	FIXTURE SCHEDULE FIXTURE NUMBER MOUNTING TYPE: CL - CEILING MOUNTED CV - COVE MOUNTED GR - GROUND RF - ROOF MOUNTED S - SUSPENDED T - TRACK UC - UNDER CABINET W	P - POST R - CEILING RECESSED - WALL MOUNTED WR - WALL RECESSED			
FIXTURE NUMBER	DESCRIPTION	MANUFACTURER	VOLTAGE	LAMPS	REMARKS
CL1	2'X 4' SURFACE MODULAR LED FIXTURE FLAT STEEL HOUSING, HIGH EFFICIENCY LEDS, 5128 LUMENS. BAKED WHITE FINISH AND PATTERN 12 ACRYLIC LENS, 0 TO 10 VOLT DIMMING.	DAY-BRITE SML SERIES OR HE WILLIAMS 12 SERIES	UNIV.	LED 4000K	40 WATTS
R2	RECESS MOUNTED 6" ROUND LED DOWNLIGHT, 1800 LUMENS, LENSED FIXTURE, WHITE FINISH, WET RATED LENS, WET RATED FIXTURE.	GE LUMINATION LDX ROUND SERIES OR PRESCOLITE LITEFRAME SERIES	UNIV.	LED 4000K	25 WATTS
CL3	GE STORAGE ROOM FIXTURE LENSED, 4' FIXTURE , 4800 LUMENS, 120 DEGREE OPTICS, DIFFUSED LENS METAL CAP.	GE ALBEO ALV2 OR ILP VS SERIES.	UNIV.	LED 4000K	33 WATTS
CL4	LED EXIT SIGN WITH WHITE THERMOPLASTIC HOUSING AND RED LETTERING AND LIGHT BAR. CEILING MOUNTED. MAINTENANCE FREE NICAD BATTERY	EXITRONIX REVOLUTION SERIES OR EVENLITE TLP SERIES	UNIV.	LED	4 WATTS
W5	INTERIOR EMERGENCY LIGHT, WHITE, MAINTENANCE FREE NICAD BATTERY, THERMOPLASTIC ENCLOSURE, TWO HEADS	EXITRONIX LED-95 SERIES OR COMPASS CU2 SERIES	UNIV.	LED	8 WATTS
W6	REMOTE EMERGENCY HEADS, EXTERIOR WEATHERPROOF RATED, BLACK COLOR, DUAL HEAD	EXITRONIX MLED SERIES OR COMPASS CWR SERIES	UNIV.	LED	3 WATTS
W7	EXTERIOR EMERGENCY LIGHT, WET LOCATION RATED, BLACK, WATERPROOF SHIELD, WET LOCATION RATED, MAINTENANCE FREE NICAD BATTERY, THERMOPLASTIC HOUSING POLYCARBONATE LENS, TWO HEADS	EXITRONIX LEM54-N4 SERIES OR COMPASS CSWEU2LED SERIES	UNIV.	LED	8 WATTS
P8	20' POLE, SQUARE, STEEL, WITH MOUNTED FIXTURE WITH SINGLE HEAD, DIE CAST ALUMINUM HOUSING WITH HINGED DOOR FRAME, HIGH EFFICIENCY LED, 10,000 LUMENS, TYPE IV DISTRIBUTION AND BLACK FINISH PHOTOCELL OPTION TO WORK DUSK TO DAWN.	GE EVOLVE SERIES EALS SERIES OR HUBBELL AIRO MICRO SERIES WITH NAFCO POLE OR HUBBELL SS20	UNIV.	LED 4000K	70 WATTS
P9	SAME AS FIXTURE "P8" EXCEPT WITH TWO HEADS 180 DEGREES APART				
P9A	SAME AS FIXTURE "P9" EXCEPT WITH ONE HEAD INCLUDING INTEGRAL PHOTOCELL				
W10	GE 5"X8.3" TRAPEZOIDAL WALL MOUNT WITH DIE CAST ALUMINUM HOUSING WITH GASKETED DOOR FRAME. HIGH EFFICIENCY LED 1700 LUMENS, ASYMMETRIC FORWARD DISTRIBUTION, BLACK FINISH, PHOTOCELL OPTION TO WORK DUSK TO DAWN.	GE EVOLVE SERIES WALLPACK OR HUBBELL GEOPACK TRPI SERIES	UNIV.	LED 4000K	12 WATTS

ÆL	NO.	DESCRIPTION	VOLTS	PHASE	AMP	KW	HP	CONN	CONDUIT & WIRE SIZE	PANEL	NOTES
	LSP#1	LIFT STATION PUMP #1	460	3			75.0	AFD	⟨3⟩	MDP	200AS WP(2,\(\frac{1}{2}\)
	LSP#2	LIFT STATION PUMP #2	460	3			75.0	AFD	3>	MDP	200AS WP(2,X5)
	IG	INFLUENT GRINDER	460	3			7.5	CSD	(3)#10 + (1) 10G IN 3/4°C	MP11	30 AS WP(2)
109	WH-1	WATER HEATER	120	1	5.0			DC	(2)#12 + (1) 12G IN 3/4"C	RP1	
109	AC-1	AC- FURNACE & BLOWER	120	1	10.1			DS	(2)#12 + (1) 10G IN 3/4°C	RP1	30AS
E	CU-1	CONDENSING UNIT	208	1	17.6			DS	(2)#8 + (1) 10G IN 1"C	RP1	30AS WP(2)
101	EWH-1	ELECTRIC WALL HEATER	208	1		1.5		DC	(2)#12 + (1) 12G IN 3/4°C	RP1	
110	EF-1	EXHAUST FAN	120	1			FRAC	DC	(2)#12 + (1) 12G IN 3/4°C	RP1	
109	UH-1	UNIT HEATER	277	1		3.0		MMS	(2)#10 + (1) 10G IN 1"C	MP11	$\langle 4 \rangle$
Ε		JIB CRANE WITH ELECTRIC WINCH	120	1	16.0		1.0	CSD	(2)#8 + (1) 10G IN 1"C	RP1	60AS WP(2)
E		MONORAILWITH ELECTRIC WINCH	120~	√ √	20.0		1.5	CSD	(2)#8 + (1) 10G IN 1"C	RP1	60AS WP $\langle 2 \rangle$
E	SUMP PUMP	SUMP PUMP	120	1			0.5	CSD 🔨	(2)#12) + (1) 12G IN 1"C	RP1	30AS $WP\langle 2 \rangle$
TIC	UH-2	UNIT HEATER	277	1	\angle^1	3.0		MMS 🗥	(2)#10 + (1) 10G IN 1"C	MP11	4
104	AC-2& CU-2	DUCTLESS SPLIT SYSTEM	208	1	24.9			DS	(2)#10 + (1) 10G IN 1"C	RP1	30AS WP(1)
	PANE	EL MP11 VOLT.	AGE 480/277V-	3ø,4W					PANEL RP1		VOLTAGE 208/120V-3ø,4W
	LOCATIO	ON ELECTRICAL RM MAIN S	SIZE 100 A						LOCATION ELECTRICAL RM		MAIN SIZE 150 A
	MOUNTIN	IG SURFACE MAIN T	YPE 100 A MLO						MOUNTING SURFACE		MAIN TYPE 150 A MCB

PA	NEL MP11			,	VOLTAGE ·	480/277V-3ø,4W	7 [PANE	L RP1				VOLTAGE :	208/120V-3ø,4W
LOCA	TION ELECTR	ICAL RM		M.	AIN SIZE	100 A		LOCATIO	N ELECTRI	CAL RM			MAIN SIZE	150 A
MOUN	TING SURFAC	Œ		MA	IN TYPE	100 A MLO		MOUNTIN	G SURFAC	E			MAIN TYPE	150 A MCB
NO	TES: PROVIDI	E FEED-TH	HRU LUGS					NOTES	S: PROVIDE	FEED-TH	IRU LUGS			
	200% N	IEUTRAL							200% N	EUTRAL				
	PROVIDI	E SUB-FE	ED LUGS						*INDICA	TES A GFF	PE BREAKER	** INDICA	TES LOCK O	N BREAKER
LOAD DESCRIPTION	LOAD KVA	CIRC BRKR/ POLE	CIRC NUMBER	CIRC BRKR/ POLE	LOAD KVA	LOAD DESCRIPTION	1	LOAD DESCRIPTION	LOAD KVA	CIRC BRKR/ POLE	CIRC NUMBER	CIRC BRKR/ POLE	LOAD KVA	LOAD DESCRIPTION
BLDG INTERIOR LTS	0.78	20/1	1 * 2	20/1	0.09	EXIT & EMER. LTS	ا) ۱	MTR VAULT SUMP	1,00	20/1	1 * 2	20/1	0.60	RM 109 WH-1
EXTERIOR LTS	0.10	20/1	3 -*- 4	20/1	0.00	HEAT TRACE TAPE	7 /₁ \1	CONTROL RM 104 REG	0.36	20/1	3 -*- 4	15/1	1.21	RM 109 AC-1
SHELIS	950	20/1	5* 6	20/1	0.00	SPARE	7 7	DIESEL BLK HTR BATT	1.50	20/1	5* 6	30/2	1.83	SITE CU-1
SPARE	0.00	20/1	7 * 8	20/1	0.00	SPARE	ן [MECH RM 109 & 108 REC	0.36	20/1	7 * 8		1.83	
SPARE	0.00	20/1	9 -*- 10	20/1	0.00	SPARE	<u> </u>	BREAK RM 108 REC	1.50	20/1	9 -*- 10	20/1	0.20	POWERED DOOR
SRARE AAA	2.09	20/1	11* 12	20/1	0.00	SPARE	_	BREAK RM 108 REC	1.50	20/1	11* 12	20/1	0.20	EF-1
	3.05		13 * 14	20/1	0.00	SPARE	<u>]</u> [BREAK RM 108 FRIDGE	1.20	20/1	13 * 14	100/2	6.00	GENERATOR PANE
INFLUENT GRINDER	3.05	25/3	15 -*- 16	20/1	0.00	SPARE	_ [BREAK RM108 MICROWAVE	1.20	20/1	15 -*- 16		6.00	
	3.05		17* 18	20/1	0.00	SPARE		EXTERIOR REC	1.08	20/1	17* 18	25/2	2.59	AC-2,CU-2
UH-1	3.00	20/1	19 * 20	20/1	0.00	SPARE		FIRE ALARM PANEL	0.20	**20/1	19 * 20		2.59	
UH-2	3.00	20/1	21 -*- 22	20/1	0.00	SPARE		SECURITY/ACCESS CNTRL	0.20	20/1	21 -*- 22	20/1	1.00	GEN BATTERY CHAR
SPARE	0.00	20/1	23* 24	20/1	0.00	SPARE		TELECOM EQUIPMENT	1.00	20/1	23* 24	30/1	1.50	GEN BLOCK HEATE
SPARE	0.00	20/1	25 * 26	20/1	0.00	SPARE		EWH-1	0.75	20/2	25 * 26		0.25	HEAT TRACE TAP
SPARE	0.00		27 -*- 28	20/1	0.00	SPARE			0.75		27 -*- 28	*20/1	0.25	SITE GATE
SPARE	0.00	20/1	29* 30	20/1	0.00	SPARE	」 Ⅰ	CONTROL PANELS	0.80	20/1	29* 30	25/2	2.59	AC-3,CU-3
SPARE	0.00	20/1	31 * 32	20/1	0.00	SPARE	_	OFFICE 103 REC	0.90	20/1	31 * 32	,	259	
SPARE	0.00	20/1	33 -*- 34	20/1	0.00	SPARE	_	RM 103 & 102 REC	0.90		33 -*- 34	20/1	0.50	FLOW METER
SPARE	0.00	20/1	35* 36	20/1	0.00	SPARE	<u>ا</u> ا	CONF RM 102 REC	0.90	20/1	35* 36		1.00	HT TRACE DIS PU
SPARE	0.00		37 * 38	 	0.00	SPARE	ا ا	CONF RM 102 TV REC	0.50		37 * 38		1.92	JIB CRANE
SPARE	0.00	20/1	39 -*- 40	20/1	0.00	SPARE	⊣ ∣	CONF RM 102 REC	1.08	20/1	39 -*- 40		2.40	MONORAIL
SPARE	0.00	20/1	41* 42	20/1	0.00	SPARE	ا ا	102, 107, 106 REC	1.08	20/1	41* 42	20/1	0.00	SPARE
CONNECTED LOAD:		LIGHTING:		KVA				CONNECTED LOAD:		LIGHTING:		KVA		
		RECEPT:		KVA						RECEPT:		3 KVA		
		EQUIP:		KVA						EQUIP:		KVA		
		MOTOR:		2 KVA						MOTOR:		KVA		
1.		HEATING:) KVA						HEATING:		3 KVA		
(LEFT TUB)		TOTAL:	: 16.6	SKVA =	20.0	AMPS		(LEFT TUB)		TOTAL:	53.7	KVA =	148.9	AMPS

		:	SERVICE LO	AD CALCUL	ATION				
ITEM	EQUIPMENT	CONNECTED KVA							AMPS
IIEM	EQUIPMENT	LIGHTING	RECEPT	EQUIP	MOTOR	POWER	OTHER	TOTAL	AMIFS
1	RP1	0.0	11.8	32.6	5.5	0.0	3.8	53.7	149.1
2	MP11	1.5	0.0	0.0	10.1	0.0	6.0	17.6	22.1
3	FOUR 75HP PUMPS	0.0	0.0	0.0	304.0	0.0	0.0	304.0	382.0
4		0.0	0.0	0.0		0.0	0.0	0.0	0.0
								0.0	0.0
								0.0	0.0
	TOTAL CONNECTED	1.5	11.8	32.6	319.6	0.0	9.8	375.3	553.2
	T	<u> </u>		NI)	EC DEMAND K	./^			
ITEM	EQUIPMENT	LIGHTING	RECEPT	EQUIP	MOTOR	POWER	OTHER	TOTAL	AMPS
1	LIGHTING - 100%	1.9	_	_	_	_	-	1.9	2.4
2	RECEPTACLE - NEC	_	10.9	_	_	_	ı	10.9	30.3
3	EQUIPMENT - 100%	_	_	32.6	_	_	-	32.6	90.6
4	MOTOR -	_	_	_	338.6	_	-	338.6	425.5
5	POWER (HEATING) - 100%	_	_	_	_	0.0	ı	0.0	0.0
6	OTHER - 100%	_	-	_	_	_	9.6	9.6	26.7
	TOTAL DEMAND							393.6	575.4

ELECTRICAL ABBREVIATIONS

Α	AMPERES	HVAC	HEATING, VENTILATING AND AIR CONDITIONI
AF	AMP FUSED	IC	INTERCOM
AFF	ABOVE FINISHED FLOOR	KWC	KILOWATTS CONNECTED
AFG	ABOVE FINISHED GRADE	KWD	KILOWATTS DEMAND
AO	AUTO OPENER	MC	MECHANICAL CONTRACTOR
AS	AMP SWITCH	МСВ	MAIN CIRCUIT BREAKER
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUGS ONLY
BAS	BUILDING AUTOMATION SYSTEM	MIN	MINIMUM
BFF	BELOW FINISHED FLOOR	NEC	NATIONAL ELECTRICAL CODE
BFG	BELOW FINISHED GRADE	MTG	MOUNTING
С	CONDUIT	PC	PLUMBING CONTRACTOR
C/B	CIRCUIT BREAKER	PNL	PANEL
CATV	COMMUNITY ANTENNA TELEVISION (CABLE)	РВ	PUSHBUTTON
EC	ELECTRICAL CONTRACTOR	Ø	PHASE
ED	EXISTING TO BE DEMOLISHED	RF	REFRIDGERATOR
EPO	EMERGENCY POWER OFF	TC	TECHNOLOGY CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING	UG	UNDERGROUND
ER	EXISTING TO BE RELOCATED/RELOCATED	UON	UNLESS OTHERWISE NOTED
EX	EXISTING TO REMAIN	UPS	UNINTERRUPTIBLE POWER SUPPY
GC	GENERAL CONTRACTOR	V	VOLTS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	W	WIRE
GFP	GROUND FAULT PROTECTION	WP	WEATHERPROOF

0,4,50	TECHNOLOGY LEGEND	MOUNTING FIG. TO AFF
SYMBOL	DESCRIPTION	UNLESS OTHERWISE NOTED
NOTE	S: PROVIDE 4-INCH SQUARE BY 2-3/4-INCH DEEP DEVICE BOX AND SINGLE DEVICE RING COMBINATION WITH 1-INCH BUSHED EMT TO NEAREST ACCESSIBLE CEILING FOR ALL TELECOM AND LOW VOLTAGE SYSTEM DEVICES UNLESS NOTED OTHERWISE. COORDINATE ROUGH-IN HEIGHTS WITH ARCHITECTURAL ELEVATIONS.	
T _V	TELEVISION VIDEO OUTLET WITH (1) CATV PORT "B" INDICATES WITH (1) CATV PORT AND (1) UTP TELECOM PORT "D" INDICATES WITH (1) UTP TELECOM DATA PORT. COORDINATE WITH AV INTEGRATOR	SEE DRAWINGS
	FLOOR BOX	FLR MTD
₩ 💆	TYPICAL TECHNOLOGY DEVICE BOX AND BUSHED CONDUIT ROUGH-IN WITH BLANK PLATE U.N.O.	18"
▼ ^x	DATA OUTLET. "X" REPRESENTS QTY OF UTP TELECOM PORTS / "CLG" REPRESENTS CEILING MOUNTED	15" BOTTOM
<u> </u>	PROVIDE BUSHED STEEL SLEEVE. PROVIDE UL LISTED FIRE STOP ASSEMBLY AT RATED BARRIERS. PROVIDE QTY AS REQUIRED TO MATCH ABBUTTED CABLE TRAY UNO	SEE DRAWINGS
®	CARD READER - ACCESS CONTROL "K" IDENTIFIES WITH INTEGRAL KEYPAD, "S" IDENTIFIES WITH SWIPE, "M" IDENTIFIES MULLION PROFILE	48"

MECHANICAL EQUIPMENT CONNECTION NOTES

- POWER FOR INDOOR UNIT FED FROM OUTDOOR UNIT. PROVIDE WIRING FOR BOTH AS INDICATED ON SCHEDULE AND WEATHERPROOF DISCONNECT SWITCH. WEATHER PROOF DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION AND WIRE AS DIRECTED BY THE MECHANICAL CONTRACTOR.
- REFER TO SHEET E4 FOR OVERCURRENT PROTECTION AND FEEDER SIZE. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION AND WIRE AS DIRECTED BY MECHANICAL CONTRACTOR.
- AFD WITH BYPASS FURNISHED BY OTHERS, INSTALLED BY EC..

D E S I G	
ArchitectureEngineeringLandscape ArchitecturePlanning	3700 Park 42 Drive Suite 190B Cincinnati OH 45241 Phone 513.759.0004

ELECTRICAL LEGEND MOUNTING HTG. TO AFF

SIMPLEX RECEPTACLE - SEE DWGS FOR NEMA CONFIGURATION SEE DRAWINGS

= GROUND FAULT INTERRUPTER = WEATHERPROOF GROUND FAULT

= TAMPER PROOF = GROUND FAULT INTERRUPTER

= TAMPER PROOF = GROUND FAULT INTERRUPTER

3-WAY 4-WAY KEYED DIMMER

= MANUAL MOTOR STARTER

OCCUPANCY SENSOR SWITCH

208V RECEPTACLE - SEE DWGS FOR NEMA CONFIGURATION

POKE-THRU W/ DOUBLE DUPLEX RECEPTACLES, DATA

DUPLEX RECEPTACLE, IN HANDI-BOX ON FLEXIBLE WHIP

PLUGMOLD, RECEPT AT 12 INCH CENTER TO CENTER COORD MOUNTING HEIGHT W/ ARCH DETAIL

OCCUPANCY SENSOR. DUAL TECHNOLOGY DETECTION OCCUPANCY SENSOR. DUAL TECHNOLOGY DETECTION.

CEILING MOUNTED DAYLIGHTIING CONTROL SENSOR

CLG MTD EXIT LIGHT W/ DIRECTIONAL ARROWS

CLG MTD EXIT LIGHT W/ DIRECTIONAL ARROWS

WALL MTD EXIT LIGHT W/ DIRECTIONAL ARROWS

SIDE MTD EXIT LIGHT W/ DIRECTIONAL ARROWS

ELECTRICAL PANEL (DASHED LINE INDICATES

PROVIDE WITH PHOTOCELL W/ DIMMING WALL MOUNTED OCCUPANCY SENSOR

PER SYSTEMS SHEETS UNLESS NOTED OTHERWISE

DOUBLE DUPLEX RECEPTACLE, EMERGENCY

DOUBLE DUPLEX RECEPTACLE, EMERGENCY

DUPLEX RECEPTACLE, EMERGENCY

DUPLEX RECEPTACLE, EMERGENCY

GROUND BAR

POWER PACK

MOTOR - 1 PHASE

MOTOR - 3 PHASE

WORKING CLEARANCE)

COMBINATION MOTOR STARTER

EMERGENCY POWER OFF PUSHBUTTON FIRE ALARM MANUAL PULL STATION

FIRE ALARM SIGNAL - AUDIO/VISUAL DEVICE

"SA" = SUPPLY AIR
"RA" = RETURN AIR

FIRE ALARM SECURITY SYSTEM DOOR RELEASE

LIGHT FIXTURE, TYPE AS NOTED ON FLOOR PLANS (R1, ETC)

FIRE ALARM SIGNAL - VISUAL DEVICE

DUCT MOUNTED SMOKE DETECTOR

SAFETY SWITCH

SMOKE DETECTOR

HEAT DETECTOR

TAMPER SWITCH

MAGNETIC DOOR HOLDER

FIRE ALARM BEAM DETECTOR

FIRE ALARM CONTROL PANEL

FIRE ALARM POST INDICATING VAVLE

FIRE ALARM ANNUNCIATOR PANEL

SEE LIGHT FIXTURE SCHEDULE.

(HANGING FIXTURE)

FLOW SWITCH

TOGGLE SWITCH - SINGLE

"T" = TAMPER PROOF
"GF" = GROUND FAULT INTERRUPTER

SEE DRAWINGS

FLR MTD

SEE DRAWINGS

8" AB COUNTER TOP

8" AB COUNTER TOP

FLR MTD

8" AB COUNTER TOP

8" AB COUNTER TOP FLUSH MTD IN CEILING

ADJACENT EQUIPMENT

CLG MTD

CLG MTD

WALL MTD

CLG MTD

AB CLG

AS REQ'D

AS REQ'D

CLG MTD

CLG MTD

AB DOOR

AB DOOR

72" TO TOP

AS REQ'D

AS REQ'D

MIN 80" AFF TO LENS BTM

MIN 80" AFF TO LENS BTM

CLG MTD

CLG MTD

COORD W/MECH

AS REQ'D

AS REQ'D

AS REQ'D

AS REQ'D

AS REQ'D

AS REQ'D

72" TO TOP

WALL MTD SPECIAL OUTLET AS REQUIRED

"TL" = TWISTLOCK

FLOOR BOX

WIRED JUNCTION BOX

DUPLEX RECEPTACLE

DOUBLE DUPLEX RECEPTACLE

DUPLEX RECEPTACLE

DOUBLE DUPLEX RECEPTACLE

SYMBOL

 \mathcal{H}

 \ominus

 \Longrightarrow

OS

 \boxtimes

✐

 \oplus

FACP

FAAP

■ Surveying www.mspdesign.com Project Manager CSW Drawn By X-Ref(s) NONE

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 \circ (DOWNLIGHT) (WALL MOUNTED FIXTURE) (WALL MOUNTED DOWNLIGHT)

LIGHT FIXTURE, TYPE AS NOTED ON FLOOR PLANS (R1, ETC) SEE FIXTURE SCHEDULE. CONNECTED TO LIFE SAFETY OR CRITICAL POWER. (INBOARD LAMPS ON LIFE SAFETY OR CRITICAL / OUTBOARD LAMPS ON NORMAL)

 $\longrightarrow \bigcirc \longrightarrow$ (HANGING FIXTURE) (DOWNLIGHT) (WALL MOUNTED FIXTURE) (WALL MOUNTED DOWNLIGHT)

> HAWA Incorporated 980 OLD HENDERSON ROAD COLUMBUS, OHIO 43220 614-451-1711 JAI 4055 EXECUTIVE PARK DRIVE, SUITE 420, CINCINNATI, OHIO

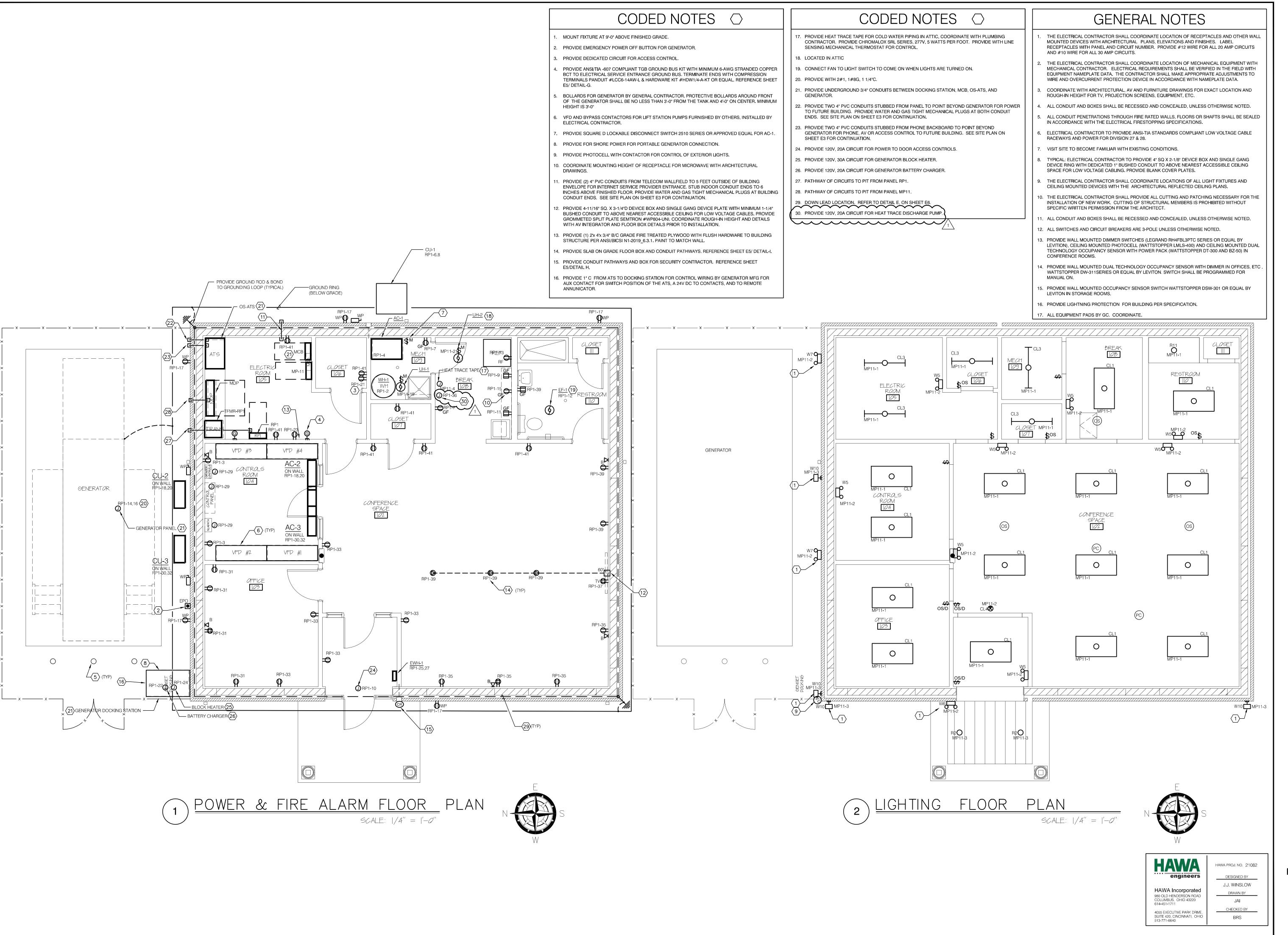
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ELECTRICAL SCHEDULES, **LEGENDS & ABBREVIATIONS**

Sheet Title

File Number

06308.12 Project Number AS NOTED Drawing Scale Sheet Number



3700 Park 42 Drive ■ Architecture ■ Engineering ■ Landscape Architecture ■ Planning

Suite 190B Cincinnati OH 45241 Phone 513.759.0004 ■ Surveying www.mspdesign.com

Project Manager DCC CSW Drawn By X-Ref(s) NONE

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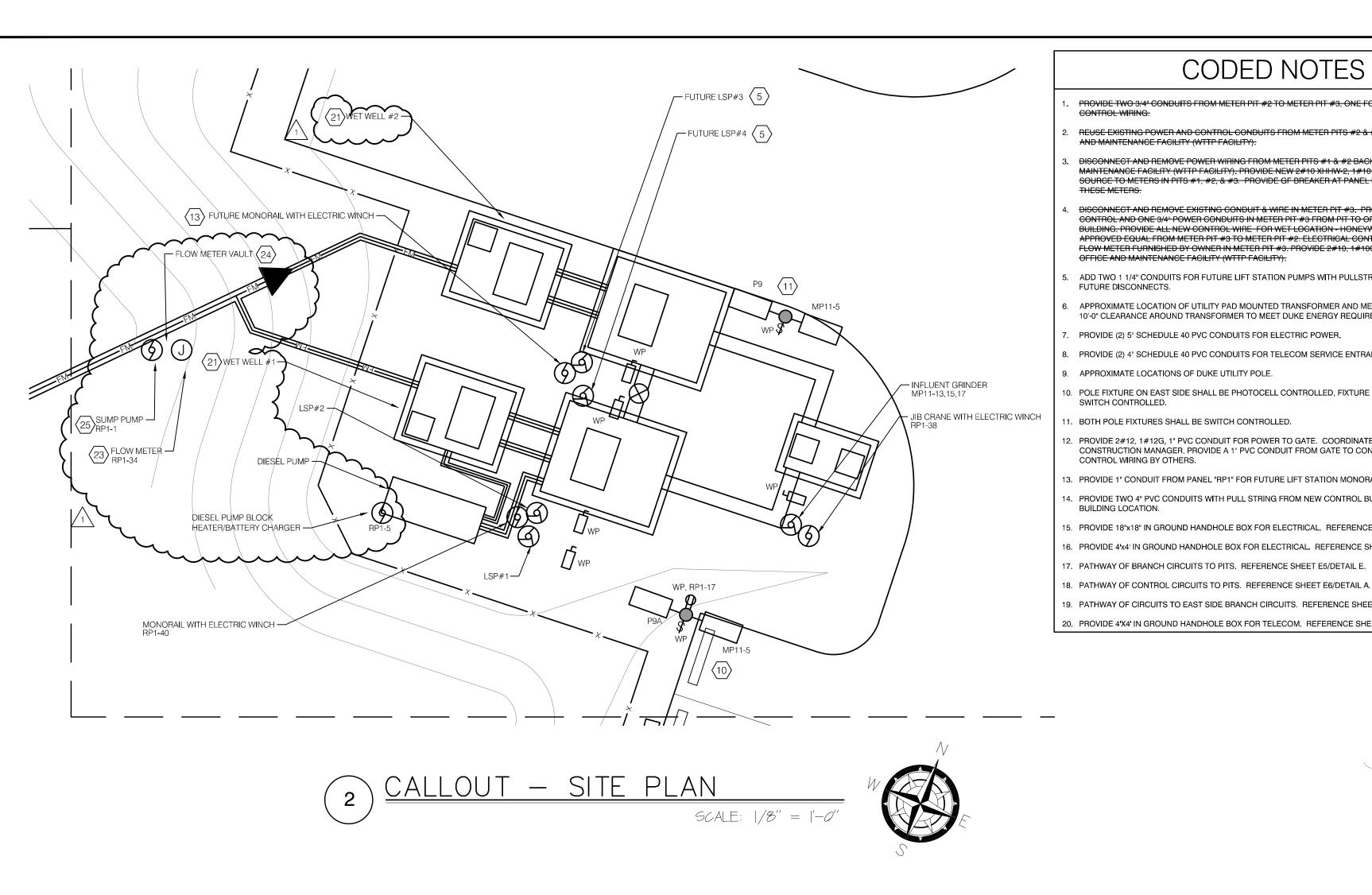
11/20/2025

Sheet Title ELECTRICAL LIGHTING, POWER, & FIRE ALARM FLOOR PLAN

06308.12

AS NOTED

Project Number Drawing Scale Sheet Number



CODED NOTES \bigcirc

PROVIDE TWO 3/4" CONDUITS FROM METER PIT #2 TO METER PIT #3, ONE FOR POWER, ONE FOR

REUSE EXISTING POWER AND CONTROL CONDUITS FROM METER PITS #2 & #1 BACK TO THE OFFICE AND MAINTENANCE FACILITY (WTTP FACILITY).

DISCONNECT AND REMOVE POWER WIRING FROM METER PITS #1 & #2 BACK TO SOURCE IN OFFICE AND MAINTENANCE FACILITY (WTTP FACILITY). PROVIDE NEW 2#10 XHHW-2, 1#10 XHHW-2 G WIRE FROM SOURCE TO METERS IN PITS #1, #2, & #3. PROVIDE GF BREAKER AT PANEL FOR CIRCUIT THAT FEEDS

DISCONNECT AND REMOVE EXISTING CONDUIT & WIRE IN METER PIT #3. PROVIDE ONE NEW 3/4" CONTROL AND ONE 3/4" POWER CONDUITS IN METER PIT #3 FROM PIT TO OFFICE AND MAINTENANCE BUILDING, PROVIDE ALL NEW CONTROL WIRE FOR WET LOCATION - HONEYWELL 16 AWG 4/C OR APPROVED EQUAL FROM METER PIT #3 TO METER PIT #2. ELECTRICAL CONTRACTOR SHALL INSTALL FLOW METER FURNISHED BY OWNER IN METER PIT #3. PROVIDE 2#10, 1#10G, 3/4" CONDUIT BACK TO OFFICE AND MAINTENANCE FACILITY (WTTP FACILITY).

ADD TWO 1 1/4" CONDUITS FOR FUTURE LIFT STATION PUMPS WITH PULLSTRINGS TO LOCATION OF FUTURE DISCONNECTS.

APPROXIMATE LOCATION OF UTILITY PAD MOUNTED TRANSFORMER AND METER ENCLOSURE. PROVIDE 10'-0" CLEARANCE AROUND TRANSFORMER TO MEET DUKE ENERGY REQUIREMENTS.

PROVIDE (2) 5" SCHEDULE 40 PVC CONDUITS FOR ELECTRIC POWER.

PROVIDE (2) 4" SCHEDULE 40 PVC CONDUITS FOR TELECOM SERVICE ENTRANCE.

APPROXIMATE LOCATIONS OF DUKE UTILITY POLE.

D. POLE FIXTURE ON EAST SIDE SHALL BE PHOTOCELL CONTROLLED, FIXTURE ON WEST SIDE SHALL BE SWITCH CONTROLLED.

. BOTH POLE FIXTURES SHALL BE SWITCH CONTROLLED.

2. PROVIDE 2#12, 1#12G, 1" PVC CONDUIT FOR POWER TO GATE. COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER. PROVIDE A 1" PVC CONDUIT FROM GATE TO CONTROL BUILDING FOR CONTROL WIRING BY OTHERS.

3. PROVIDE 1" CONDUIT FROM PANEL "RP1" FOR FUTURE LIFT STATION MONORAIL.

4. PROVIDE TWO 4" PVC CONDUITS WITH PULL STRING FROM NEW CONTROL BUILDING TO FUTURE BUILDING LOCATION.

5. PROVIDE 18"x18" IN GROUND HANDHOLE BOX FOR ELECTRICAL. REFERENCE SHEET E6/DETAIL C.

16. PROVIDE 4'x4' IN GROUND HANDHOLE BOX FOR ELECTRICAL. REFERENCE SHEET E6/DETAIL C.

7. PATHWAY OF BRANCH CIRCUITS TO PITS. REFERENCE SHEET E5/DETAIL E.

SITE PLAN

19. PATHWAY OF CIRCUITS TO EAST SIDE BRANCH CIRCUITS. REFERENCE SHEET E6/DETAIL B.

20. PROVIDE 4'X4' IN GROUND HANDHOLE BOX FOR TELECOM. REFERENCE SHEET E6/DETAIL D.

GENERAL NOTES CODED NOTES

21. PROVIDE 1" CONDUIT FROM CONTROL PANEL IN CONTROL BUILDING TO WET WELL WITH (10) #14 AWG FOR SEAL FAIL AND HEAT SENSORS, AND (10) #14 AWG FOR FLOAT SWITCHES. PROVIDE 1" CONDUIT

22. PROVIDE 120V, 20A CIRCUIT IN 1" CONDUIT FOR DIESEL PUMP BLOCK HEATER AND BATTERY CHARGER.

3. PROVIDE 120V, 20A CIRCUIT IN 1" CONDUIT FOR FLOW METER IN METER VAULT.

24. PROVIDE 1" CONDUIT WITH (2) #14 AWG FOR FLOAT SWITCH IN METER VAULT.

25. PROVIDE 120V, 20A CIRCUIT IN 1" CONDUIT FOR METER VAULT SUMP PUMP.

WITH (1) SHIELDED CABLE FOR TRANSDUCER.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF RECEPTACLES AND OTHER WALL MOUNTED DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND FINISHES. LABEL RECEPTACLES

WITH PANEL AND CIRCUIT NUMBER. PROVIDE #10 WIRE FOR ALL 20 AMP CIRCUITS AND #8 WIRE FOR ALL

THE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR. ELECTRICAL REQUIREMENTS SHALL BE VERIFIED IN THE FIELD WITH EQUIPMENT NAMEPLATE DATA. THE CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS TO

WIRE AND OVERCURRENT PROTECTION DEVICE IN ACCORDANCE WITH NAMEPLATE DATA. COORDINATE WITH ARCHITECTURAL, AV AND FURNITURE DRAWINGS FOR EXACT LOCATION AND

ROUGH-IN HEIGHT FOR TV, PROJECTION SCREENS. ALL CONDUIT AND BOXES SHALL BE RECESSED AND CONCEALED, UNLESS OTHERWISE NOTED.

ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR SHAFTS SHALL BE SEALED IN ACCORDANCE WITH THE ELECTRICAL FIRESTOPPING SPECIFICATIONS.

ELECTRICAL CONTRACTOR TO PROVIDE PATHWAYS FOR THE TELEPHONE/DATA WIRING BY OTHERS.

VISIT SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF NEW WORK. CUTTING OF STRUCTURAL MEMBERS IS PROHIBITED WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE ARCHITECT.

. ALL CONDUIT AND BOXES SHALL BE RECESSED AND CONCEALED, UNLESS OTHERWISE NOTED.

10. ALL SWITCHES AND CIRCUIT BREAKERS ARE 3-POLE UNLESS OTHERWISE NOTED.

1. COORDINATE WITH BECKMAN ENVIRONMENTAL SERVICES DRAWINGS FOR WORK FOR THE PUMP

HAWA PROJ. NO. 21082

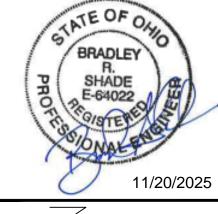
McGill Smith Punshon

Architecture 3700 Park 42 Drive ■ Engineering Suite 190B ■ Landscape Architecture Cincinnati OH 45241 ■ Planning Phone 513.759.0004 ■ Surveying www.mspdesign.com

Project Manager DCC CSW Drawn By X-Ref(s) NONE

Issue/Revision No. Date BID/PERMIT 08/15/2025 11/25/2025 ADDENDUM #5

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Sheet Title **ELECTRICAL SITE PLAN & METER PIT**

Project Number Drawing Scale **Sheet Number**

AS NOTED

06308.12

Sheet:Q:\2021\21082\Drawings\Sheets\E3 ELECTRICAL SITE PLAN & METER PIT.dwg Plot:11/20/2025 10:47 AM User:PLF

J.J. WINSLOW

HAWA Incorporated 980 OLD HENDERSON ROAD COLUMBUS, OHIO 43220 614-451-1711

4055 EXECUTIVE PARK DRIVE, SUITE 420, CINCINNATI, OHIO 513-771-6640



ADDENDUM NO. 5 November 25, 2025

RE: River Corridor Public Sanitary Sewer Extension

397 S Main Street, South Lebanon, Ohio 45150

FROM: McGill Smith Punshon, Inc.

3700 Park 42 Drive - Suite 190 B

Cincinnati, Ohio 45241

513-759-0004

TO: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated August 15, 2025. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

Addendum #5 consists of the following:

CLARIFICATIONS:

- 1. The following items were missing or unclear in the original bid documents see attached revised electrical drawings E1, E2 & E3.
 - Added conduits from Control Panel to Juction box @ wet wells #1 & #2
 - Added circuit to diesel pump for block heater and battery charger
 - Added circuit to jib crane at grinder chamber
 - Added circuit to hoist at wet well
 - Added circuit to flow meter
 - Revised circuit to float switch in meter vault
 - *Corrected voltage for sump pump in meter chamber*
 - Added heat trace to circuit for discharge pump
- 2. Warren County Water & Sewer Department updated many of their Trench details. The following revised details are attached W2, W3, W, S7, S8, S9 & S10.
- 3. All piping outside of wet wells and valve vaults are to be included in this contract.
- 4. Pumps, base elbows and other appurtenances inside the North wet well are not included in this contract.
- 5. Valves and other appurtenances inside the North valve vault are not included in this contract.

REQUESTS FOR INFORMATION:

- 1. The check valves that have been specified do not comply with AIS and BABA. Should these check valves meet the AIS & BABA requirements?
 - a. Bid per plan.
- 2. Do the BABA and AIS requirements shown in the Supplemental Conditions apply to this project?
 - a. BABA and AIS requirements are to be carried out to the extent that is practical, i.e., if the requirements result in an adverse effect on delivery and schedule, then the requirement will be waived for the item.

- 3. For Lift Station Pumps 1 & 2 there are AFD's called out which I assume are Adjustable Frequency Drives. There is no spec for VFD's but there is a spec for just enclosed controllers which is just for magnetic starters. Will there be another Addendum providing a spec for the VFD's?
 - a. Refer to the pump station specifications issued in Addendum #3.
- 4. On the One Line Drawing on sheet E4, it shows Pumps 3 & 4 are future but on the Drawing E3 Site Plan for Pump Station it shows (4) disconnects for all 4 pumps. Are VFDs and Disconnects required for Pumps 3 & 4?
 - a. No, VFD's and disconnects are not required for pumps #3 & #4.
- 5. Force Main Note 2 on C2 says "The force main pipe material shall be ductile iron, class 56...". Addendum 4's Bid Form Breakdown includes 8" and 12" Ductile Iron Pipe, Class 53 Force Main. What class ductile iron pipe is required for the force main?
 - a. Use Class 53.
- 6. Force Main Note 2 on C2 says "The aerial force main pipe shall have external insulation per specification section 33 05 19.23." Where can we find specification section 33 05 19?
 - a. The missing specification is included in this addendum.
- 7. Air Release Valve Note 4 on C4 calls for a pipe mounted enclosure for each air release valve. Is there a manufacturer and model used as basis of design for this enclosure?
 - a. Vent-Tech should be used as Basis or Design and enclosures should be stainless steel.
- 8. Air Release Valve Note 4A on C4 says "Enclosure shall be made of type 304 stainless steel and/or galvanized steel." Will fiberglass enclosures be an acceptable substitution?
 - a. No, fiberglass enclosures are not acceptable.
- 9. There's a line item on the bid breakdown form for "PIPE ON BRIDGE REMOVED 297 LF". Where is this pipe?
 - a. This pipe is an abandoned 10" force main that has ben capped at each end and occurs just after the bridge approximately between STA 30+00 and STA 27+00.
- 10. Where is the plumbing fixture schedule?
 - a. Information on the plumbing fixtures can be found in specification section 22 40 00.
- 11. Do the pump manufacturers need to provide 2 or 4 base elbows -(2) for each pump station?
 - a. Furnish and install (2) base elbows.
- 12. Can an alternate design be provided for the aerial support of the force main between STA 30+00 and 34+32 that doesn't require galvanized steel as shown on sheets C25 & C26?
 - a. No aerial support of force main will need to be galvanized for low maintenance, corrosion resistance and longevity. Bids to include the aerial supports as detailed.
- 13. Plan sheet C18 shows a water meter for the proposed control building outside the building. Plan sheet P2 shows a water meter inside the building. Where is the water meter for the proposed control building to be placed?
 - a. The water meter should be located inside the building disregard the exterior meter pit.
- 14. Plan sheet C18 shows a 1 ½" water service to the proposed control building. Plan sheet P2 shows a 2" water meter and backflow preventor. What are the required service line and water meter sizes?
 - a. Water service line on C18 from new 8" water main up to Control building should be 2". The water meter and backflow preventer to remain 2".
- 15. Bid item for Topsoil furnished & placed is shown as 6,559 CY is this correct and do we really need to furnish that much?
 - a. Yes.

Addendum No. 5

- 16. Can you clarify where the 6,559 CY of topsoil is going?
 - a. Topsoil should be 4" minimum depth throughout the extent of the project area disturbed, over pump station site, force main and sanitary sewer paths.
- 17. Will you be providing an Erosion Control Plan or an allowance amount for this item?
 - a. No.
- 18. Has the engineers estimate been adjusted after issuance of the addenda?
 - a. The engineer's Estimate is now \$9,250,000.
- 19. Please clarify if this project can be awarded if the low bid is over the project estimate and by how much?
 - a. See Addendum #1, question 2 response in the Pre-Bid meeting minutes.
- 20. Where is the I & C scope defined? Only reference is in the Pump Station Specifications. Also, what are the SCADA requirements? Only reference is in original BABA specifications.
 - a. The City of South Lebanon will be responsible for the SCADA and I & C.

SUBSTITUTION REQUESTS:

- 1. Provide Pentair Myers in lieu of specified Ebara pumps **REJECTED**.
- 2. KSB closed loop cooled pump selection for approval **REJECTED.**

ATTACHMENTS:

- Specification Section 33 05 19.23 Pipe Insulation & Jacketing
- Electrical Drawings E1, E2 & E3
- Warren County Water & Sewer Details W2, W3, W, S7, S8, S9 & S10

END OF ADDENDUM #5

SECTION 33 05 19.23

DUCTILE IRON PIPE INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Insulation for ductile iron pipe that is used for aerial force mains and sanitary sewer.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. The cost for the ductile iron pipe insulation shall be included in the unit bid price for the 12" force main and the 15" sanitary sewer bid items.

1.3 REFERENCE STANDARDS

A. Standards:

1. ASTM C591, "Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation"

1.4 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

1.5 SUBMITTALS

- A. Section 01 33 00 Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer information regarding component materials, assembly and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- E. Field Quality Control Submittals: Indicate results of Contractor furnished tests and inspections.

F. Qualifications Statement:

1. Submit qualifications for manufacturer.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 77 00 - Closeout Procedures: Requirements for submittals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01 77 00 - Closeout Procedures; Requirements for maintenance materials.

1.8 QUALIFICATIONS

A. Installer:

1. A qualified installer who has been trained by and is acceptable to manufacturer to install manufacturer's products.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Handling:

- 1. Follow insulation manufacturer's recommendations along with the requirements listed in Section 33 05 19.13 for lined ductile iron pipe.
- C. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- D. Store materials according to manufacturer instructions.

E. Protection:

- 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
- 2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The system shall be FERRO-THERM D.I. as manufactured by Thermacor Process, Inc.
- B. Any substitution shall require a letter with a list of the following properties and a certification that each one has been met.

2.2 CARRIER PIPE

- A. The carrier pipe shall be ductile iron, Class 56 designed in accordance with ANSI/AWWA C150/21.50 and manufactured per ANSI/AWWA C151/21.51.
- B. The pipe shall have push-on joints where the joint and rubber gasket meet ANSI/AWWA C111/A21.11.
- C. Asphaltic coating shall be per ANSI/AWWA C151/21.51 and the interior shall be lined with an amine cured novolac epoxy as per Section 33 05 19.13.

2.3 INSULATION

- A. Insulation shall be polyurethane foam either spray applied or injected with one shot into the annular space between carrier pipe and jacket, and shall be bonded to both.
- B. Insulation shall be rigid, 90-95% closed cell polyurethane with a 2.0 to 3.0 pounds per cubic foot density and coefficient of thermal conductivity (K-Factor) of 0.18 and shall conform to ASTM C-591.
- C. Maximum operating temperature shall not exceed 250°F.
- D. Insulation thickness shall have a thickness of 2-inches.
- E. End treatments shall be per manufacturer's requirements.

2.4 JACKETING MATERIAL

- A. Jacketing material shall be extruded, black, high density polyethylene (HDPE), having a wall thickness of 200 mils. The HDPE jacketing material shall be formulated with carbon black and/or ultraviolet stabilizer for protection against UV rays.
- B. No tape jacket is allowed.
- C. The inner surface of the HDPE jacket shall be oxidized by means of corona treatment, flame treatment (patent pending), or other approved methods to ensure a secure bond between the jacket and foam insulation thereby preventing any ingression of water at the jacket/foam interface.
- D. Joints shall be jacketed with a split sleeve and sealed with heat shrink tape to prevent the ingression of water or debris.

2.5 INSULATION OF THE AIR RELEASE VALVE

A. The entire air release valve including the piping to the main shall be insulated except for the valves and the air outlet.

MSP No. 06308.12

33 05 19.23 Ductile Iron Pipe Insulation

- B. The insulation and jacketing material shall be the same material as used for the pipe. The insulation shall be form fitted for the air release valve. Seams shall be sealed per manufacturer's recommendations and shall be suitable for exterior conditions.
- C. The insulation shall be held in place by Type 304 stainless steel hose clamps.

PART 3 - EXECUTION

Not Used

END OF SECTION

WATERMAIN SHALL BE INSTALLED IN A SEPARATE TRENCH FROM THE SANITARY SEWER AND SHALL BE A MINIMUM DISTANCE OF 10' MEASURED HORIZONTALLY FROM THE SANITARY SEWER.

BACKFILL AND RESTORATION OF PAVEMENT MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATION(S).

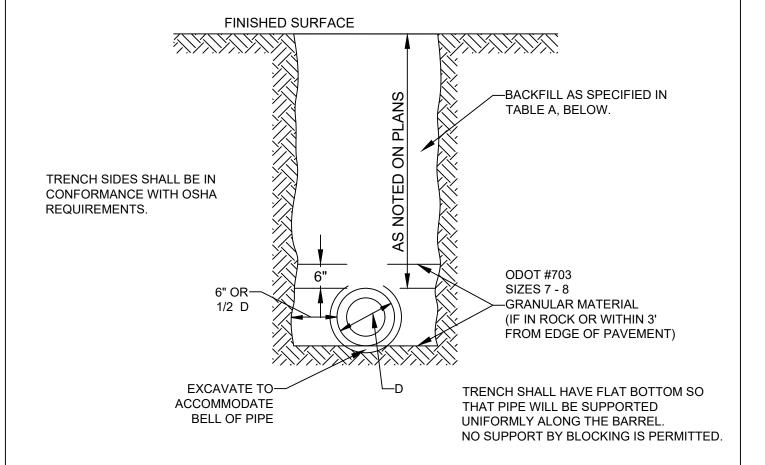


TABLE A - BACKFILL TYPE				
TRENCH LOCATION	BACKFILL TYPE			
EDGE OF TRENCH GREATER THAN 3-FEET FROM EDGE OF PAVEMENT	CLEAN COMMON FILL			
WITHIN PAVEMENT OR WITHIN 3-FEET FROM EDGE OF PAVEMENT	ODOT #304 GRANULAR BACKFILL COMPACTED IN 8" LIFTS.			
SUBSURFACE CONTAINS ROCK	SELF-COMPACTING GRANULAR FILL, ODOT #703 SIZES 7-8			
NOTE: SLAG IS NOT PERMITTED IN ANY WATER OR SEWER TRENCHES.				

WATERMAIN TRENCH DETAIL - DUCTILE IRON PIPE

APPROVED/REVISED

WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER

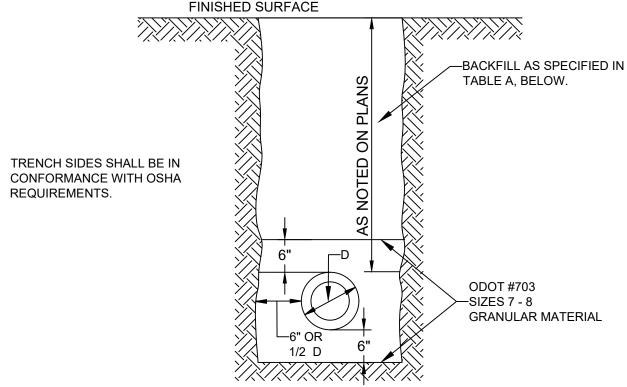
STANDARD NUMBER

W-2

APRIL, 2025

WATERMAIN SHALL BE INSTALLED IN A SEPARATE TRENCH FROM THE SANITARY SEWER AND SHALL BE A MINIMUM DISTANCE OF 10' MEASURED HORIZONTALLY FROM THE SANITARY SEWER.

BACKFILL AND RESTORATION OF PAVEMENT MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATION(S).



TRENCH SHALL HAVE FLAT BOTTOM SO THAT PIPE WILL BE SUPPORTED UNIFORMLY ALONG THE BARREL. NO SUPPORT BY BLOCKING IS PERMITTED.

TABLE A - BACKFILL TYPE				
TRENCH LOCATION	BACKFILL TYPE			
EDGE OF TRENCH GREATER THAN 3-FEET FROM EDGE OF PAVEMENT	CLEAN COMMON FILL			
WITHIN PAVEMENT OR WITHIN 3-FEET FROM EDGE OF PAVEMENT	ODOT #304 GRANULAR BACKFILL COMPACTED IN 8" LIFTS.			
SUBSURFACE CONTAINS ROCK	SELF-COMPACTING GRANULAR FILL, ODOT #703 SIZES 7-8			
NOTE: SLAG IS NOT PERMITTED IN ANY WATER OR SEWER TRENCHES.				

WATERMAIN TRENCH DETAIL - PLASTIC & HDPE PIPE

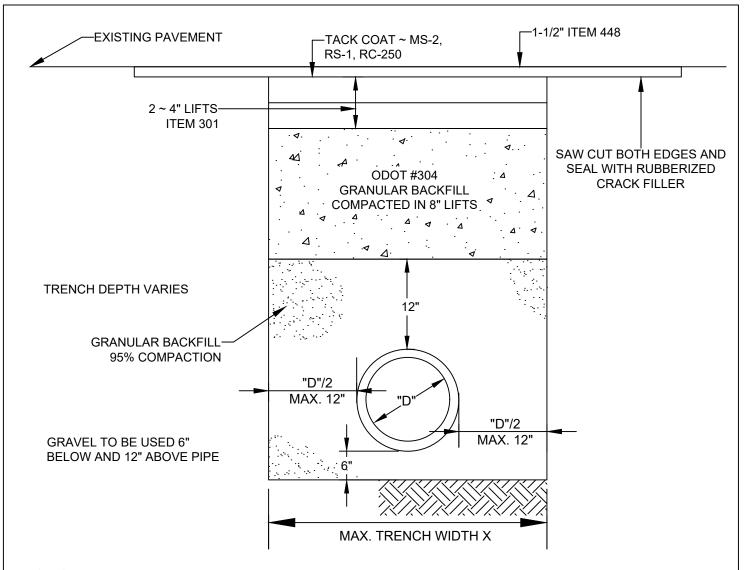
APPROVED/REVISED

WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER

STANDARD NUMBER

W-3

APRIL, 2025



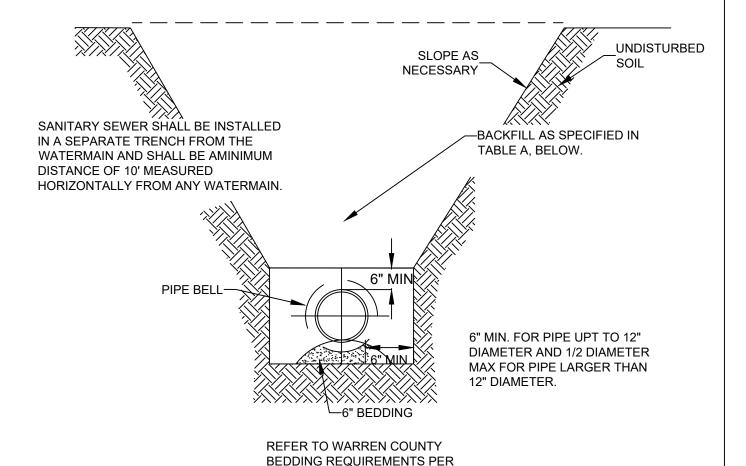
NOTES:

- 1. ALL DIMENSIONS ARE MINIMUM ACTUAL TO BE PER COUNTY ENGINEER OR ODOT INSTRUCTIONS & PERMIT.
- 2. TRAFFIC MUST BE MAINTAINED AT ALL TIMES; LIGHTS, SIGNS, BARRICADES AND IF NECESSARY, FLAGMAN AN WATCHMEN TO BE ON JOB FOR PROTECTION OF THE PUBLIC. STREET PLATES MUST CONFORM TO COUNTY ENGINEER OR ODOT REQUIREMENTS.
- 3. TRENCH BACKFILL AND PAVEMENT RESTORATION MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATIONS.
- 4. EXISTING PAVEMENT AND EDGES SHALL BE NEATLY AND SQUARELY TRIMMED AND/OR MILLED. PAVEMENT MUST MATCH EXISTING ROAD THICKNESS OR AS SPECIFIED BY COUNTY ENGINEER OR ODOT.

ROAD PAVEMENT CUT AND RESTORATION AT ROADWAY CROSSING					
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS	STANDARD NUMBER			
	DEPARTMENT OF WATER & SEWER	1 A 1 A			

APRIL, 2025

TOP OF PAVEMENT



NOTES:

- 1. TRENCH SIDES SHALL MEET OSHA REQUIREMENTS.
- 2. TRENCH SHALL HAVE FLAT BOTTOM SO THAT PIPE WILL BE SUPPORTED UNIFORMLY ALONG THE BARREL.

STANDARD DETAILS SG-1.

3. NO SUPPORT BY BLOCKING IS PERMITTED.

TABLE A - BACKFILL TYPE				
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SUBSURFACE CONTAINS ROCK	SELF-COMPACTING GRANULAR FILL, ODOT #703 SIZES 7-8			
NOTE: SLAG IS NOT PERMITTED IN ANY WATER OR SEWER TRENCHES.				

SANITARY GRAVITY SEWER TRENCH DETIAL

APPROVED/REVISED WARREN COUNTY STANDARD DETAILS
DEPARTMENT OF WATER & SEWER

APRIL, 2025

STANDARD NUMBER

S-7

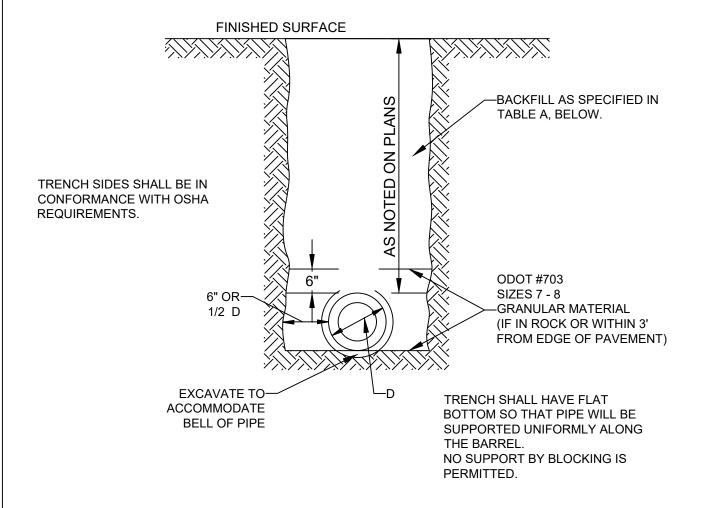


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SUBSURFACE CONTAINS ROCK	SELF-COMPACTING GRANULAR FILL, ODOT #703 SIZES 7-8			
NOTE: SLAG IS NOT PERMITTED IN ANY WATER OR SEWER TRENCHES.				

FORCEMAIN TRENCH DETAIL - DUCTILE IRON PIPE

APPROVED/REVISED WARREN COUNTY STANDARD DETAILS
DEPARTMENT OF WATER & SEWER

STANDARD NUMBER

SPANDARD NUMBER

WATERMAIN SHALL BE INSTALLED IN A SEPARATE TRENCH FROM THE SANITARY SEWER AND SHALL BE A MINIMUM DISTANCE OF 10' MEASURED HORIZONTALLY FROM THE SANITARY SEWER.

BACKFILL AND RESTORATION OF PAVEMENT MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATION(S).

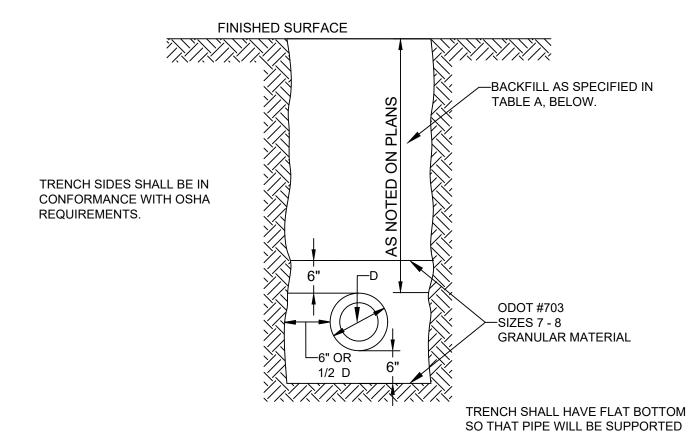


TABLE A - BACKFILL TYPE		
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SUBSURFACE CONTAINS ROCK	SELF-COMPACTING GRANULAR FILL, ODOT #703 SIZES 7-8	
NOTE: SLAG IS NOT PERMITTED IN ANY WATER OR SEWER TRENCHES.		

FORCEMAIN TRENCH DETAIL - PLASTIC PIPE

APPROVED/REVISED WARRI DEP/ APRIL, 2025

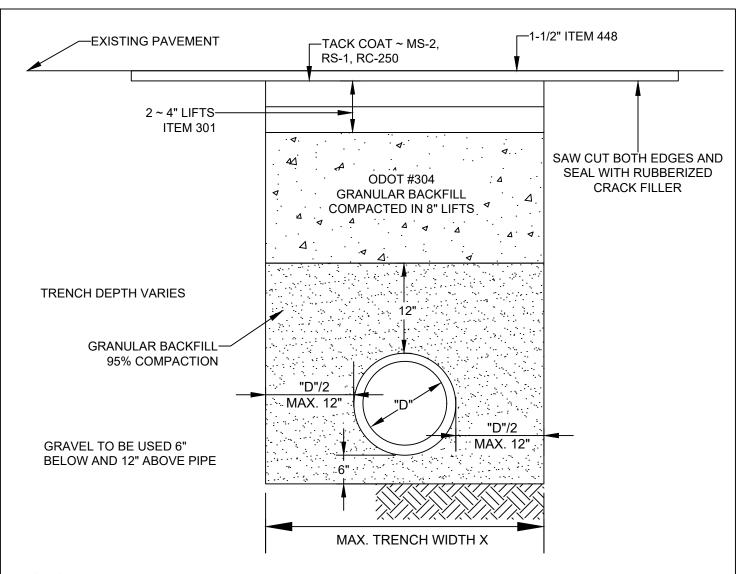
WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER

STANDARD NUMBER

S-9

UNIFORMLY ALONG THE BARREL. NO SUPPORT BY BLOCKING IS

PERMITTED.



NOTES:

- 1. ALL DIMENSIONS ARE MINIMUM ACTUAL TO BE PER COUNTY ENGINEER OR ODOT INSTRUCTIONS & PERMIT.
- 2. TRAFFIC MUST BE MAINTAINED AT ALL TIMES; LIGHTS, SIGNS, BARRICADES AND IF NECESSARY, FLAGMAN AN WATCHMEN TO BE ON JOB FOR PROTECTION OF THE PUBLIC. STREET PLATES MUST CONFORM TO COUNTY ENGINEER OR ODOT REQUIREMENTS.
- 3. FLASHFILL OR CONTROLLED DENSITY FILL TO A MINIMUM DISTANCE OF 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCH BACKFILL AND PAVEMENT RESTORATION MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATIONS.
- 4. EXISTING PAVEMENT AND EDGES SHALL BE NEATLY AND SQUARELY TRIMMED AND/OR MILLED. PAVEMENT MUST MATCH EXISTING ROAD THICKNESS OR AS SPECIFIED BY COUNTY ENGINEER OR ODOT.

ROAD PAVEMENT CUT AND RESTORATION AT ROADWAY CROSSING		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS	STANDARD NUMBER
APRIL, 2025	DEPARTMENT OF WATER & SEWER	S-10