Code
2018 Arkansas Fuel Gas Code
2014 Arkansas Energy Code

These Plans have been prepared by me or under my supervision. I further certify that, to the best of my knowledge, these plans and specifications are as required by law and in compliance with the Arkansas Fire Convention Code for the State of Arkansas.

Galen Hunter #2107 **Date: 3-21-2025**

OCCUPANCY LOAD

OCCUPANCY CLASSIFICATION		OCCUPANCY LOAD CALCULATION		
CLASSIFICATION	AREA	AREA per OCC.	AREA TYPE	OCC. LOAD
ACCESSORY STORAGE AREAS, MECHANICAL EQUIP. ROOM	627 SF	300 SF	GROSS	2
BUSINESS AREAS	3572 SF	150 SF	GROSS	24
NO CLASSIFICATION	1263 SF			0
77: 28	5462 SF			26
ACCESSORY STORAGE AREAS, MECHANICAL EQUIP. ROOM	190 SF	300 SF	GROSS	1
INDUSTRIAL AREAS	6906 SF	100 SF	GROSS	69
NO CLASSIFICATION	302 SF			0
A - INFLUENT BUILDING: 10	7398 SF			70
INDUSTRIAL AREAS	764 SF	100 SF	GROSS	8
A - INFLUENT ELECTRICAL BUILDING: 2	764 SF			8
INDUSTRIAL AREAS	2478 SF	100 SF	GROSS	25
J - ELECTRICAL BUILDING: 2	2478 SF			25
ACCESSORY STORAGE AREAS, MECHANICAL EQUIP. ROOM	627 SF	300 SF	GROSS	2
BUSINESS AREAS	3572 SF	150 SF	GROSS	24
NO CLASSIFICATION	1263 SF			0
L - ADMIN/LAB BUILDING: 28	5462 SF			26
ACCESSORY STORAGE AREAS, MECHANICAL EQUIP. ROOM	328 SF	300 SF	GROSS	1
BUSINESS AREAS	868 SF	150 SF	GROSS	6
INDUSTRIAL AREAS	2956 SF	100 SF	GROSS	30
NO CLASSIFICATION	433 SF			0
M - MAINTENANCE BUILDING: 15	4585 SF			36

SECOND FLOOR - 37
FIRST FLOOR - 27
BASEMENT FLOOR - 6

EGRESS DATA

EXIT ROUTE	DISTANCE
ADMIN/LAB BUILDING	94'-7"
ELECTRICAL BUILDING	39'-0"
HEADWORKS ELEC. BLDG.	26'-0"
INFLUENT BUILDING - FROM BASEMENT	59'-4"
INFLUENT BUILDING - FROM FINISH FLOOR	98'-2"
INFLUENT BUILDING - FROM SECOND FLOOR	148'-6"
INFLUENT ELEC. BLDG.	16'-6"
MAINTENANCE BUILDING	70'-0"

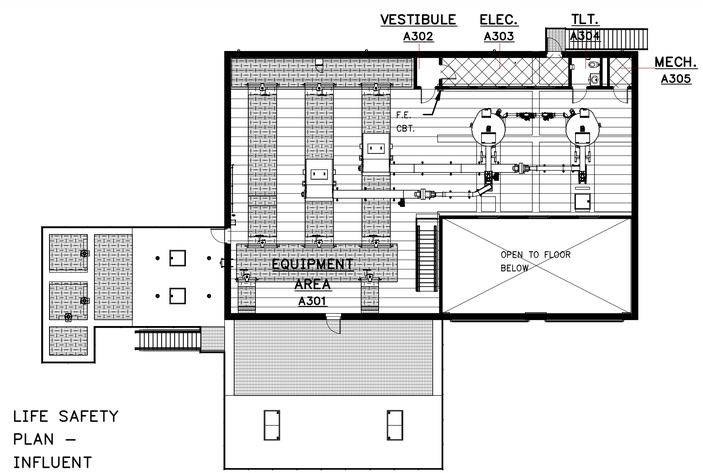
OCCUPANCY CLASSIFICATION (AFPC VOL. II, TABLE 1004.5)

NO CLASSIFICATION
(CORRIDORS, RESTROOMS)

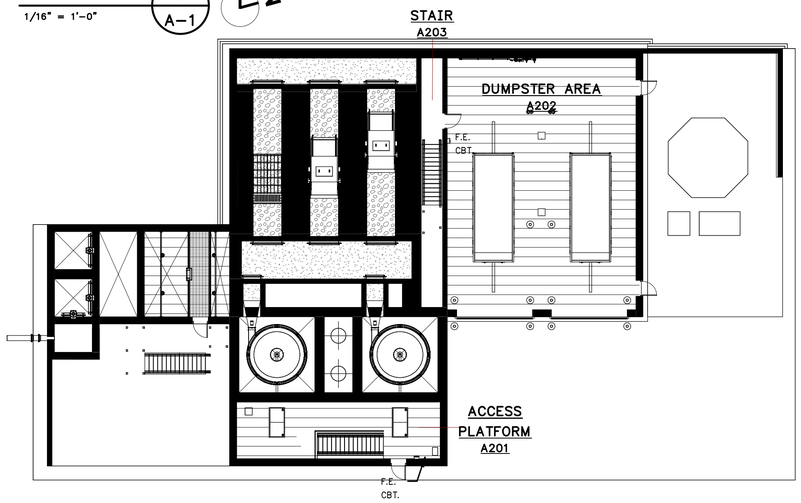
ACCESSORY STORAGE AREA,
MECHANICAL EQUIPMENT ROOM
(OCCUPANT LOAD FACTOR = 300 GROSS)

INDUSTRIAL AREAS
(OCCUPANT LOAD FACTOR = 100 GROSS)

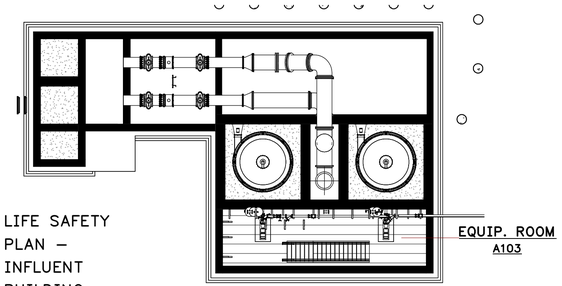
BUSINESS AREAS
(OCCUPANT LOAD FACTOR = 150 GROSS)



LIFE SAFETY PLAN - INFLUENT BUILDING SECOND FLOOR
1/16" = 1'-0"
3 / A-1
PLAN NORTH



LIFE SAFETY PLAN - INFLUENT BUILDING FINISH FLOOR
1/16" = 1'-0"
2 / A-1
PLAN NORTH



LIFE SAFETY PLAN - INFLUENT BUILDING BASEMENT FLOOR
1/16" = 1'-0"
1 / A-1
PLAN NORTH

BID DRAWINGS
MARCH 21, 2025

mahg architecture

INFLUENT BUILDING

FACILITY OCCUPANCY
Moderate Hazard Factory Industrial, Group F-1 (Water/Sewer Treatment Facilities *(AFPC Section 306.2)*

FACILITY PROPERTIES

Basement Floor Area	2,800 sqft
First Floor Area	5,100 sqft
Second Floor Area	3,650 sqft
Total Building Area	11,550 sqft
Building Height	41'-2"
Stories Above Grade	2
Separation from Common Property Lines:	
North	> 60'-0"
South	> 60'-0"
East	> 60'-0"
West	> 60'-0"

CONSTRUCTION TYPE *(AFPC Table 601)*
IIB, Unsprinklered

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) *(AFPC Table 601)*

Primary Structural Frame	0 Hours
Bearing Walls (Interior & Exterior)	0 Hours
Nonbearing Walls & Partitions (Interior & Exterior)	0 Hours
Floor Construction & Assoc. Secondary Members	0 Hours
Roof Construction & Assoc. Secondary Members	0 Hours

ALLOWABLE AREA *(AFPC Table 506.2)*
IIB (NS), F-1 = 15,500 sqft.

ALLOWABLE HEIGHT & STORIES *(AFPC Table 504.3, 504.4)*
IIB (NS), F-1 = 55 Feet, 2 Stories

OCCUPANT LOAD *(Ref. Occupancy Load Table)*

NUMBER OF EXITS REQUIRED FOR OCCUPANT LOAD *(AFPC Table 1006.2.1)*
Only (1) Exit Required Due to Occupant Load
Maximum Common Path of Egress Travel Distance w/out Sprinkler = 100'-0"

AUTOMATIC SPRINKLER SYSTEM
Not Required for Allowable Area or Other Requirements

EXIT ACCESS TRAVEL DISTANCE *(AFPC TABLE 1017.2)*
200'-0" w/out Automatic Sprinkler System

SEPARATIONS OF OCCUPANCIES *(AFPC Table 508.4)*
No separation requirements

MEANS OF EGRESS SIZING - STAIRWAYS w/out SPRINKLER *(AFPC 1005.3.1)*
The capacity, in inches of means of egress stairways shall be calculated by multiplying the occupancy load served by each stairways by a means of egress capacity factor of 0.3 inch (10.5" required, 88" provided)

MEANS OF EGRESS SIZING - OTHER COMPONENTS w/out SPRINKLER *(AFPC 1005.3.2)*
The capacity, in inches of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch. (15" required, 252" provided)

DEAD END CORRIDORS *(AFPC 1020.5)*
20' in buildings not equipped with automatic sprinkler system

MINIMUM CORRIDOR WIDTH *(AFPC TABLE 1020.3)*
36", with an occupant load of less than 50

CORRIDOR FIRE RESISTANCE RATING *(AFPC TABLE 1020.2)*
1 Hour in U occupancy without automatic sprinkler system

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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MAHG ARCHITECTURE, INC.
REGISTERED ARCHITECT
NO. C-98
ARKANSAS
3.21.2025

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HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

LIFE SAFETY PLAN & CODE ANALYSIS - INFLUENT BUILDING

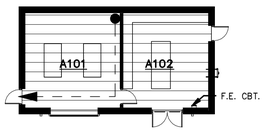
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A-1

3/21/2025 2:53:11 PM / NJD / LIFE SAFETY PLAN & CODE ANALYSIS - ELECTRICAL, ADMINISTRATIVE & MAINTENANCE BUILDINGS

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt



LIFE SAFETY PLAN – INFLUENT ELECTRICAL BUILDING

1/16" = 1'-0"

PLAN NORTH

1 / A-2

INFLUENT ELECTRICAL BUILDING

FACILITY OCCUPANCY
Utility and Miscellaneous, Group U *(AFPC Section 312.1)*

FACILITY PROPERTIES

Area	854 sqft
Building Height	22'-0"
Stories	1

CONSTRUCTION TYPE *(AFPC Table 601)*
IIB, Unsprinklered

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) *(AFPC Table 601)*

Primary Structural Frame	0 Hours
Bearing Walls (Interior & Exterior)	0 Hours
Nonbearing Walls & Partitions (Interior & Exterior)	0 Hours
Floor Construction & Assoc. Secondary Members	0 Hours
Roof Construction & Assoc. Secondary Members	0 Hours

ALLOWABLE AREA *(AFPC Table 506.2)*
IIB (NS), U = 8,500 sqft.

ALLOWABLE HEIGHT & STORIES *(AFPC Table 504.3, 504.4)*
IIB (NS), U = 55 Feet, 2 Stories

OCCUPANT LOAD *(Ref. Occupancy Load Table)*

NUMBER OF EXITS REQUIRED FOR OCCUPANT LOAD *(AFPC Table 1006.2.1)*
Only (1) Exit Required Due to Occupant Load
Maximum Common Path of Egress Travel Distance w/out Sprinkler = 100'-0"

AUTOMATIC SPRINKLER SYSTEM
Not Required for Allowable Area or Other Requirements

EXIT ACCESS TRAVEL DISTANCE *(AFPC TABLE 1017.2)*
300'-0" w/out Automatic Sprinkler System

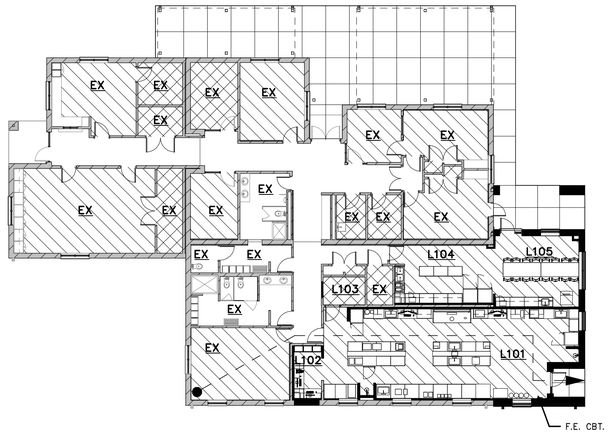
SEPARATIONS OF OCCUPANCIES *(AFPC Table 508.4)*
No separation requirements

MEANS OF EGRESS SIZING – OTHER COMPONENTS w/out SPRINKLER *(AFPC 1005.3.2)*
The capacity, in inches of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch. (1.8" required, 72" provided)

DEAD END CORRIDORS *(AFPC 1020.5)*
20' in buildings not equipped with automatic sprinkler system

MINIMUM CORRIDOR WIDTH *(AFPC TABLE 1020.3)*
36", with an occupant load of less than 50

CORRIDOR FIRE RESISTANCE RATING *(AFPC TABLE 1020.2)*
1 Hour in U occupancy without automatic sprinkler system



LIFE SAFETY PLAN – ADMIN/LAB BUILDING

1/16" = 1'-0"

PLAN NORTH

2 / A-2

ADMINISTRATION & LAB BUILDING

FACILITY OCCUPANCY
Business, Group B *(AFPC Section 304)*

FACILITY PROPERTIES

Existing Building Area	5,350 sqft
Addition Area	625 sqft
Total Building Area	5,975 sqft
Building Height	13'-4"
Stories	1

CONSTRUCTION TYPE *(AFPC Table 601)*
IIB, Unsprinklered

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) *(AFPC Table 601)*

Primary Structural Frame	0 Hours
Bearing Walls (Interior & Exterior)	0 Hours
Nonbearing Walls & Partitions (Interior & Exterior)	0 Hours
Floor Construction & Assoc. Secondary Members	0 Hours
Roof Construction & Assoc. Secondary Members	0 Hours

ALLOWABLE AREA *(AFPC Table 506.2)*
IIB (NS), B = 23,000 sqft.

ALLOWABLE HEIGHT & STORIES *(AFPC Table 504.3, 504.4)*
IIB (NS), B = 55 Feet, 3 Stories

OCCUPANT LOAD *(Ref. Occupancy Load Table)*

NUMBER OF EXITS REQUIRED FOR OCCUPANT LOAD *(AFPC Table 1006.2.1)*
Only (1) Exit Required Due to Occupant Load
Maximum Common Path of Egress Travel Distance w/out Sprinkler = 75'-0"

AUTOMATIC SPRINKLER SYSTEM
Not Required for Allowable Area or Other Requirements

EXIT ACCESS TRAVEL DISTANCE *(AFPC TABLE 1017.2)*
200'-0" w/out Automatic Sprinkler System

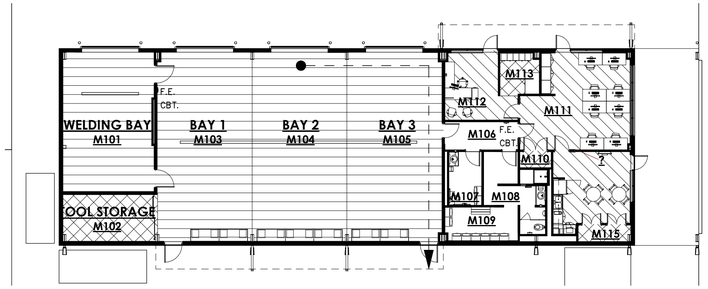
SEPARATIONS OF OCCUPANCIES *(AFPC Table 508.4)*
No separation requirements

MEANS OF EGRESS SIZING – OTHER COMPONENTS w/out SPRINKLER *(AFPC 1005.3.2)*
The capacity, in inches of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch. (8" required, 360" provided)

DEAD END CORRIDORS *(AFPC 1020.5)*
20' in buildings not equipped with automatic sprinkler system

MINIMUM CORRIDOR WIDTH *(AFPC TABLE 1020.3)*
36", with an occupant load of less than 50

CORRIDOR FIRE RESISTANCE RATING *(AFPC TABLE 1020.2)*
1 Hour in B occupancy without automatic sprinkler system



LIFE SAFETY PLAN – MAINTENANCE BUILDING

1/16" = 1'-0"

N

3 / A-2

MAINTENANCE BUILDING

FACILITY OCCUPANCY
Business, Group B *(AFPC Section 304)*
Moderate Hazard Factory Industrial, Group F-1 (Water/Sewer Treatment Facilities *(AFPC Section 306.2)*
Moderate Hazard Storage, Group S-1 (Motor Vehicle Repair Garage *(AFPC Section 311.2)*

FACILITY PROPERTIES

Area	5,015 sqft
Building Height	23'-8"
Stories	1

CONSTRUCTION TYPE *(AFPC Table 601)*
IIB, Unsprinklered

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) *(AFPC Table 601)*

Primary Structural Frame	0 Hours
Bearing Walls (Interior & Exterior)	0 Hours
Nonbearing Walls & Partitions (Interior & Exterior)	0 Hours
Floor Construction & Assoc. Secondary Members	0 Hours
Roof Construction & Assoc. Secondary Members	0 Hours

ALLOWABLE AREA *(AFPC Table 506.2)*
IIB (NS), F-1 = 15,500 sqft.

ALLOWABLE HEIGHT & STORIES *(AFPC Table 504.3, 504.4)*
IIB (NS), F-1 = 55 Feet, 2 Stories

OCCUPANT LOAD *(Ref. Occupancy Load Table)*

NUMBER OF EXITS REQUIRED FOR OCCUPANT LOAD *(AFPC Table 1006.2.1)*
Only (1) Exit Required Due to Occupant Load
Maximum Common Path of Egress Travel Distance w/out Sprinkler = 100'-0"

AUTOMATIC SPRINKLER SYSTEM
Not Required for Allowable Area or Other Requirements

EXIT ACCESS TRAVEL DISTANCE *(AFPC TABLE 1017.2)*
200'-0" w/out Automatic Sprinkler System

SEPARATIONS OF OCCUPANCIES *(AFPC Table 508.4)*
No separation requirements

MEANS OF EGRESS SIZING – OTHER COMPONENTS w/out SPRINKLER *(AFPC 1005.3.2)*
The capacity, in inches of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch. (7.2" required, 180" provided)

DEAD END CORRIDORS *(AFPC 1020.5)*
20' in buildings not equipped with automatic sprinkler system

MINIMUM CORRIDOR WIDTH *(AFPC TABLE 1020.3)*
36", with an occupant load of less than 50

CORRIDOR FIRE RESISTANCE RATING *(AFPC TABLE 1020.2)*
1 Hour in F occupancy without automatic sprinkler system

BID DRAWINGS
MARCH 21, 2025

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1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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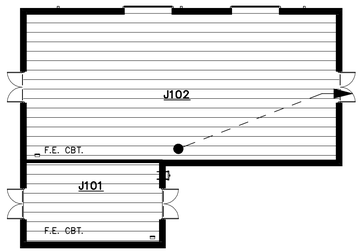
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

LIFE SAFETY PLAN & CODE ANALYSIS – ELECTRICAL, ADMINISTRATIVE & MAINTENANCE BUILDINGS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/16" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A-2



LIFE SAFETY PLAN – EFFLUENT PUMP STATION & ELECTRICAL BUILDING

1/16" = 1'-0"

1 / A-3

PLAN NORTH

ELECTRICAL BUILDING

FACILITY OCCUPANCY
Utility and Miscellaneous, Group U *(AFPC Section 312.1)*

FACILITY PROPERTIES

Area	2,555 sqft
Building Height	20'-8"
Stories	1

CONSTRUCTION TYPE *(AFPC Table 601)*
IIB, Unsprinklered

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) *(AFPC Table 601)*

Primary Structural Frame	0 Hours
Bearing Walls (Interior & Exterior)	0 Hours
Nonbearing Walls & Partitions (Interior & Exterior)	0 Hours
Floor Construction & Assoc. Secondary Members	0 Hours
Roof Construction & Assoc. Secondary Members	0 Hours

ALLOWABLE AREA *(AFPC Table 506.2)*
IIB (NS), U = 8,500 sqft.

ALLOWABLE HEIGHT & STORIES *(AFPC Table 504.3, 504.4)*
IIB (NS), U = 55 Feet, 2 Stories

OCCUPANT LOAD *(Ref. Occupancy Load Table)*

NUMBER OF EXITS REQUIRED FOR OCCUPANT LOAD *(AFPC Table 1006.2.1)*
Only (1) Exit Required Due to Occupant Load
Maximum Common Path of Egress Travel Distance w/out Sprinkler = 100'-0"

AUTOMATIC SPRINKLER SYSTEM
Not Required for Allowable Area or Other Requirements

EXIT ACCESS TRAVEL DISTANCE *(AFPC TABLE 1017.2)*
300'-0" w/out Automatic Sprinkler System

SEPARATIONS OF OCCUPANCIES *(AFPC Table 508.4)*
No separation requirements

MEANS OF EGRESS SIZING – OTHER COMPONENTS w/out SPRINKLER *(AFPC 1005.3.2)*
The capacity, in inches of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch. (1" required, 288" provided)

DEAD END CORRIDORS *(AFPC 1020.5)*
20' in buildings not equipped with automatic sprinkler system

MINIMUM CORRIDOR WIDTH *(AFPC TABLE 1020.3)*
36", with an occupant load of less than 50

CORRIDOR FIRE RESISTANCE RATING *(AFPC TABLE 1020.2)*
1 Hour in U occupancy without automatic sprinkler system

BID DRAWINGS
MARCH 21, 2025

mahg architecture

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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3.21.2025
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

LIFE SAFETY PLAN & CODE ANALYSIS – EFFLUENT PUMP STATION & ELECTRICAL BUILDING

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/16" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A-3

Autodesk Docs://4110144 – Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt
3/21/2025 2:53:12 PM / NJD / LIFE SAFETY PLAN & CODE ANALYSIS – EFFLUENT PUMP STATION & ELECTRICAL BUILDING

3/21/2025 2:53:18 PM / Author / FINISH SCHEDULE, PARTITION TYPES, MOUNTING HEIGHTS & TOILET ACCESSORIES SCHEDULE

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

FINISH SCHEDULE

FINISH SCHEDULE (INFLUENT BUILDING & INFLUENT ELECTRICAL BUILDINGS)

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	
A101	COMPRESSOR	CONC.	----	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	EXP. STR.	2
A102	ELEC.	CONC.	----	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	EXP. STR.	2
A103	EQUIP. ROOM	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A201	ACCESS PLATFORM	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A202	DUMPSTER AREA	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A203	STAIR	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A204	METER ACCESS	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A301	EQUIPMENT AREA	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A302	VESTIBULE	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A303	ELEC.	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A304	TLT.	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2
A305	MECH.	CONC.	----	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	CONC.	PAINT	EXP. STR.	2

FINISH SCHEDULE (EFFLUENT PUMP STATION & ELECTRICAL BUILDING)

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	
J101	ELECTRICAL	CONC.	----	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	EXP. STR.	2
J102	PUMP ROOM	CONC.	----	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	BLK.	PAINT	EXP. STR.	2

FINISH SCHEDULE (ADMIN/LAB BUILDING)

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	
L101	LABORATORY	LVT	VINYL	GWB	PAINT	BLK.	PAINT	GWB	PAINT	BLK.	PAINT	A.C. B.D. 'B'	
L102	LAB TECHS	LVT	VINYL	BLK.	PAINT	BLK.	PAINT	GWB	PAINT	GWB	PAINT	A.C. B.D. 'B'	
L103	CHEM. STOR.	LVT	VINYL	GWB	PAINT	GWB	PAINT	BLK.	PAINT	GWB	PAINT	EXIST.	
L104	BREAK ROOM	LVT	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C. B.D. 'A'	
L105	BREAK ROOM DINING	LVT	VINYL	BLK.	PAINT	BLK.	PAINT	GWB	PAINT	GWB	PAINT	A.C. B.D. 'A'	

FINISH SCHEDULE (MAINTENANCE BUILDING)

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	
M101	WELDING BAY	CONC.	VINYL	L.P.	PRFN.	L.P.	PRFN.	L.P.	PRFN.	L.P.	PRFN.	EXP. STRUC.	2
M102	TOOL STORAGE	CONC.	VINYL	L.P.	PRFN.	----	----	L.P.	PRFN.	L.P.	PRFN.	EXP. STRUC.	2
M103	BAY 1	CONC.	VINYL	L.P.	PRFN.	----	----	L.P.	PRFN.	L.P.	PRFN.	EXP. STRUC.	2
M104	BAY 2	CONC.	VINYL	L.P.	PRFN.	----	----	L.P.	PRFN.	----	----	EXP. STRUC.	2
M105	BAY 3	CONC.	VINYL	L.P.	PRFN.	L.P.	PRFN.	L.P.	PRFN.	----	----	EXP. STRUC.	2
M106	VESTIBULE	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	AC. BD .'A'	
M107	TLT.	LVT	P.T.	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB/P.T.	PAINT	AC. BD. 'B'	7
M108	TLT.	LVT	P.T.	GWB	PAINT	GWB/P.T.	PAINT	GWB	PAINT	GWB	PAINT	VARIES	6
M109	LOCKERS	LVT	P.T.	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	AC. BD. 'B'	
M110	MECH.	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	EXP. STRUC.	2
M111	WORK AREA	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	VARIES	6
M112	OFFICE	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	VARIES	6
M113	FILE STOR.	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	AC. BD .'A'	
M114	BREAK ROOM	LVT	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	VARIES	6
M115	MECH.	CONC.	VINYL	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	EXP. STRUC.	2

ABBREVIATIONS

AC.BD.	ACOUSTIC BOARD CEILING
GWB	GYPSUM WALL BOARD
PT.	PAINT
BLK.	CONC. BLOCK
EXP. STR.	EXPOSED STRUCTURE
MTL.	PREFINISHED METAL PANEL
CONC.	SEALED CONCRETE
LVT	LUXURY VINYL TILE
L.P.	MTL. LINER PANEL
P.T.	PORCELAIN TILE

PAINT

REF. SPECIFICATIONS FOR PAINT TYPES

ACOUSTIC BOARD CEILING

AC.BD. 'A'	2x2 FISSURED
AC.BD. 'B'	2x2 CLEAN ROOM

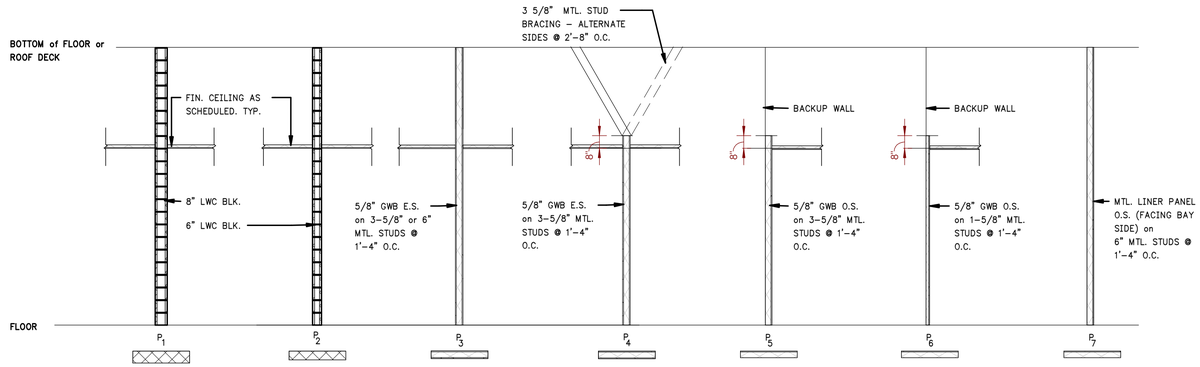
FINISH NOTES

1. ALL EXPOSED CONCRETE FLOORS to be SEALED
2. NO CEILING IN THIS ROOM OR AREA: EXPOSED STRUCTURE / MECHANICAL / ATTACHMENTS TO BE PAINTED , CLEAN BOTTOM of DECK & STRUCTURAL STEEL of ANY FOREIGN MATERIAL, TYP.
3. PAINT ALL GWB CEILINGS & FURR DOWNS
4. PAINT ALL H.M. DOORS & FRAMES
5. PAINT ALL STEEL HANDRAILS/GUARDRAILS
6. CEILING VARIES IN THIS ROOM OR AREA: REFERENCE REFLECTED CEILING PLAN FOR ADDITIONAL INFORMATION.
7. THIS ROOM CONTAINS A PORCELAIN TILE WAINSCOT. REFERENCE TOILET ELEVATIONS FOR MORE INFORMATION
8. REF. REFLECTED CEILING PLAN FOR CEILING HEIGHTS

TOILET ACCESSORIES

1. GRAB BARS – 36" LENGTHS, HORIZONTAL, AND 18" VERTICAL as SHOWN on DRAWINGS – REINFORCE WALLS as REQ'D for MOUNTING (GC PROVIDED, GC INSTALLED)
2. TOILET TISSUE DISPENSER – SURFACE MOUNTED (GC PROVIDED, GC INSTALLED)
3. SOAP DISPENSER – SURFACE MOUNTED (OWNER PROVIDED, OWNER INSTALLED)
4. MIRROR – 24"x30" – SURFACE MOUNTED (GC PROVIDED, GC INSTALLED)
5. PAPER TOWEL DISPENSER – SURFACE MOUNTED (GC PROVIDED, GC INSTALLED)
6. SHOWER CURTAIN & ROD (GC PROVIDED, GC INSTALLED)

NOTES:
1. TOILET PARTITION DOORS SHALL BE 2'-10" @ ALL HANDICAP STALLS INDICATED THUS: & SHALL BE 2'-0" @ ALL OTHER LOCATIONS



PARTITION P3 MODIFIERS:
A – MTL. LINER PANEL O.S. (FACING BAY SIDE)
B – MTL. LINER PANEL E.S.

PARTITION TYPE NOTES:

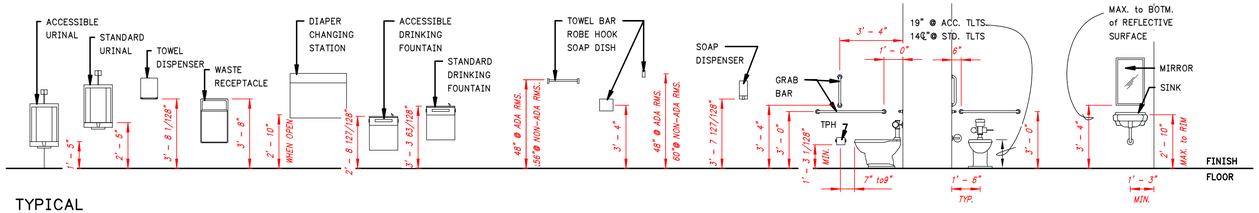
1. INSTALL SOUND ATTENUATION BATTS in ALL INTERIOR PARTITIONS SEPARATING OCCUPIED SPACES from OTHER OCCUPIED SPACES, INCLUDING OFFICES, BATHROOMS, CONFERENCE ROOMS & CORRIDORS
2. INSTALL SOUND ATTENUATION BATTS in ALL INTERIOR PARTITIONS SEPARATING OCCUPIED SPACES from MECHANICAL ROOMS or CHASES
3. AT ALL 1HR & 2HR PARTITIONS, INSTALL 3" HIGH STENCILING 8" ABOVE DECORATIVE CEILING & CONCEALED SPACE. WORDING to be "FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS." STENCILING to be 10'-0" O.C.
4. ALL INTERIOR DRYWALL MTL. STUDS to be 20GA. UNLESS OTHERWISE NOTED
5. SEAL WALL to BOTTOM of DECK w/ UL APPROVED ASSEMBLY @ RATED PARTITIONS (REF. LIFE SAFETY PLANS for RATED WALL LOCATIONS)
6. GYP. BOARD THAT IS EXPOSED to VIEW IS to be FINISHED & PAINTED. GYP. BOARD THAT IS NOT EXPOSED to VIEW IS to be FINISHED

FIRESTOPPING NOTES:

1. CONTRACTOR to SEAL ALL PENETRATIONS THRU RATED WALL per THE U.L. ASSEMBLY REQUIRED for EACH PARTICULAR TYPE of PENETRATION (PIPE, CONDUIT, DUCT, ETC.) AND WALL CONDITION (GYP. BOARD/MTL. STUDS, CMU, CONCRETE, ETC.)
2. CONTRACTOR to PROVIDE DATA SHEETS of EACH TYPE of U.L. ASSEMBLY USED
3. DATA SHEETS ot BE KEPT on FILE at JOBSITE OFFICE DURING CONSTRUCTION for THE BUILDING INSPECTOR'S USE
4. DATA SHEETS to BE INCLUDED as PART of THE REQUIRED CLOSE-OUT DOCUMENTATION at THE END of THE PROJECT for THE STATE DEPARTMENT of HEALTH'S AND LOCAL BUILDING CODE'S FINAL INSPECTIONS

PARTITION TYPES

1/4" = 1'-0"



TYPICAL MOUNTING HEIGHT ELEVATIONS

1/4" = 1'-0"

1 / A-4

BID DRAWINGS
MARCH 21, 2025

mahg architecture

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

FINISH SCHEDULE, PARTITION TYPES, MOUNTING HEIGHTS & TOILET ACCESSORIES SCHEDULE

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A-4

DOOR SCHEDULE

DOOR SCHEDULE (INFLUENT BUILDING & INFLUENT ELECTRICAL BUILDINGS)

INDENTIFICATION		DOOR PANEL							DOOR FRAME					RATING	REMARKS
											DETAILS				
DOOR NO.	ROOM NO.	DOOR TYPE	# OF LEAFS	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	FRAME ELEV.	FINISH	HEAD	JAMB	SILL		
A101	A101	OCD	1	10' – 0"	10' – 0"	2"	ALUM.	PRFN.	5	PRFN.	1/A–6	2/A–6	3/A–6	----	3
A102	A101	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–6	5/A–6	6/A–6	----	3
A103	A102	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	
A104L&R	A102	FV	2	3' – 2"	7' – 2"	1 3/4"	ALUM.	PRFN.	3	PRFN.	7/A–6	5/A–6	6/A–6	----	3, 5
A105	A102	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–6	5/A–6	6/A–6	----	3
A201	A201	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	11/A–6	12/A–6	6/A–6	----	3
A203	A204	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	11/A–6	12/A–6	6/A–6	----	3
A204		OCD	1	16' – 0"	20' – 0"	2"	ALUM.	PRFN.	5	PRFN.	1/A–6	2/A–6	3/A–6	----	3
A205		OCD	1	16' – 0"	20' – 0"	2"	ALUM.	PRFN.	5	PRFN.	1/A–6	2/A–6	3/A–6	----	3
A206	A202	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	11/A–6	12/A–6	6/A–6	----	3
A207	A202	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	11/A–6	12/A–6	6/A–6	----	3
A208	A203	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	11/A–6	12/A–6	10/A–6	----	
A301	A301	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–6	5/A–6	6/A–6	----	3
A302	A301	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–6	5/A–6	6/A–6	----	3
A303	A301	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	
A304	A302	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	
A305	A303	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–6	5/A–6	6/A–6	----	3
A306	A301	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	6
A307	A301	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	6

DOOR SCHEDULE (EFFLUENT PUMP STATION & ELECTRICAL BUILDING)

INDENTIFICATION		DOOR PANEL							DOOR FRAME					RATING	REMARKS
											DETAILS				
DOOR NO.	ROOM NO.	DOOR TYPE	# OF LEAFS	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	FRAME ELEV.	FINISH	HEAD	JAMB	SILL		
J101L&R	J101	FV	2	3' – 2"	7' – 2"	1 3/4"	ALUM.	PRFN.	3	PRFN.	7/A–6	5/A–6	6/A–6	----	3, 5
J102L&R	J101	FV	2	3' – 2"	7' – 2"	1 3/4"	ALUM.	PRFN.	2	PRFN.	4/A–6	5/A–6	6/A–6	----	3
J103L&R	J102	FV	2	3' – 2"	7' – 2"	1 3/4"	ALUM.	PRFN.	2	PRFN.	4/A–6	5/A–6	6/A–6	----	3
J104L&R	J102	FV	2	3' – 2"	7' – 2"	1 3/4"	ALUM.	PRFN.	2	PRFN.	4/A–6	5/A–6	6/A–6	----	3
J105	J102	OCD	1	10' – 0"	10' – 0"	2"	ALUM.	PRFN.	5	PRFN.	1/A–6	2/A–6	3/A–6	----	3
J106	J102	OCD	1	10' – 0"	10' – 0"	2"	ALUM.	PRFN.	5	PRFN.	1/A–6	2/A–6	3/A–6	----	3

DOOR SCHEDULE (ADMIN/LAB BUILDING)

INDENTIFICATION		DOOR PANEL							DOOR FRAME					RATING	REMARKS
											DETAILS				
DOOR NO.	ROOM NO.	DOOR TYPE	# OF LEAFS	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	FRAME ELEV.	FINISH	HEAD	JAMB	SILL		
L101	L101	AL	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	4/A–6	5/A–6	6/A–6	----	3
L102	L103	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	8/A–6	9/A–6	10/A–6	----	4
L103	L105	AL	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	4/A–6	5/A–6	6/A–6	----	3

DOOR SCHEDULE (MAINTENANCE BUILDING)

INDENTIFICATION		DOOR PANEL							DOOR FRAME					RATING	REMARKS
											DETAILS				
DOOR NO.	ROOM NO.	DOOR TYPE	# OF LEAFS	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	FRAME ELEV.	FINISH	HEAD	JAMB	SILL		
M101	M101	OCD	1	12' – 0"	12' – 0"	2"	ALUM.	PRFN.	5	PRFN.	4/AM–6	1/A–7	4/AM–6	----	3
M102	M103	OCD	1	12' – 0"	12' – 0"	2"	ALUM.	PRFN.	5	PRFN.	4/AM–6	1/A–7	4/AM–6	----	3
M103	M104	OCD	1	12' – 0"	12' – 0"	2"	ALUM.	PRFN.	5	PRFN.	4/AM–6	1/A–7	4/AM–6	----	3
M104	M105	OCD	1	12' – 0"	12' – 0"	2"	ALUM.	PRFN.	5	PRFN.	4/AM–6	1/A–7	4/AM–6	----	3
M105	M103	F	1	3' – 8"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–7	5/A–7	10/A–6	----	
M106	M103	F	1	3' – 8"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	4/A–7	5/A–7	10/A–6	----	
M107	M103	FV	1	3' – 8"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	2/A–7	3/A–7	6/A–6	----	3
M108	M105	FV	1	3' – 8"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	2/A–7	3/A–7	6/A–6	----	3
M109	M106	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	6/A–7	7/A–7	10/A–6	----	
M110	M107	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	6/A–7	7/A–7	10/A–6	----	
M111	M108	F	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	1	PRFN.	6/A–7	7/A–7	10/A–6	----	
M112	M111	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	6/A–7	7/A–7	10/A–6	----	
M113L&R	M111	F	2	2' – 6"	7' – 2"	1 3/4"	ALUM.	PRFN.	2	PRFN.	6/A–7	7/A–7	10/A–6	----	
M114	M112	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	6/A–7	7/A–7	10/A–6	----	
M115	M112	ALUM	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	6	PRFN.	2/A–7 SIM	3/A–7 SIM	6/A–6	----	3
M116	M111	ALUM	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	7	PRFN.	2/A–7 SIM	3/A–7 SIM	6/A–6	----	3
M117	M114	FV	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	4	PRFN.	6/A–7	7/A–7	10/A–6	----	
M118L&R	M114	F	2	2' – 0"	7' – 0"	1 3/4"	ALUM.	PRFN.	2	PRFN.	6/A–7	7/A–7	10/A–6	----	
M119L&R	M114	F	2	2' – 0"	7' – 0"	1 3/4"	ALUM.	PRFN.	2	PRFN.	6/A–7	7/A–7	10/A–6	----	
M120	M114	ALUM	1	3' – 0"	7' – 2"	1 3/4"	ALUM.	PRFN.	6	PRFN.	2/A–7 SIM	3/A–7 SIM	6/A–6	----	3

DOOR NOTES

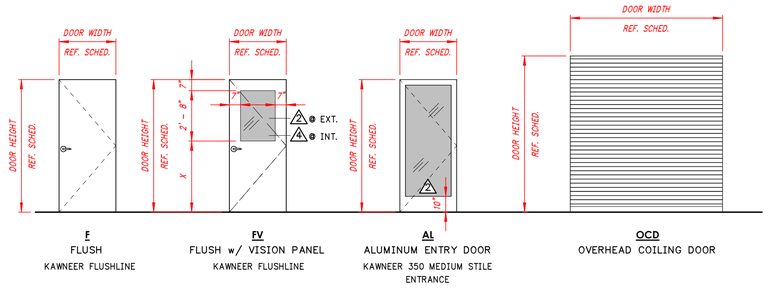
1. PROVIDE ALUMINUM THRESHOLD @ EXTERIOR DOORS (U.N.O)
2. REFERENCE DOOR HARDWARE SPECIFICATIONS for HARDWARE SETS
3. EXTERIOR DOOR
4. DOOR LOCATED IN EXISTING BLOCK WALL
5. DOOR HAS REMOVABLE TRANSOM
6. DOOR HAS 1/2" UNDERCUT FOR AIR TRANSFER

ABBREVIATIONS

ALUM.	ALUMINUM
H.M.	HOLLOW METAL
WD.	WOOD
EXT.	EXTERIOR
MANUF.	MANUFACTURER

GLAZING SCHEDULE

1	1" INSULATED TINTED GLASS
2	1" INSULATED TINTED TEMPERED GLASS
3	1/4" CLEAR GLASS
4	1/4" CLEAR TEMPERED GLASS



F FLUSH
KAWNEER FLUSHLINE

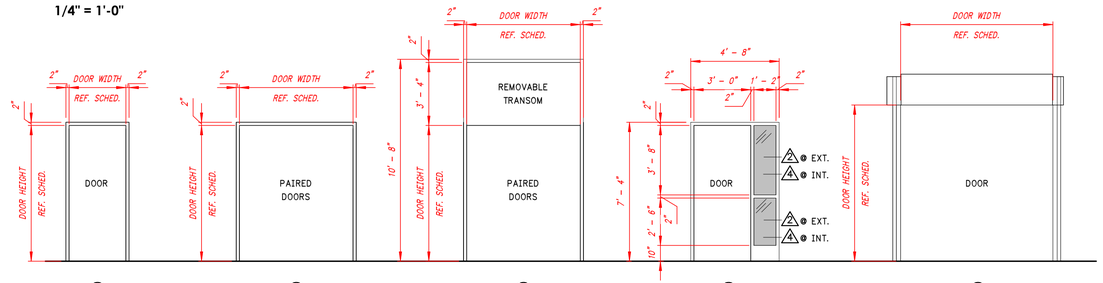
FV FLUSH w/ VISION PANEL
KAWNEER FLUSHLINE

AL ALUMINUM ENTRY DOOR
KAWNEER 350 MEDIUM STILE ENTRANCE

OCD OVERHEAD COILING DOOR

DOOR ELEVATION

1/4" = 1'-0"



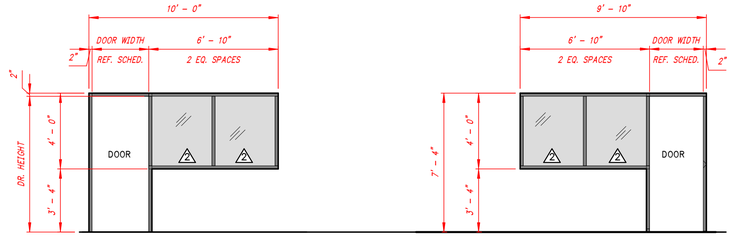
① ALUMINUM
@ INT.:KAWNEER 450
@ EXT.: KAWNEER TRIFAB VG 451T

② ALUMINUM
@ INT.:KAWNEER 450
@ EXT.: KAWNEER TRIFAB VG 451T

③ ALUMINUM
KAWNEER TRIFAB VG 451T

④ ALUMINUM
@ INT.:KAWNEER 450
@ EXT.: KAWNEER TRIFAB VG 451T

⑤ STL.

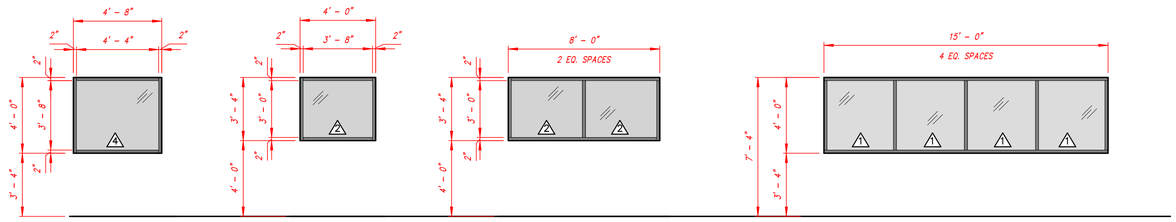


⑥ ALUMINUM
KAWNEER TRIFAB VG 451T

⑦ ALUMINUM
KAWNEER TRIFAB VG 451T

DOOR FRAME ELEVATIONS

1/4" = 1'-0"



(W-A1) ALUMINUM
KAWNEER TRIFAB VG 451T

(W-L1) ALUMINUM
KAWNEER TRIFAB VG 451T

(W-L2) ALUMINUM
KAWNEER TRIFAB VG 451T

(W-M) ALUMINUM
KAWNEER TRIFAB VG 451T

WINDOW ELEVATIONS

1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

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ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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REGISTERED ARCHITECT
NO. C-98
3.21.2025
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

DOOR SCHEDULE, DOOR & FRAME ELEVATIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A–5

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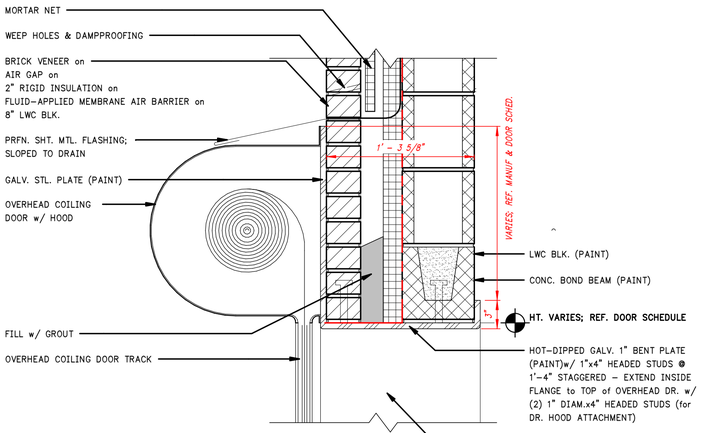
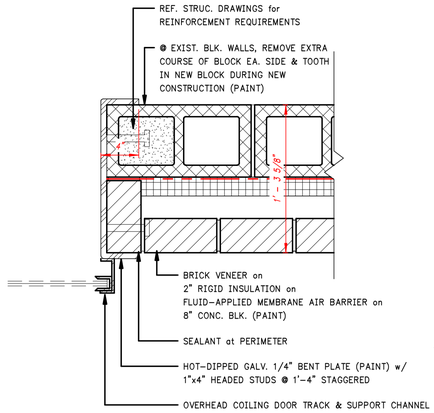
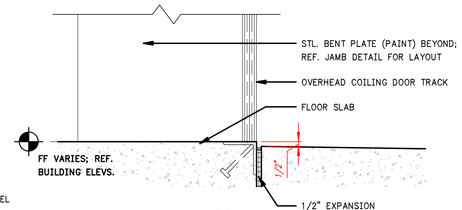


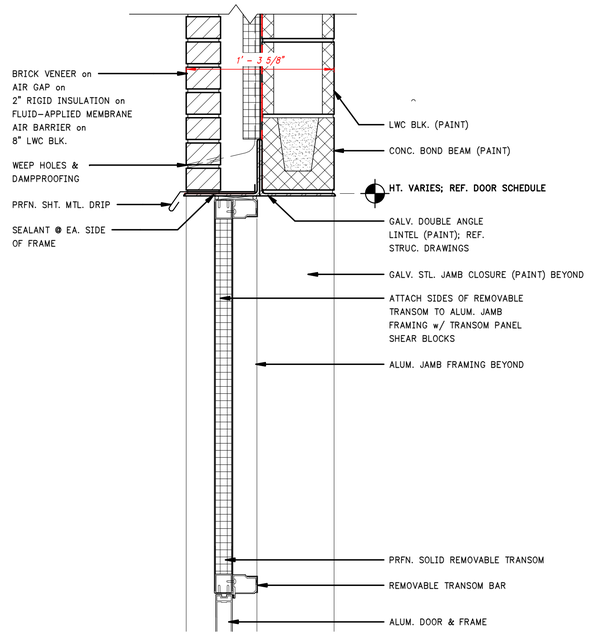
HEAD — 1 1/2" = 1'-0" — 1 / A-6



JAMB — 1 1/2" = 1'-0" — 2 / A-6



SILL — 1 1/2" = 1'-0" — 3 / A-6



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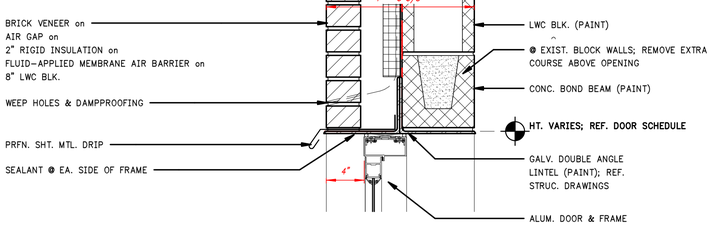
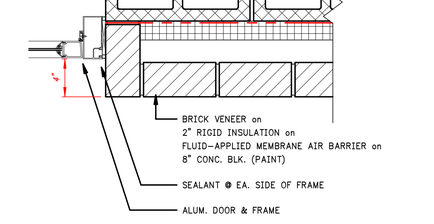


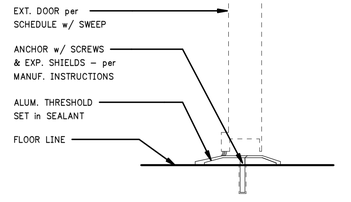
HEAD — 1 1/2" = 1'-0" — 4 / A-6

NOTE:
DETAIL FOR DUTCT/LOUVER PENETRATION SIMILAR

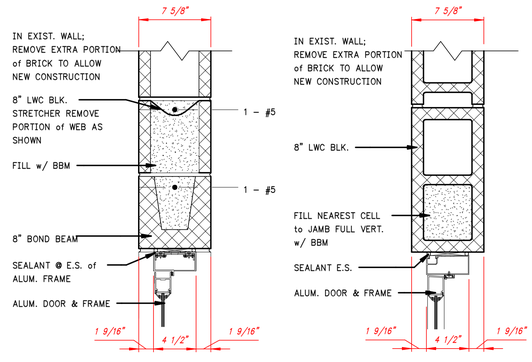


JAMB — 1 1/2" = 1'-0" — 5 / A-6

NOTE:
DETAIL FOR DUTCT/LOUVER PENETRATION SIMILAR

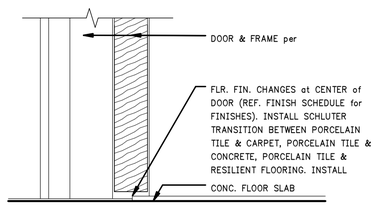


SILL — 3" = 1'-0" — 6 / A-6

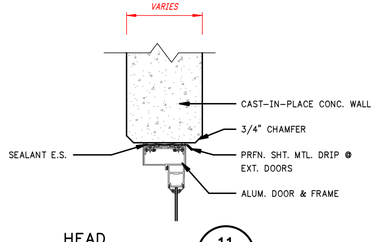


HEAD — 1 1/2" = 1'-0" — 8 / A-6

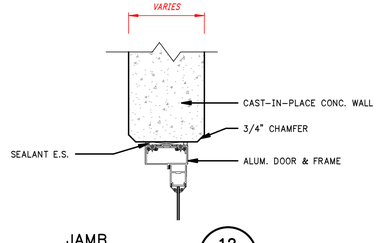
JAMB — 1 1/2" = 1'-0" — 9 / A-6



SILL — 3" = 1'-0" — 10 / A-6



HEAD — 1 1/2" = 1'-0" — 11 / A-6



JAMB — 1 1/2" = 1'-0" — 12 / A-6

BID DRAWINGS
MARCH 21, 2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

DOOR DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO. A-6

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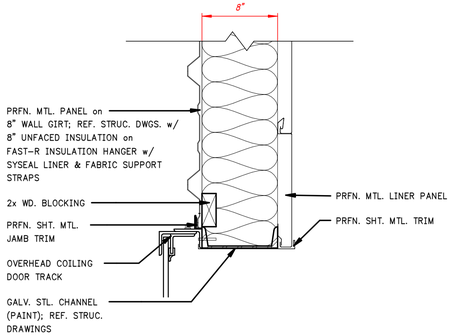
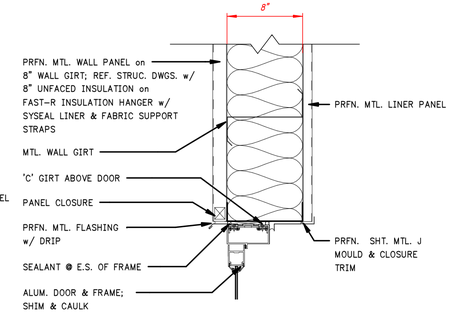


JAMB 1 — 1 1/2" = 1'-0" — A-7



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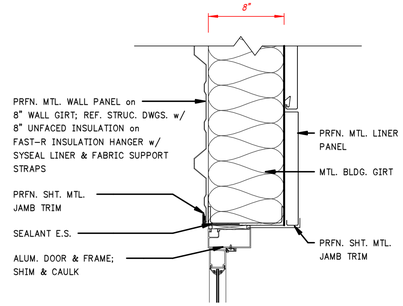
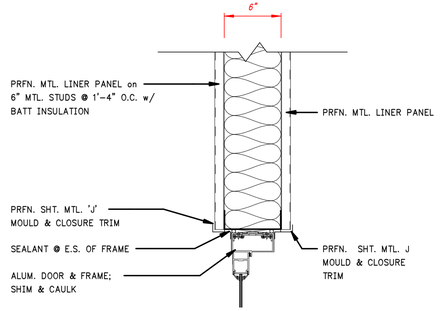
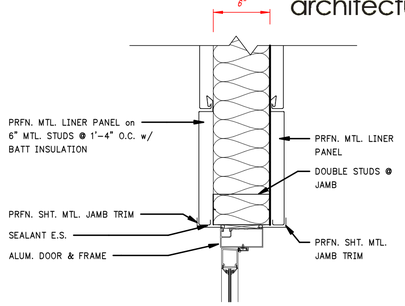


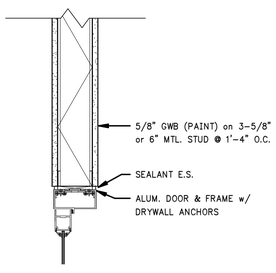
JAMB 3 — 1 1/2" = 1'-0" — A-7



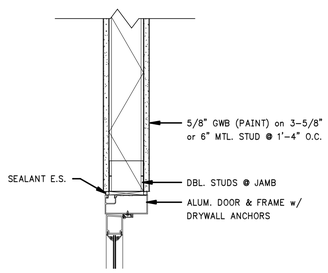
HEAD 4 — 1 1/2" = 1'-0" — A-7



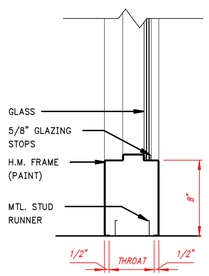
JAMB 5 — 1 1/2" = 1'-0" — A-7



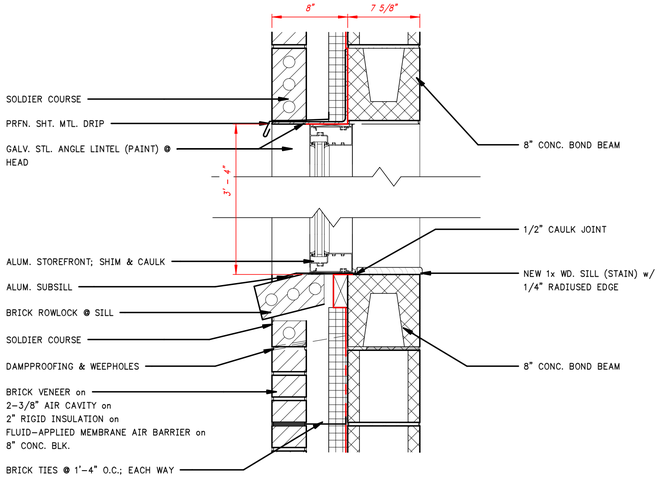
HEAD 6 — 1 1/2" = 1'-0" — A-7



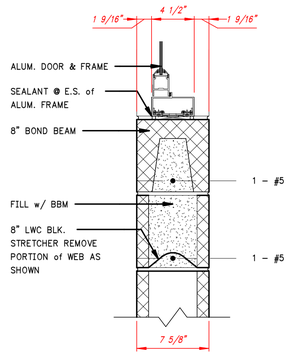
JAMB 7 — 1 1/2" = 1'-0" — A-7



SILL 8 — 1 1/2" = 1'-0" — A-7



DETAIL 9 — 1 1/2" = 1'-0" — A-7
JAMB SIM. to DETAIL 5/A-6



SILL 10 — 1 1/2" = 1'-0" — A-7

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

DOOR & WINDOW DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
A-7

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3/21/2025 2:53:32 PM / NJD / INFLUENT ELECTRICAL BUILDING - FLOOR PLAN, REFLECTED CEILING PLAN, ROOF PLAN & NOTES

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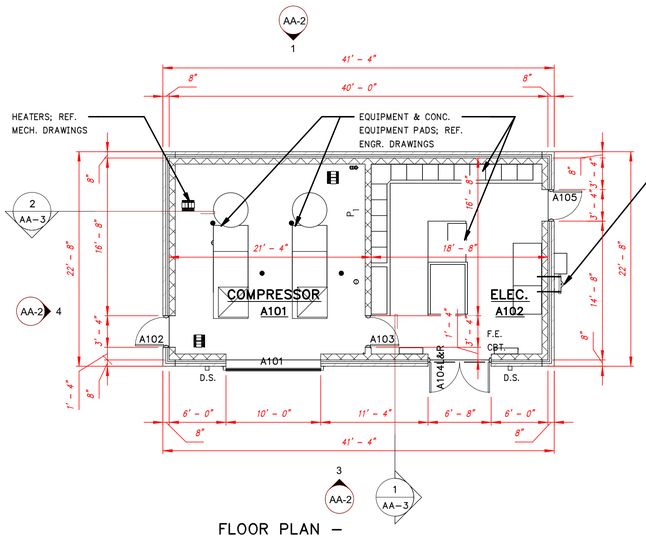
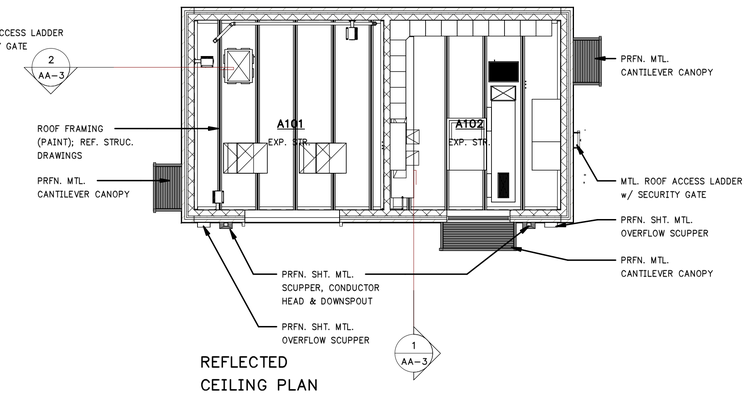


FLOOR PLAN – INFLUENT ELECTRICAL BUILDING

1/8" = 1'-0"

PLAN NORTH

1 AA-1

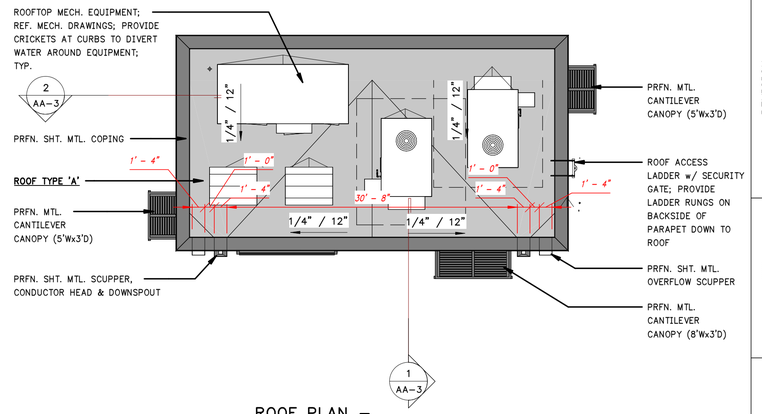


REFLECTED CEILING PLAN – INFLUENT ELECTRICAL BUILDING

1/8" = 1'-0"

PLAN NORTH

2 AA-1



ROOF PLAN – INFLUENT ELECTRICAL BUILDING

1/8" = 1'-0"

PLAN NORTH

3 AA-1

PLAN NOTES

GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A-4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED •) in CEILINGS, WALLS & FURR- DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'-0" and/or per RCP

LEGEND

NEW CONSTRUCTION

EXISTING CONSTRUCTION

REFLECTED CEILING PLAN NOTES

GENERAL

A. • GWB CONTROL JOINT

LEGEND

NEW CONSTRUCTION

EXIST. CONSTRUCTION

GWB (PAINT)

AC.BD. CEILING

MTL. SOFFIT PANEL

SUPPLY GRILLE; REF. MECH.

RETURN GRILLE; REF. MECH.

ROOF NOTES

ROOF SYSTEM 'A'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" MIN. TAPERED POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

ROOF SYSTEM 'B'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE (SLOPED)

ROOF SYSTEM 'C'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

ROOF SYSTEM 'D'
MTL. BUILDING PANEL ROOF is INDICATED THUS:
MTL. BUILDING PANEL ROOF CONSISTS of:
- -MTL. BUILDING PANEL ROOF on
- -2" UNFACED INSULATION on
- -PURLINS (REF. STRUC. DWGS.) w/
- -8" UNCOMPRESSED, UNFACED FIBERGLASS INSULATION (BETWEEN PURLINS) w/
- -SYSEAL FABRIC SYSTEM (BELOW PURLINS) on
- -GRIDWORK of TENSIONED UVMAX STL. SUPPORT STRAPS INSTALLED BELOW THE BOTTOM of PURLINS & FASTENED @ PRIMARY STRUCTURAL MEMBERS on
- -MTL. BUILDING STRUCTURE (REF. STRUC. DWGS.)

GENERAL NOTES

1. SEE STRUC. DWG's for ROOF FRAMING
2. DIRECTIONAL ARROWS ARE in THE DOWN DIRECTION
3. INSTALL CRICKETS FORMED @ ALL ROOFTOP EQUIPMENT as REQUIRED to DIVERT WATER AWAY FROM EQUIPMENT
4. REF. SPECIFICATIONS for ROOF & INSULATION MATERIALS
5. PAINT ALL VTR's to MATCH MTL. BUILDING PANEL ROOF AFTER INSTALLATION of ROOF

BID DRAWINGS

MARCH 21, 2025

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ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

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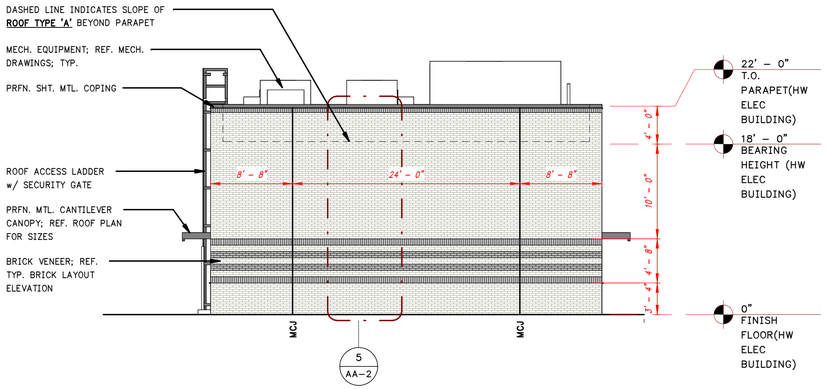
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING - FLOOR PLAN, REFLECTED CEILING PLAN, ROOF PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

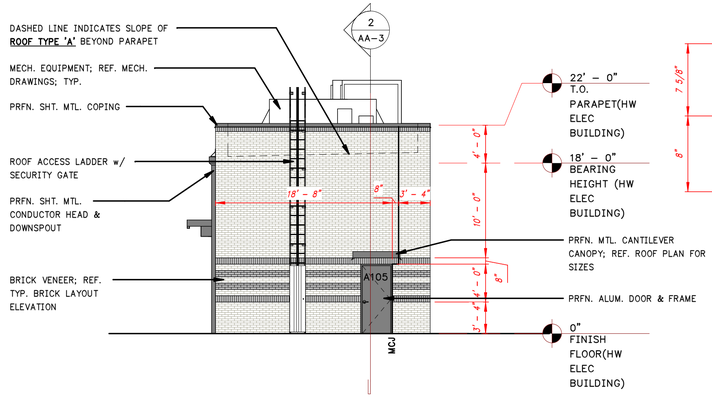
SHEET NO.
AA-1



INFLUENT ELECTRICAL BUILDING – NORTH ELEVATION

1/8" = 1'-0"

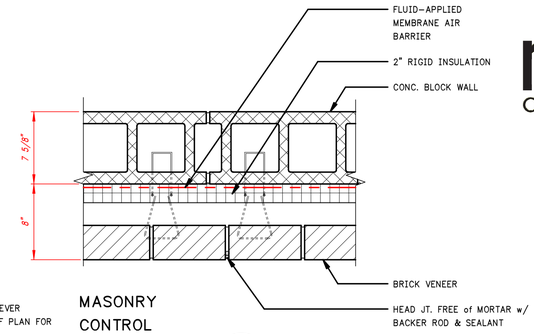
1 AA–2



INFLUENT ELECTRICAL BUILDING – EAST ELEVATION

1/8" = 1'-0"

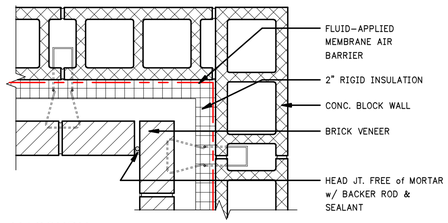
2 AA–2



MASONRY CONTROL JOINT (MCJ)

1 1/2" = 1'-0"

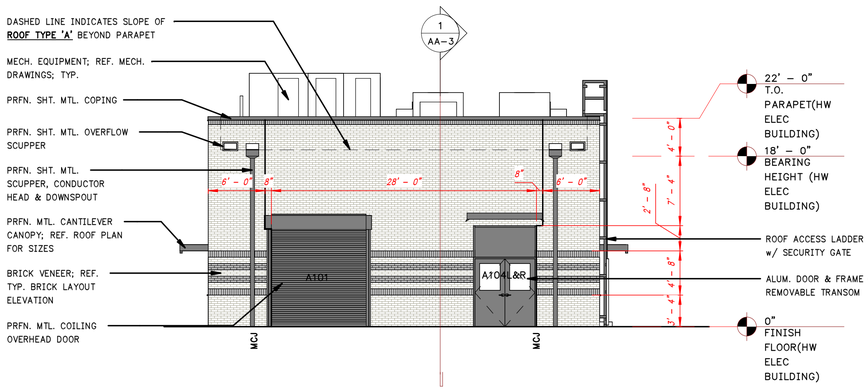
6 AA–2



MASONRY CONTROL JOINT (MCJ)

1 1/2" = 1'-0"

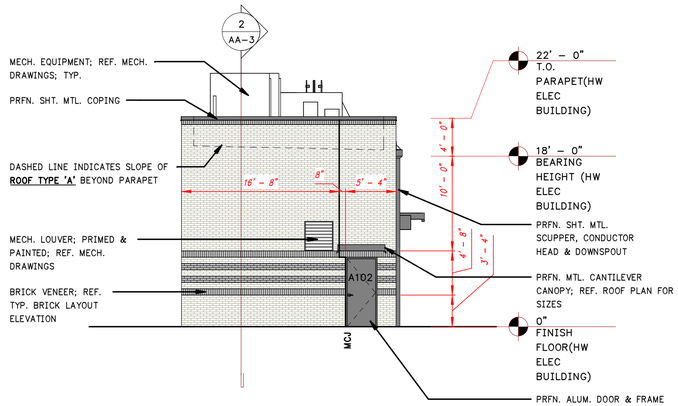
7 AA–2



INFLUENT ELECTRICAL BUILDING – SOUTH ELEVATION

1/8" = 1'-0"

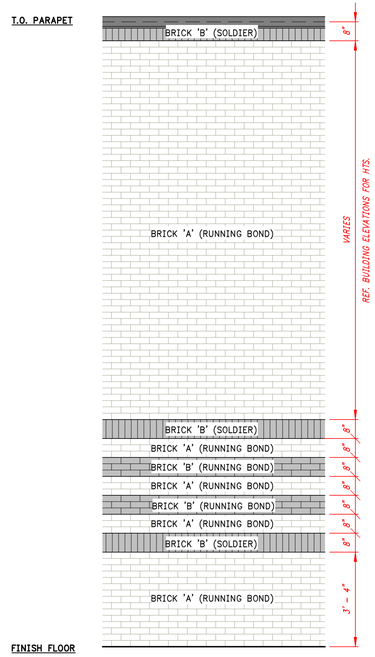
3 AA–2



INFLUENT ELECTRICAL BUILDING – WEST ELEVATION

1/8" = 1'-0"

4 AA–2



TYP. BRICK LAYOUT ELEVATION

3/8" = 1'-0"

5 AA–2

BID DRAWINGS

MARCH 21, 2025

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ONE INCH AT FULL SIZE
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING – BUILDING ELEVATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
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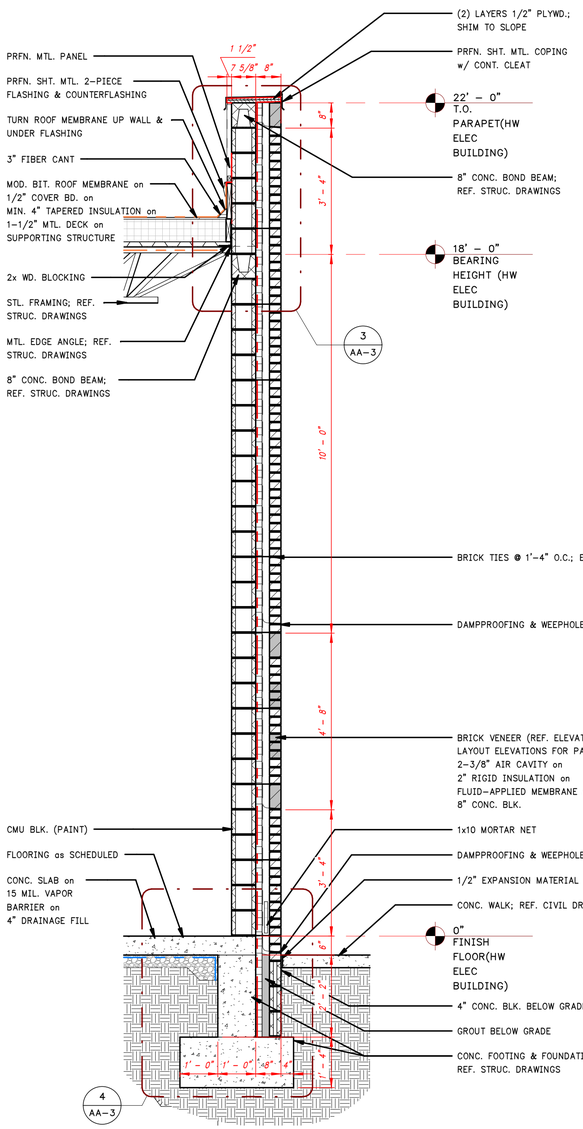
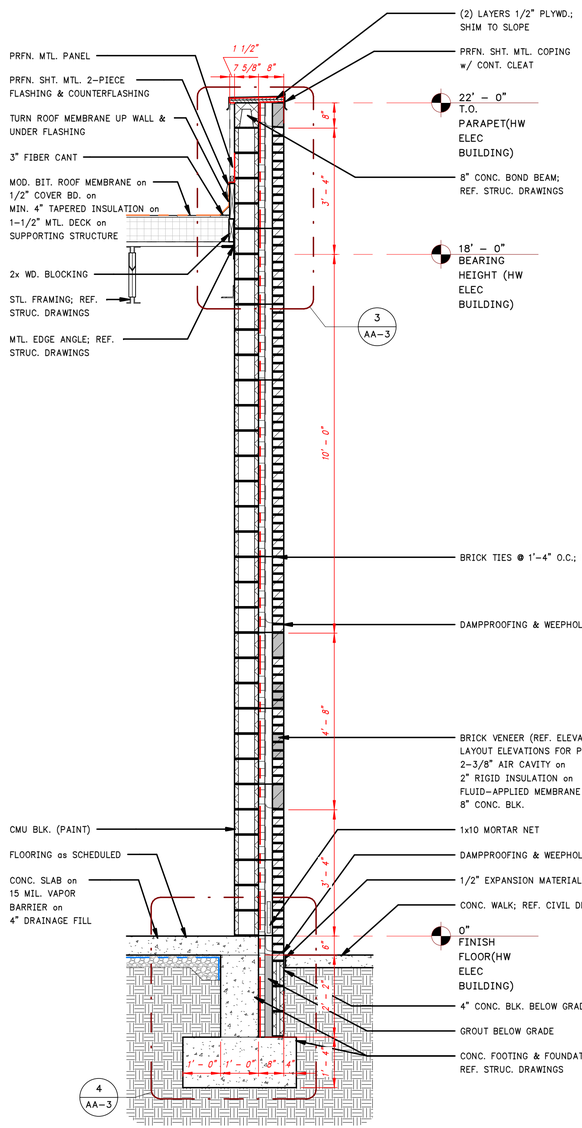
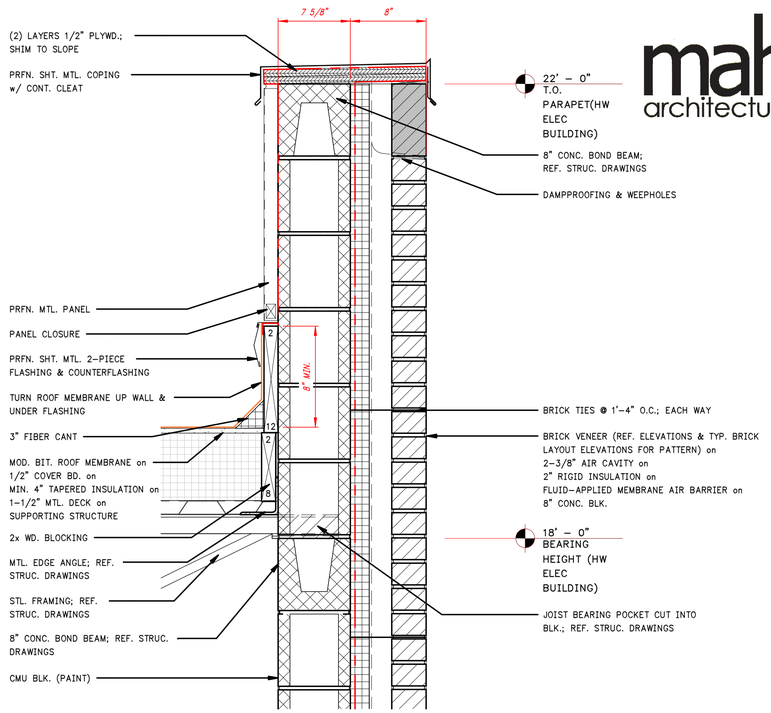
3/21/2025 2:53:36 PM / Author / INFLUENT ELECTRICAL BUILDING – BUILDING ELEVATIONS
Autodesk Docs://4101144 – Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt



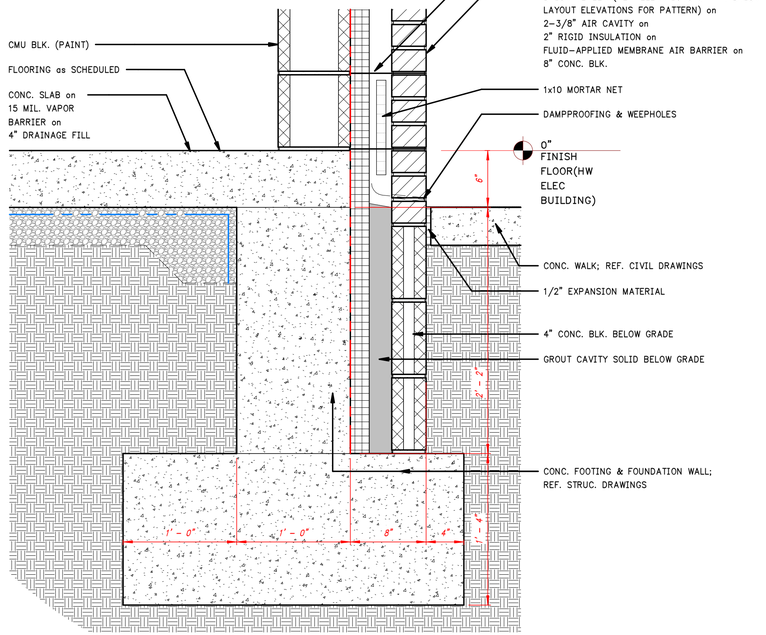
WALL SECTION 1 AA-3
1/2" = 1'-0"



WALL SECTION 2 AA-3
1/2" = 1'-0"



DETAIL 3 AA-3
1 1/2" = 1'-0"



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

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MARCH 21, 2025

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1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING - WALL SECTIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
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HWEI NO.: 2021037
FILENAME:

SHEET NO.
AA-3

3/21/2025 2:53:40 PM / Author / INFLUENT ELECTRICAL BUILDING - WALL SECTIONS & DETAILS
Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

3/21/2025 2:53:46 PM / Author / INFLUENT ELECTRICAL BUILDING - BUILDING ISOMETRICS

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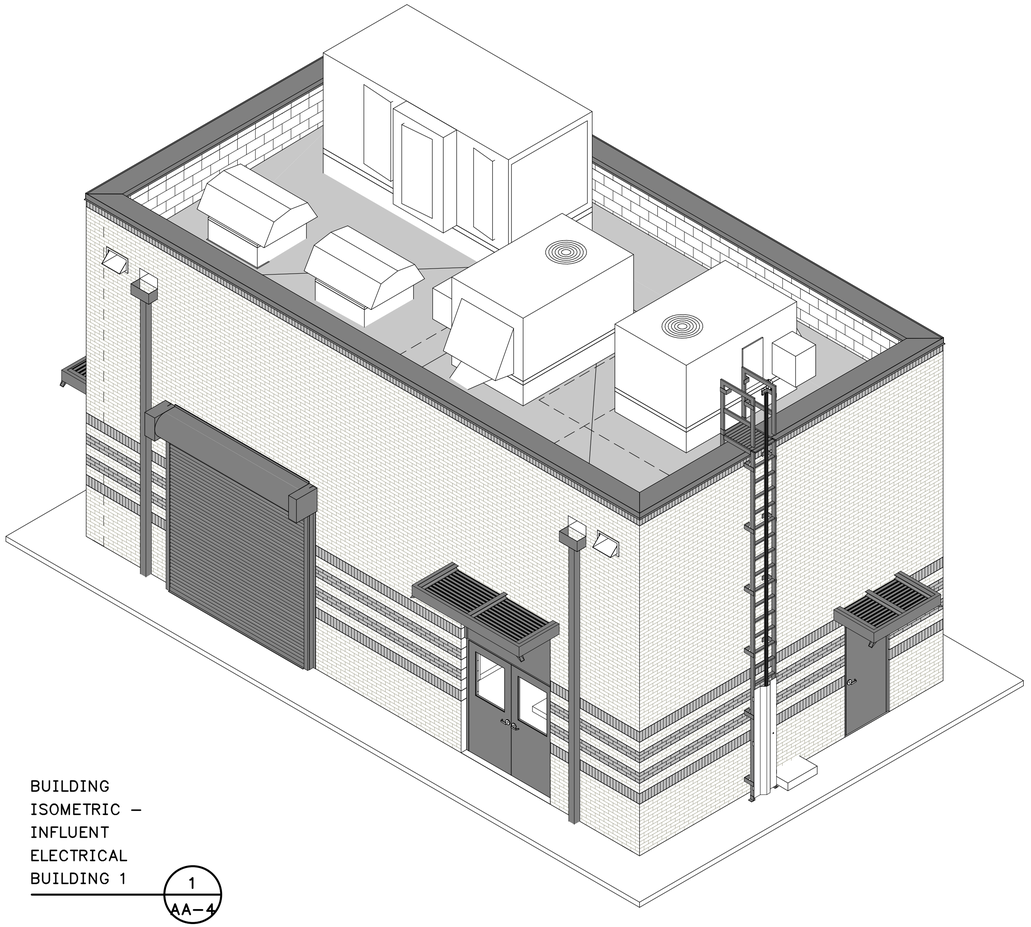
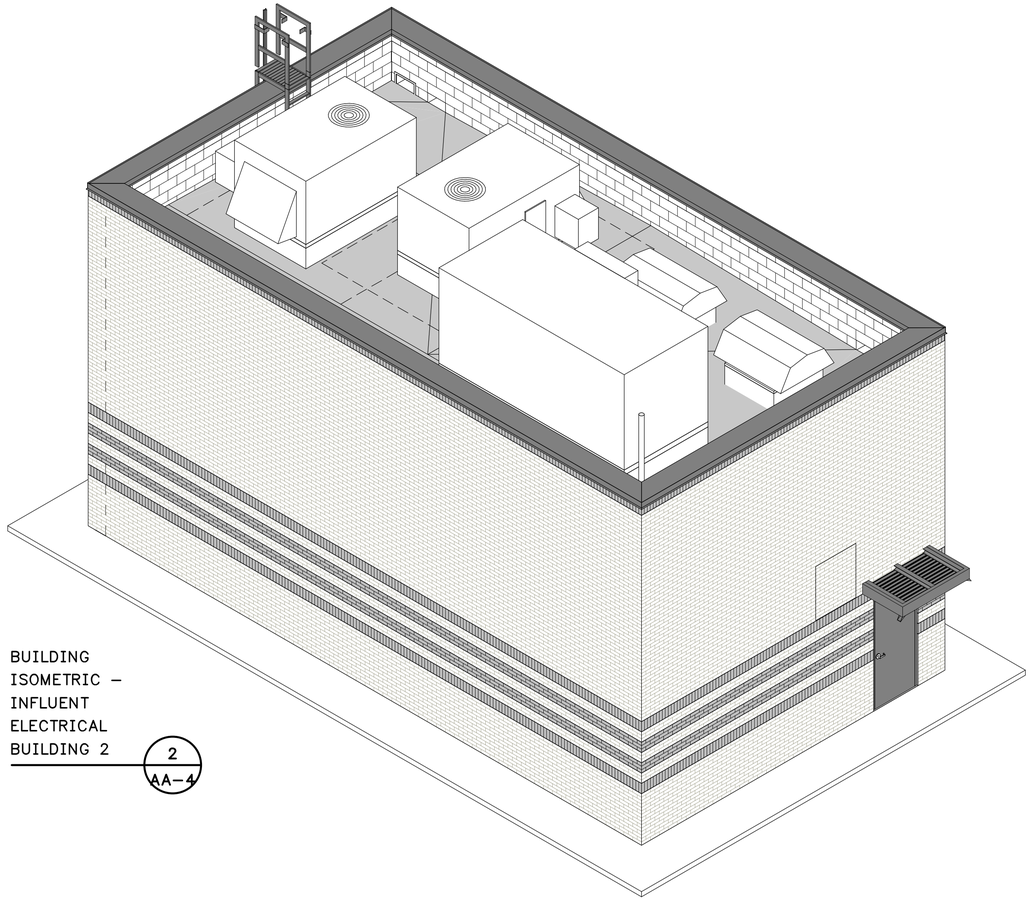


BUILDING
ISOMETRIC -
INFLUENT
ELECTRICAL
BUILDING 1

1
AA-4



BUILDING
ISOMETRIC -
INFLUENT
ELECTRICAL
BUILDING 2

2
AA-4

BID DRAWINGS
MARCH 21, 2025

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1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING - BUILDING ISOMETRICS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE:
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AA-4

PLAN NOTES

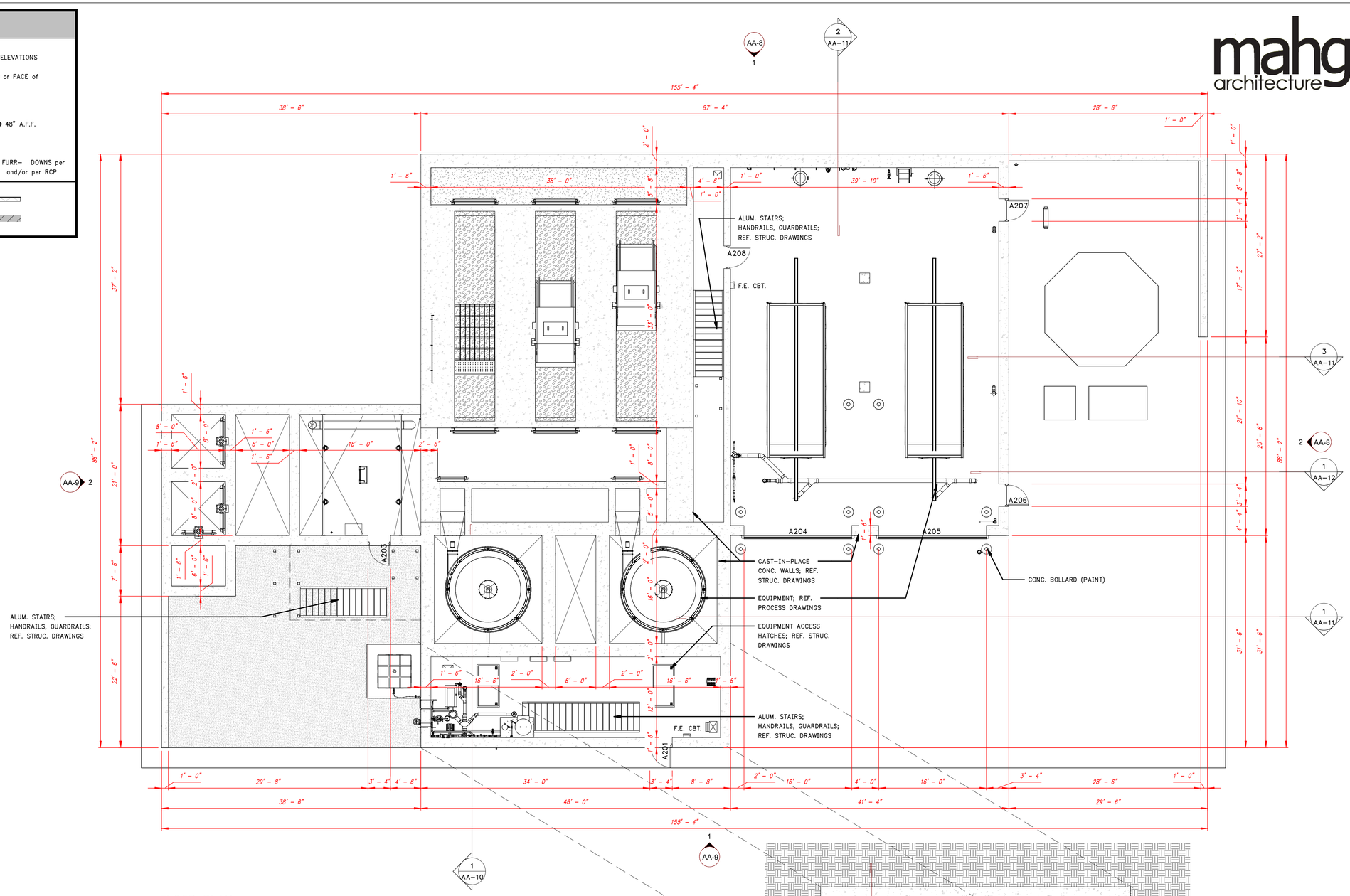
GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A-4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED •) in CEILINGS, WALLS & FURR- DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'-0" and/or per RCP

LEGEND

NEW CONSTRUCTION

EXISTING CONSTRUCTION

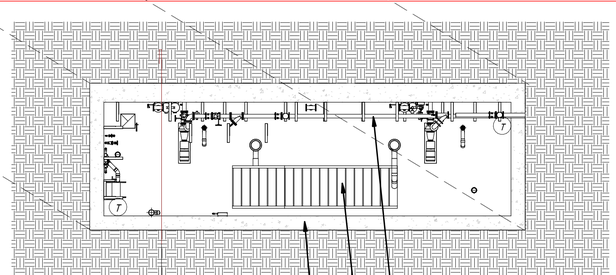


FLOOR PLAN – INFLUENT BUILDING MAIN FLOOR

1/8" = 1'-0"

1 AA-5

PLAN NORTH



FLOOR PLAN – INFLUENT BUILDING BASEMENT

1/8" = 1'-0"

1 AA-10

2 AA-5

PLAN NORTH

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING – BASEMENT FLOOR PLAN, FINISH FLOOR PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
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HWEI NO.: 2021037
FILENAME:

SHEET NO.
AA-5

3/21/2025 2:53:55 PM / Author / INFLUENT BUILDING - BASEMENT FLOOR PLAN, FINISH FLOOR PLAN & NOTES
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3/21/2025 2:54:01 PM / Author / INFLUENT BUILDING - SECOND FLOOR PLAN & NOTES
Autodesk Docs://4110144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

PLAN NOTES

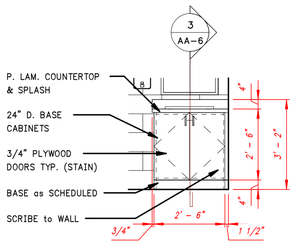
GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A-4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED •) in CEILINGS, WALLS & FURR- DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'-0" and/or per RCP

LEGEND

NEW CONSTRUCTION

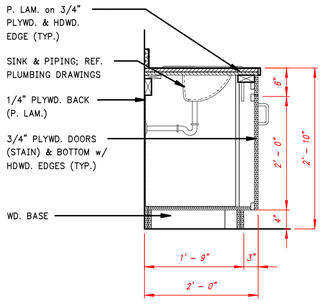
EXISTING CONSTRUCTION



MILLWORK ELEVATION - INFLUENT BUILDING - M-A1

2 / AA-6

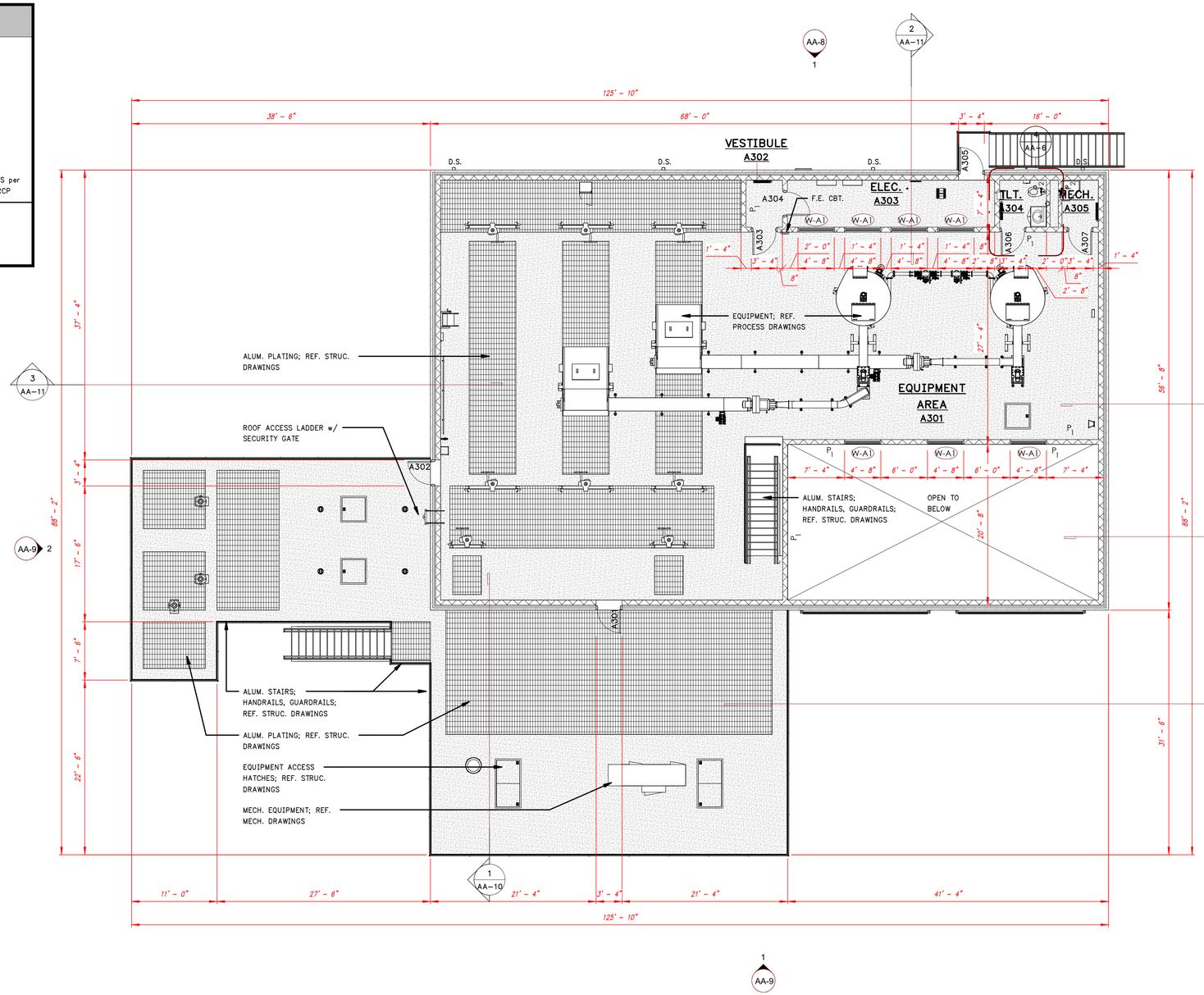
3/8" = 1'-0"



MILLWORK SECTION - INFLUENT BUILDING - M-A1

3 / AA-6

3/4" = 1'-0"

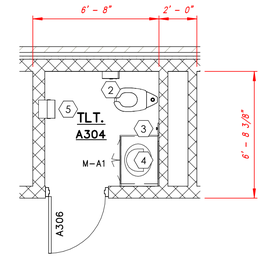


FLOOR PLAN - INFLUENT BUILDING SECOND FLOOR

1 / AA-6

1/8" = 1'-0"

PLAN NORTH



ENLARGED PLAN - INFLUENT BUILDING SECOND FLOOR - TLT. A304

4 / AA-6

1/4" = 1'-0"

PLAN NORTH

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING - SECOND FLOOR PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
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ROOF NOTES

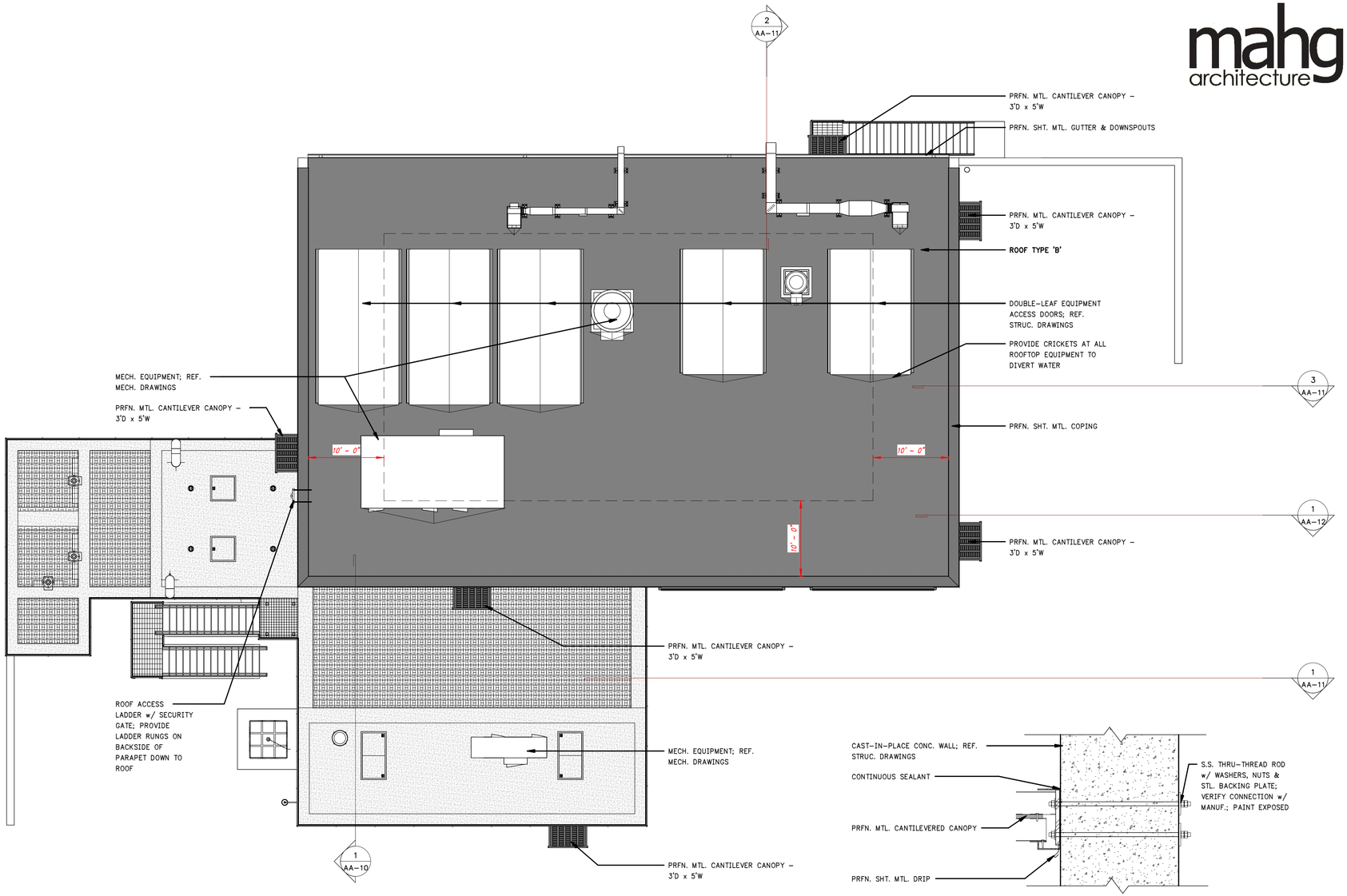
ROOF SYSTEM 'A'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–4" MIN. TAPERED POLYISO INSULATION on
–MTL. DECK on
–SUPPORTING STRUCTURE

ROOF SYSTEM 'B'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–4" POLYISO INSULATION on
–MTL. DECK on
–SUPPORTING STRUCTURE (SLOPED)

ROOF SYSTEM 'C'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–MTL. DECK on
–SUPPORTING STRUCTURE

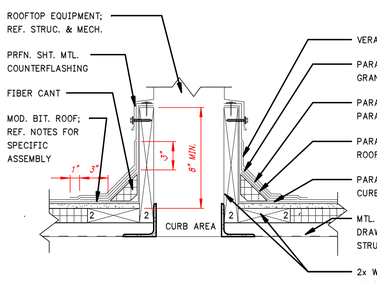
ROOF SYSTEM 'D'
MTL. BUILDING PANEL ROOF is INDICATED THUS:
MTL. BUILDING PANEL ROOF CONSISTS of:
–MTL. BUILDING PANEL ROOF on
–2" UNFACED INSULATION on
–PURLINS (REF. STRUC. DWGS.) w/
–8" UNCOMPRESSED, UNFACED FIBERGLASS INSULATION (BETWEEN PURLINS) w/
–SYSEAL FABRIC SYSTEM (BELOW PURLINS) on
–GRIDWORK of TENSIONED UVMAX STL. SUPPORT STRAPS INSTALLED BELOW THE BOTTOM of PURLINS & FASTENED @ PRIMARY STRUCTURAL MEMBERS on
–MTL. BUILDING STRUCTURE (REF. STRUC. DWGS.)

GENERAL NOTES
1. SEE STRUC. DWG's for ROOF FRAMING
2. DIRECTIONAL ARROWS ARE in THE DOWN DIRECTION
3. INSTALL CRICKETS FORMED @ ALL ROOFTOP EQUIPMENT as REQUIRED to DIVERT WATER AWAY FROM EQUIPMENT
4. REF. SPECIFICATIONS for ROOF & INSULATION MATERIALS
5. PAINT ALL VTR's to MATCH MTL. BUILDING PANEL ROOF AFTER INSTALLATION of ROOF

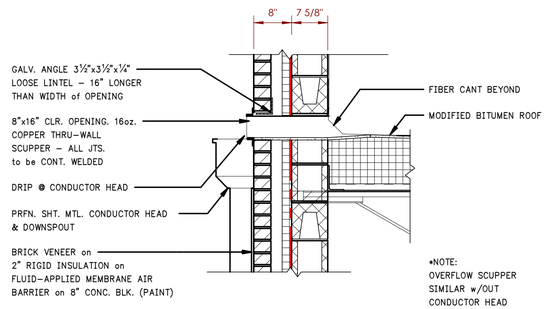


ROOF PLAN – INFLUENT BUILDING
1/8" = 1'–0"
1 AA–7

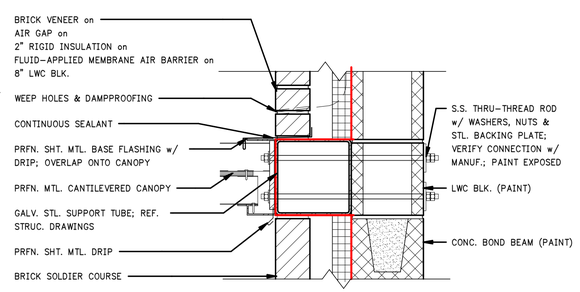
PLAN NORTH



DETAIL – TYP. CURB
1 1/2" = 1'–0"
2 AA–7



SCUPPER / CONDUCTOR HEAD DETAIL
3/4" = 1'–0"
3 AA–7



TYP. CANOPY DETAILS
1 1/2" = 1'–0"
4 AA–7

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MARCH 21, 2025

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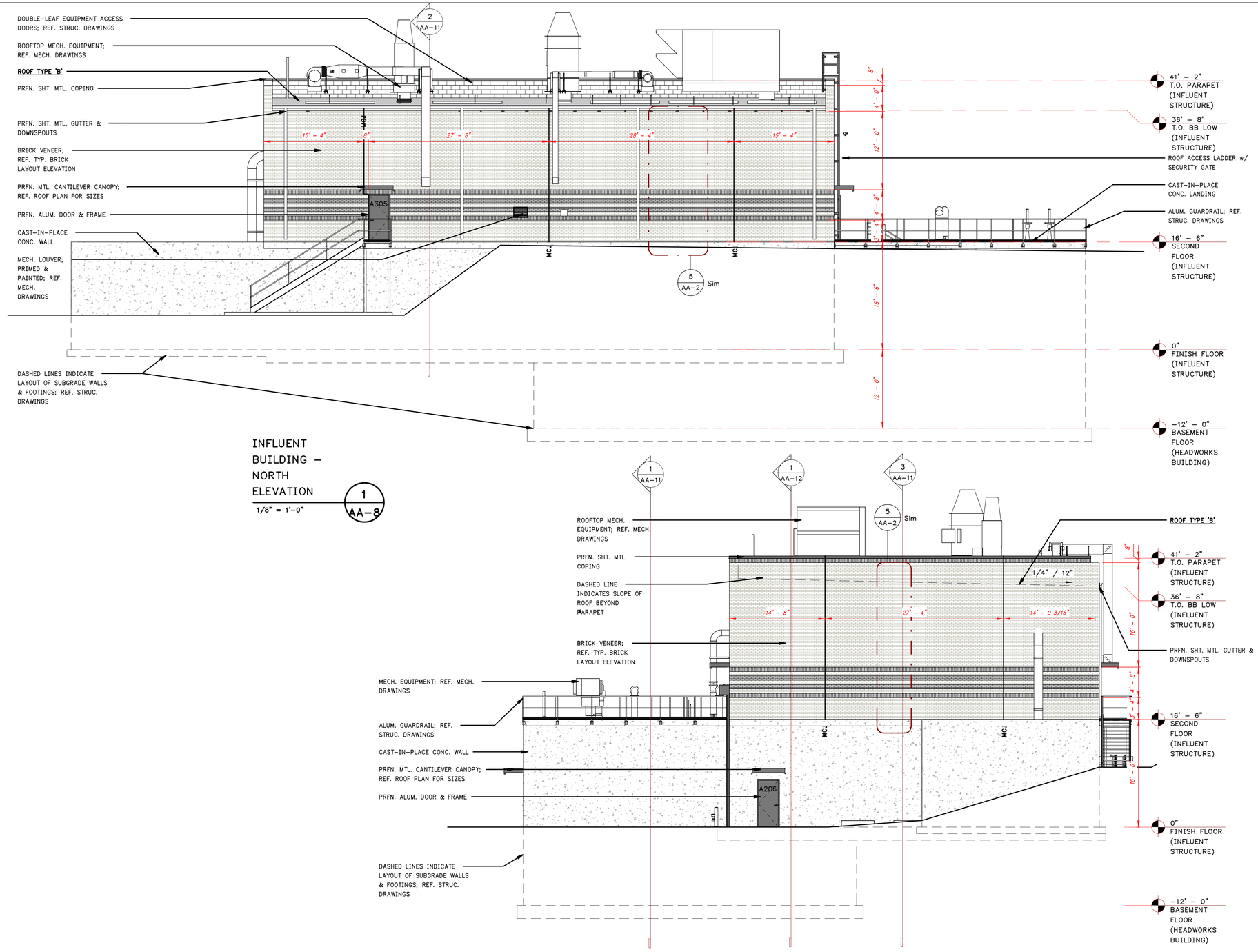
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING – ROOF PLAN, DETAILS & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AA–7



INFLUENT BUILDING - NORTH ELEVATION

1/8" = 1'-0"

1 AA-8

INFLUENT BUILDING - EAST ELEVATION

1/8" = 1'-0"

2 AA-8

BID DRAWINGS

MARCH 21, 2025

mahg architecture

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING - BUILDING ELEVATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

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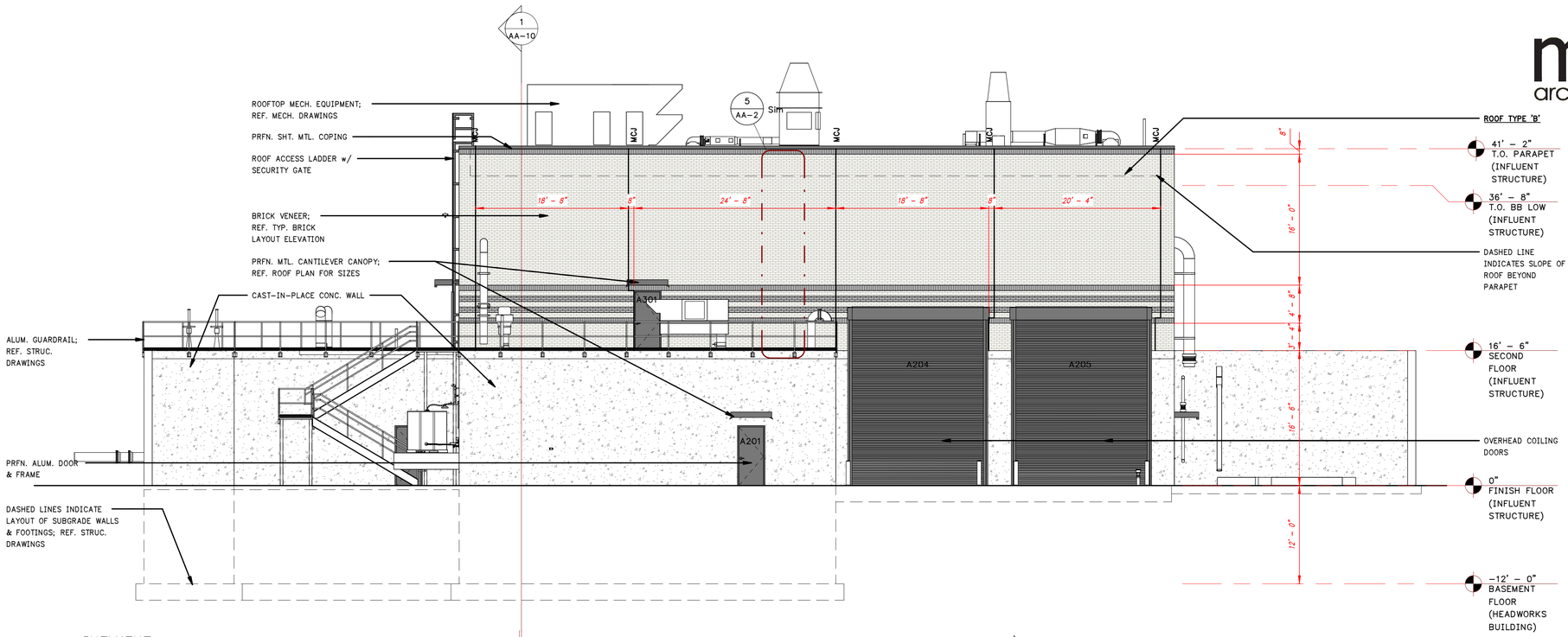
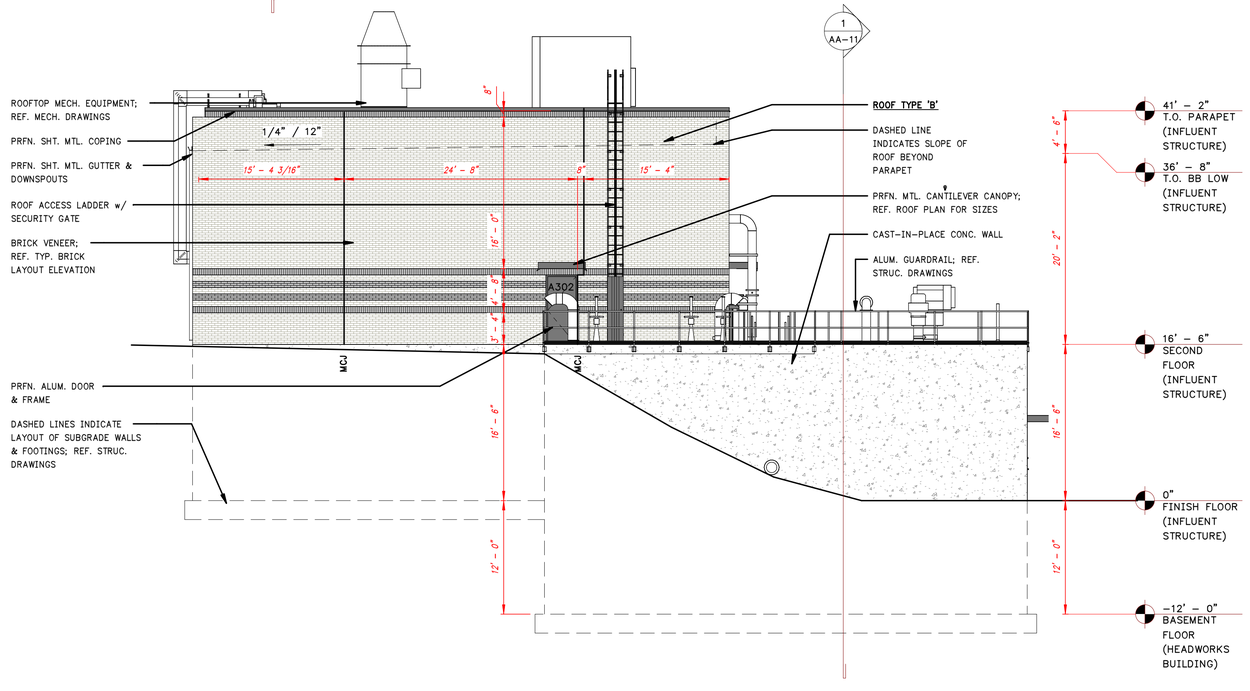


INFLUENT BUILDING - SOUTH ELEVATION

1 / AA-9

1/8" = 1'-0"



INFLUENT BUILDING - WEST ELEVATION

2 / AA-9

1/8" = 1'-0"

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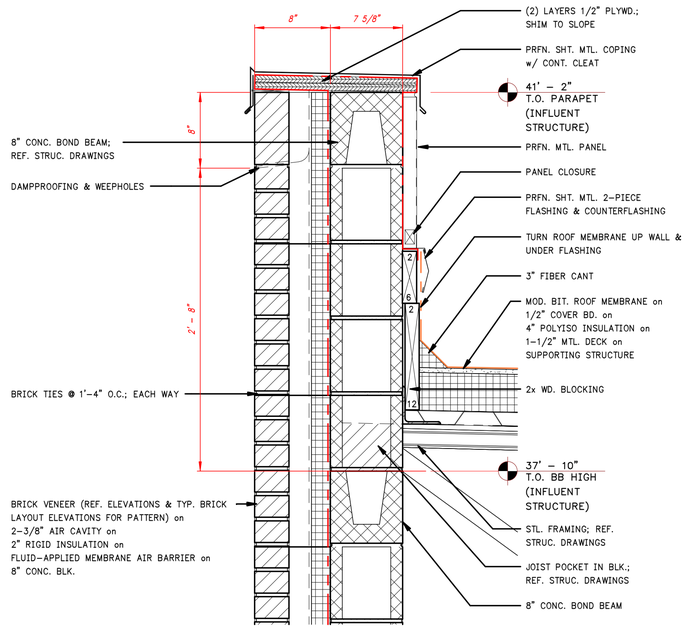
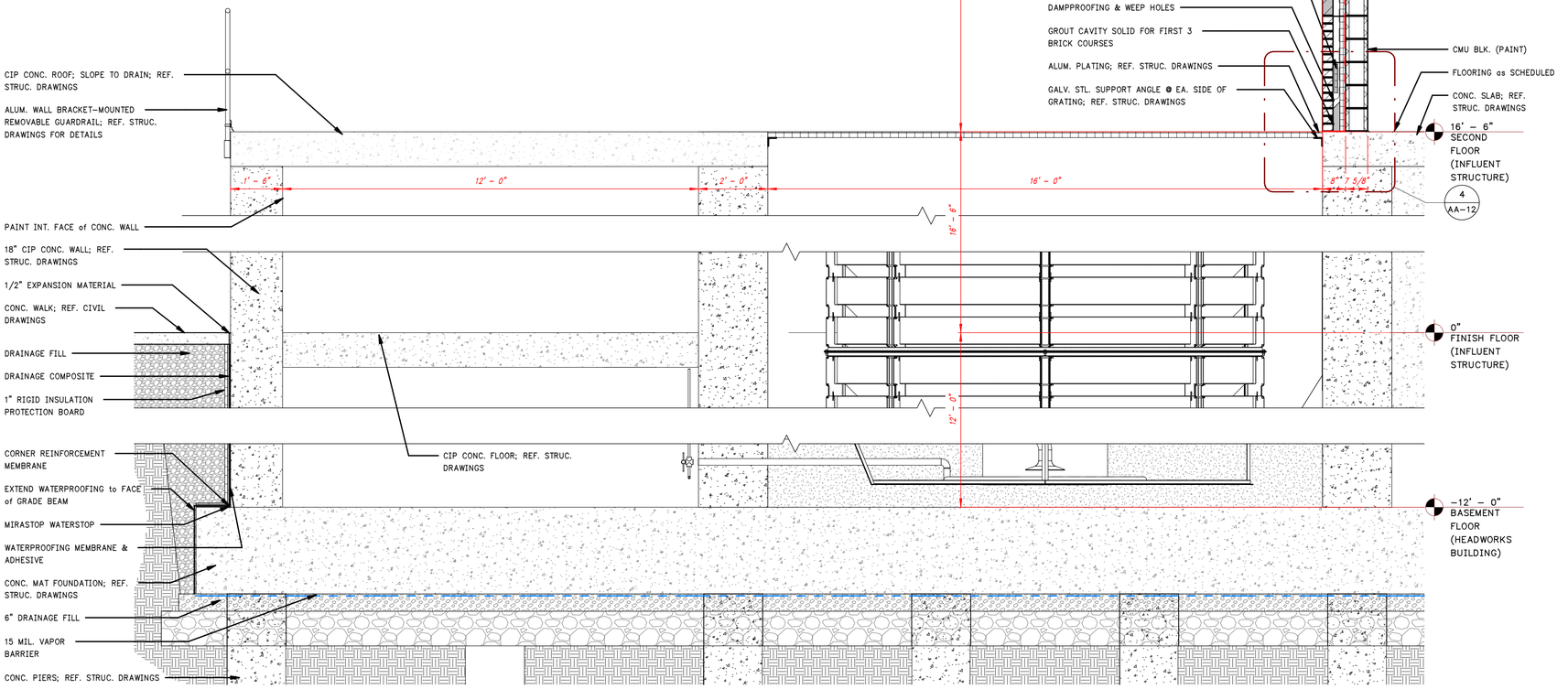
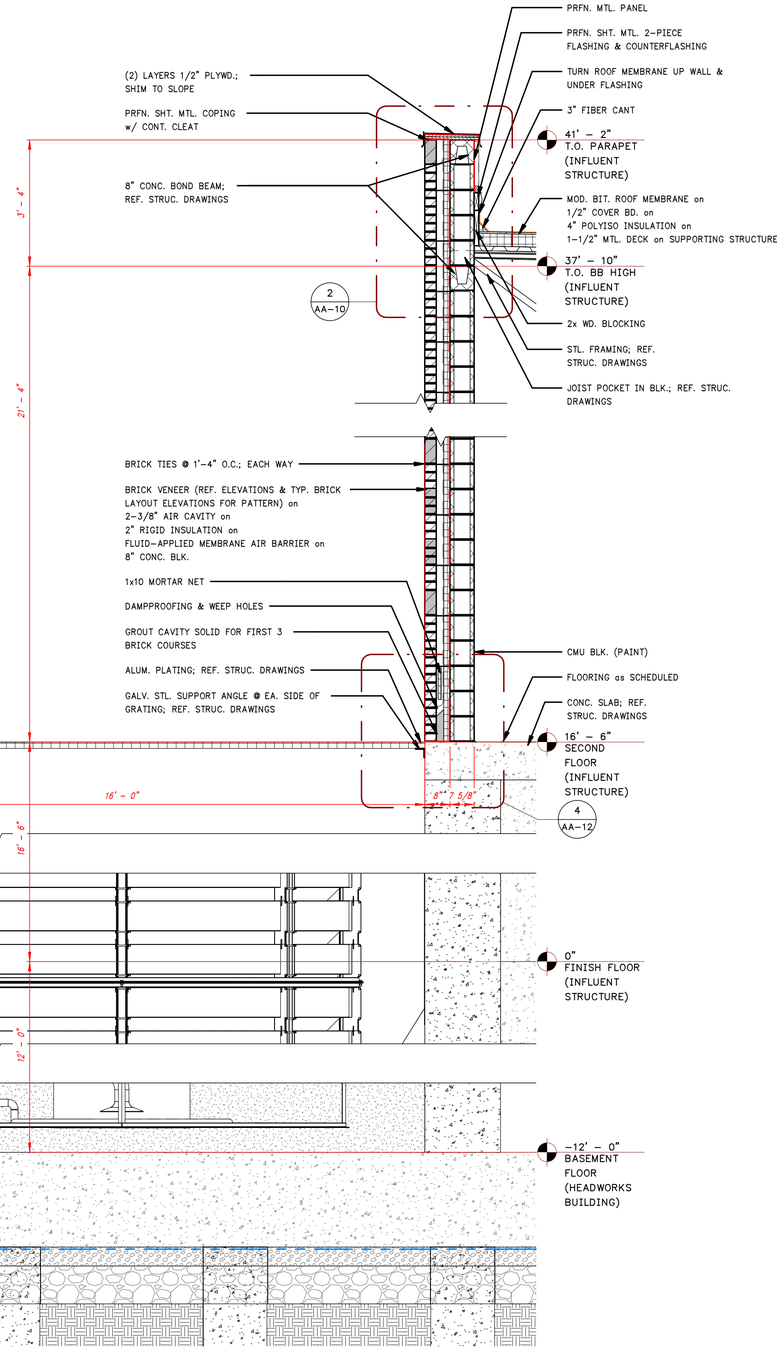


DETAIL 2 / AA–10
1 1/2" = 1'–0"



WALL SECTION 1 / AA–10
1/2" = 1'–0"



DETAIL 4 / AA–10
1" = 1'–0"

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING – WALL SECTIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

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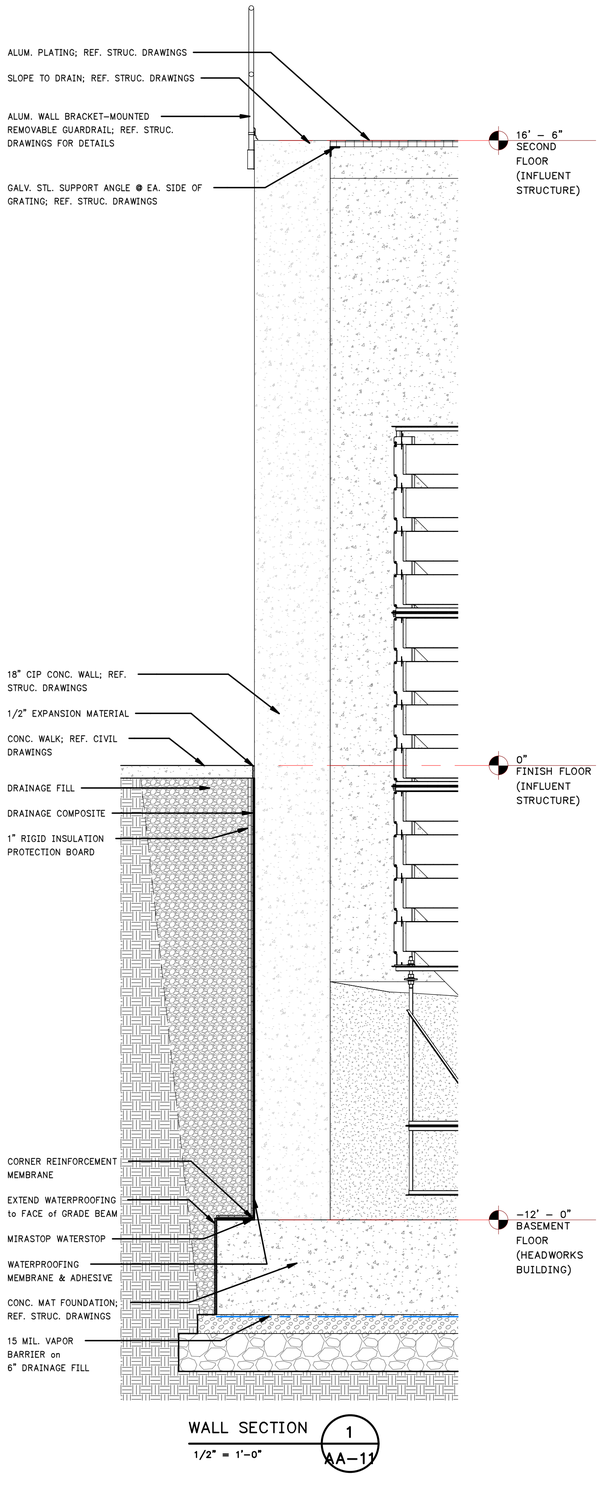

WALL SECTION 1 / AA-11
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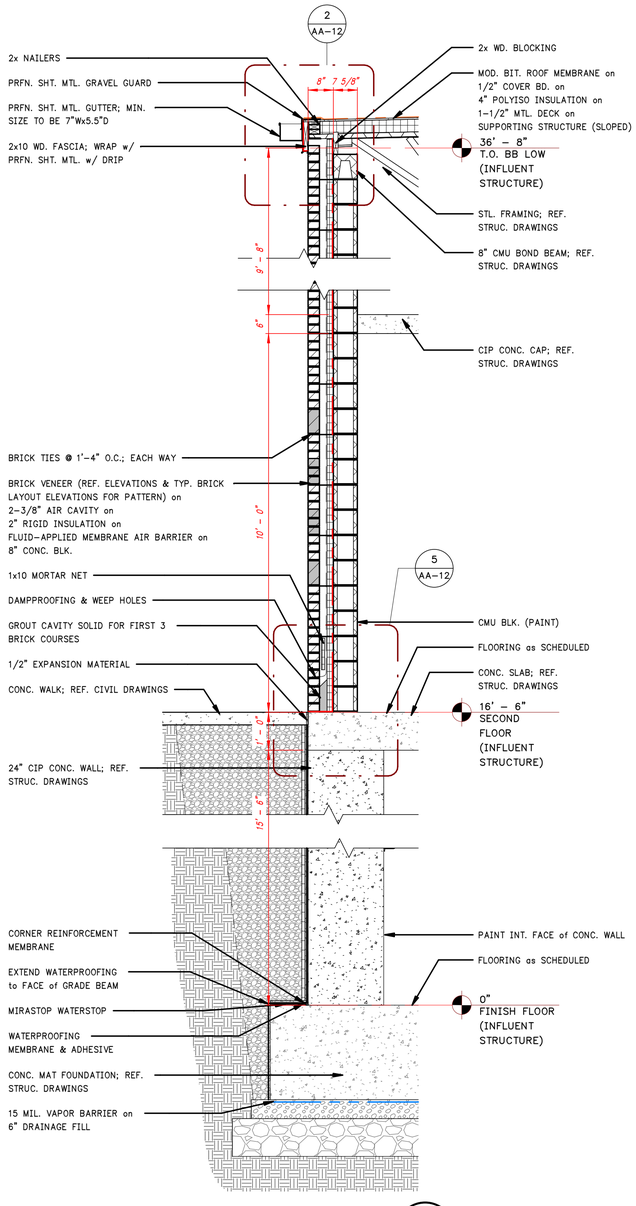
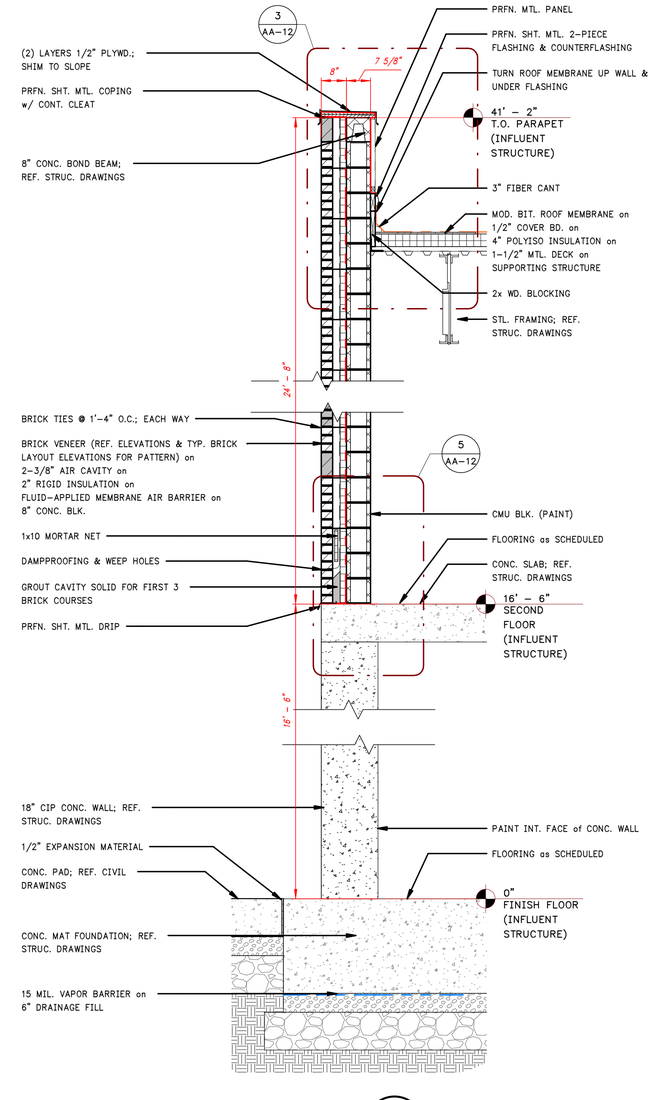


WALL SECTION 2 / AA-11
1/2" = 1'-0"



WALL SECTION 3 / AA-11
1/2" = 1'-0"

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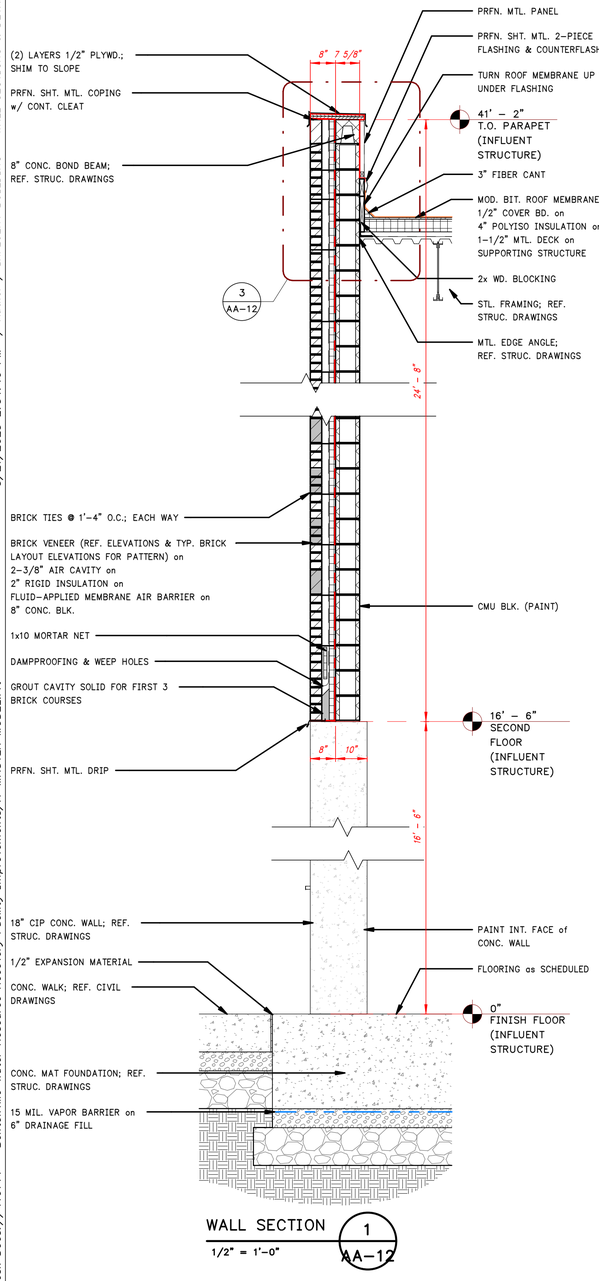
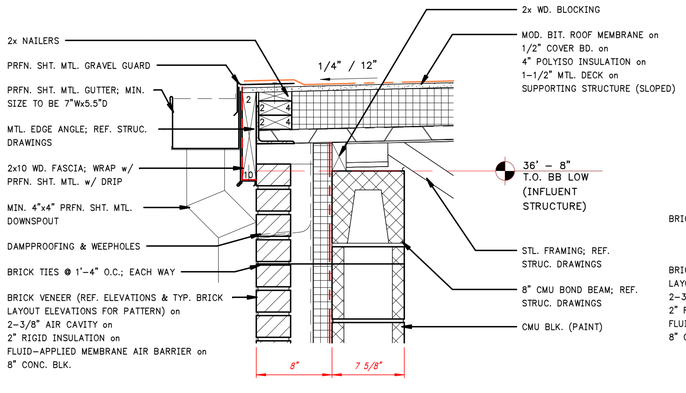
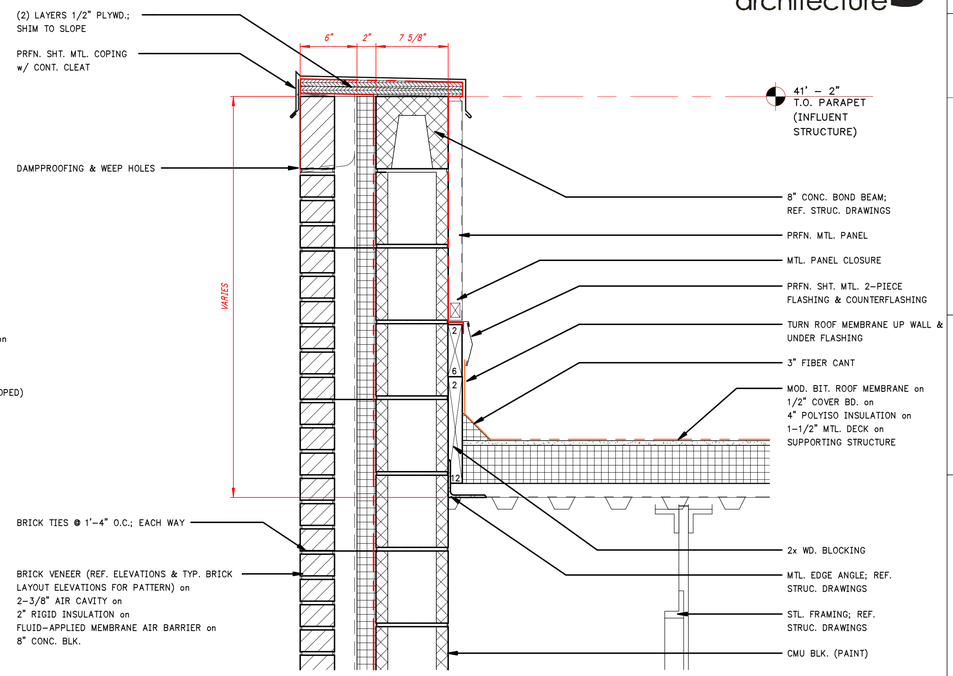


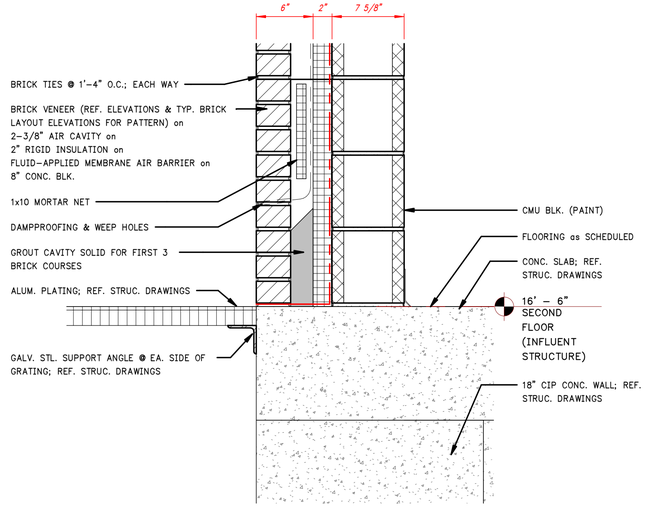
WALL SECTION 1 AA-12
1/2" = 1'-0"



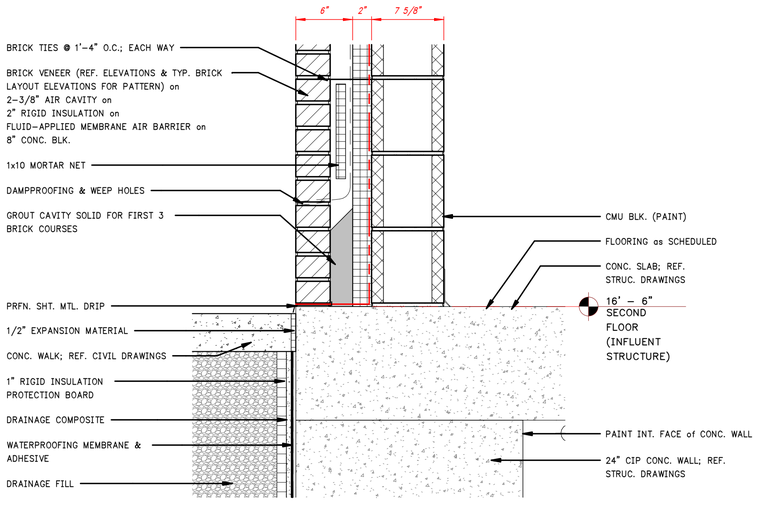
DETAIL 2 AA-12
1 1/2" = 1'-0"



DETAIL 3 AA-12
1 1/2" = 1'-0"



DETAIL 4 AA-12
1 1/2" = 1'-0"



DETAIL 5 AA-12
1 1/2" = 1'-0"

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REFLECTED CEILING PLAN NOTES

GENERAL

A. • GWB CONTROL JOINT

LEGEND

NEW CONSTRUCTION

EXIST. CONSTRUCTION

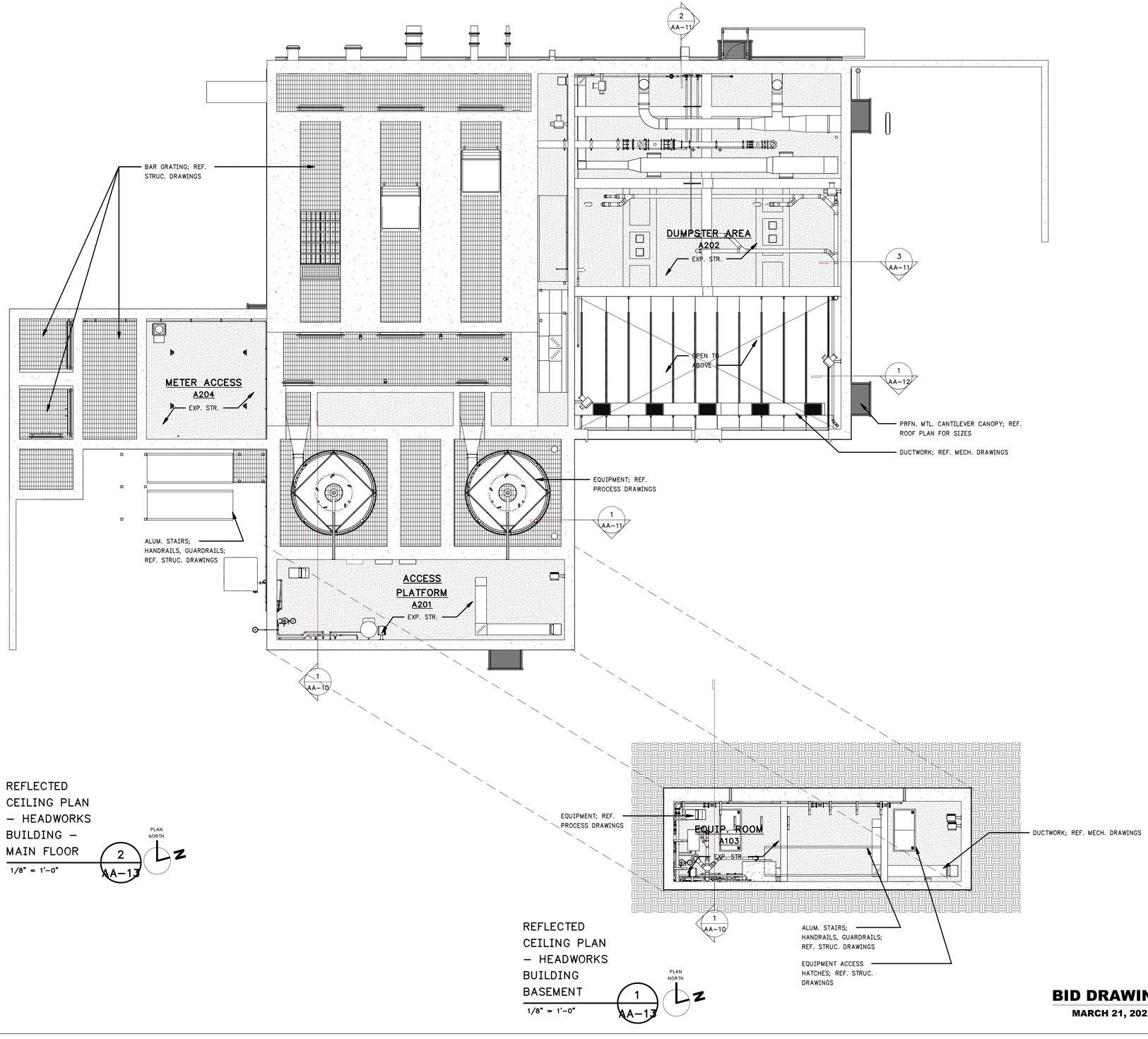
GWB (PAINT)

AC.BD. CEILING

MTL. SOFFIT PANEL

SUPPLY GRILLE; REF. MECH.

RETURN GRILLE; REF. MECH.



REFLECTED CEILING PLAN – HEADWORKS BUILDING – MAIN FLOOR

2 AA-13

1/8" = 1'-0"

PLAN NORTH

REFLECTED CEILING PLAN – HEADWORKS BUILDING BASEMENT

1 AA-13

1/8" = 1'-0"

PLAN NORTH

BID DRAWINGS

MARCH 21, 2025

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INFLUENT BUILDING – REFLECTED CEILING PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

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REFLECTED CEILING PLAN NOTES

GENERAL

A. • GWB CONTROL JOINT

LEGEND

NEW CONSTRUCTION

EXIST. CONSTRUCTION

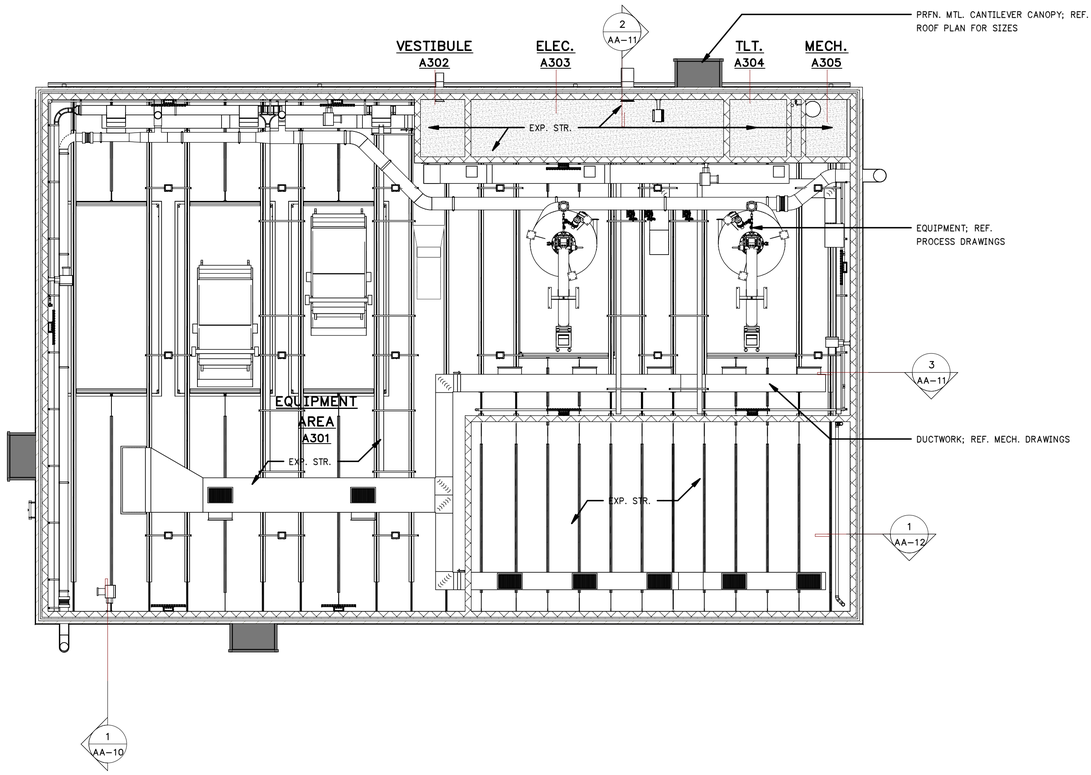
GWB (PAINT)

AC.BD. CEILING

MTL. SOFFIT PANEL

SUPPLY GRILLE; REF. MECH.

RETURN GRILLE; REF. MECH.



REFLECTED CEILING PLAN – INFLUENT BUILDING – EQUIPMENT PLATFORM

1/8" = 1'–0"

PLAN NORTH

1
AA–14

BID DRAWINGS

MARCH 21, 2025

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1"

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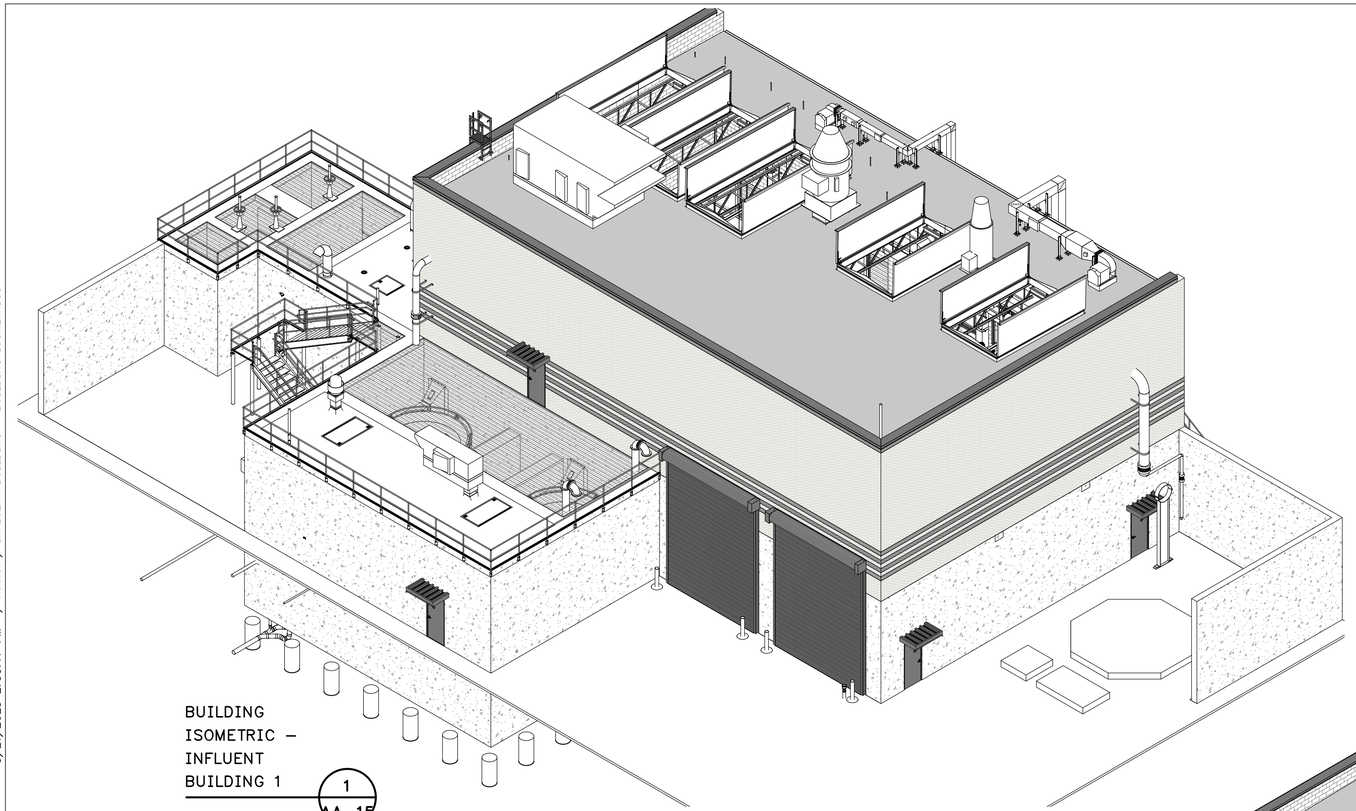
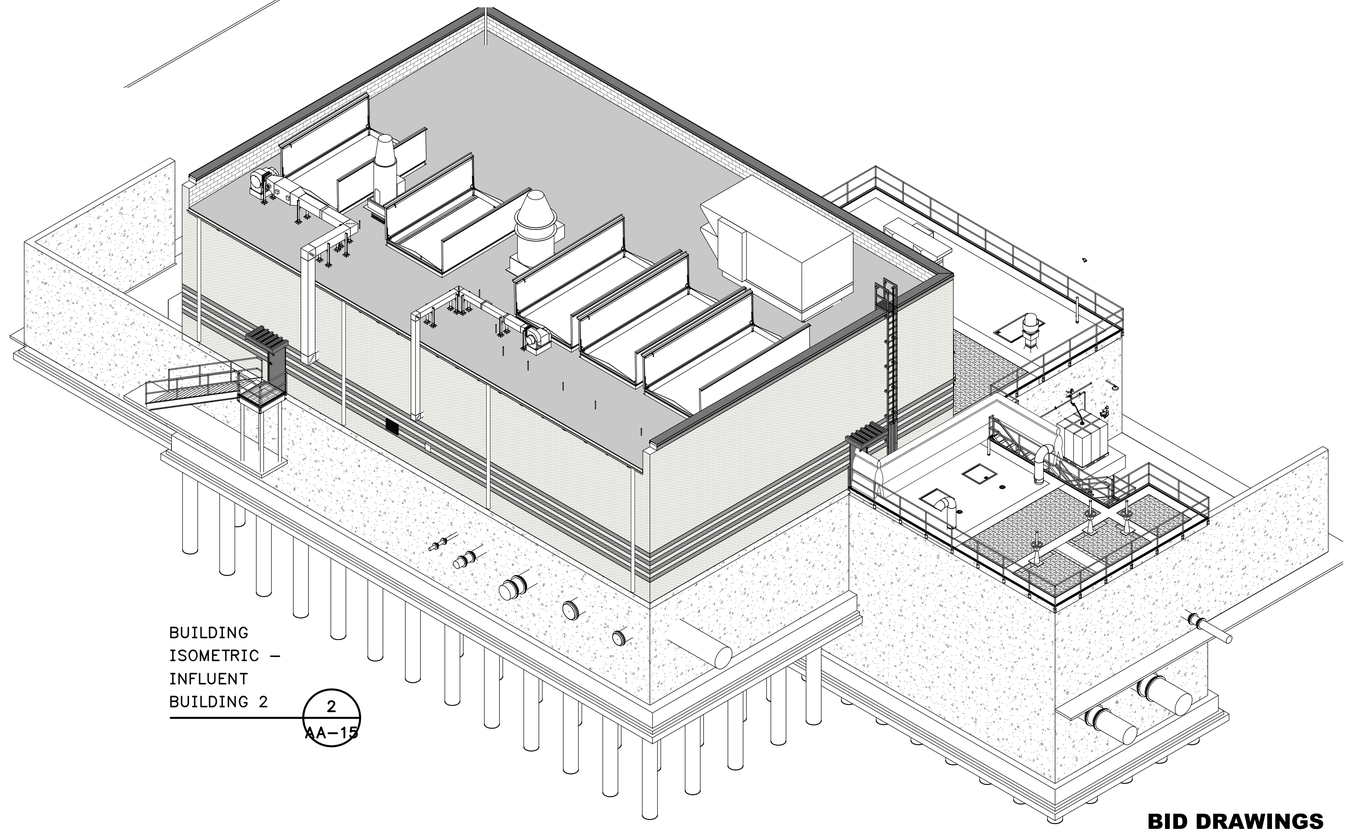


BUILDING
ISOMETRIC –
INFLUENT
BUILDING 1

1
AA–15



BUILDING
ISOMETRIC –
INFLUENT
BUILDING 2

2
AA–15

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MARCH 21, 2025

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1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING – BUILDING ISOMETRICS

FOR: BENTONVILLE WASTEWATER UTILITIES

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PLAN NOTES

GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A-4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED *) in CEILINGS, WALLS & FURR- DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'-0" and/or per RCP

LEGEND

NEW CONSTRUCTION

EXISTING CONSTRUCTION

REFLECTED CEILING PLAN NOTES

GENERAL

A. * GWB CONTROL JOINT

LEGEND

NEW CONSTRUCTION

EXIST. CONSTRUCTION

GWB (PAINT)

AC.BD. CEILING

MTL. SOFFIT PANEL

SUPPLY GRILLE; REF. MECH.

RETURN GRILLE; REF. MECH.

ROOF NOTES

ROOF SYSTEM 'A'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" MIN. TAPERED POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

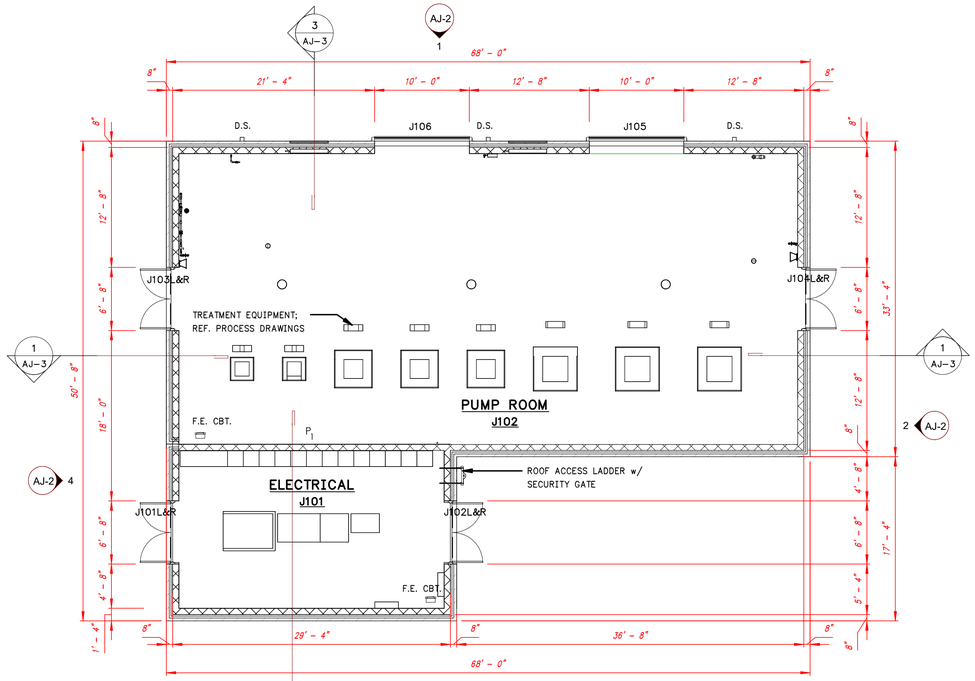
ROOF SYSTEM 'B'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE (SLOPED)

ROOF SYSTEM 'C'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

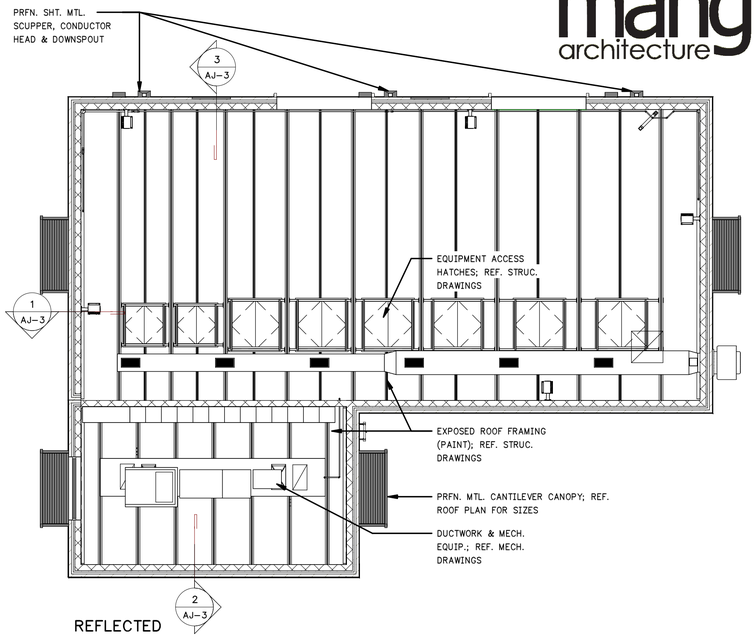
ROOF SYSTEM 'D'
MTL. BUILDING PANEL ROOF is INDICATED THUS:
MTL. BUILDING PANEL ROOF CONSISTS of:
- -MTL. BUILDING PANEL ROOF on
- -2" UNFACED INSULATION on
- -PURLINS (REF. STRUC. DWGS.) w/
- -8" UNCOMPRESSED, UNFACED FIBERGLASS INSULATION (BETWEEN PURLINS) w/
- -SYSEAL FABRIC SYSTEM (BELOW PURLINS) on
- -GRIDWORK of TENSIONED UVMAX STL. SUPPORT STRAPS INSTALLED BELOW THE BOTTOM of PURLINS & FASTENED @ PRIMARY STRUCTURAL MEMBERS on
- -MTL. BUILDING STRUCTURE (REF. STRUC. DWGS.)

GENERAL NOTES

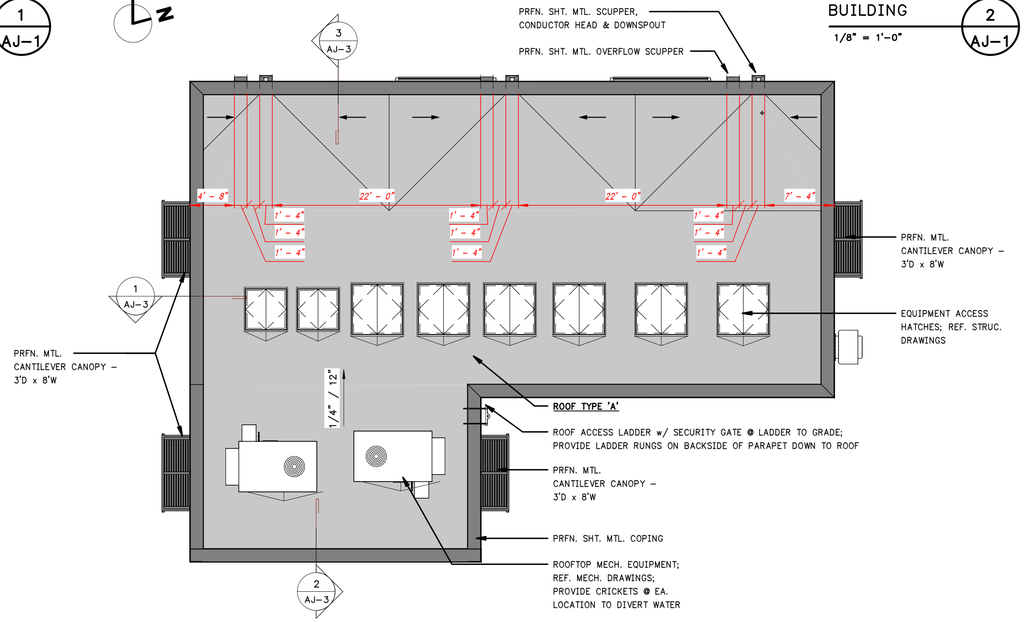
1. SEE STRUC. DWG's for ROOF FRAMING
2. DIRECTIONAL ARROWS ARE in THE DOWN DIRECTION
3. INSTALL CRICKETS FORMED @ ALL ROOFTOP EQUIPMENT as REQUIRED to DIVERT WATER AWAY FROM EQUIPMENT
4. REF. SPECIFICATIONS for ROOF & INSULATION MATERIALS
5. PAINT ALL VTR's to MATCH MTL. BUILDING PANEL ROOF AFTER INSTALLATION of ROOF



FLOOR PLAN - EFFLUENT PUMP STATION & ELECTRICAL BUILDING
1/8" = 1'-0" — 1 AJ-1



REFLECTED CEILING PLAN - EFFLUENT PUMP STATION & ELECTRICAL BUILDING
1/8" = 1'-0" — 2 AJ-1



ROOF PLAN - EFFLUENT PUMP STATION & ELECTRICAL BUILDING
1/8" = 1'-0" — 3 AJ-1

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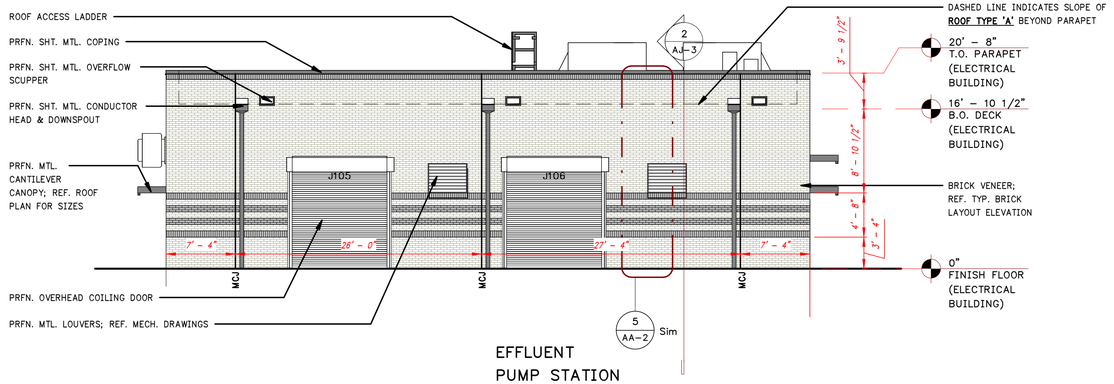
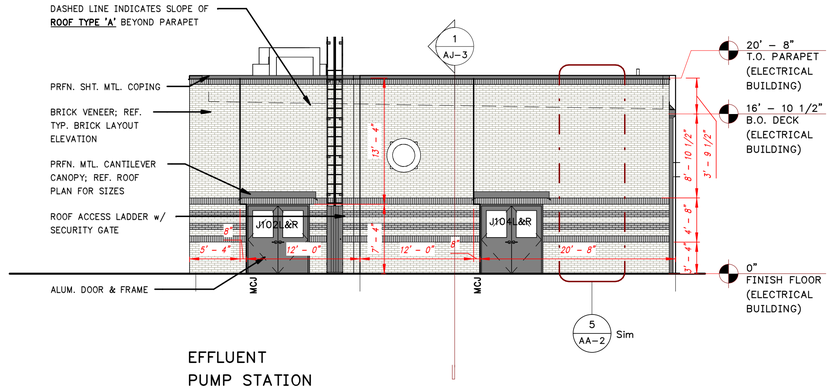
SHEET NO.
AJ-1



EFFLUENT PUMP STATION & ELECTRICAL BUILDING – NORTH ELEVATION

1/8" = 1'–0"

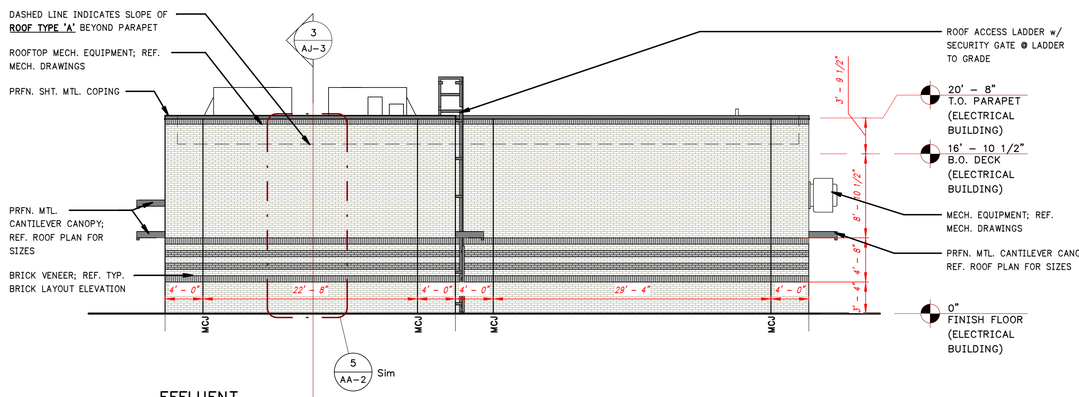
1 AJ–2



EFFLUENT PUMP STATION & ELECTRICAL BUILDING – EAST ELEVATION

1/8" = 1'–0"

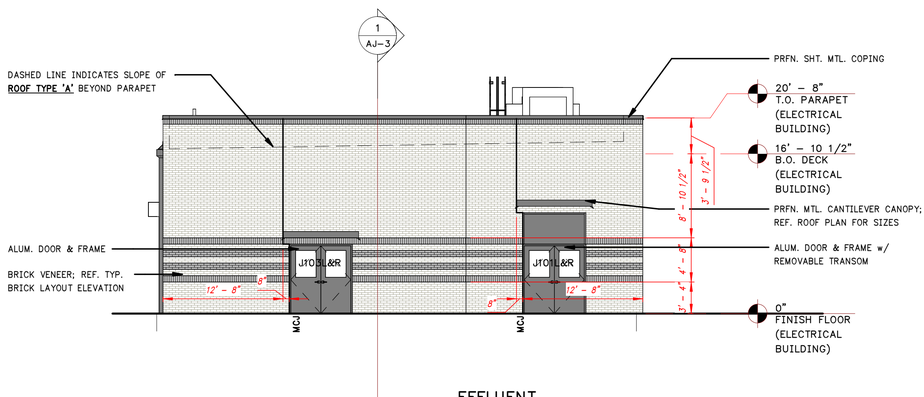
2 AJ–2



EFFLUENT PUMP STATION – ELECTRICAL BUILDING – SOUTH ELEVATION

1/8" = 1'–0"

3 AJ–2



EFFLUENT PUMP STATION & ELECTRICAL BUILDING – WEST ELEVATION

1/8" = 1'–0"

4 AJ–2

BID DRAWINGS

MARCH 21, 2025

mahg architecture

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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3.21.2025
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION & ELECTRICAL BUILDING – BUILDING ELEVATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AJ–2

Autodesk Docs://4101144 – Bentonville Water Resource Recovery Facility Improvements/A–MASTER MODEL.rvt
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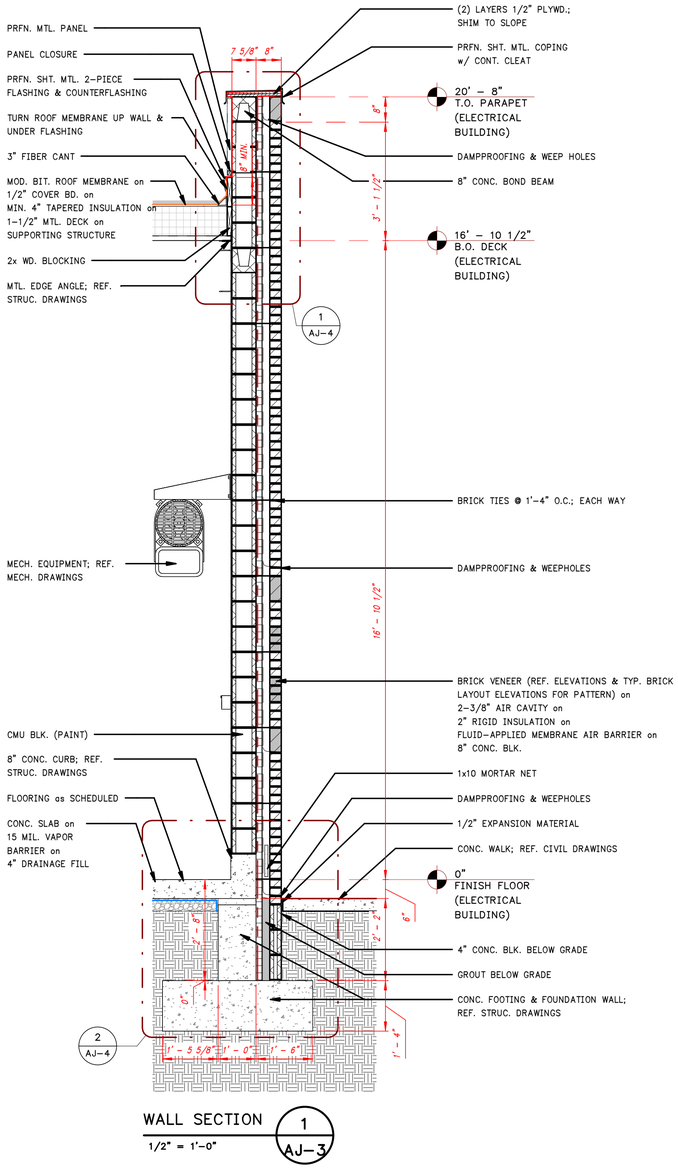
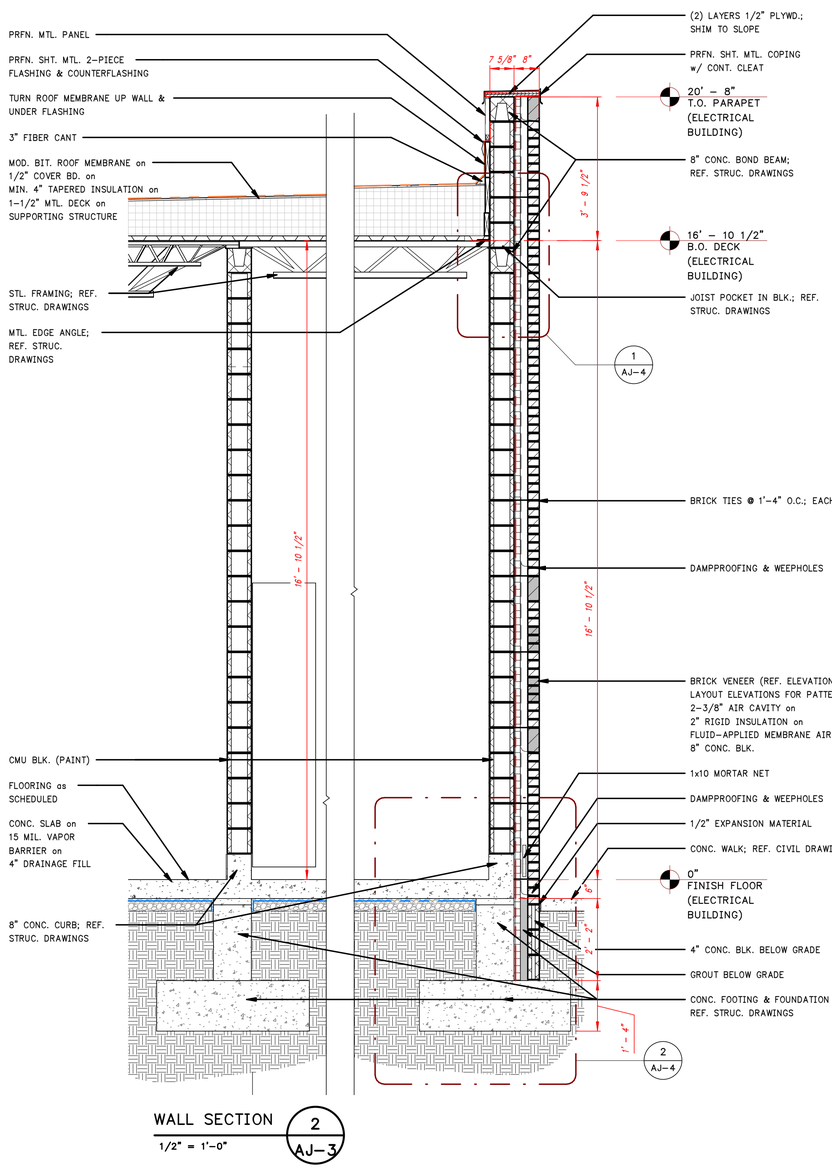


WALL SECTION 1 AJ-3

1/2" = 1'-0"



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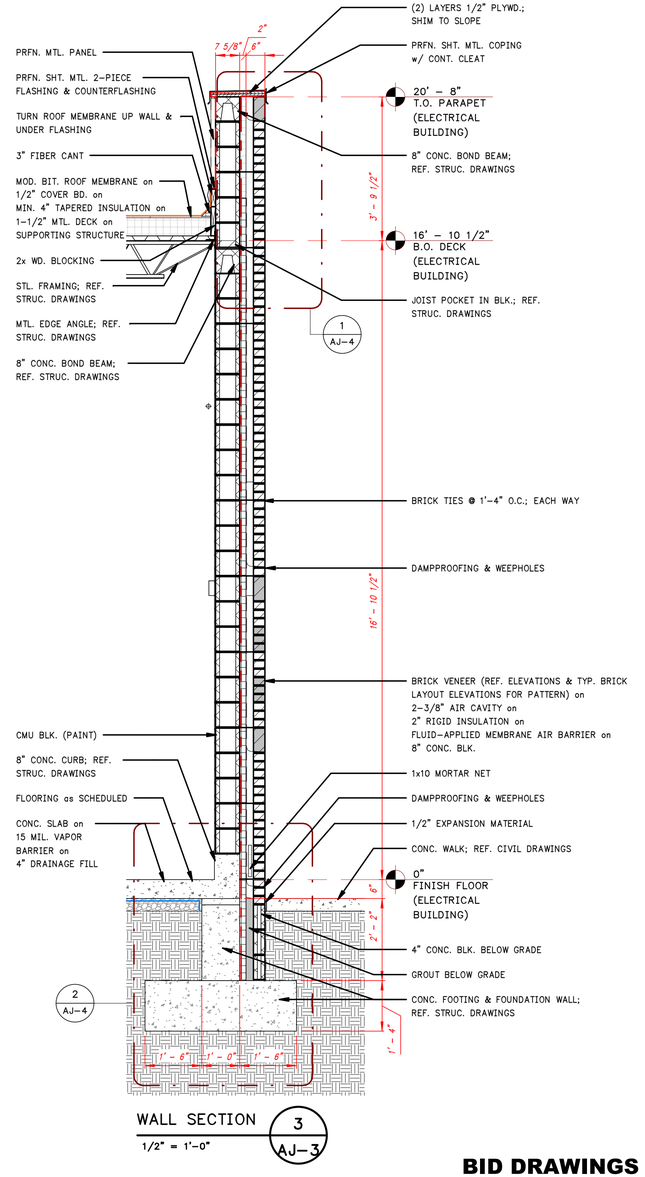

WALL SECTION 3 AJ-3

1/2" = 1'-0"

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BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION & ELECTRICAL BUILDING - WALL SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AJ-3

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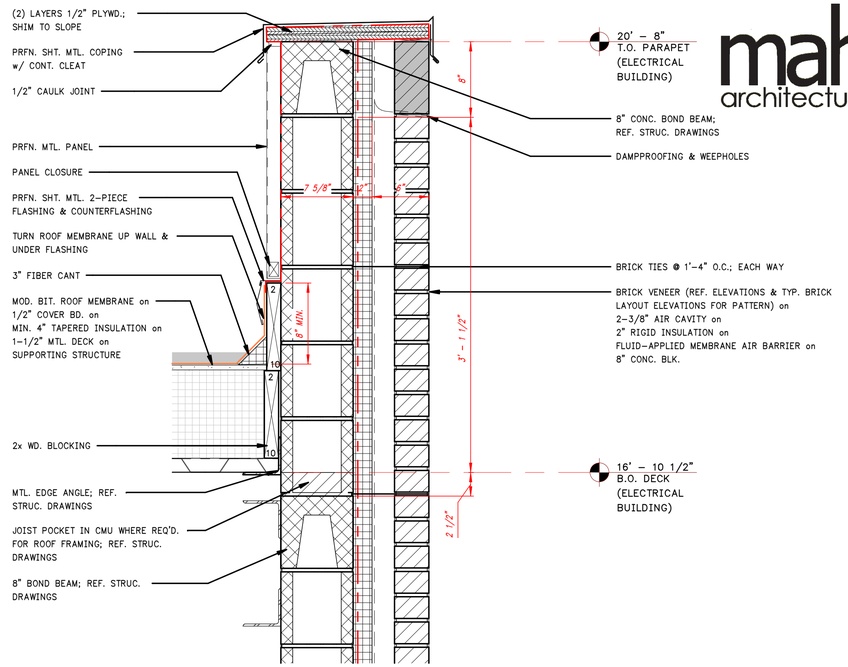
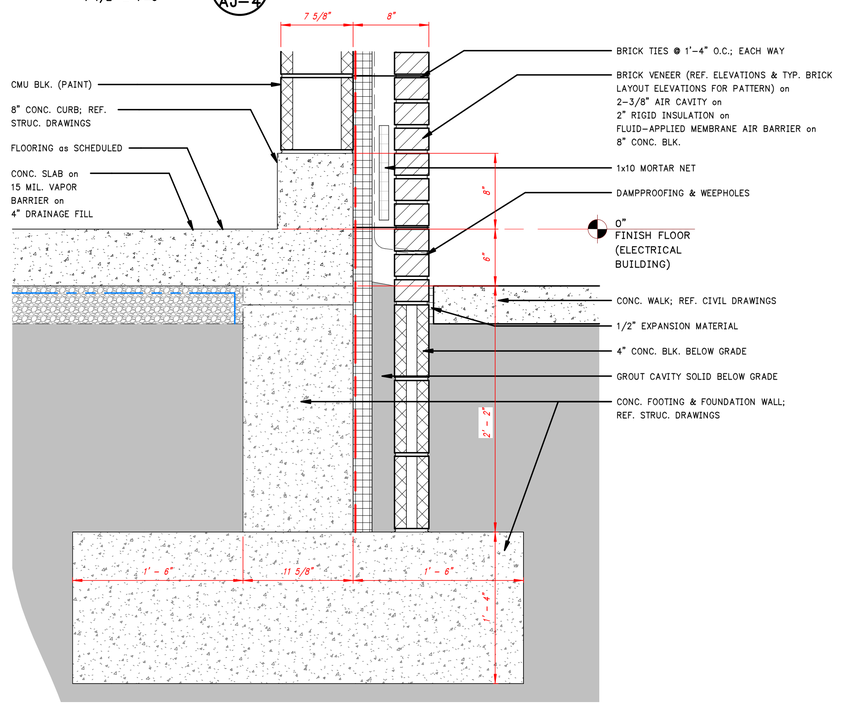


DETAIL 1 / AJ-4
1 1/2" = 1'-0"



DETAIL 2 / AJ-4
1 1/2" = 1'-0"

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MARCH 21, 2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION & ELECTRICAL BUILDING - DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1 1/2" = 1'-0"
DESIGNED BY: NJD
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FILENAME:

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AJ-4

3/21/2025 2:55:35 PM / Author / EFFLUENT PUMP STATION & ELECTRICAL BUILDING - BUILDING ISOMETRICS
Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

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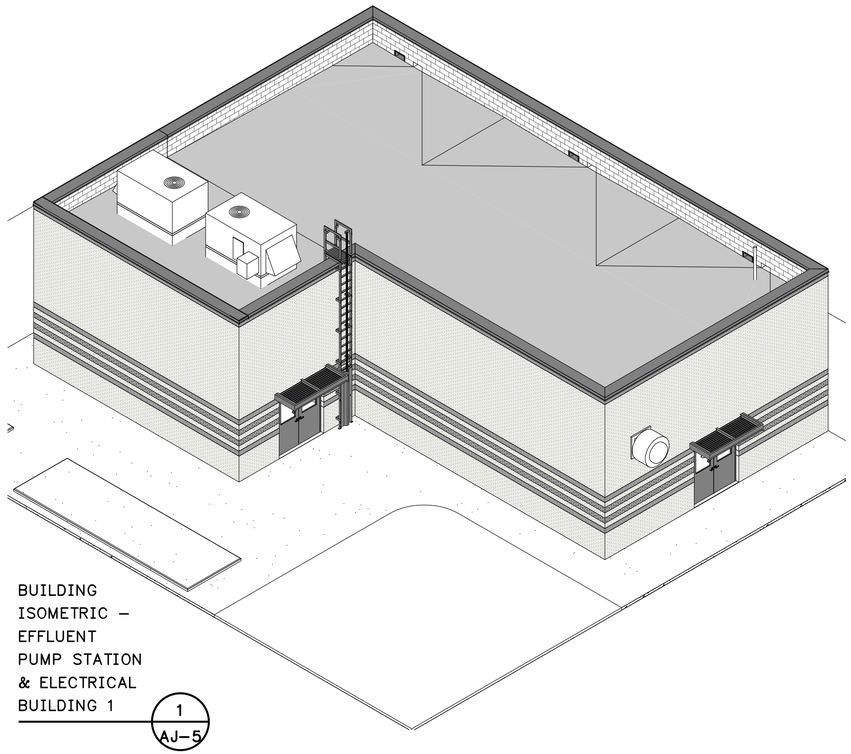
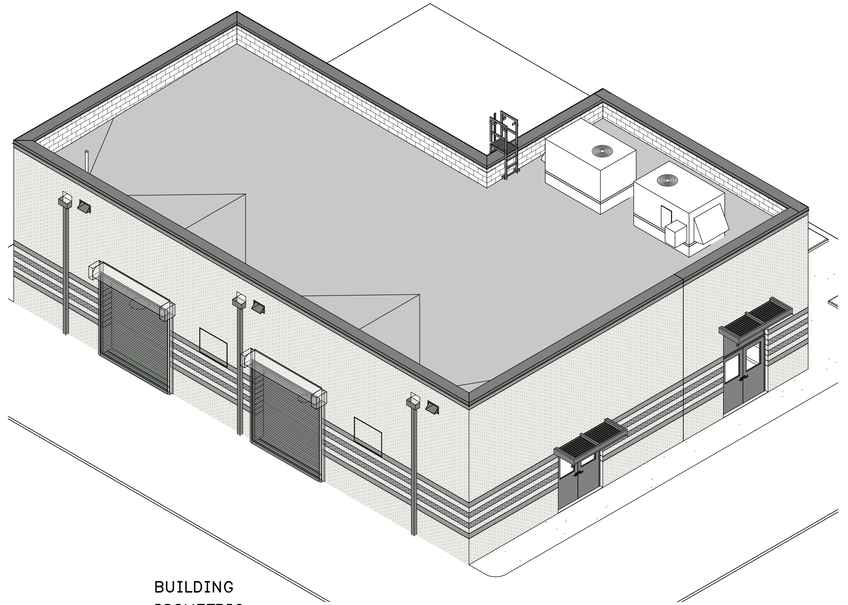


BUILDING ISOMETRIC - EFFLUENT PUMP STATION & ELECTRICAL BUILDING 1

1 AJ-5



BUILDING ISOMETRIC - EFFLUENT PUMP STATION & ELECTRICAL BUILDING 2

2 AJ-5

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

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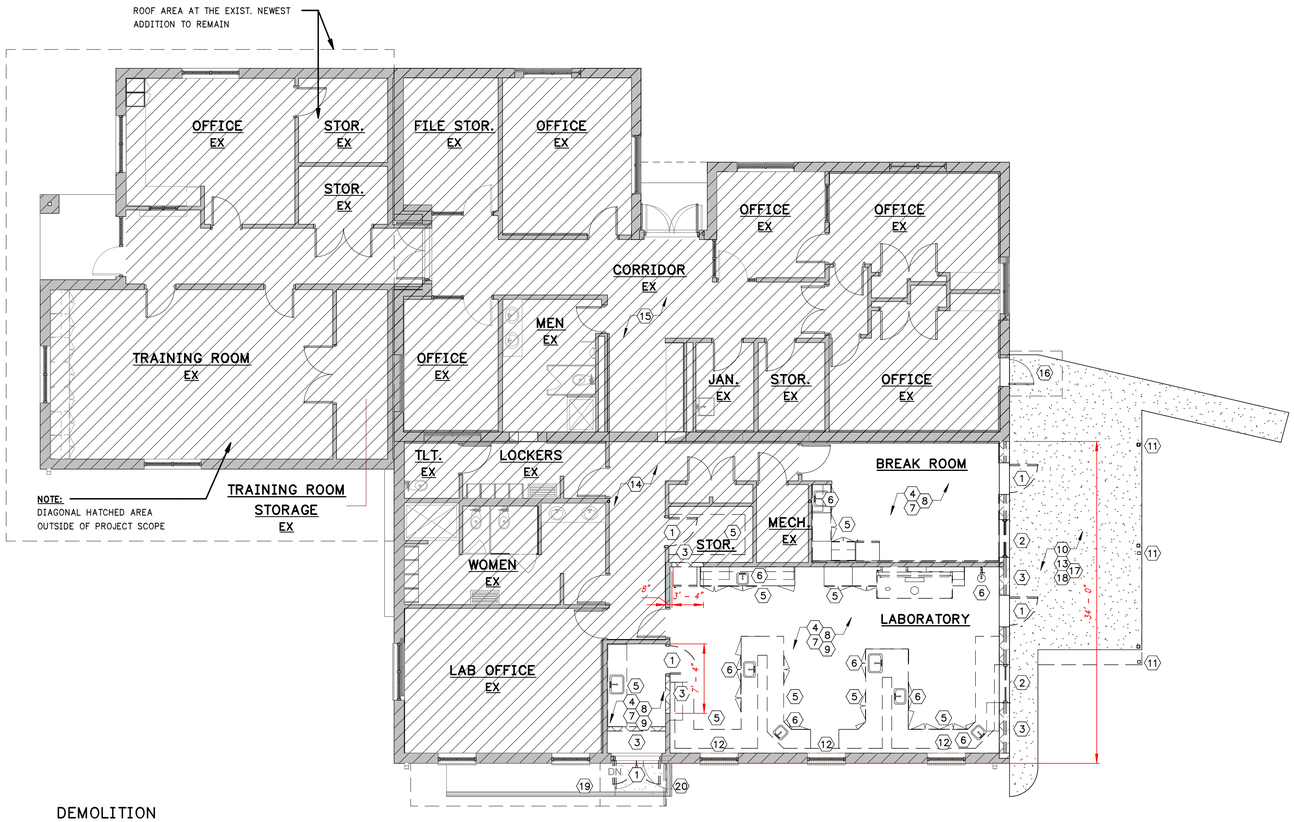
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION & ELECTRICAL BUILDING - BUILDING ISOMETRICS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE:
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AJ-5



DEMOLITION FLOOR PLAN – ADMIN/LAB BUILDING

1/8" = 1'-0"

1 AL–1

PLAN NORTH

DEMOLITION NOTES

GENERAL

WHEREVER WALLS, MILLWORK, DOORS, ETC. ARE SHOWN THUS: = = = THESE ITEMS ARE to be REMOVED.

THE CONTRACTOR SHALL BE RESPONSIBLE for REMOVAL & DISPOSAL of ALL MATERIAL REQUIRED to PERFORM NEW WORK, WHETHER or NOT it is SHOWN on the DRAWINGS.

WHEREVER WORK REQUIRES the REMOVAL & REPLACEMENT of MATERIAL in an EXISTING SPACE, the SPACE SHALL be REPLACED to a PRE–CONSTRUCTION CONDITION.

SEE ADDITIONAL DEMO NOTES in CIVIL, MECHANICAL, ELECTRICAL, & PLUMBING DRAWINGS

ANY REMOVED PORTION of WALLS, FLOOR, SUB–FLOOR, COLUMNS or STRUCT. FRAMING is to be REPAIRED as REQUIRED to ESTABLISH STABILITY for the REMAINDER of the STRUCTURE.

1. REMOVE EXIST. DOOR & FRAME; INFILL TO MATCH EXIST. ADJACENT CONST. AS REQ'D.
2. REMOVE EXIST. WINDOW; INFILL to MATCH EXIST. ADJACENT CONST. AS REQ'D.
3. REMOVE PORTION OF EXIST. WALL
4. REMOVE EXIST. LIGHT FIXTURES
5. REMOVE EXIST. MILLWORK
6. REMOVE EXIST. PLUMBING FIXTURE; REF. PLUMBING DRAWINGS
7. REMOVE EXIST. CEILING
8. REMOVE EXIST. FLOORING & BASE
9. REMOVE EXIST. LAB EQUIPMENT FOR REUSE IN NEW CONSTRUCTION
10. REMOVE EXIST. PATIO ROOF
11. REMOVE EXIST. COLUMN
12. REMOVE EXIST. WINDOW TREATMENT
13. REMOVE EXIST. CONC. AREA
14. REMOVE ROOF ASSEMBLY DOWN TO THE EXIST. MTL. DECK
15. REMOVE ROOF ASSEMBLY DOWN TO EXIST LIGHTWEIGHT INSULATING CONCRETE
16. REMOVE EXIST. CANOPY ABOVE DOOR
17. REMOVE EXIST. SITE FURNITURE; STORE FOR FUTURE USE
18. REMOVE EXIST. WALL PACK LIGHT FIXTURES IN ADDITION AREAS
19. REMOVE EXIST. CONC. RAMP & LANDINGS
20. REMOVE EXIST. MTL. RAILING

BID DRAWINGS
MARCH 21, 2025

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1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – DEMOLITION FLOOR PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL–1

3/21/2025 2:55:39 PM / Author / ADMIN/LAB BUILDING - DEMOLITION FLOOR PLAN & NOTES
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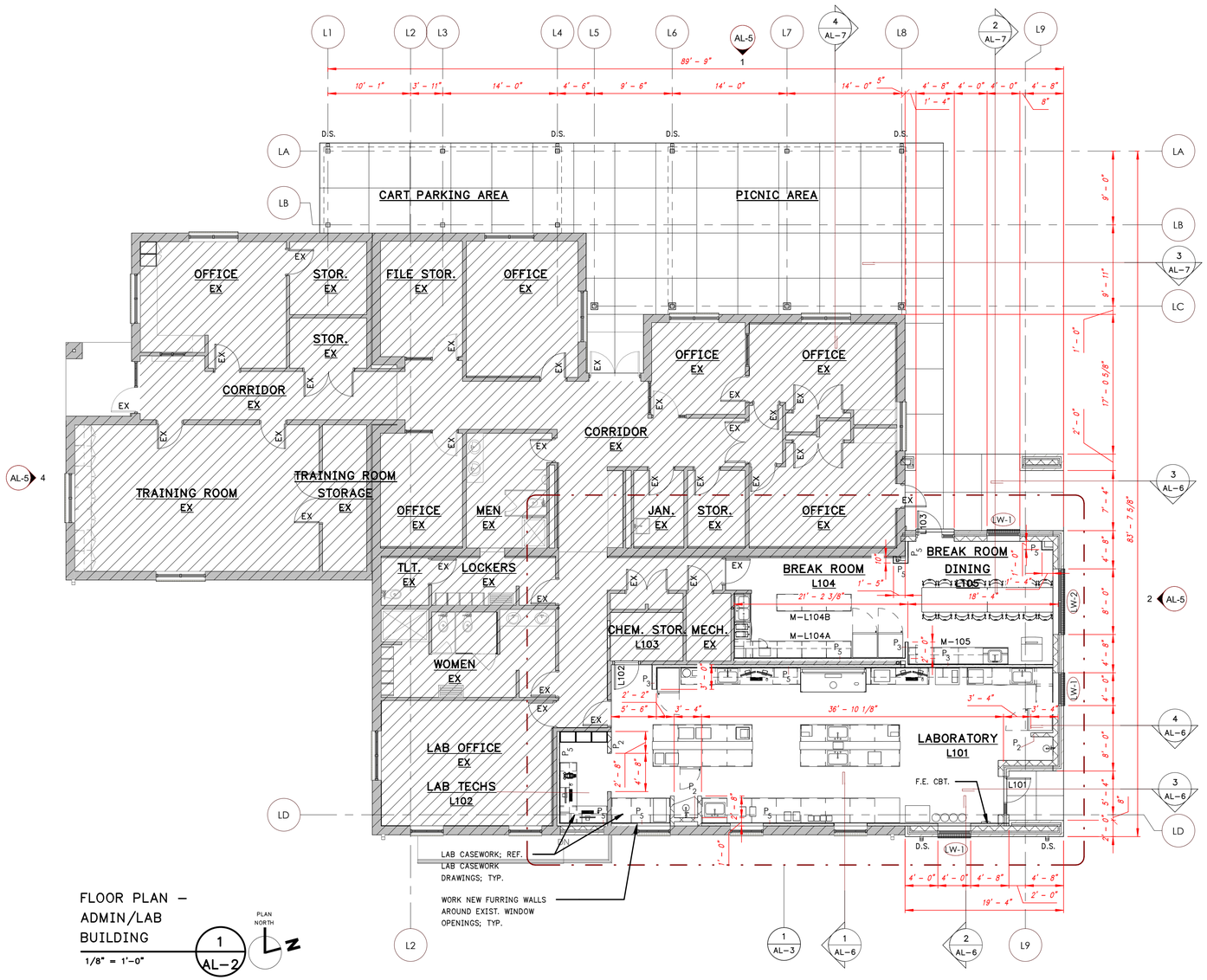

FLOOR PLAN – ADMIN/LAB BUILDING

1/8" = 1'-0"

PLAN NORTH

1 AL-2

PLAN NOTES

GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A-4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED •) in CEILINGS, WALLS & FURR- DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'-0" and/or per RCP

LEGEND

NEW CONSTRUCTION

EXISTING CONSTRUCTION

BID DRAWINGS

MARCH 21, 2025

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IF NOT ONE INCH SCALE ACCORDINGLY

DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – FLOOR PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL-2

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt
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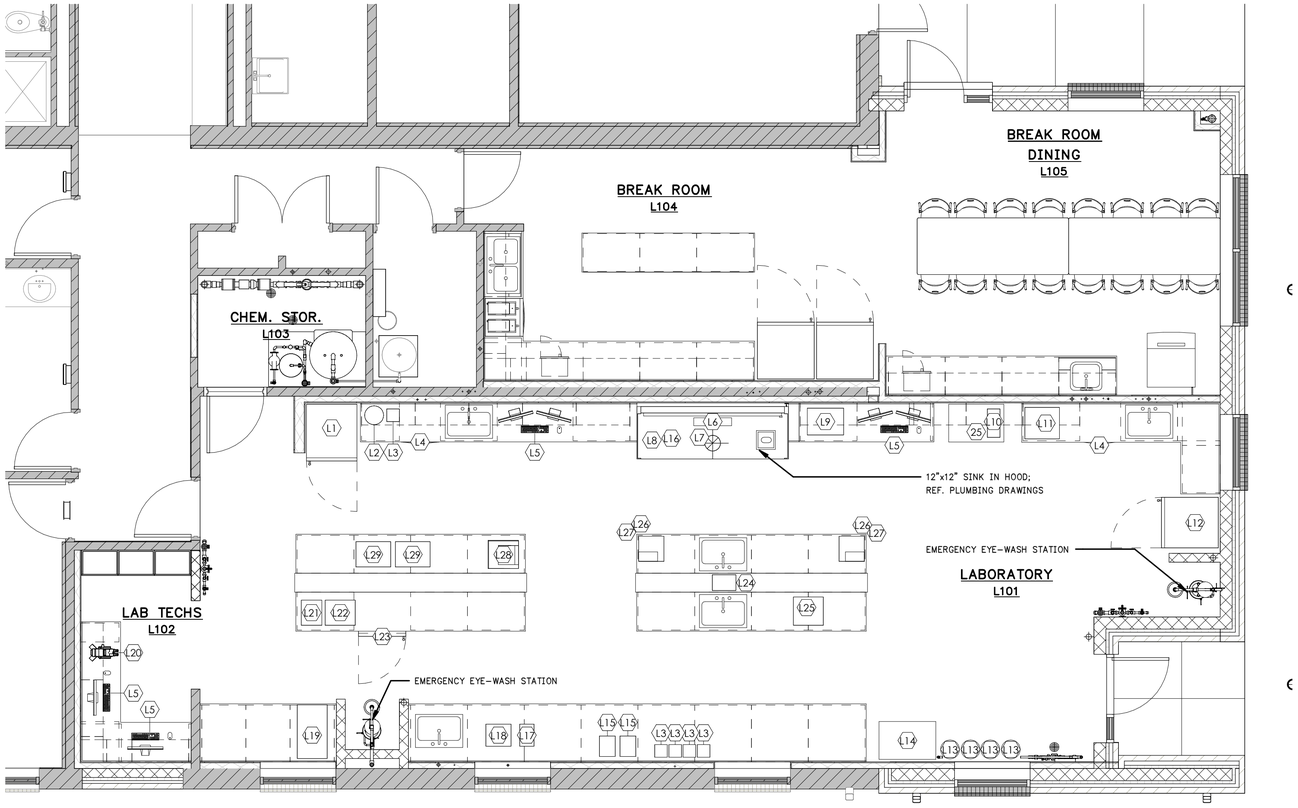

ENLARGED
FLOOR PLAN –
ADMIN/LAB
BUILDING

1/4" = 1'-0"

1 / AL-3

PLAN NORTH

LABORATORY EQUIPMENT SCHEDULE		
NO.	NAME	LOCATION
L1	INCUBATOR (ISOTEMP)	FLOOR
L2	DILLUTION TANK	COUNTERTOP
L3	MAGNETIC STIRRER	COUNTERTOP
L4	DISHWASHER	UNDERCOUNTER
L5	COMPUTER WORKSTATION	COUNTERTOP
L6	HOOD	FLOOR
L7	LAB OVEN 12"x12" EPOXY RESIN SINK	IN HOOD
L8	THERMOLYNE MUFFLE FURNACE	IN HOOD
L9	DRY BOX	COUNTERTOP
L10	SCALE (XSR304)	COUNTERTOP
L11	DISCRETE ANALYZER (MODEL 4600)	COUNTERTOP
L12	SAMPLE STORAGE	FLOOR
L13	DI WATER TANK	FLOOR
L14	FLAMMABLE STORAGE CABINET	FLOOR
L15	DIGITAL REACTOR (DRB 200)	COUNTERTOP
L16	MAGNETIC STIRRER / HEATER (ISOTEMP)	IN HOOD
L17	TITRATOR	COUNTERTOP
L18	DISTILLER	COUNTERTOP
L19	AUTOCLAVE (STERILMATIC)	COUNTERTOP
L20	MICROSCOPE	COUNTERTOP
L21	DESICCATOR (DRY KEEPER)	COUNTERTOP
L22	QUANTI-TRAY SEALER PLUS	COUNTERTOP
L23	CULTURE INCUBATOR (MODEL 153)	UNDERCOUNTER
L24	WATER PURIFICATION UNIT (ULTRAPURE, TYPE 1)	COUNTERTOP
L25	SPECTROPHOTOMETER (DR6000 COLORIMETER)	COUNTERTOP
L26	VACUUM PUMP	COUNTERTOP
L27	VACUUM CONTROL BOX	COUNTERTOP
L28	PRINTER (LASERJET 500 M551)	COUNTERTOP
L29	WATER BATH (SCIENTIFIC PRECISION GP20)	COUNTERTOP

NOTE:
ALL LOOSE LAB EQUIPMENT TO BE PROVIDED BY OWNER

BID DRAWINGS
MARCH 21, 2025

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1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE
REVISION

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – ENLARGED FLOOR PLAN, SCHEDULES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
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3/21/2025 2:55:49 PM / Author / ADMIN/LAB BUILDING - LAB CASEWORK & EQUIPMENT PLAN

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt

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AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE	REVISION

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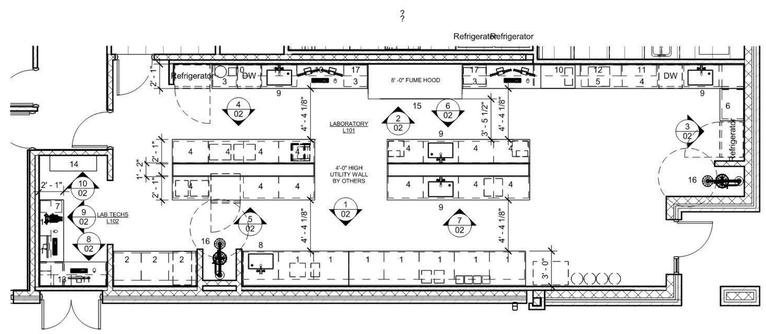
BENTONVILLE WASTE
RECOVERY FACILITY
BENTONVILLE, AR

Rev. By	Description	Date
PR	HOOD CHANGED TO 8'	3/20/24

Project:		Project Status: SALES PLANNING
Date	1/10/24	Sheet: 00
Drawn by	PR	
Checked by		Scale

3/28/2024 8:20:36 AM



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BENTONVILLE WASTE
RECOVERY FACILITY
BENTONVILLE, AR

Rev. By	Description	Date
PR	HOOD CHANGED TO 8'	3/20/24

Project:		Project Status: SALES PLANNING
Date	1/10/24	Sheet: 01
Drawn by	PR	
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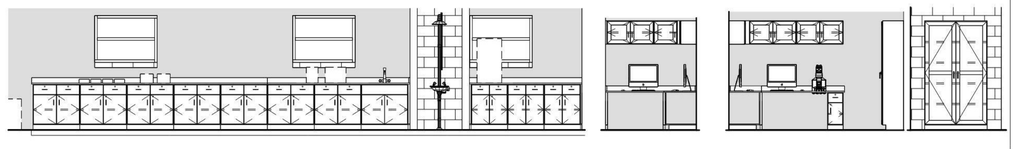
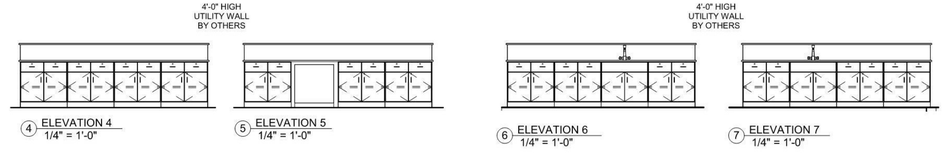
3/28/2024 8:20:37 AM





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BENTONVILLE WASTE
RECOVERY FACILITY
BENTONVILLE, AR

Rev. By	Description	Date
PR	HOOD CHANGED TO 8'	3/20/24

Project:		Project Status: SALES PLANNING
Date	1/10/24	Sheet: 02
Drawn by	PR	
Checked by		Scale 1/4" = 1'-0"

3/28/2024 8:20:39 AM

EQUIPMENT LIST

TAG	ITEM #	DESCRIPTION	SERVICES	TOPS/REMARKS
1	106-3628	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
2	106-2828	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
3	106-2422	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
4	106-3622	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
5	106-4222	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
6	106-3022	BASE CABINET - DRAWERS OVER DOORS		EPOXY RESIN
7	018-1222	BASE CABINET - DRAWER OVER DOOR		EPOXY RESIN
8	181-3628	SINK CABINET		EPOXY RESIN
	D55	EPOXY RESIN SINK (18"X15"X10" I.D.) WITH OUTLET AND STOPPER	WASTE	
	80032	UNIMIX FIXTURE	HW, CW	
9	181-3622	SINK CABINET		EPOXY RESIN
	D55	EPOXY RESIN SINK (18"X15"X10" I.D.) WITH OUTLET AND STOPPER	WASTE	
	80032	UNIMIX FIXTURE	HW, CW	
10	B06-4812	UPPER WALL CABINET - DOUBLE GLASS DOORS		
11	B06-3612	UPPER WALL CABINET - DOUBLE GLASS DOORS		
12	B06-4212	UPPER WALL CABINET - DOUBLE GLASS DOORS		
13	B11-1812	UPPER WALL CABINET - DOUBLE GLASS DOORS		
14	372-4816	TALL CABINET - MICROSCOPE STORAGE		
15	EH-111-96	8' FUME HOOD WITH BASE AND SERVICES W/12"x12" SINK	CW, ELEC, WASTE	DISHED EPOXY RESIN
16	SSBF-909	SAFETY SHOWER/EYEWASH	CW, WASTE	
17	B06-2412	UPPER WALL CABINET - DOUBLE GLASS DOORS		
		FILLER AND SUPPORT PANELS REQUIRED THROUGHOUT		

REFRIGERATORS, AUTOCLAVES, INCUBATORS, DILLUTION TANKS, FLAMMABLE STORAGE, D.I. WATER TANKS, AND OTHER SPECIALTY EQUIP BY OTHERS
MARKER BOARDS, TACK BOARDS, SMARTBOARDS, CEILING MOUNTED PROJECTORS & SCREENS, SEATING, METAL WIRE SHELVING BY OTHERS

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BENTONVILLE WASTE
RECOVERY FACILITY
BENTONVILLE, AR

Rev. By	Description	Date
PR	HOOD CHANGED TO 8'	3/20/24

Project:		Project Status: SALES PLANNING
Date	1/10/24	Sheet: 03
Drawn by	PR	
Checked by		Scale 3/16" = 1'-0"

3/28/2024 8:20:39 AM

NOTE: DRAWINGS NOT TO SCALE

BID DRAWINGS
MARCH 21, 2025

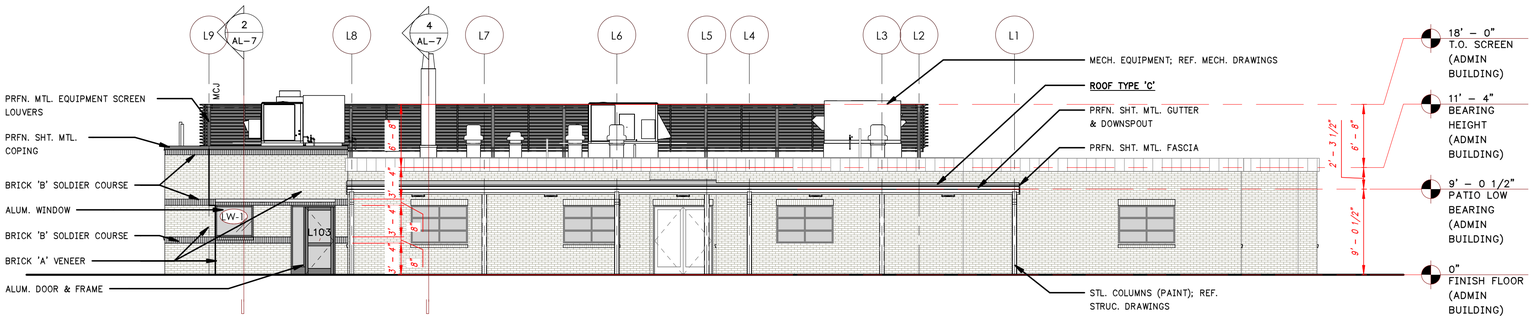
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING - LAB CASEWORK & EQUIPMENT PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE:
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

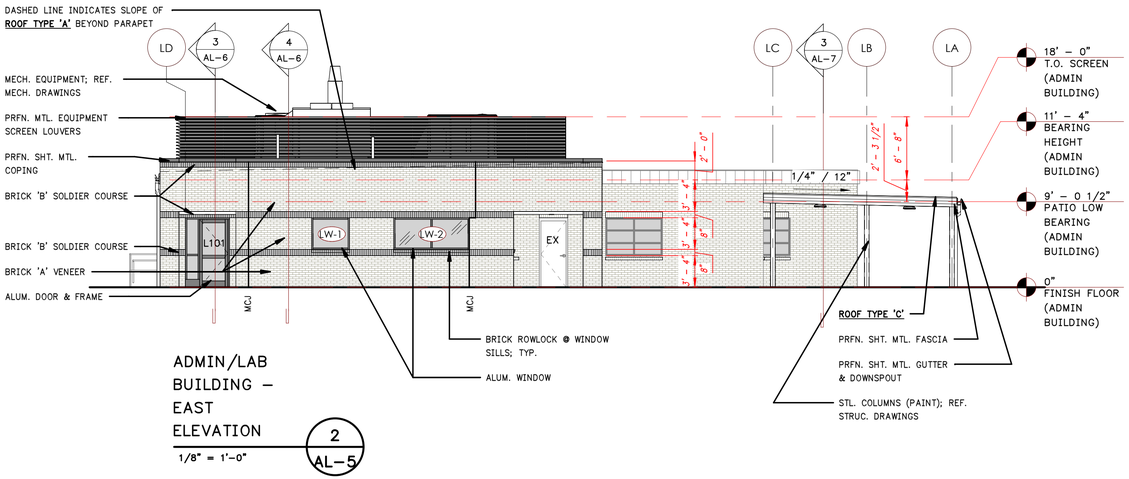
SHEET NO.
AL-4



ADMIN/LAB BUILDING – NORTH ELEVATION

1/8" = 1'-0"

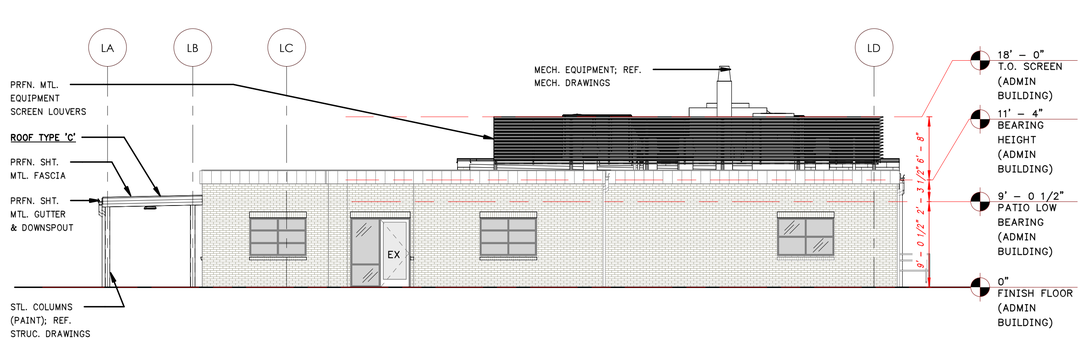
1 / AL–5



ADMIN/LAB BUILDING – EAST ELEVATION

1/8" = 1'-0"

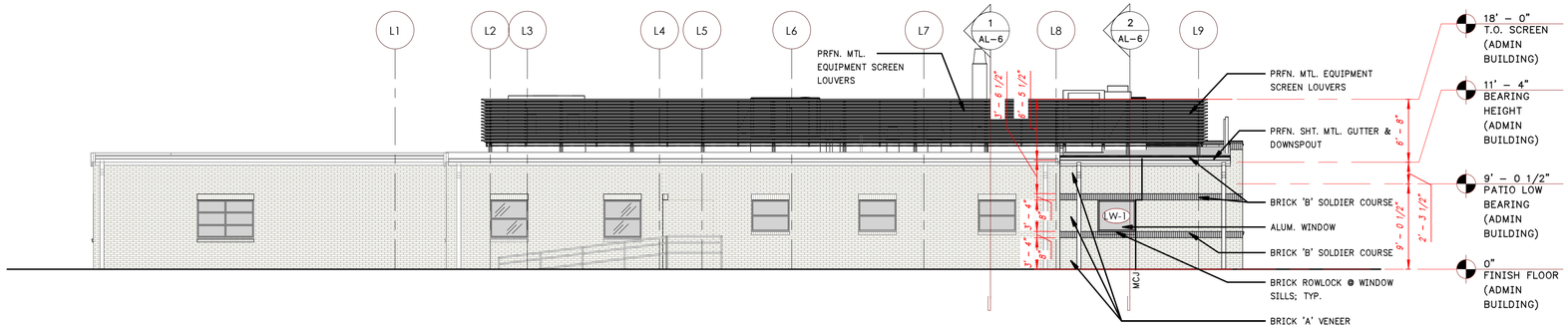
2 / AL–5



ADMIN/LAB BUILDING – WEST ELEVATION

1/8" = 1'-0"

4 / AL–5



ADMIN/LAB BUILDING – SOUTH ELEVATION

1/8" = 1'-0"

3 / AL–5

BID DRAWINGS

MARCH 21, 2025

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1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – BUILDING ELEVATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL–5

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3/21/2025 2:56:03 PM / Author / ADMIN/LAB BUILDING - WALL SECTIONS & DETAILS

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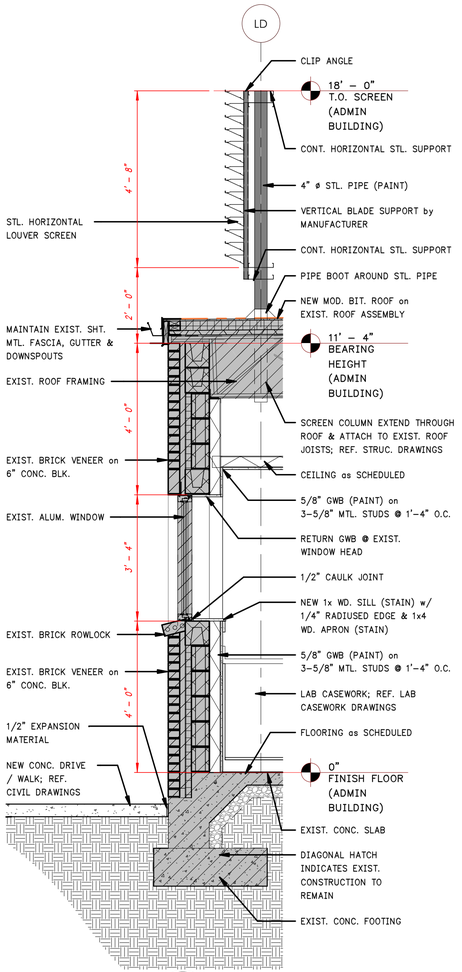
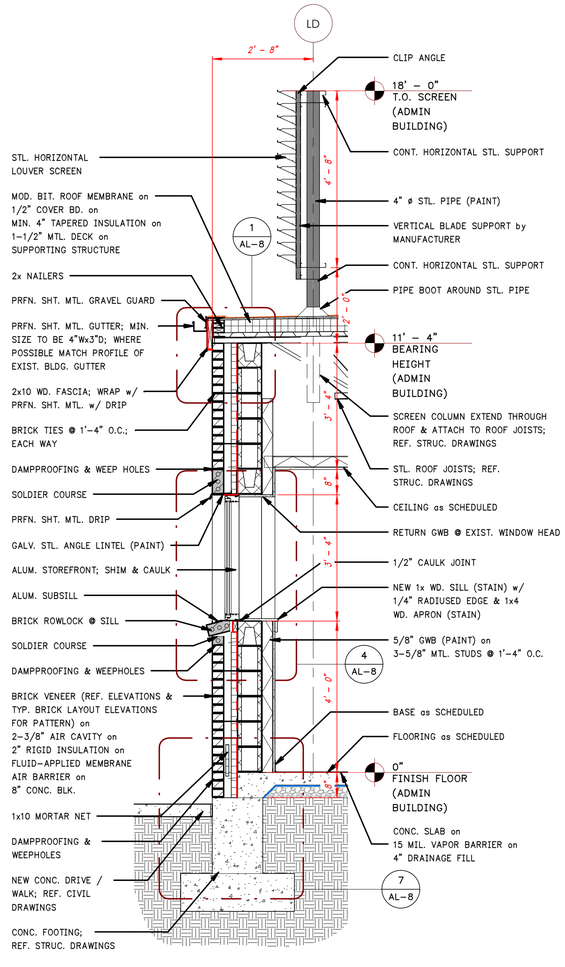


WALL SECTION 1 / AL-6
1/2" = 1'-0"



WALL SECTION 2 / AL-6
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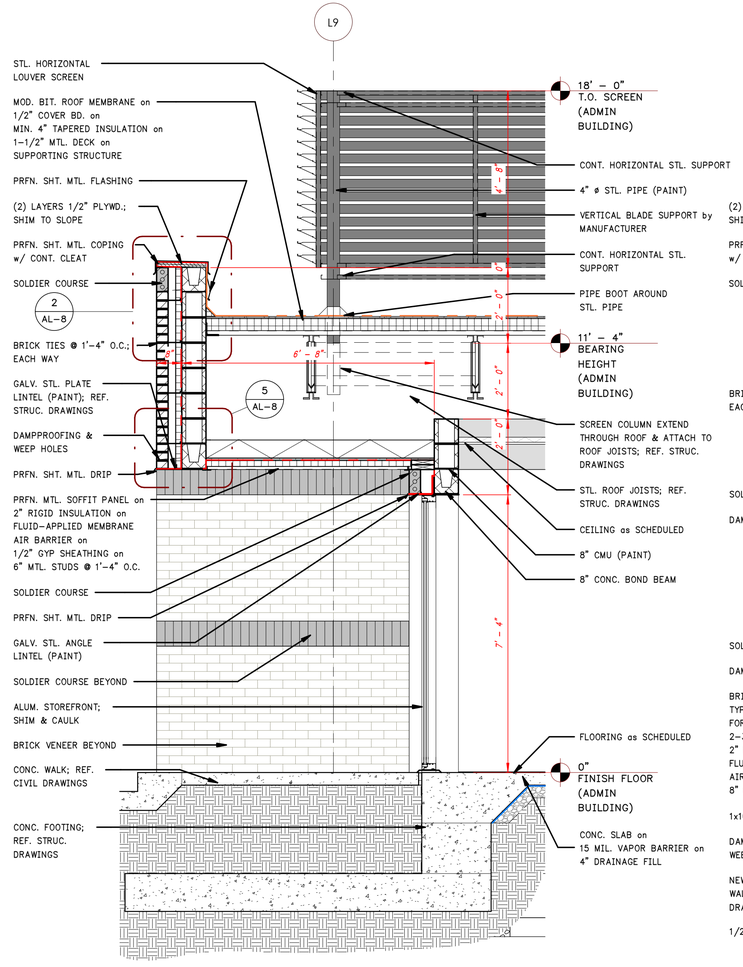

WALL SECTION 3 / AL-6
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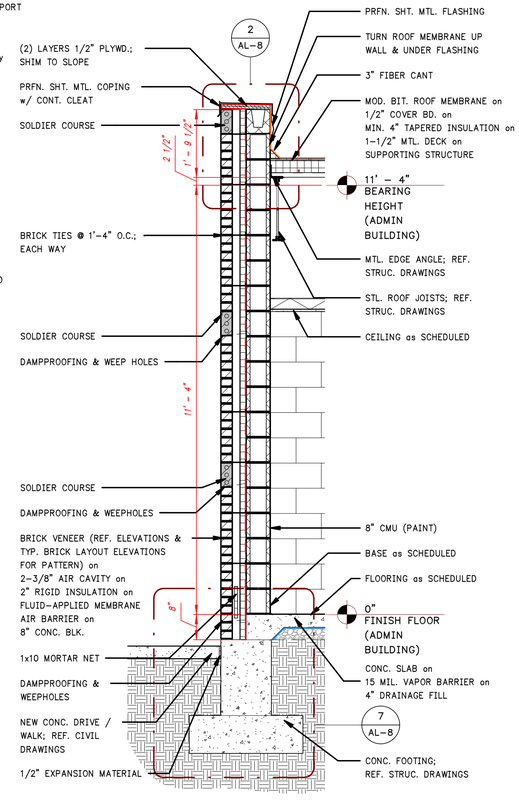

WALL SECTION 4 / AL-6
1/2" = 1'-0"

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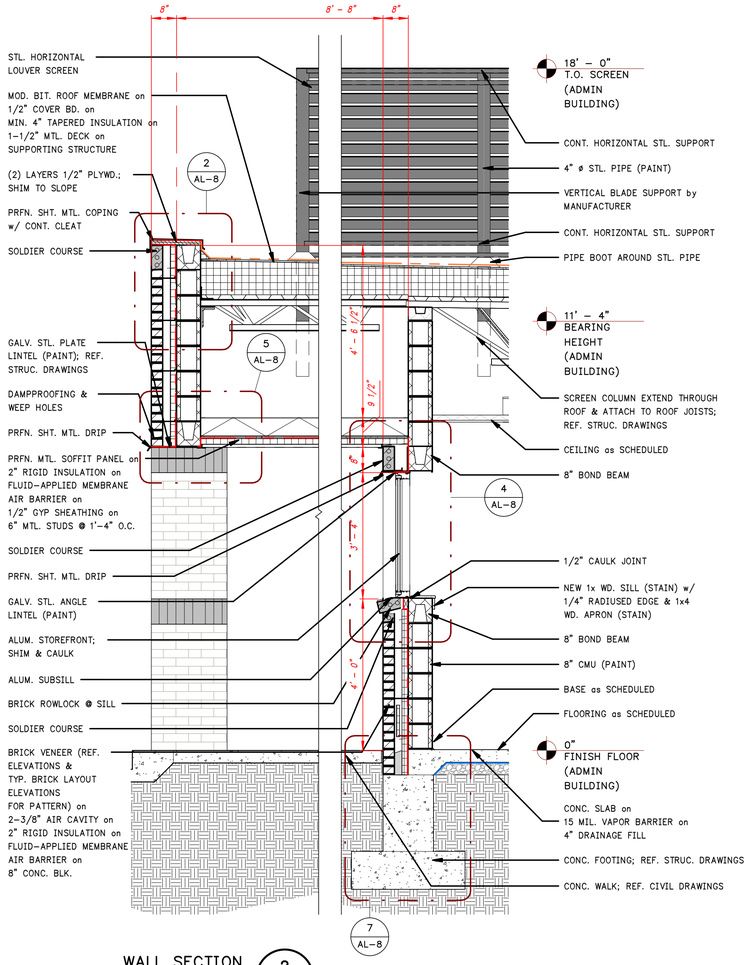
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING - WALL SECTIONS & DETAILS

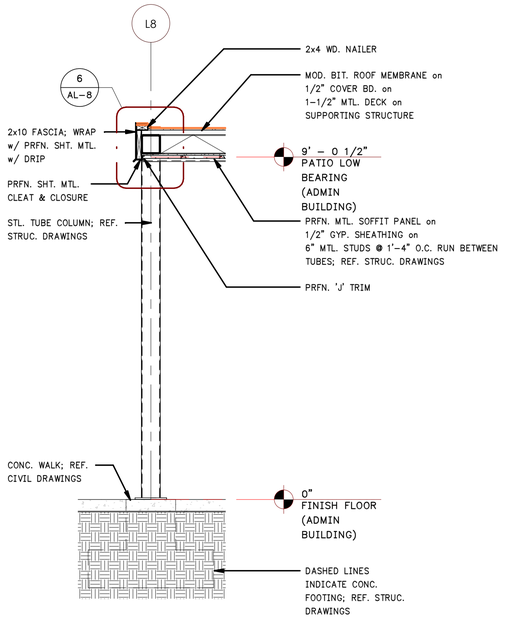
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

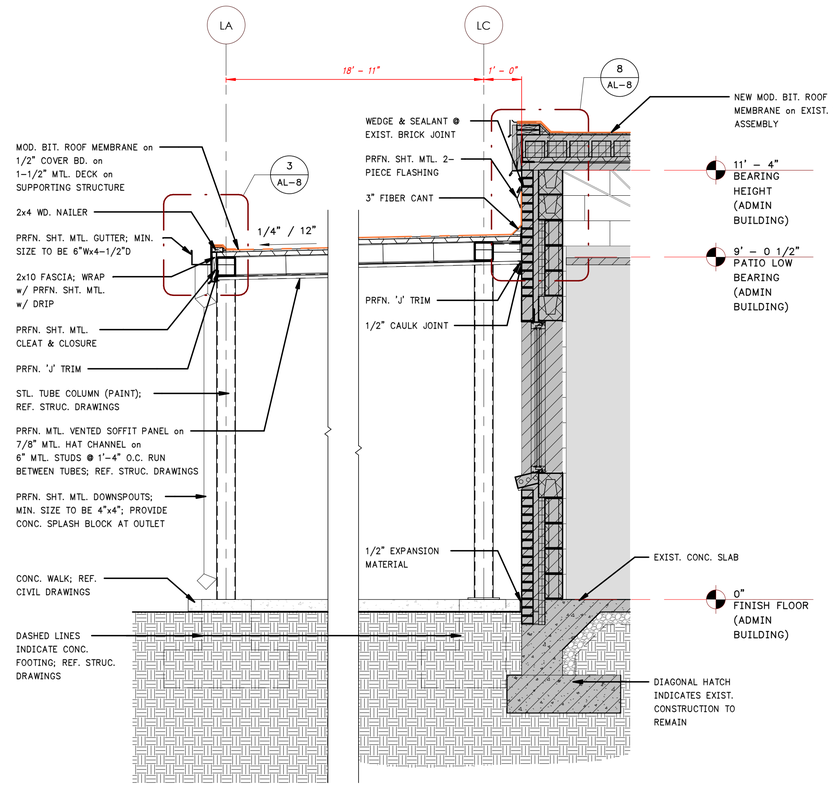
SHEET NO.
AL-6



WALL SECTION 2 / AL–7
1/2" = 1'–0"



WALL SECTION 3 / AL–7
1/2" = 1'–0"



WALL SECTION 4 / AL–7
1/2" = 1'–0"

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BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – WALL SECTIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

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SCALE: 1/2" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL–7

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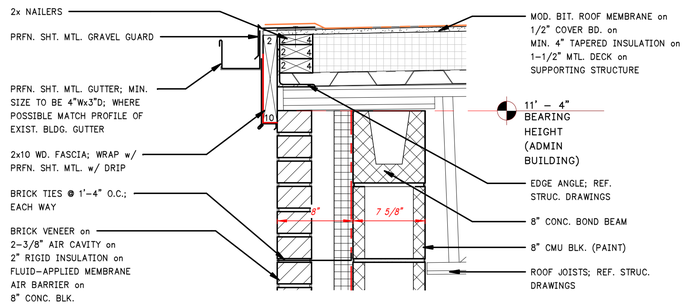
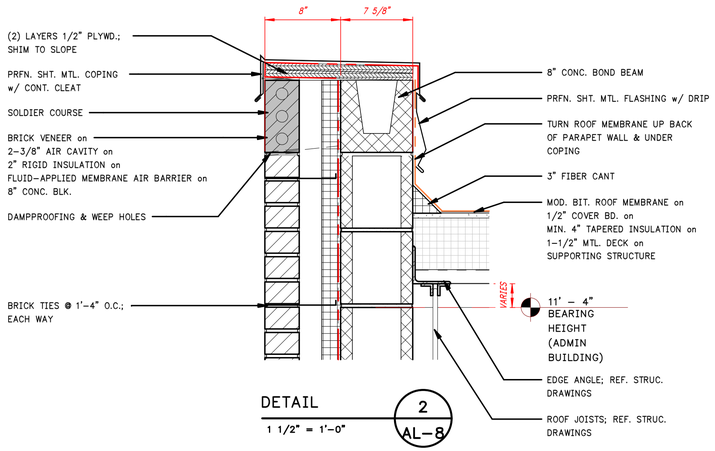
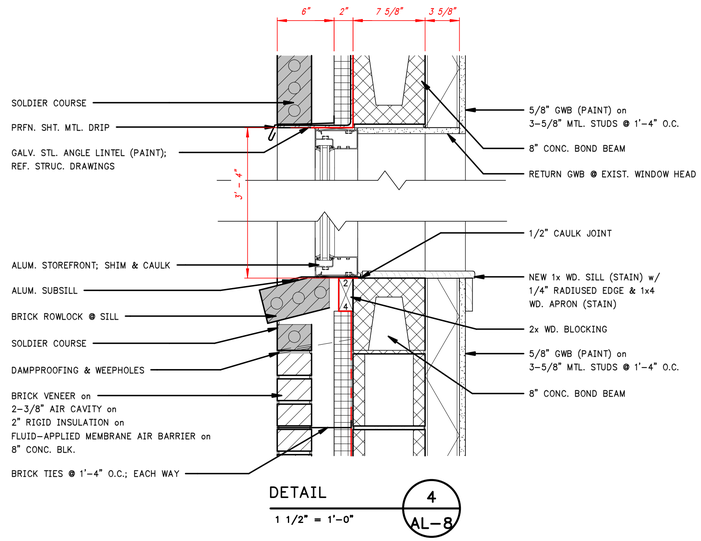


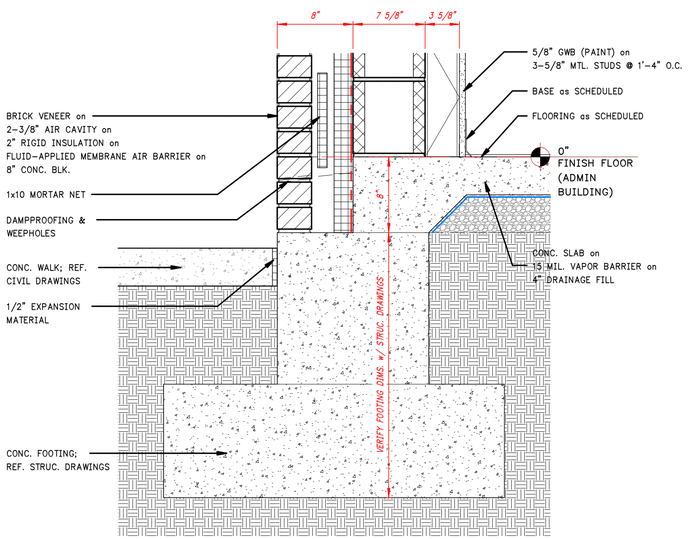
DETAIL 1 — AL-8
1 1/2" = 1'-0"



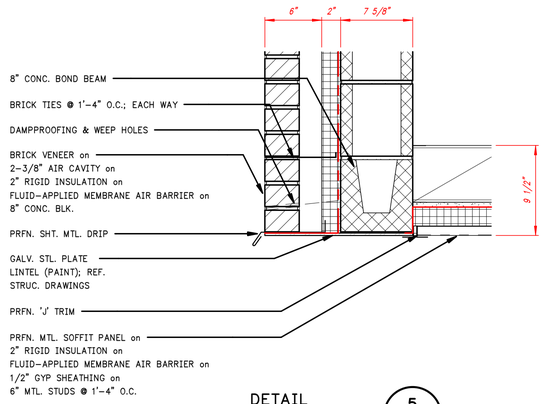
DETAIL 2 — AL-8
1 1/2" = 1'-0"



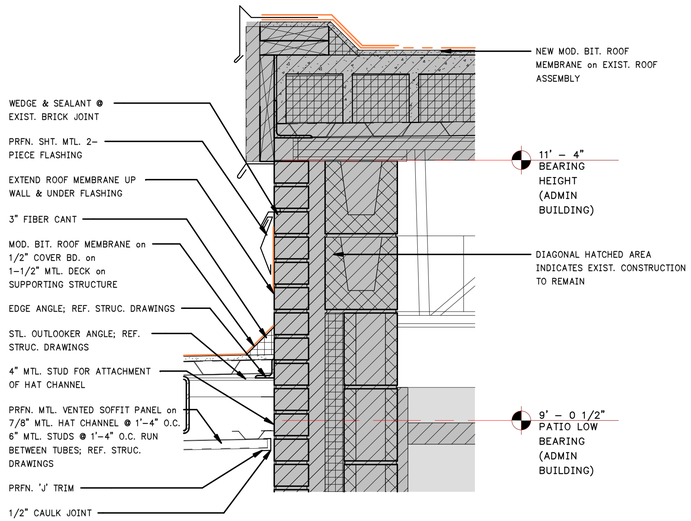
DETAIL 4 — AL-8
1 1/2" = 1'-0"



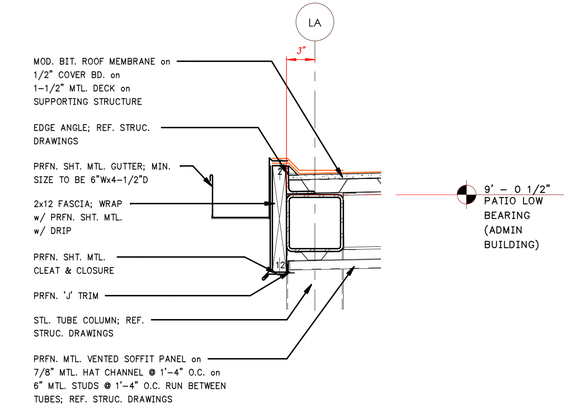
DETAIL 7 — AL-8
1 1/2" = 1'-0"



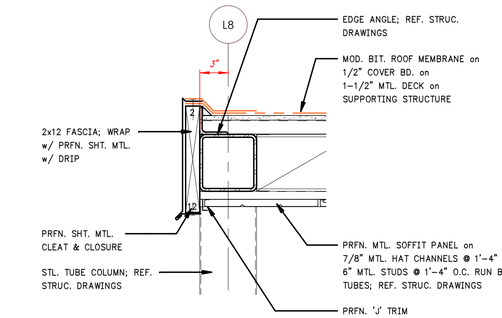
DETAIL 5 — AL-8
1 1/2" = 1'-0"



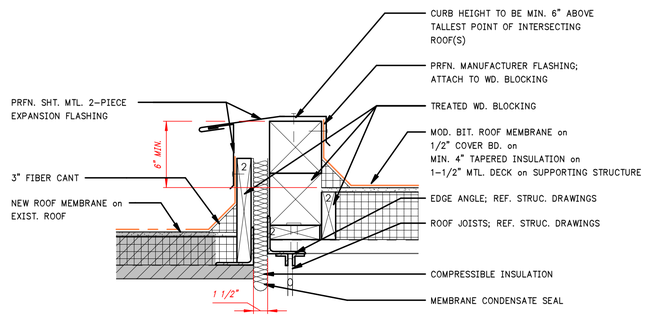
DETAIL 8 — AL-8
1 1/2" = 1'-0"



DETAIL 3 — AL-8
1 1/2" = 1'-0"



DETAIL 6 — AL-8
1 1/2" = 1'-0"



DETAIL 9 — AL-8
1 1/2" = 1'-0"

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING - DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL-8

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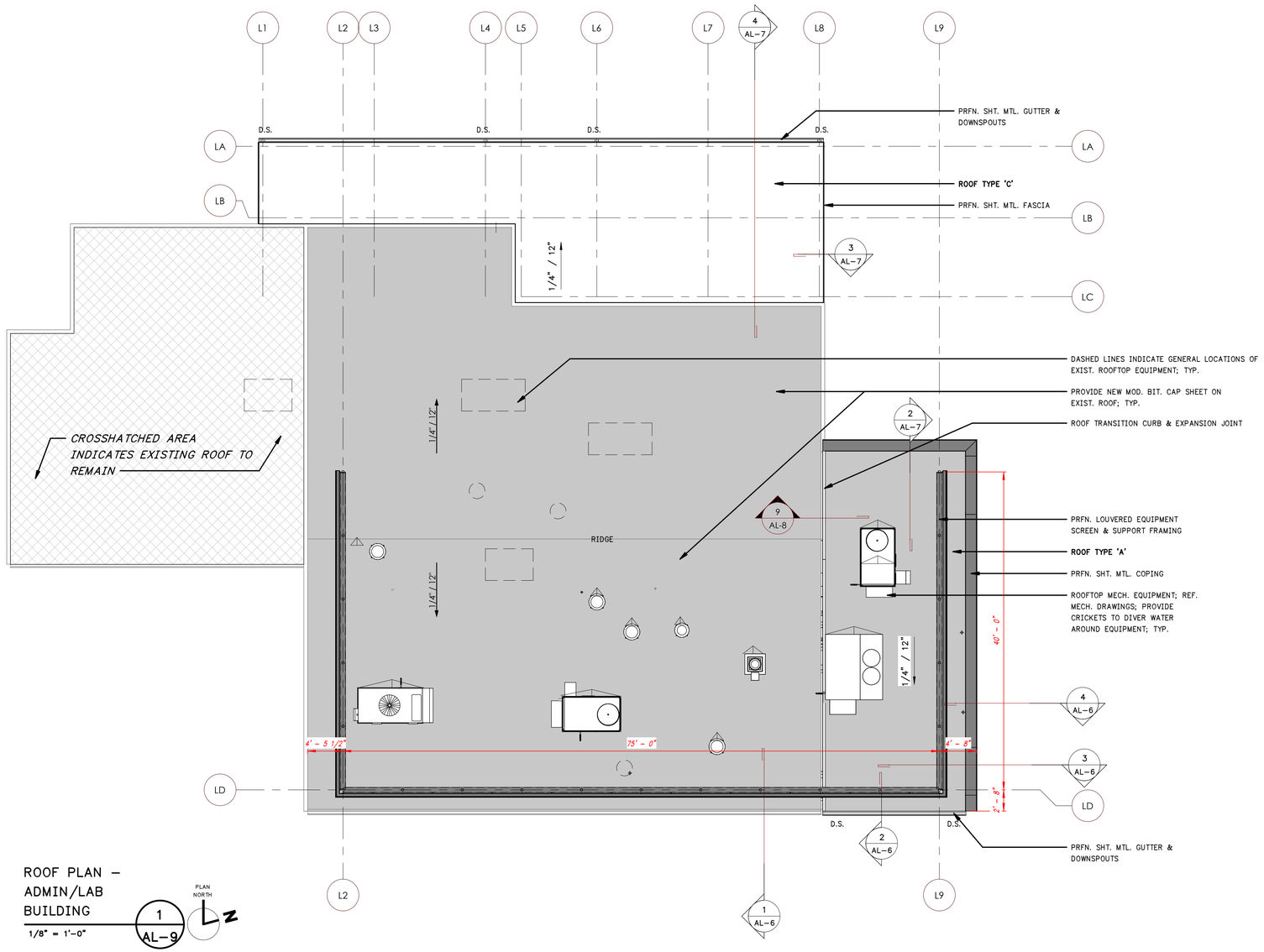
3/21/2025 2:56:07 PM / Author / ADMIN/LAB BUILDING - DETAILS



ROOF PLAN – ADMIN/LAB BUILDING

1/8" = 1'-0"

PLAN NORTH

1 AL-9

ROOF NOTES

ROOF SYSTEM 'A'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" MIN. TAPERED POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

ROOF SYSTEM 'B'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -4" POLYISO INSULATION on
- -MTL. DECK on
- -SUPPORTING STRUCTURE (SLOPED)

ROOF SYSTEM 'C'
NEW LOW SLOPE ROOF IS INDICATED THUS:
-LOW SLOPE ROOF CONSISTS of:
- -MODIFIED BITUMEN ROOF on
- -1/2" COVER BOARD on
- -MTL. DECK on
- -SUPPORTING STRUCTURE

ROOF SYSTEM 'D'
MTL. BUILDING PANEL ROOF is INDICATED THUS:
MTL. BUILDING PANEL ROOF CONSISTS of:
- -MTL. BUILDING PANEL ROOF on
- -2" UNFACED INSULATION on
- -PURLINS (REF. STRUC. DWGS.) w/
- -8" UNCOMPRESSED, UNFACED FIBERGLASS INSULATION (BETWEEN PURLINS) w/
- -SYSEAL FABRIC SYSTEM (BELOW PURLINS) on
- -GRIDWORK of TENSIONED UVMAX STL. SUPPORT STRAPS INSTALLED BELOW THE BOTTOM of PURLINS & FASTENED @ PRIMARY STRUCTURAL MEMBERS on
- -MTL. BUILDING STRUCTURE (REF. STRUC. DWGS.)

GENERAL NOTES
1. SEE STRUC. DWG's for ROOF FRAMING
2. DIRECTIONAL ARROWS ARE in THE DOWN DIRECTION
3. INSTALL CRICKETS FORMED @ ALL ROOFTOP EQUIPMENT as REQUIRED to DIVERT WATER AWAY FROM EQUIPMENT
4. REF. SPECIFICATIONS for ROOF & INSULATION MATERIALS
5. PAINT ALL VTR's to MATCH MTL. BUILDING PANEL ROOF AFTER INSTALLATION of ROOF

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – ROOF PLAN, DETAILS & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
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FILENAME:

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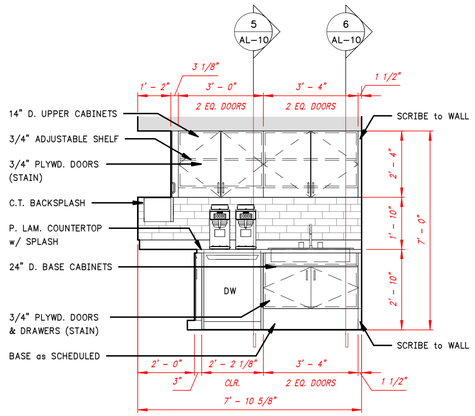
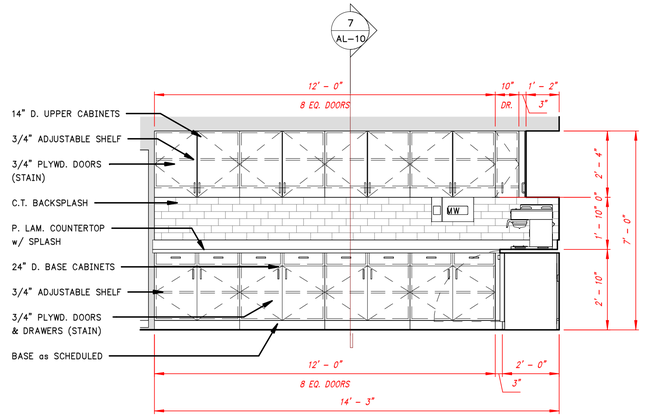
3/21/2025 2:56:14 PM / Author / ADMIN/LAB BUILDING - MILLWORK ELEVATIONS & DETAILS



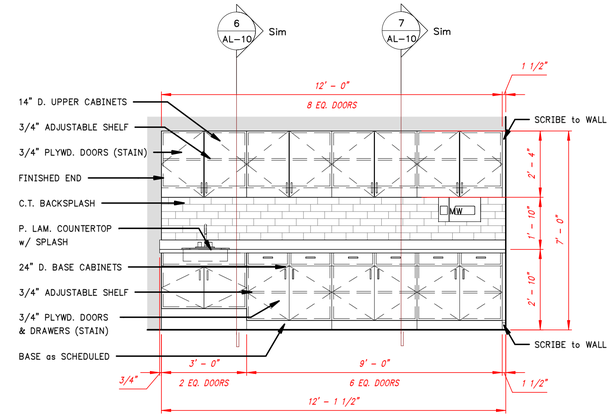
MILLWORK ELEVATION – M-L04A-A

3/8" = 1'-0" 1 AL-10



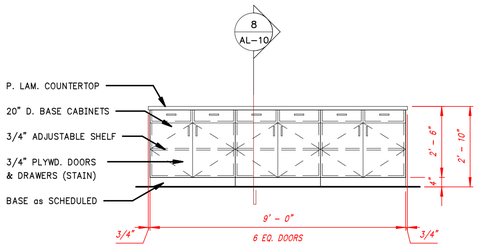
MILLWORK ELEVATION – M-L04A-B B

3/8" = 1'-0" 2 AL-10



MILLWORK ELEVATION – M-L05

3/8" = 1'-0" 3 AL-10



MILLWORK ELEVATION – M-L104B

3/8" = 1'-0" 4 AL-10

SECTION 3/4" = 1'-0" 5 AL-10

SECTION 3/4" = 1'-0" 6 AL-10

SECTION 3/4" = 1'-0" 7 AL-10

SECTION 3/4" = 1'-0" 8 AL-10

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MARCH 21, 2025

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1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING – MILLWORK ELEVATIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
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DRAWN BY: NJD
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FILENAME:

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AL-10

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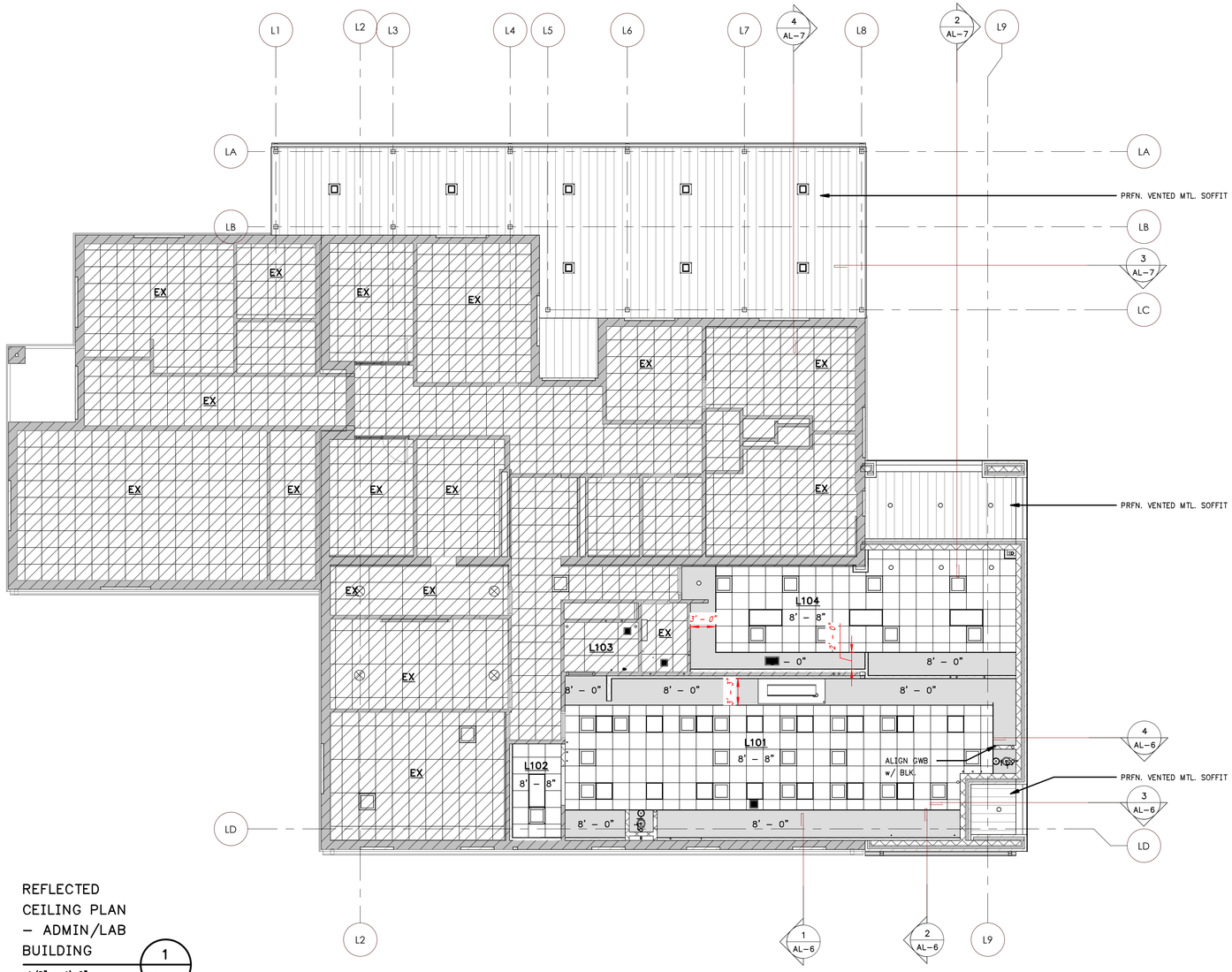

REFLECTED CEILING PLAN – ADMIN/LAB BUILDING

1/8" = 1'-0"

1 AL-11

REFLECTED CEILING PLAN NOTES

GENERAL

A. • GWB CONTROL JOINT

LEGEND

NEW CONSTRUCTION	
EXIST. CONSTRUCTION	
GWB (PAINT)	
AC.BD. CEILING	
MTL. SOFFIT PANEL	
SUPPLY GRILLE; REF. MECH.	
RETURN GRILLE; REF. MECH.	

BID DRAWINGS

MARCH 21, 2025

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ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING - REFLECTED CEILING PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL-11

3/21/2025 2:56:38 PM / Author / ADMIN/LAB BUILDING - BUILDING ISOMETRICS

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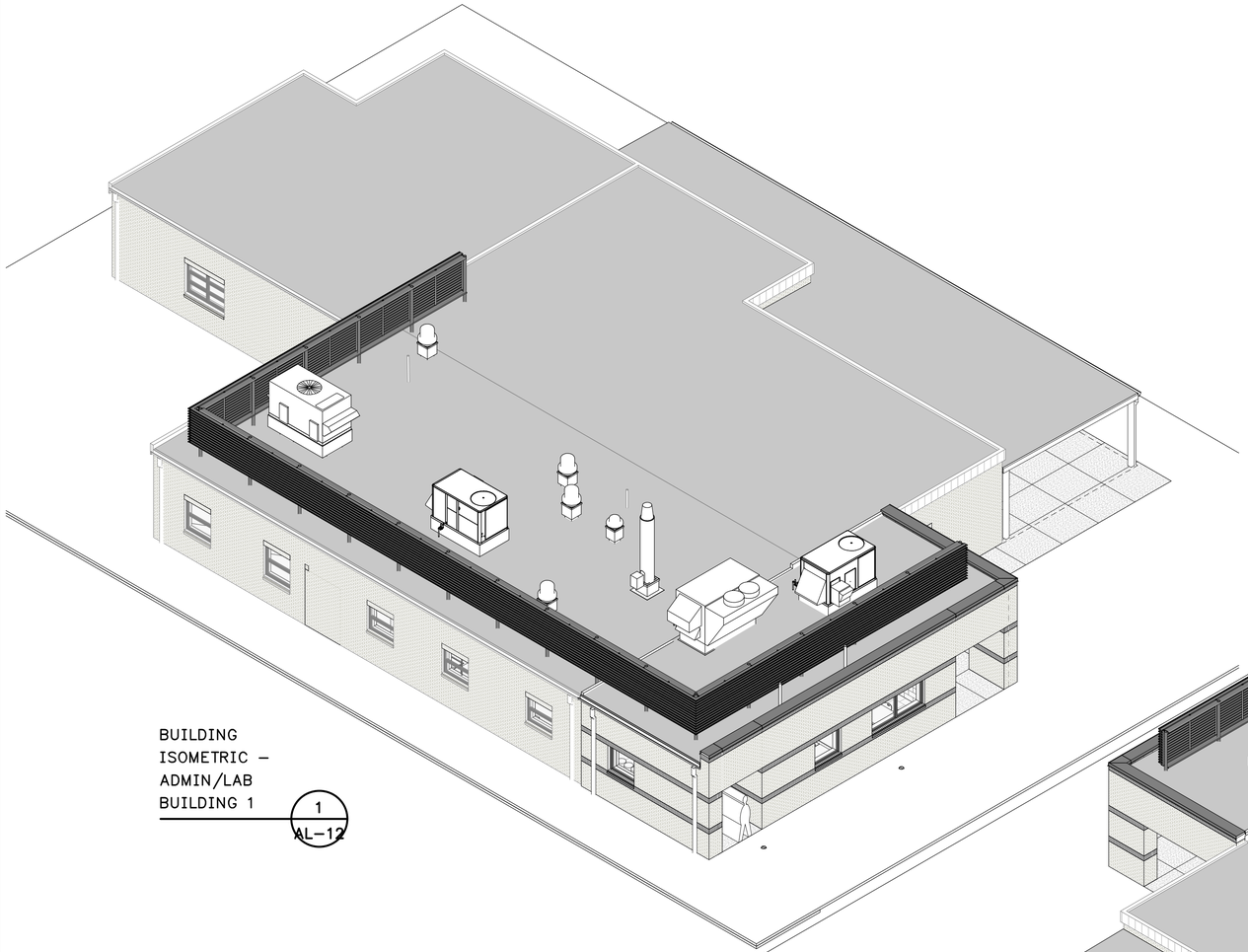
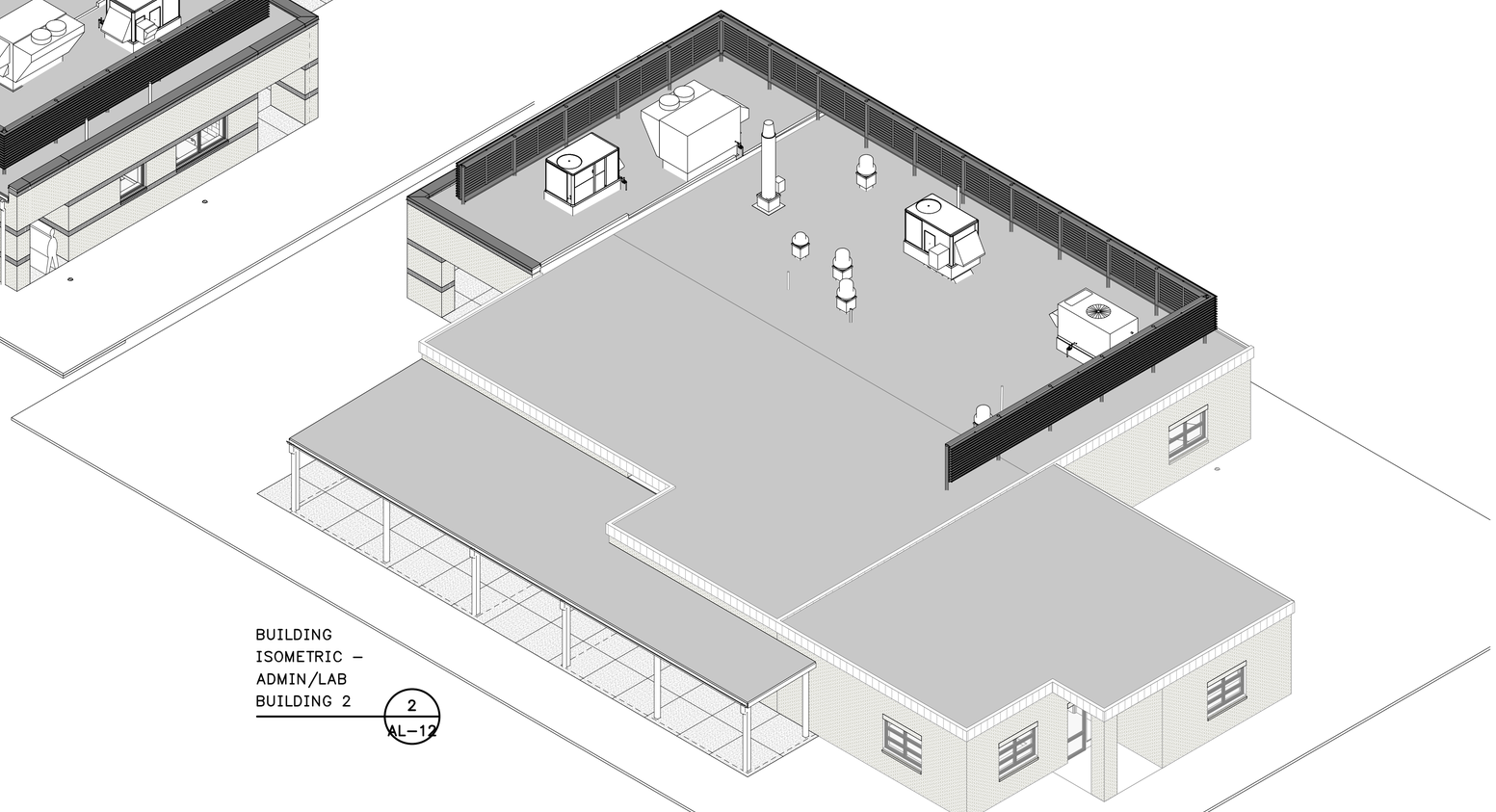


BUILDING ISOMETRIC – ADMIN/LAB BUILDING 1

1 AL–12



BUILDING ISOMETRIC – ADMIN/LAB BUILDING 2

2 AL–12

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MARCH 21, 2025

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

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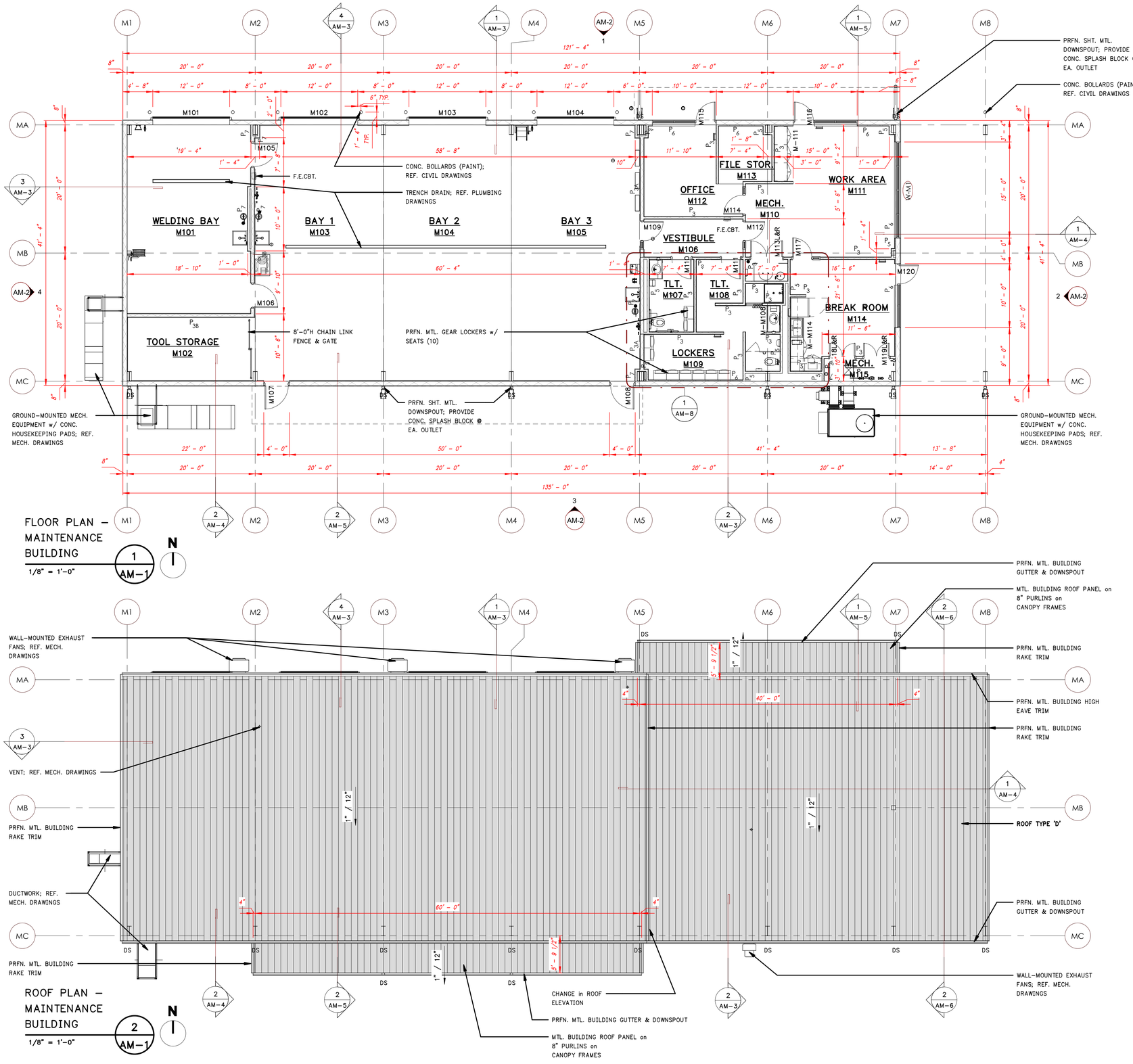
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMIN/LAB BUILDING - BUILDING ISOMETRICS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE:
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AL–12



FLOOR PLAN – MAINTENANCE BUILDING

1 AM–1 — 1/8" = 1'-0"

ROOF PLAN – MAINTENANCE BUILDING

2 AM–1 — 1/8" = 1'-0"

PLAN NOTES

GENERAL

1. REF. CIVIL DRAWINGS FOR BUILDING LOCATION & FINISH FLOOR ELEVATIONS
2. PLAN DIMENSIONS ARE to CENTERLINE of COLUMN, FACE of STUD or FACE of BRICK/BLK. (U.N.O.)
3. ALL INTERIOR DRYWALL STUDS ARE 3 5/8" or 6"x20GA (U.N.O.)
4. FIRE EXTINGUISHER CABINETS to be MOUNTED w/DOOR HANDLE @ 48" A.F.F.
5. SEE SHT. A–4 for PARTITION TYPES
6. PROVIDE GWB CONTROL JOINTS(MARKED •) in CEILINGS, WALLS & FURR– DOWNS per the SPECIFICATION @ CONTINUOUS RUNS not to EXCEED 30'–0" and/or per RCP

LEGEND

NEW CONSTRUCTION

EXISTING CONSTRUCTION

ROOF NOTES

ROOF SYSTEM 'A'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–4" MIN. TAPERED POLYISO INSULATION on
–MTL. DECK on
–SUPPORTING STRUCTURE

ROOF SYSTEM 'B'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–4" POLYISO INSULATION on
–MTL. DECK on
–SUPPORTING STRUCTURE (SLOPED)

ROOF SYSTEM 'C'
NEW LOW SLOPE ROOF IS INDICATED THUS:
–LOW SLOPE ROOF CONSISTS of:
–MODIFIED BITUMEN ROOF on
–1/2" COVER BOARD on
–MTL. DECK on
–SUPPORTING STRUCTURE

ROOF SYSTEM 'D'
MTL. BUILDING PANEL ROOF is INDICATED THUS:
MTL. BUILDING PANEL ROOF CONSISTS of:
–MTL. BUILDING PANEL ROOF on
–2" UNFACED INSULATION on
–PURLINS (REF. STRUC. DWGS.) w/
–8" UNCOMPRESSED, UNFACED FIBERGLASS INSULATION (BETWEEN PURLINS) w/
–SYSEAL FABRIC SYSTEM (BELOW PURLINS) on
–GRIDWORK of TENSIONED UVMAX STL. SUPPORT STRAPS INSTALLED BELOW THE BOTTOM of PURLINS & FASTENED @ PRIMARY STRUCTURAL MEMBERS on
–MTL. BUILDING STRUCTURE (REF. STRUC. DWGS.)

GENERAL NOTES

1. SEE STRUC. DWG's for ROOF FRAMING
2. DIRECTIONAL ARROWS ARE in THE DOWN DIRECTION
3. INSTALL CRICKETS FORMED @ ALL ROOFTOP EQUIPMENT as REQUIRED to DIVERT WATER AWAY FROM EQUIPMENT
4. REF. SPECIFICATIONS for ROOF & INSULATION MATERIALS
5. PAINT ALL VTR's to MATCH MTL. BUILDING PANEL ROOF AFTER INSTALLATION of ROOF

BID DRAWINGS
MARCH 21, 2025

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1" ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING – FLOOR PLAN, ROOF PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM–1

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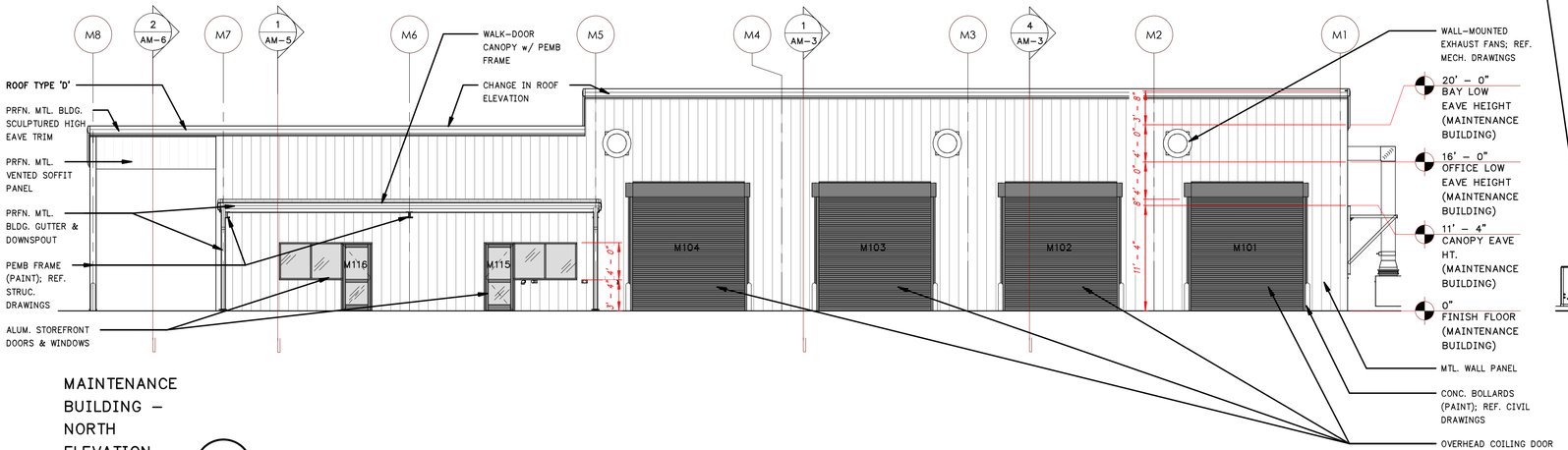
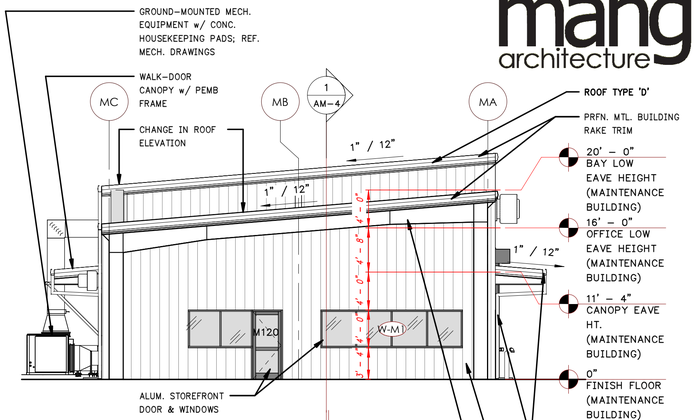


MAINTENANCE BUILDING – NORTH ELEVATION

1/8" = 1'-0"

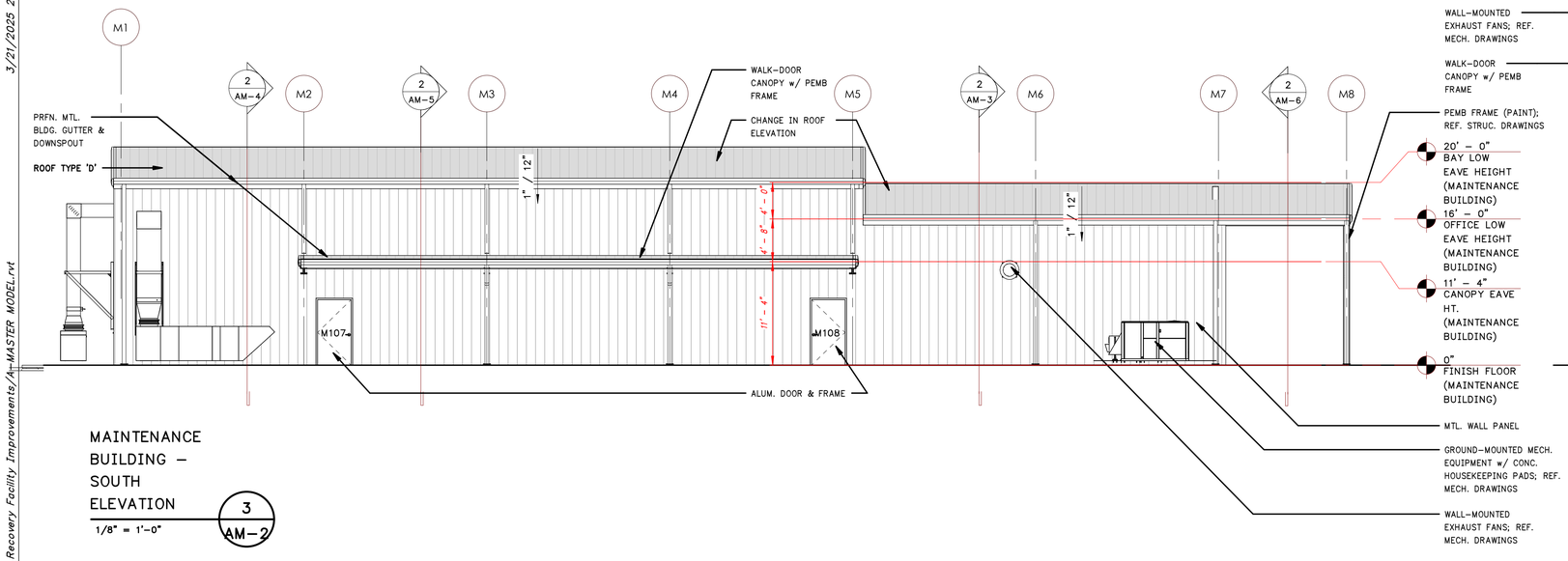
1 AM-2



MAINTENANCE BUILDING – EAST ELEVATION

1/8" = 1'-0"

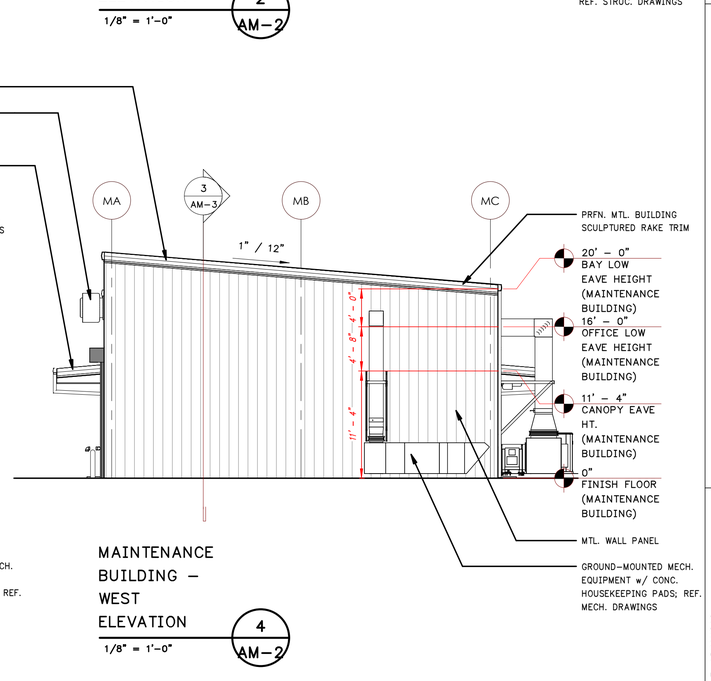
2 AM-2



MAINTENANCE BUILDING – SOUTH ELEVATION

1/8" = 1'-0"

3 AM-2



MAINTENANCE BUILDING – WEST ELEVATION

1/8" = 1'-0"

4 AM-2

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MARCH 21, 2025

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BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING – BUILDING ELEVATIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-2

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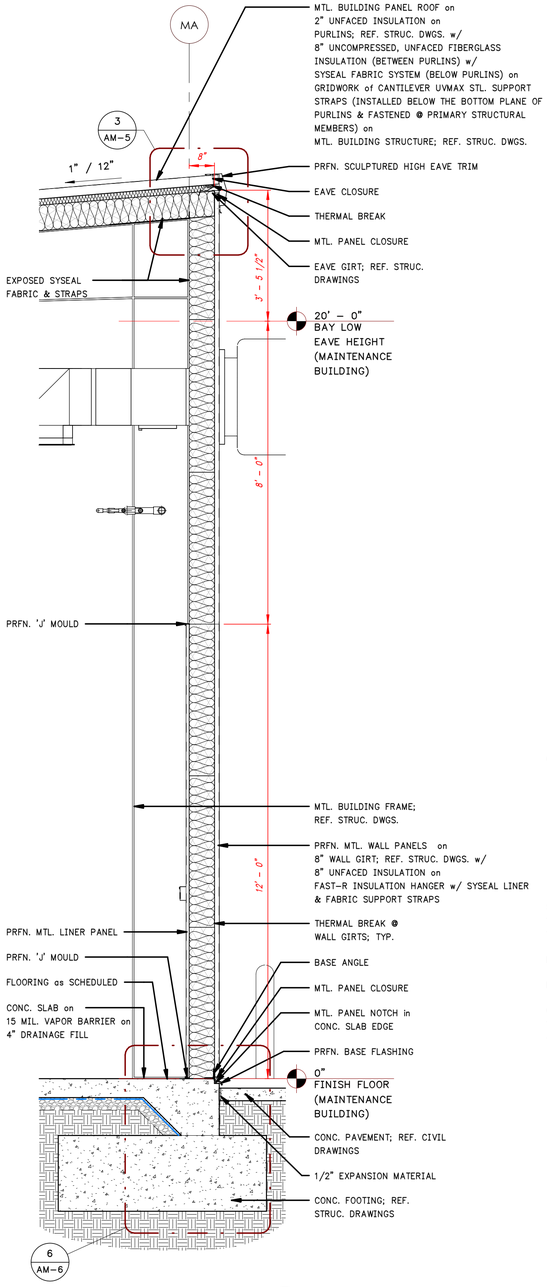
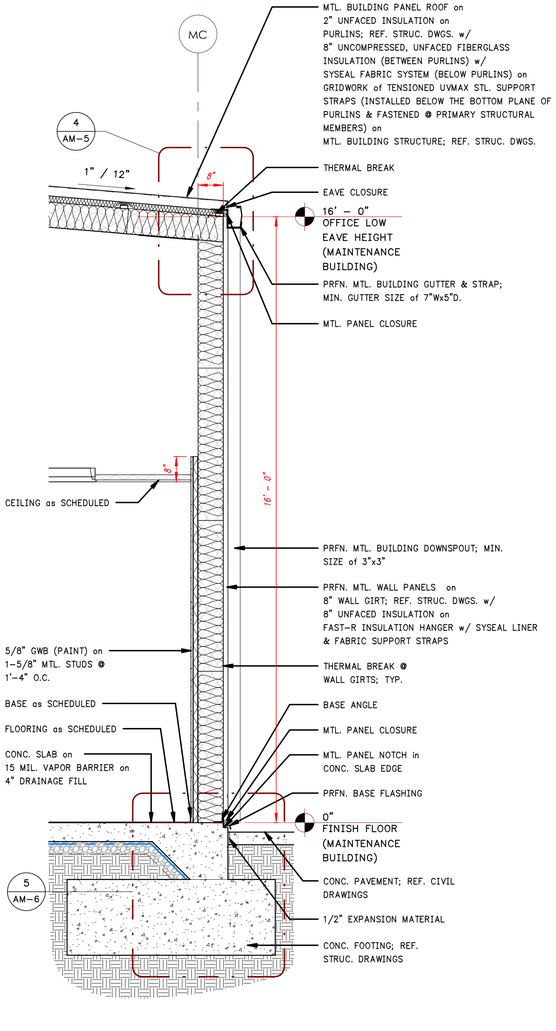


WALL SECTION 1 AM–3
1/2" = 1'–0"



WALL SECTION 2 AM–3
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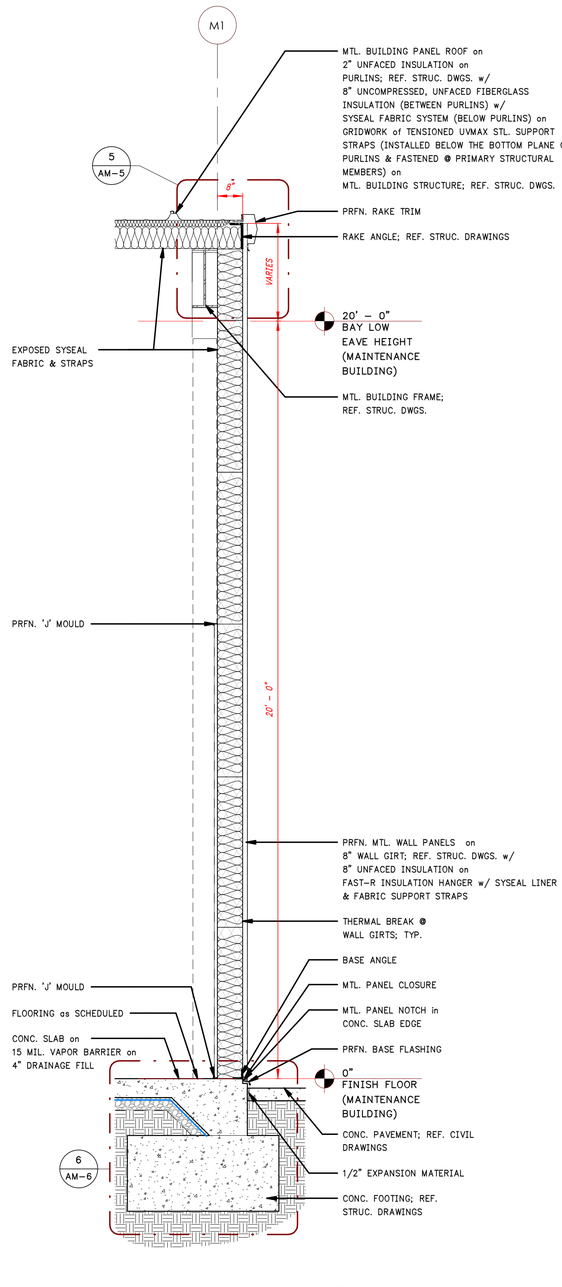
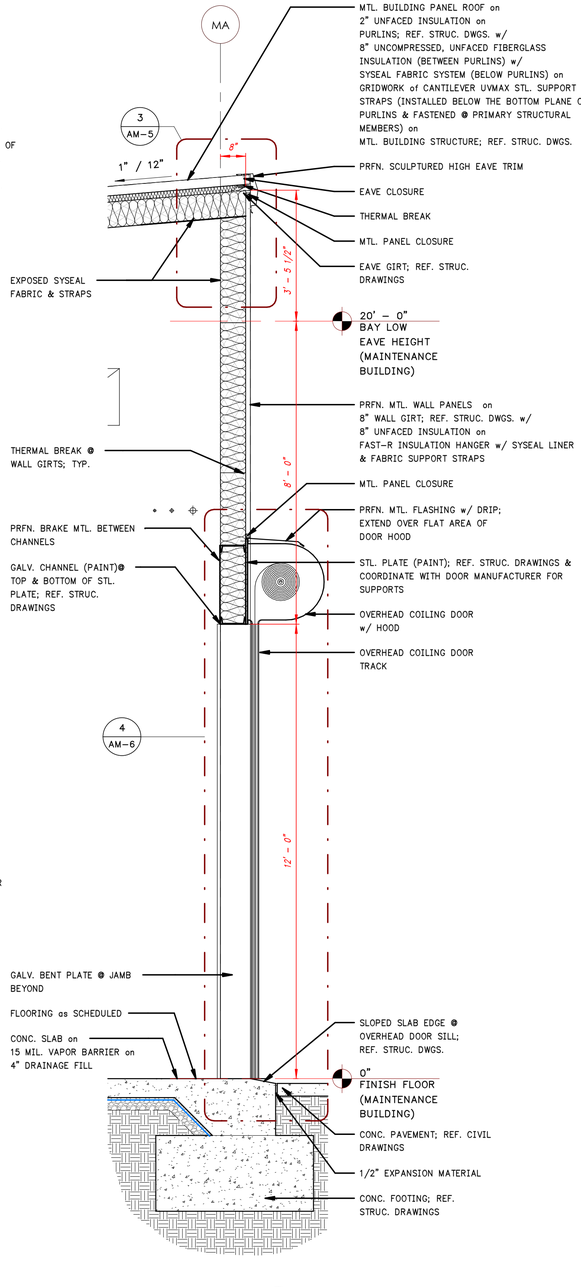


WALL SECTION 3 AM–3
1/2" = 1'–0"



WALL SECTION 4 AM–3
1/2" = 1'–0"

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MARCH 21, 2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING – WALL SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/2" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

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AM–3

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3/21/2025 2:56:52 PM / Author / MAINTENANCE BUILDING – WALL SECTIONS

3/21/2025 2:56:54 PM / Author / MAINTENANCE BUILDING - WALL SECTIONS
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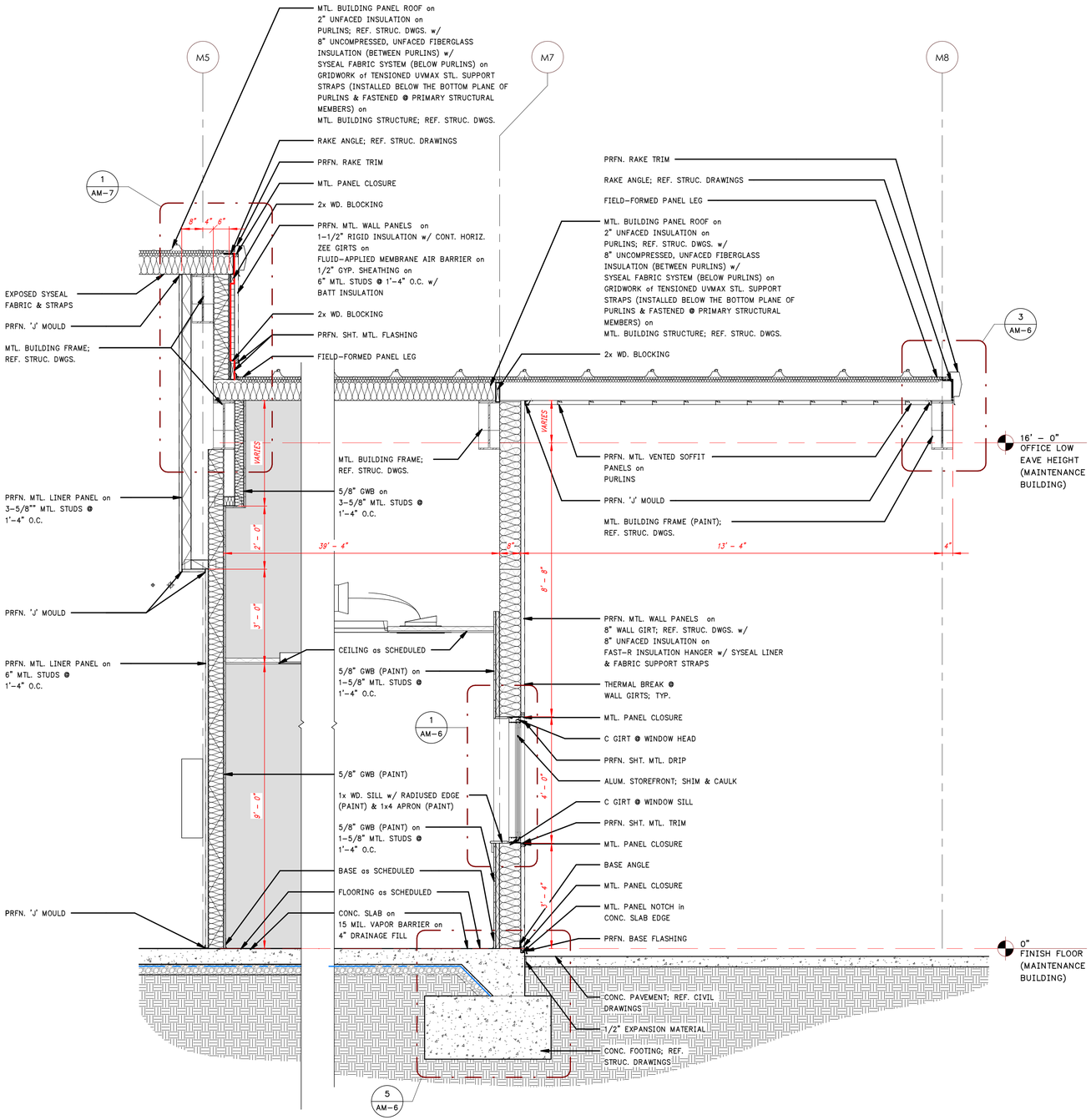
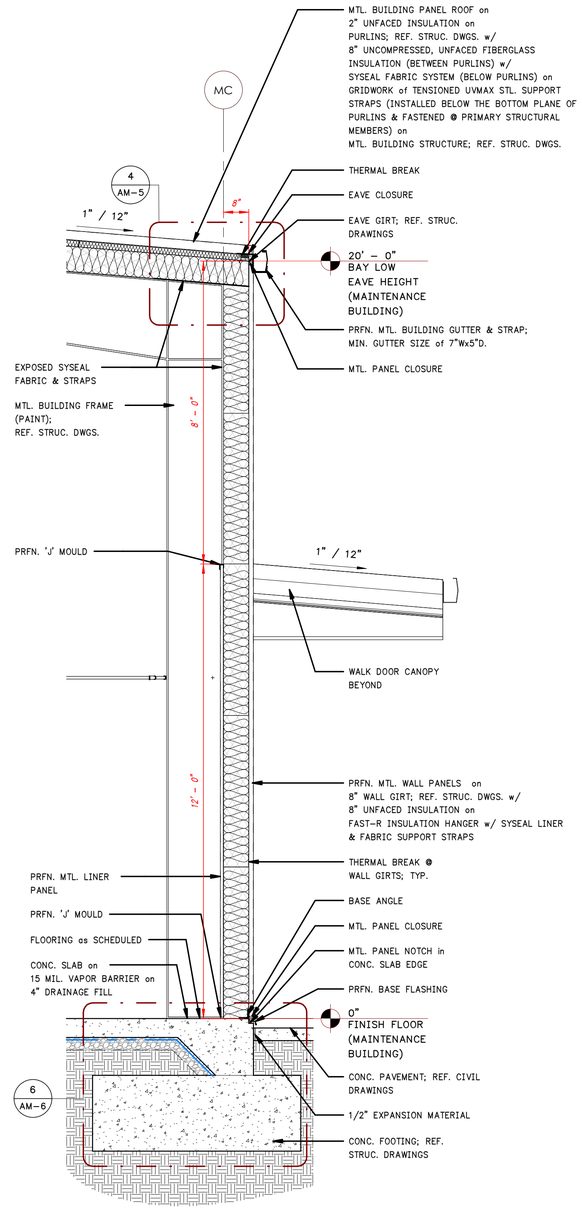


WALL SECTION 1 / AM-4
1/2" = 1'-0"



WALL SECTION 2 / AM-4
1/2" = 1'-0"

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MARCH 21, 2025

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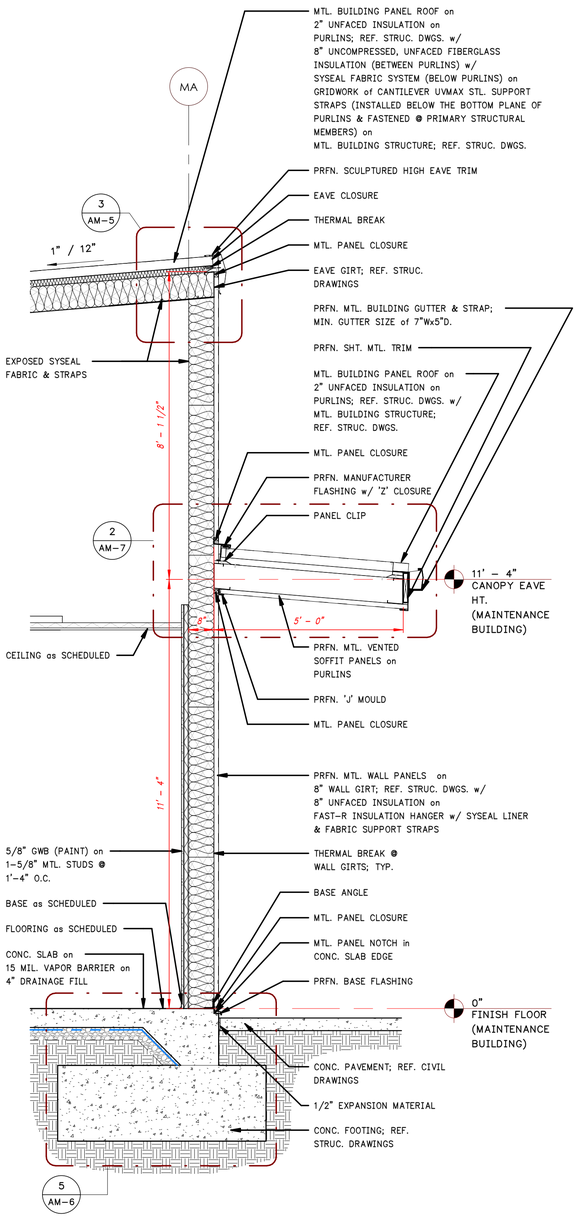
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - WALL SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-4



WALL SECTION 1 / AM-5
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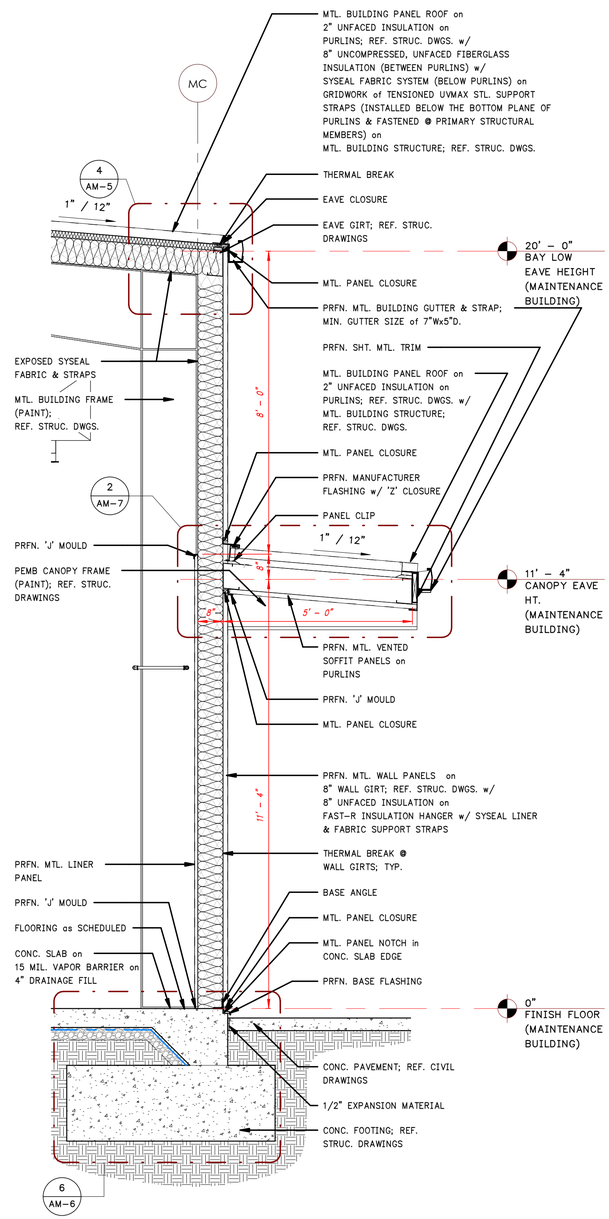

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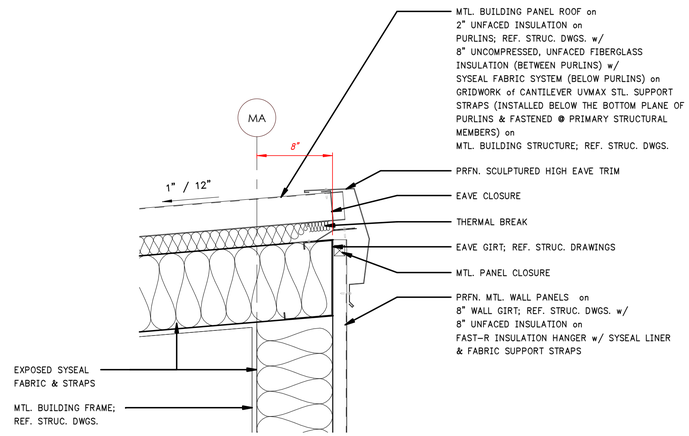
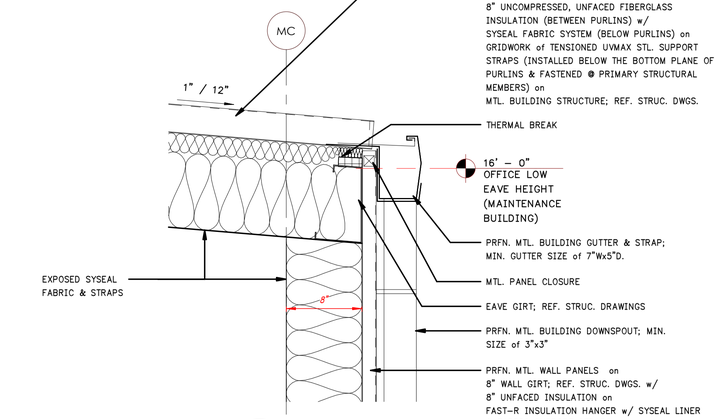
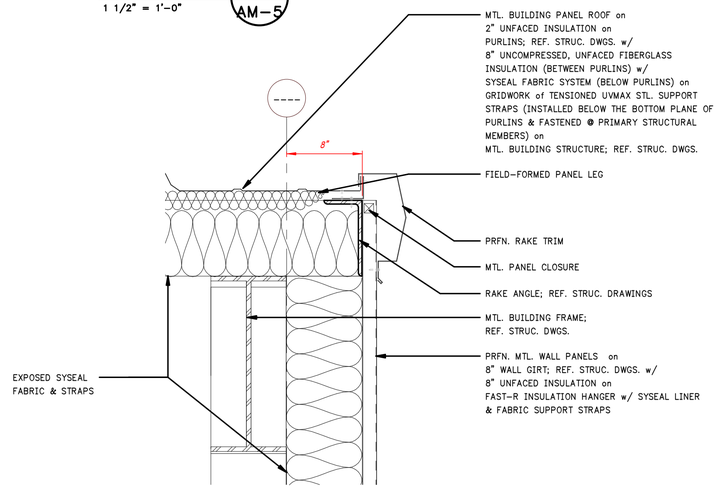


DETAIL 3 / AM-5
1 1/2" = 1'-0"



DETAIL 4 / AM-5
1 1/2" = 1'-0"



DETAIL 5 / AM-5
1 1/2" = 1'-0"

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MARCH 21, 2025

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - WALL SECTIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-5

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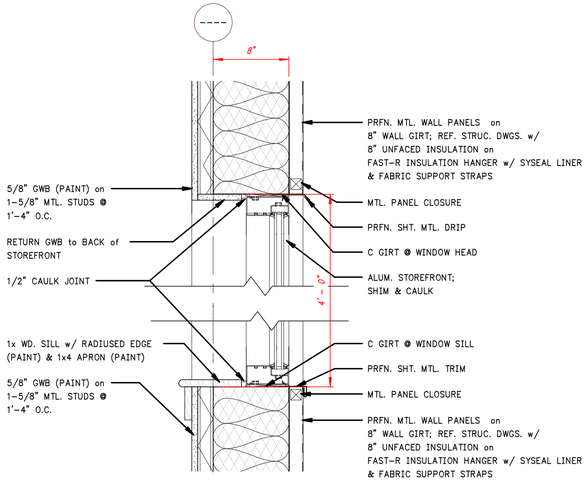
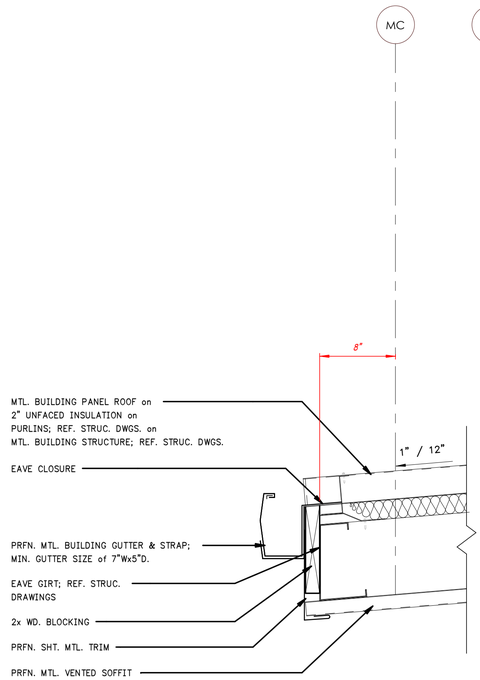


DETAIL 1 AM-6
1 1/2" = 1'-0"



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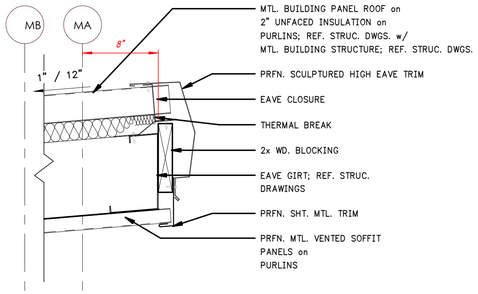

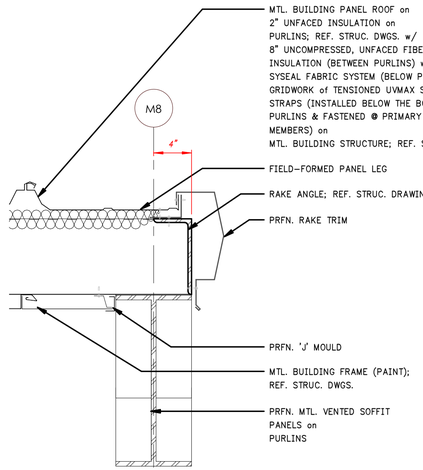

DETAIL 3 AM-6
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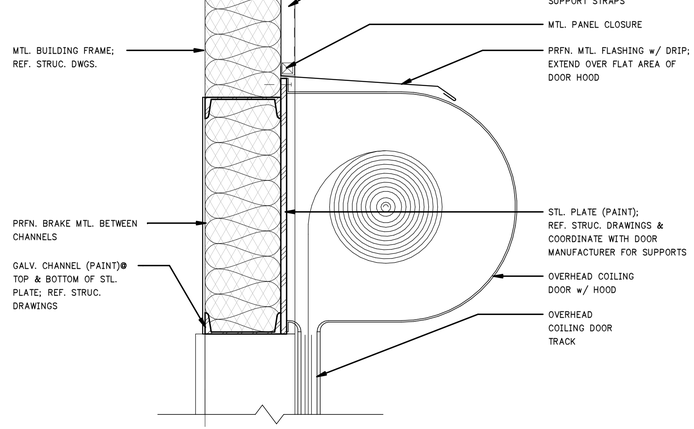

DETAIL 4 AM-6
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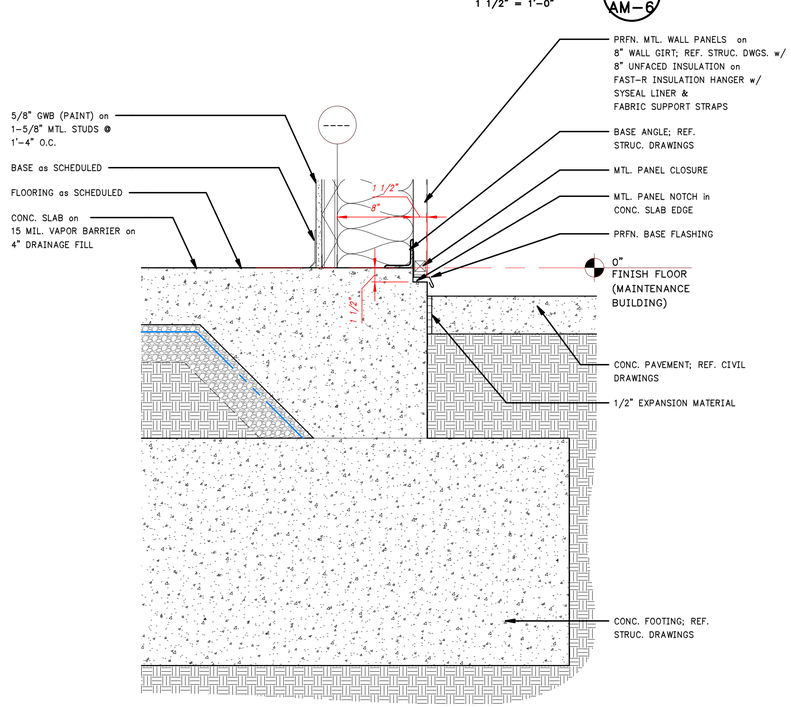
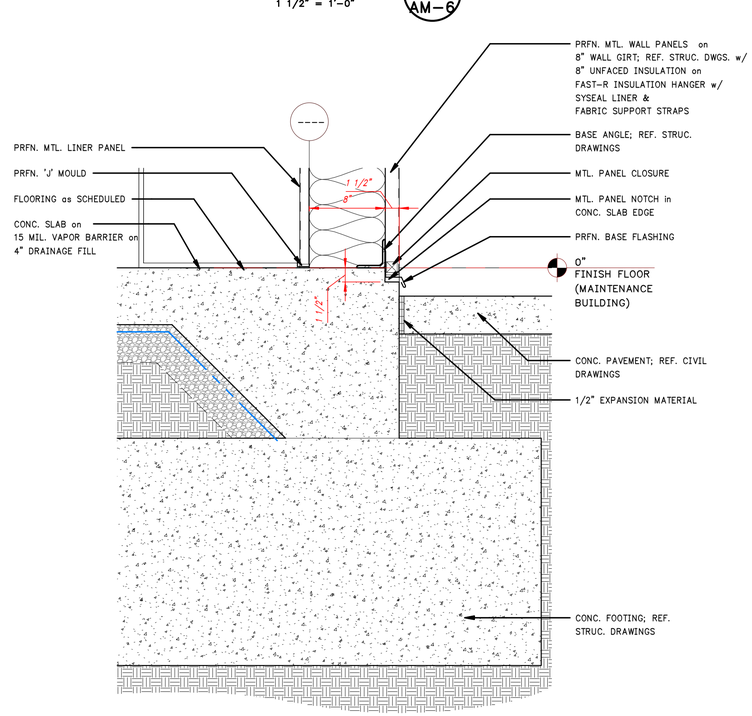


DETAIL 5 AM-6
1 1/2" = 1'-0"



DETAIL 6 AM-6
1 1/2" = 1'-0"

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1"
ONE INCH AT FULL SIZE
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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

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FILENAME:

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AM-6

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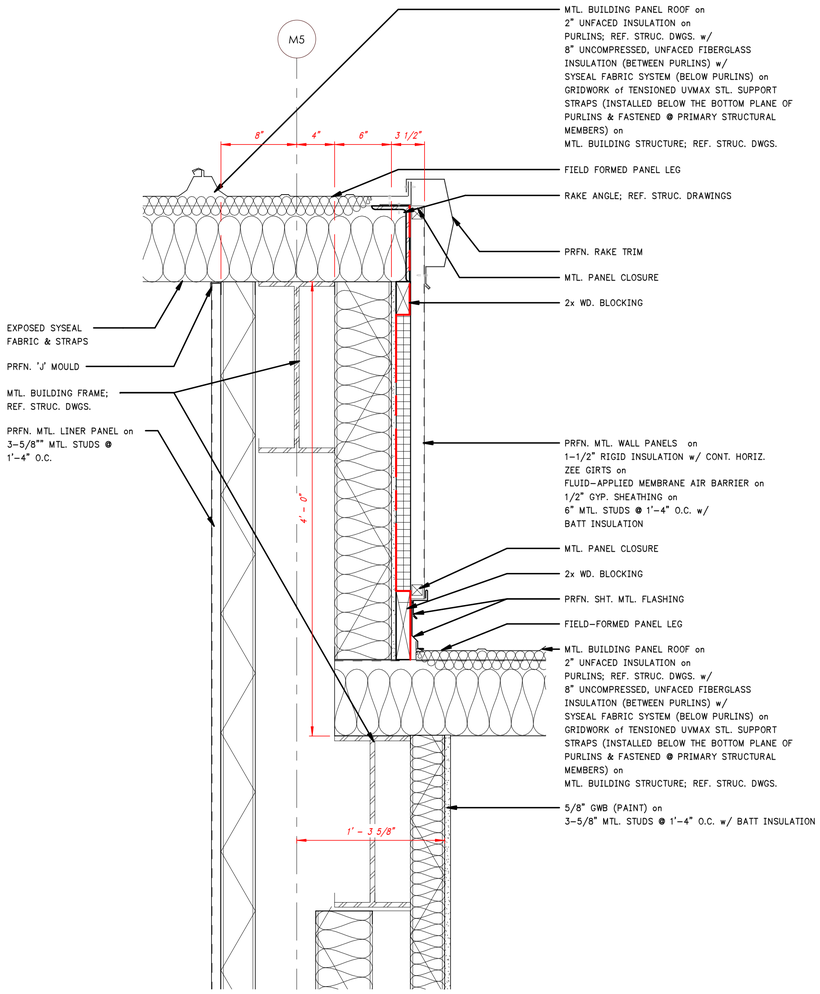
3/21/2025 2:56:59 PM / Author / MAINTENANCE BUILDING - DETAILS



DETAIL 1 / AM-7
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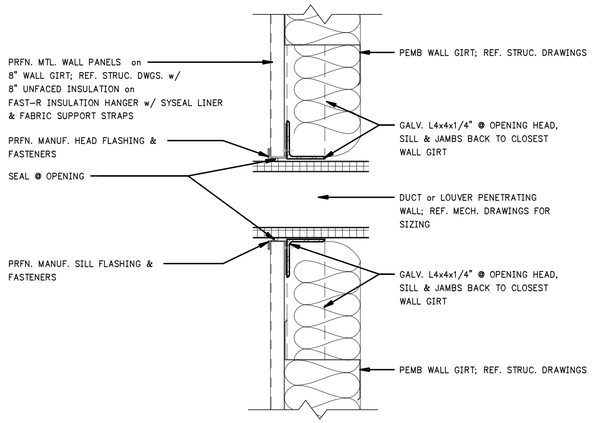
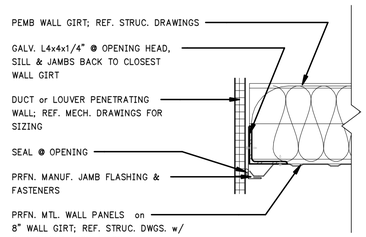
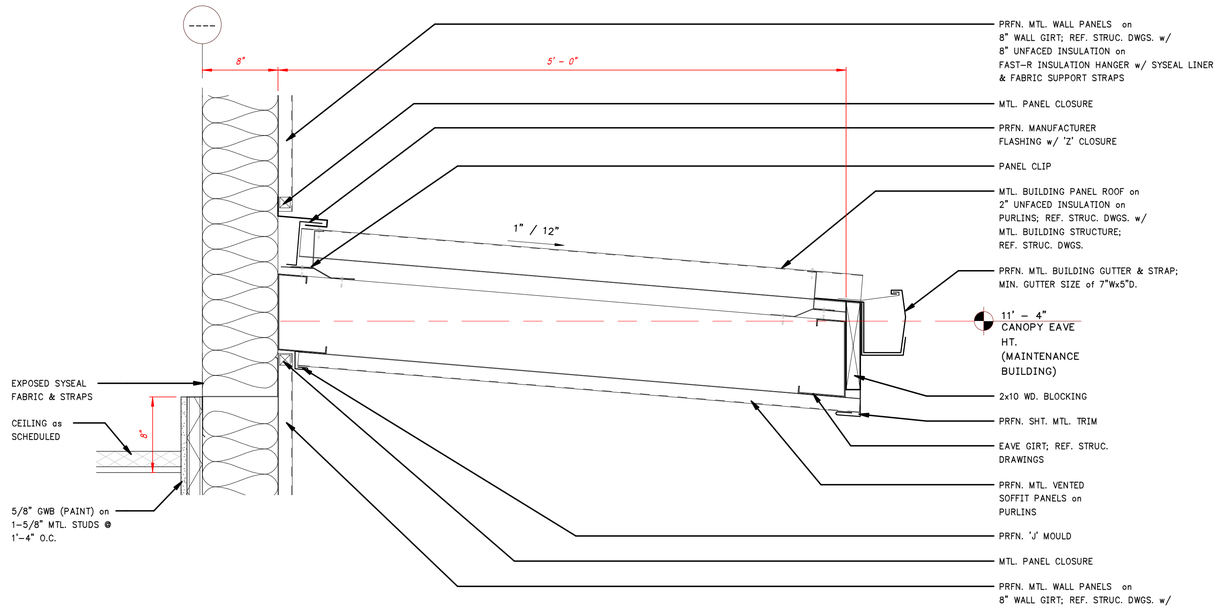


DETAIL – TYP. DUCT / LOUVER HEAD 3 / AM-7
1 1/2" = 1'-0"



DETAIL – TYP. DUCT / LOUVER OPENING JAMB 4 / AM-7
1 1/2" = 1'-0"



DETAIL 2 / AM-7
1 1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

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ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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MAHG ARCHITECTURE, INC.
REGISTERED ARCHITECT
NO. C-98
3.21.2025
ARKANSAS

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - DETAILS

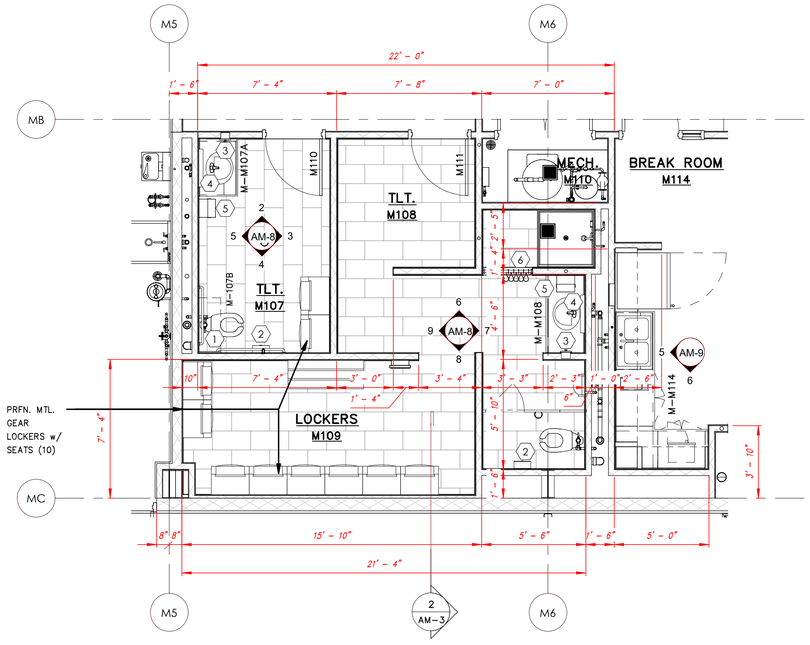
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1 1/2" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-7

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt
3/21/2025 2:57:01 PM / Author / MAINTENANCE BUILDING - DETAILS

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt
3/21/2025 2:57:08 PM / Author / MAINTENANCE BUILDING - ENLARGED TOILET PLAN & ELEVATIONS



ENLARGED FLOOR PLAN 1 AM-8
1/4" = 1'-0"

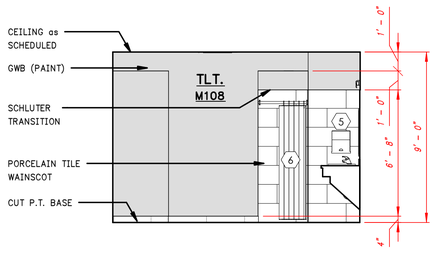
N

TLT. ELEVATION 2 AM-8
1/4" = 1'-0"

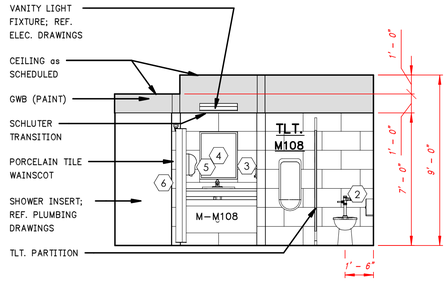
TLT. ELEVATION 3 AM-8
1/4" = 1'-0"

TLT. ELEVATION 4 AM-8
1/4" = 1'-0"

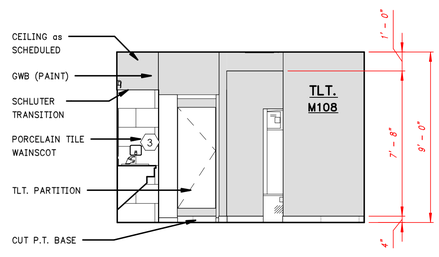
TLT. ELEVATION 5 AM-8
1/4" = 1'-0"



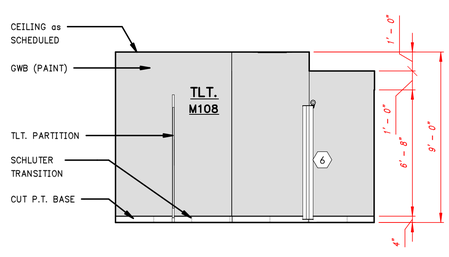
TLT. ELEVATION 6 AM-8
1/4" = 1'-0"



TLT. ELEVATION 7 AM-8
1/4" = 1'-0"



TLT. ELEVATION 8 AM-8
1/4" = 1'-0"



TLT. ELEVATION 9 AM-8
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

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IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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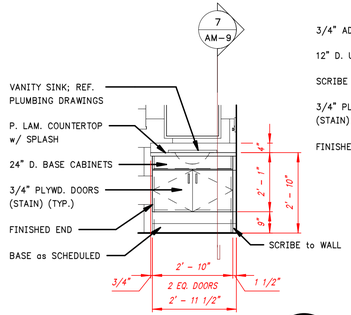
BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - ENLARGED TOILET PLAN & ELEVATIONS

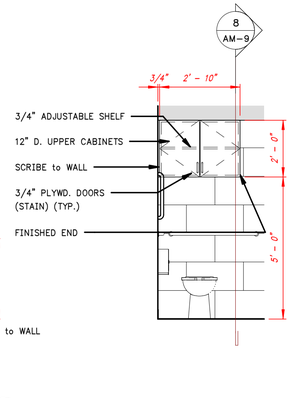
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

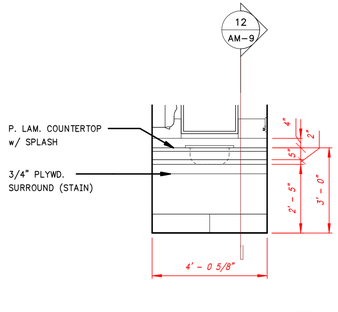
SHEET NO.
AM-8



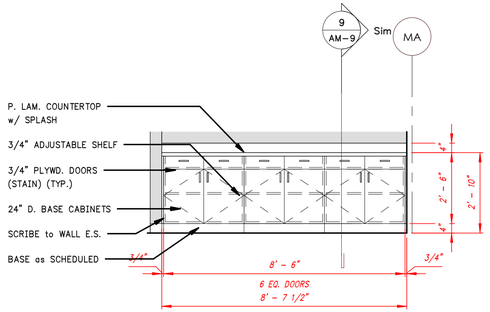
M-M107A 1 AM-9
3/8" = 1'-0"



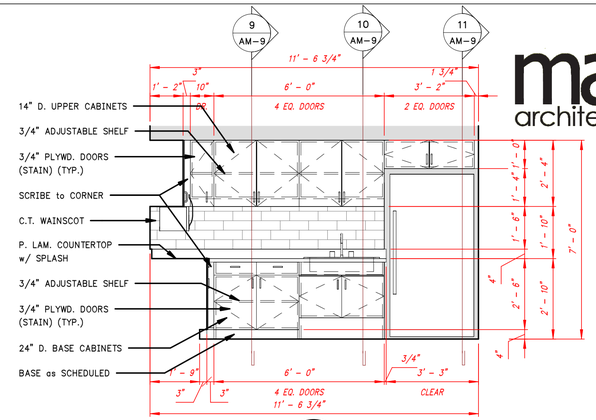
M-M107B 2 AM-9
3/8" = 1'-0"



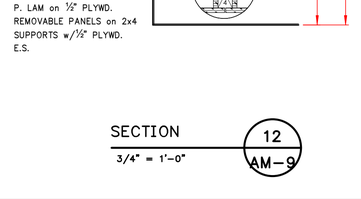
M-M108 3 AM-9
3/8" = 1'-0"



M-111 4 AM-9
3/8" = 1'-0"



M-M114 WEST 5 AM-9
3/8" = 1'-0"



M-M114 SOUTH 6 AM-9
3/8" = 1'-0"

SECTION 7 AM-9
3/4" = 1'-0"

SECTION 8 AM-9
3/4" = 1'-0"

SECTION 9 AM-9
3/4" = 1'-0"

SECTION 10 AM-9
3/4" = 1'-0"

SECTION 11 AM-9
3/4" = 1'-0"

SECTION 12 AM-9
3/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

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1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

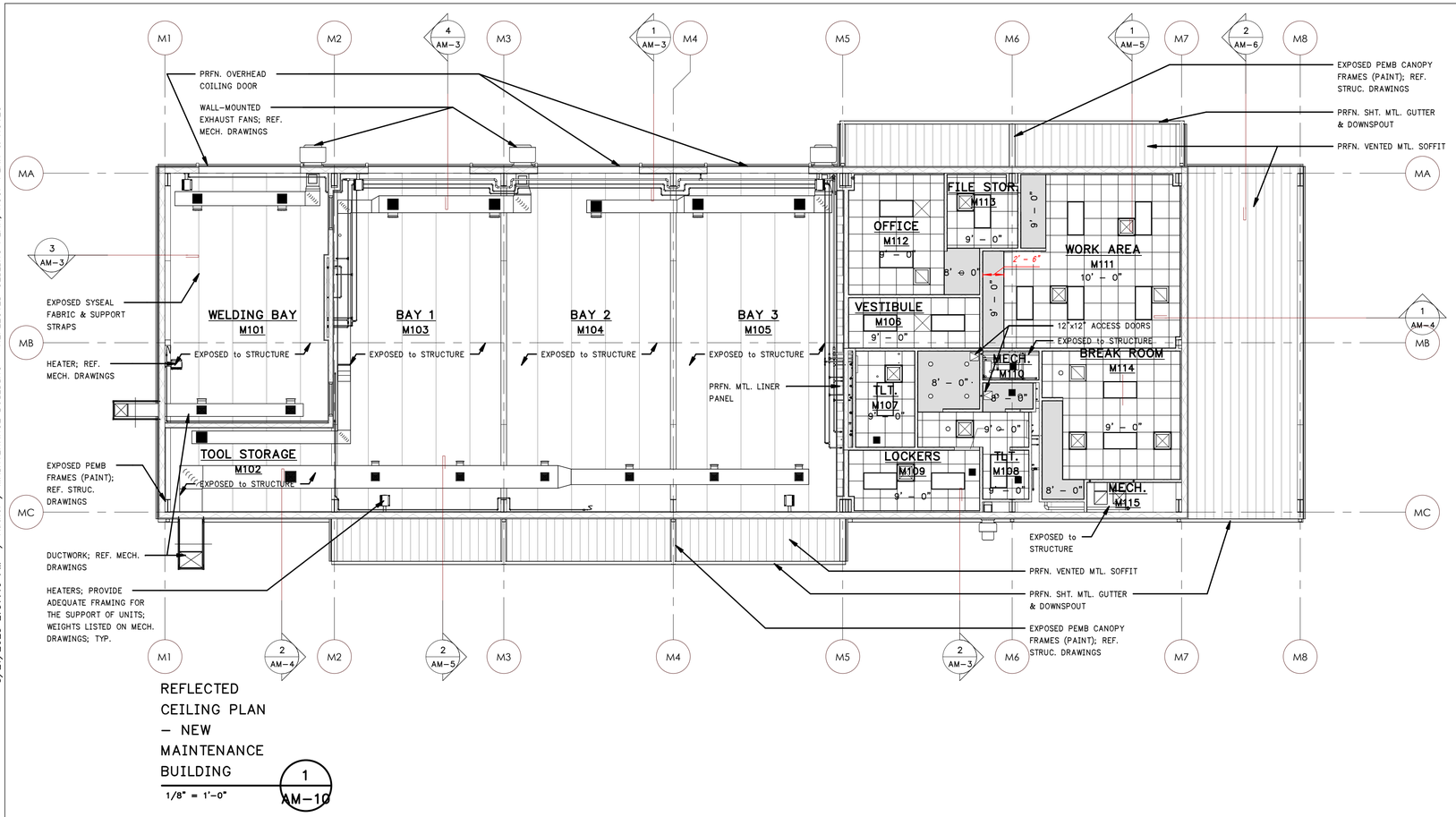
MAINTENANCE BUILDING - MILLWORK ELEVATIONS & DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: As indicated
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-9

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/A-MASTER MODEL.rvt 3/21/2025 2:57:13 PM / Author / MAINTENANCE BUILDING - MILLWORK ELEVATIONS & DETAILS



REFLECTED CEILING PLAN – NEW MAINTENANCE BUILDING

1/8" = 1'–0"

1 AM–10

REFLECTED CEILING PLAN NOTES

GENERAL

A. • GWB CONTROL JOINT

LEGEND

- NEW CONSTRUCTION
- EXIST. CONSTRUCTION
- GWB (PAINT)
- AC.BD. CEILING
- MTL. SOFFIT PANEL
- SUPPLY GRILLE; REF. MECH.
- RETURN GRILLE; REF. MECH.

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REVISION	DATE

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING – REFLECTED CEILING PLAN, ROOF PLAN & NOTES

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE: 1/8" = 1'–0"
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO. AM–10

BID DRAWINGS
MARCH 21, 2025

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3/21/2025 2:57:16 PM / Author / MAINTENANCE BUILDING – REFLECTED CEILING PLAN, ROOF PLAN & NOTES

3/21/2025 2:57:24 PM / Author / MAINTENANCE BUILDING - BUILDING ISOMETRICS

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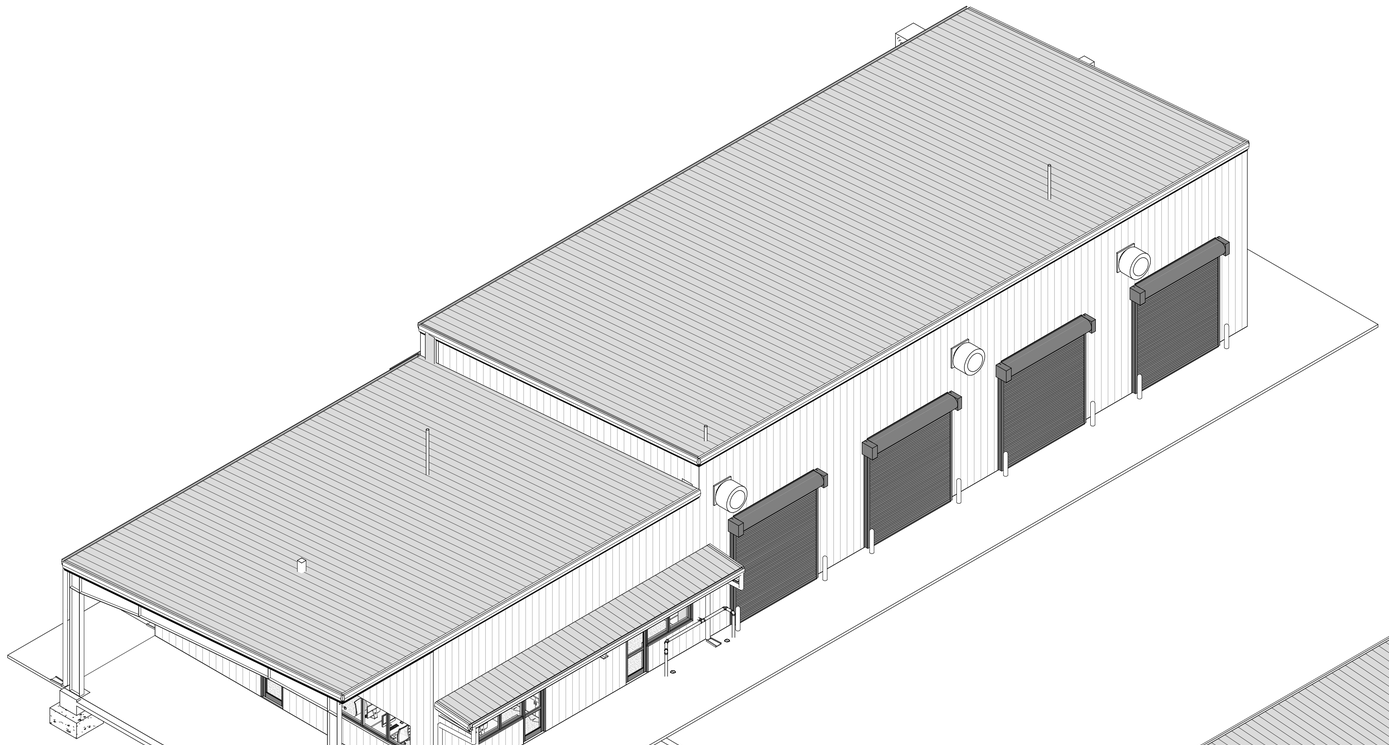
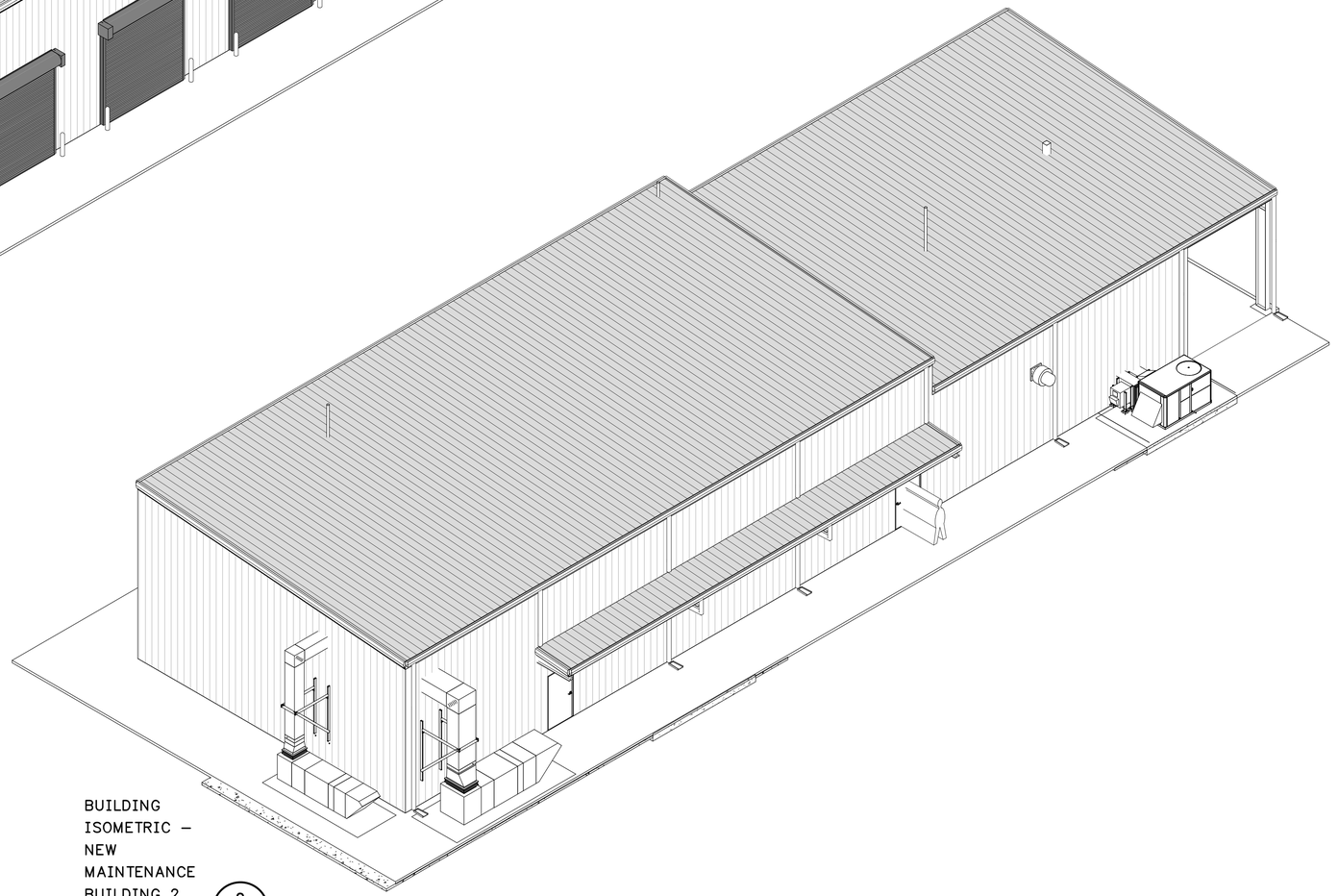


BUILDING ISOMETRIC - NEW MAINTENANCE BUILDING 1

1
AM-11



BUILDING ISOMETRIC - NEW MAINTENANCE BUILDING 2

2
AM-11

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING - BUILDING ISOMETRICS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 21, 2025
SCALE:
DESIGNED BY: NJD
DRAWN BY: NJD
HWEI NO.: 2021037
FILENAME:

SHEET NO.
AM-11