



CITY OF PHILADELPHIA DEPARTMENT OF PUBLIC PROPERTY

MAYOR – JAMES F. KENNEY

MANAGING DIRECTOR – TUMAR AEXANDER

COMMISSIONER – DEPARTMENT OF PUBLIC PROPERTY – BRIDGET COLLINS-GREENWALD

FIRE COMMISSIONER – ADAM K. THIEL

DECONTAMINATION SUITE ENGINE 72

1127 W. LOUDON ST. | PHILA., PA 19141
PROJECT No. 13-21-4643-01

BID DOCUMENTS DATE SEPTEMBER 9, 2021

ARCHITECT



Blackney Hayes Architects
150 S. Independence Mall West, Suite 1200
Philadelphia, PA 19106
phone: 215.629.0922 x119
CONTACT PERSON: Traci Luckenbill

MEPFP ENGINEER

Wick Fisher White
100 N. Independence Mall West, Suite 5 SE,
Philadelphia, PA, 19106-1521
phone: 215.627.0200
CONTACT PERSON: Charles Deal

CODE SUMMARY

CODE DATA		
Applicable Codes		
IBC 2018		
IEBC 2018		
IMC 2018		
IPC 2018		
PHILADELPHIA FIRE CODE 2018		
IFGC 2018		
IECC 2018		
ADAAG 2010		
SUMMARY		REFERENCE
Use Group	B, S-1, R	302.1
Construction Type	IIB	Table 601
Fire Protection System	Sprinklered (per NFPA 13)	
IEBC 2018		REFERENCE
Classification of Work	Level 2 Alteration	Chapter 6

PA One Call Number: 1.800.242.1776

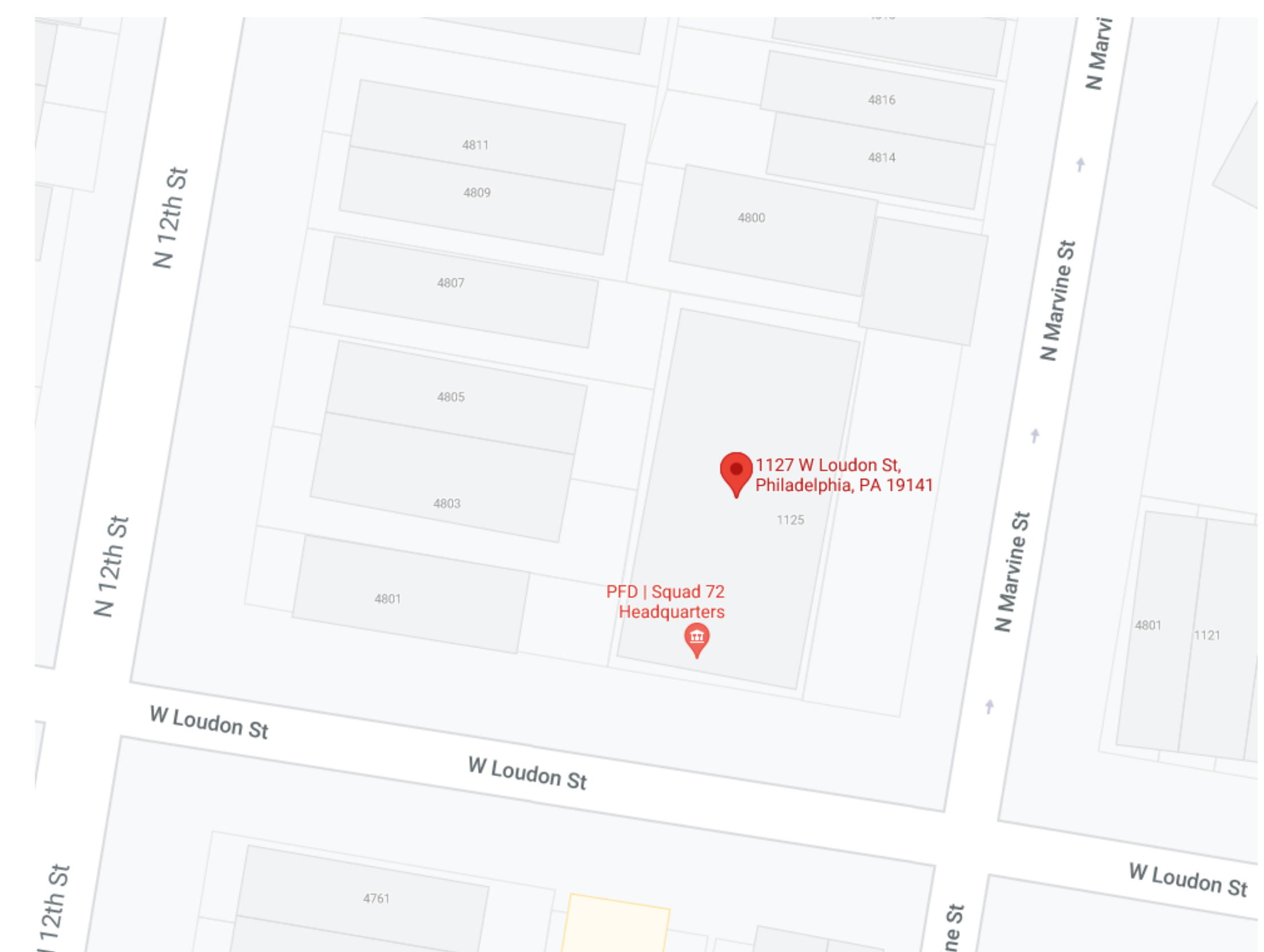
Accessibility Notes:

- Scope of work does not include an area of primary function

DRAWING LIST

SHEET LIST		11.08.22 ISSUE FOR BID
SHEET NO.	SHEET NAME	
01-General		
CS	PROJECT COVER SHEET	X
06-Demolition		
D1.1	DEMOLITION PLANS	X
07-Architectural		
A1.1	FLOOR PLANS	X
A1.2	ENLARGED PLANS AND DOORS	X
A1.3	DETAILS	X
08-MPE		
MPE-1.1	MPE COVER SHEET	X
MPE-1.2	MECHANICAL SPECIFICATIONS	X
MPE-1.3	ELECTRICAL SPECIFICATIONS	X
09-Mechanical		
M1.2	ENLARGED PLANS, SCHEDULES & DETAILS	X
10-Plumbing		
P-1.1	FLOOR PLANS	X
P-1.2	ENLARGED PLANS	X
P-5.1	DETAILS, SCHEDULES AND DIAGRAMS	X
12-Electrical		
E-1.1	FLOOR PLANS	X
E-1.2	ENLARGED PLANS	X
E-5.1	DETAILS AND DIAGRAMS	X

LOCATION PLAN



PROJECT APPROVED

COMMISSIONER/DEPARTMENT OF PUBLIC PROPERTY

DEPUTY COMMISSIONER/DEPARTMENT OF PUBLIC PROPERTY

PROJECT DIRECTOR/PPP-CAPITAL PROJECTS DIVISION

ART COMMISSION

HISTORICAL COMMISSION

SEALS

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY

1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA PENNSYLVANIA

PROJECT NO.

13-21-4643-01

DATE

11/08/22

SCALE

DRAWN BY

BH

CHECKED BY

CS

DRAWING NO.

CS







FILE: BHA No.: 20-105

NOTE: ALL DIMENSIONS AND CONSTRUCTION SHALL BE DEFINED BY THE CONTRACTOR'S FIELD SITE MEASUREMENTS UNLESS OTHERWISE NOTED.

REVISIONS

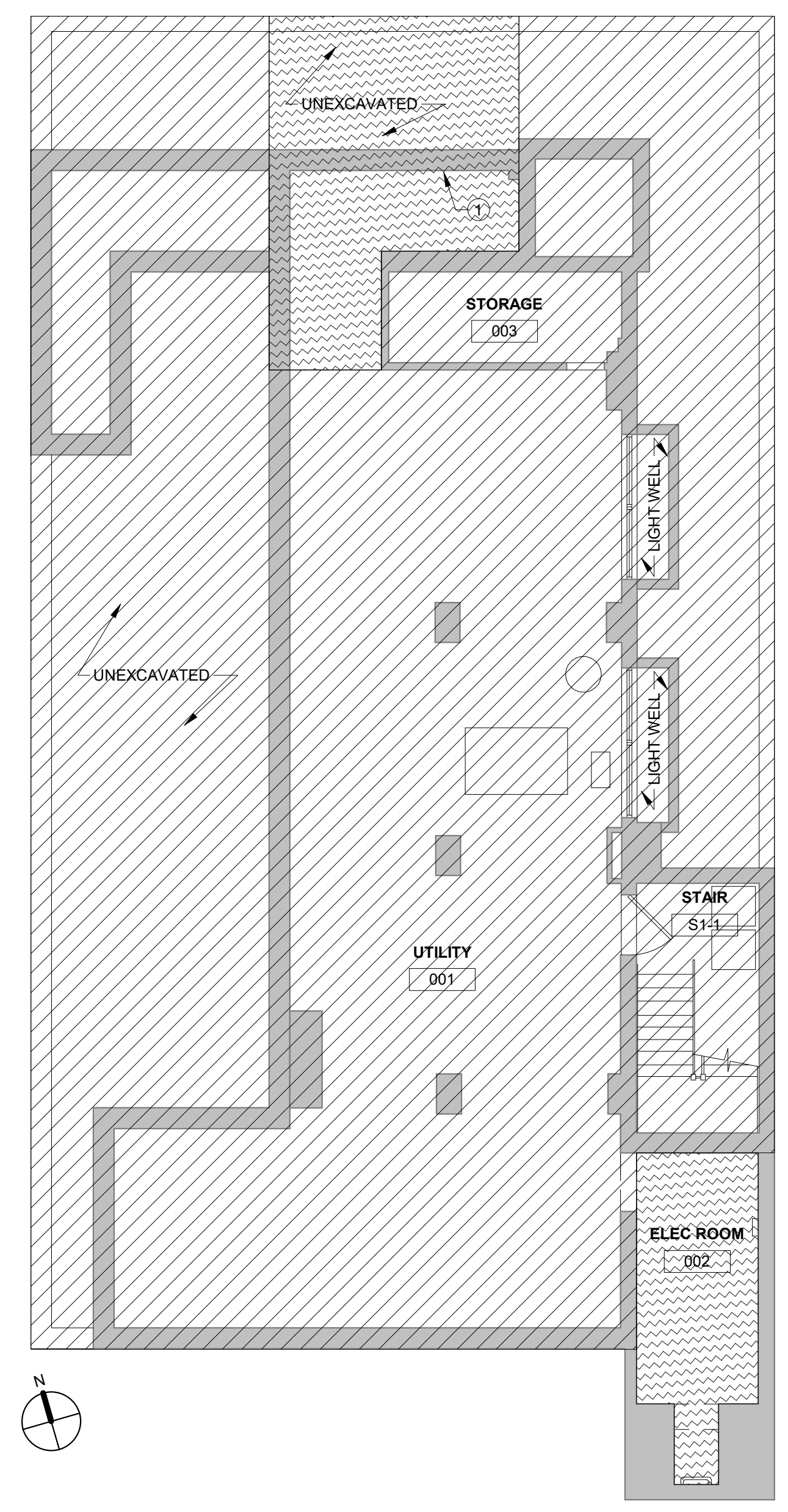
ISSUE	DATE	REVISIONS
	09/09/21	ISSUE FOR BID

FLOOR PLAN LEGEND

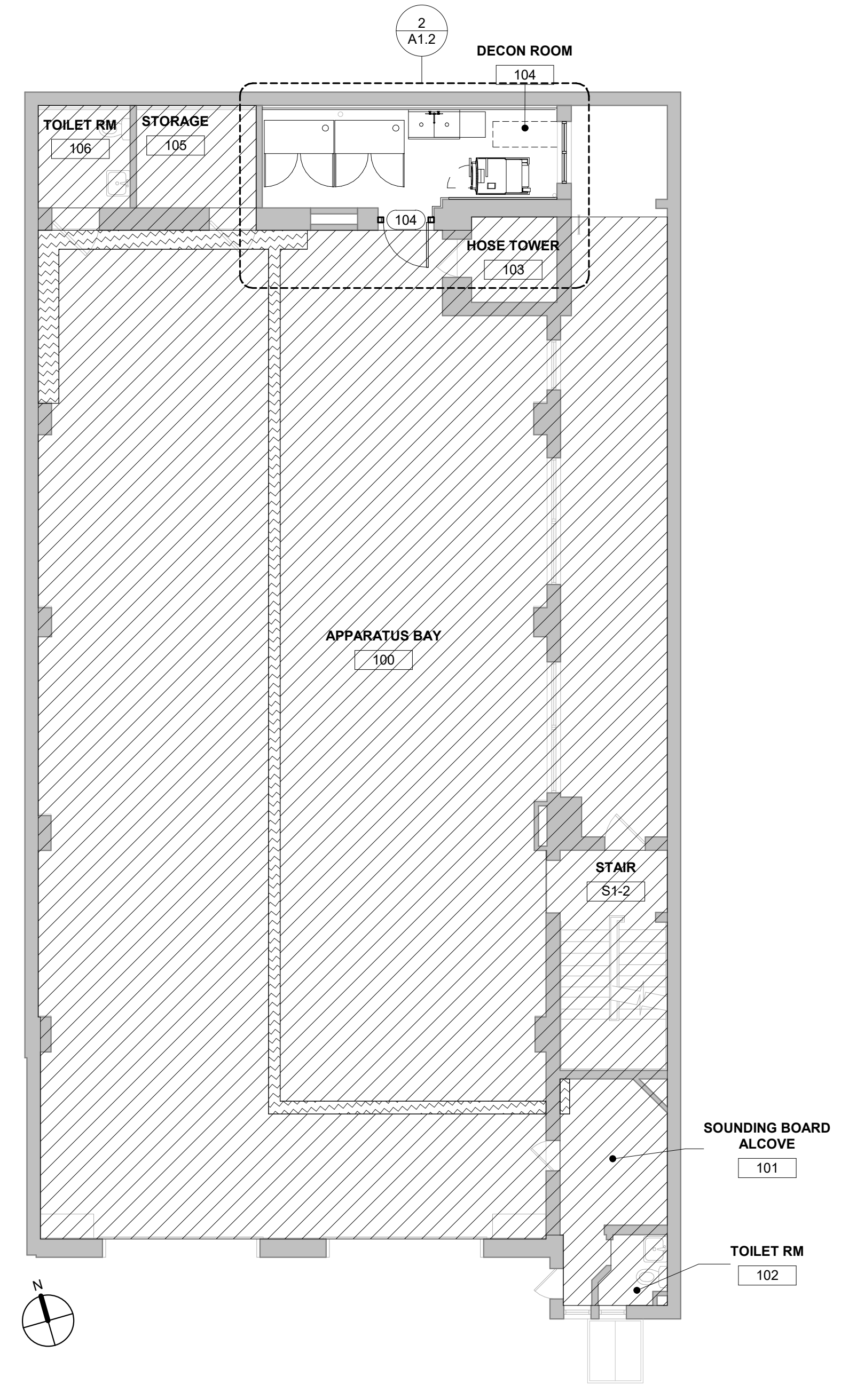
-  EXISTING WALL TO REMAIN
-  NEW WALL
-  EXISTING DOOR TO REMAIN
-  NEW DOOR, SEE SCHED.
-  AREA NOT IN SCOPE
-  SEE MEP DWGS FOR ADDITIONAL SCOPE OF WORK IN THIS AREA

FLOOR PLAN KEYED NOTES

- ① COORDINATE PLACEMENT OF PIPING PENETRATION THROUGH WALL TO FALL BETWEEN BEAMS AND ABOVE BEARING POINT



② **BASEMENT PLAN**
1/8" = 1'-0"



① **1ST FLOOR PLAN**
1/8" = 1'-0"



KYLE O'CONNOR, PROJECT MANAGER

SEALS

SPACE FOR CONSULTANT RECOGNITION



phone: 215.829.0922 x119
CONTACT PERSON: Traci Luckenbill

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA, PENNSYLVANIA

PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

DRAWING TITLE
FLOOR PLANS

PROJECT NO. 13-21-4643-01	DRAWING NO. A1.1
DATE 11/08/22	
SCALE NOTED	
DRAWN BY BH	
CHECKED BY CS	BHA No.: 20-105

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

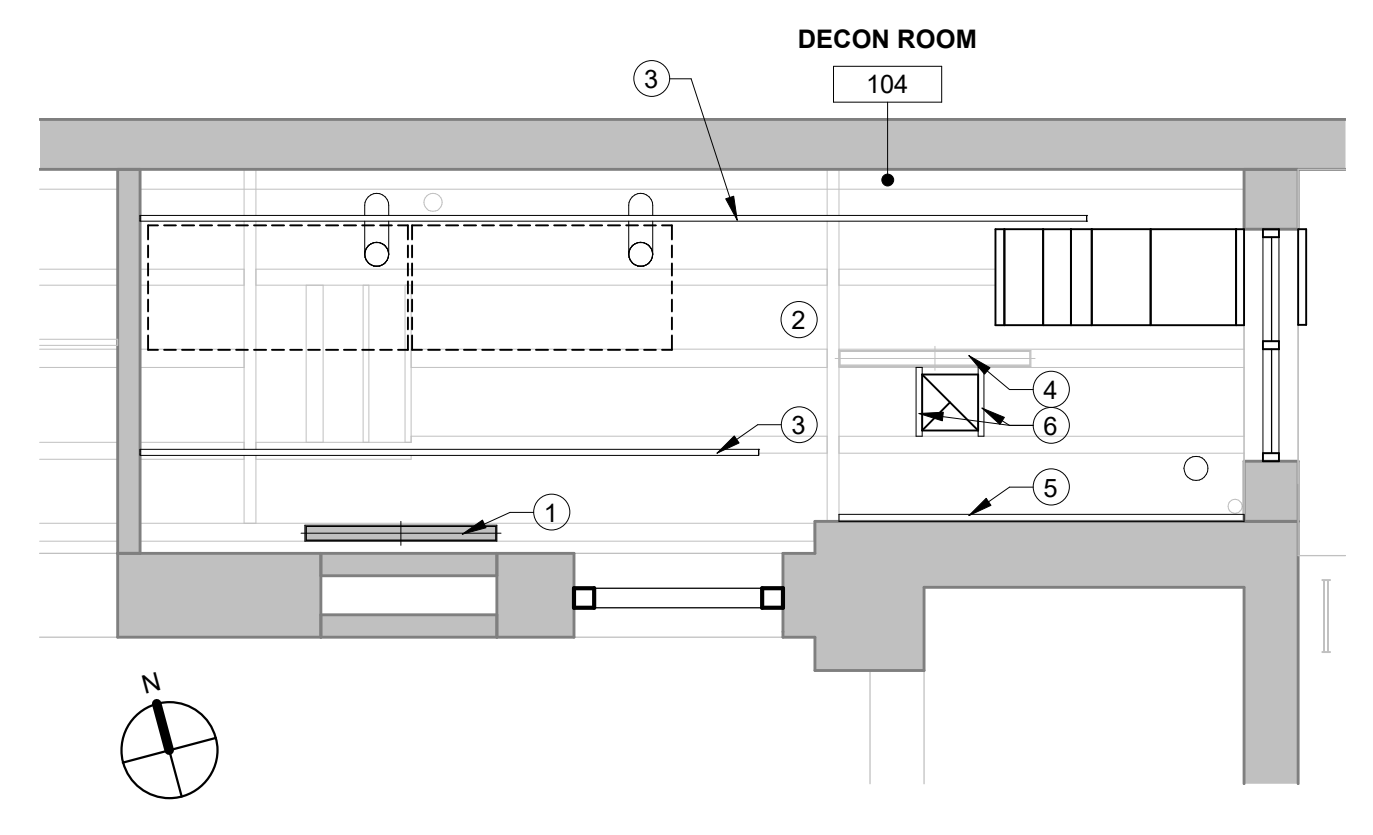
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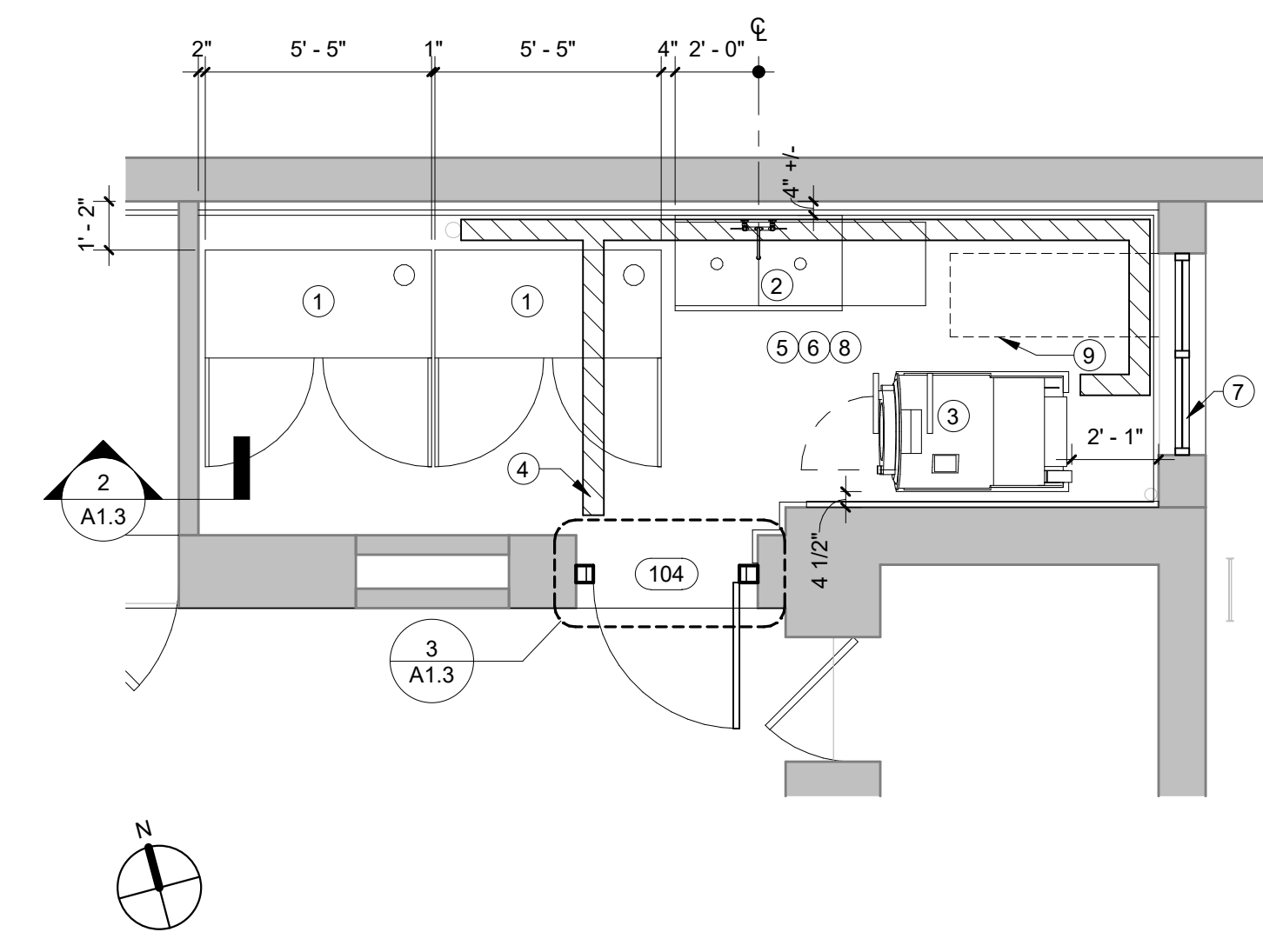
RCP LEGEND

TYPE	DESCRIPTION
	SURFACE MOUNTED UTILITY LIGHT
	EXPOSED STRUCTURE - SCRAPE LOOSE PAINT, PREP SURFACES FOR REPAINTING, AND PAINT. COLOR: SHERWIN WILLIAMS CEILING BRIGHT WHITE

- RCP KEYED NOTES**
- RELOCATE EXISTING FIXTURE TO NEW LOCATION AS SHOWN
 - SCRAPE, PREP, AND PAINT EXPOSED STRUCTURE AND ROOF DECK - PT-1
 - PAINT EXPOSED SPRINKLER PIPE SAFETY YELLOW
 - EXISTING FIXTURE TO REMAIN
 - NEW 2X8 JOIST ANCHORED TO EXISTING MASONRY
 - NEW SUPPLEMENTAL 2X8 WD FRAMING AT NEW ROOF OPENING

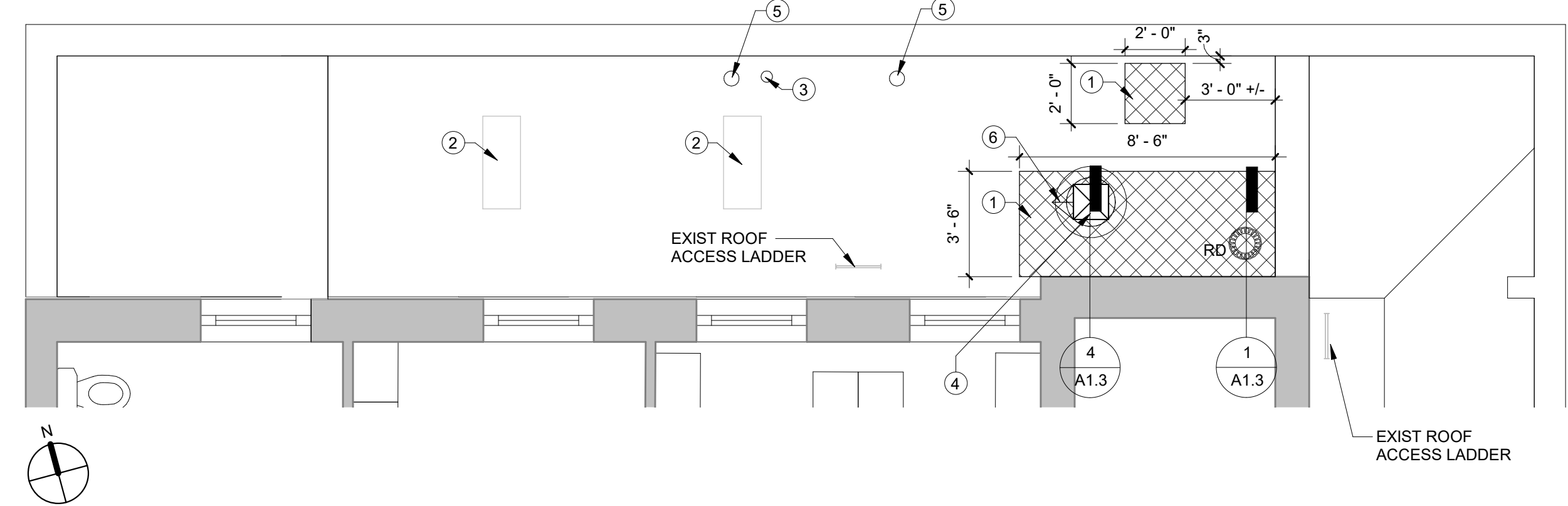


3 ENLARGED DECON ROOM RCP
1/4" = 1'-0"



2 ENLARGED DECONTAMINATION ROOM PLAN
1/4" = 1'-0"

- FLOOR PLAN KEYED NOTES**
- DRYING CABINET: ADC ECODRY ADFG-6 - OF/CI
 - UTILITY SINK: REGENCY 600S22424B WITH REMOVABLE 24" DRAINBOARD - CF/CI
 - WASHER EXTRACTOR: MILNOR 30022V/RJ - CF/CI - MOUNT TO EXISTING CONCRETE SLAB PER MANUFACTURER'S RECOMMENDATIONS
 - PATCH CONCRETE SLAB IN HATCHED AREA
 - APPLY FLOOR LEVELING COMPOUND OVER EXISTING SLAB TO ESTABLISH SLOPE TO DRAIN AND PREP FLOOR FOR EPOXY INSTALLATION
 - SCRAPE LOOSE PAINT FROM EXISTING MASONRY WALLS, PREP, PRIME, AND PAINT. COLOR: SHERWIN WILLIAMS CEILING BRIGHT WHITE
 - NEW LOUVER IN EXISTING OPENING - FIELD VERIFY SIZE OF EXIST OPNG - SEE MECH DWGS
 - EPOXY FLOOR FINISH, COLOR: TO BE SELECTED FROM STANDARD RANGE
 - LINE OF DUCTWORK ABOVE

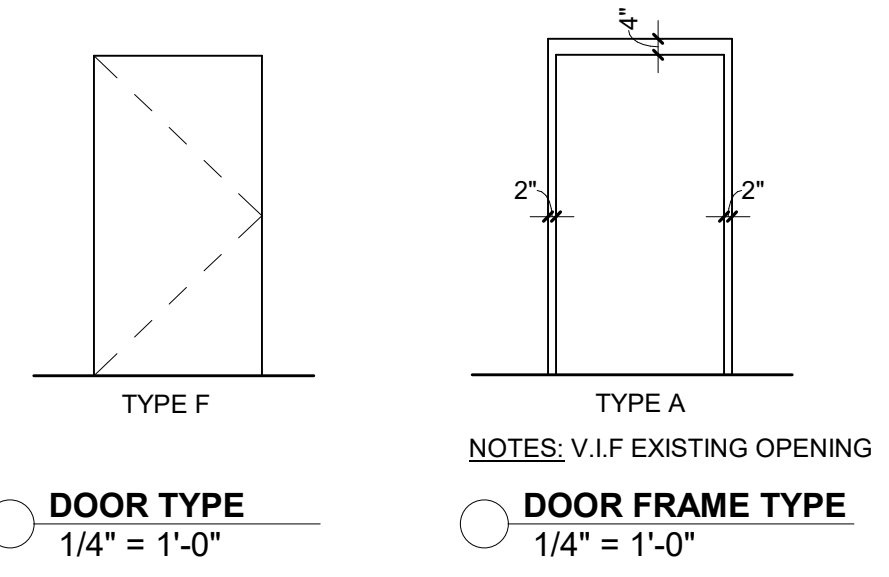


1 ENLARGED LOW ROOF PLAN
1/4" = 1'-0"

- ROOF PLAN KEYED NOTES**
- HATCH INDICATES AREA OF ROOF DECK AND SYSTEM REPLACEMENT - CONTRACTOR TO FIELD CONFIRM ROOF COMPOSITION
 - EXISTING CONDENSING UNIT TO REMAIN
 - EXISTING VENT TO REMAIN
 - NEW EXHAUST FAN - SEE MECH DWGS
 - DRYER CABINET EXHAUST - NEW PENETRATION IN EXISTING ROOF SYSTEM
 - CRICKET AT NEW ROOF PENETRATION

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	ROOM LOCATION NUMBER	ROOM LOCATION NAME	DOOR				FRAME			HARDWARE	COMMENTS	
				WIDTH	HEIGHT	MATERIAL	FINISH	FIRE RATING	TYPE	MATERIAL			FINISH
1ST FLOOR													
104	F	104	DECON ROOM	3'-6"	6'-8"	HM	PTD	--	A	HM	PTD	SET 1	



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PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

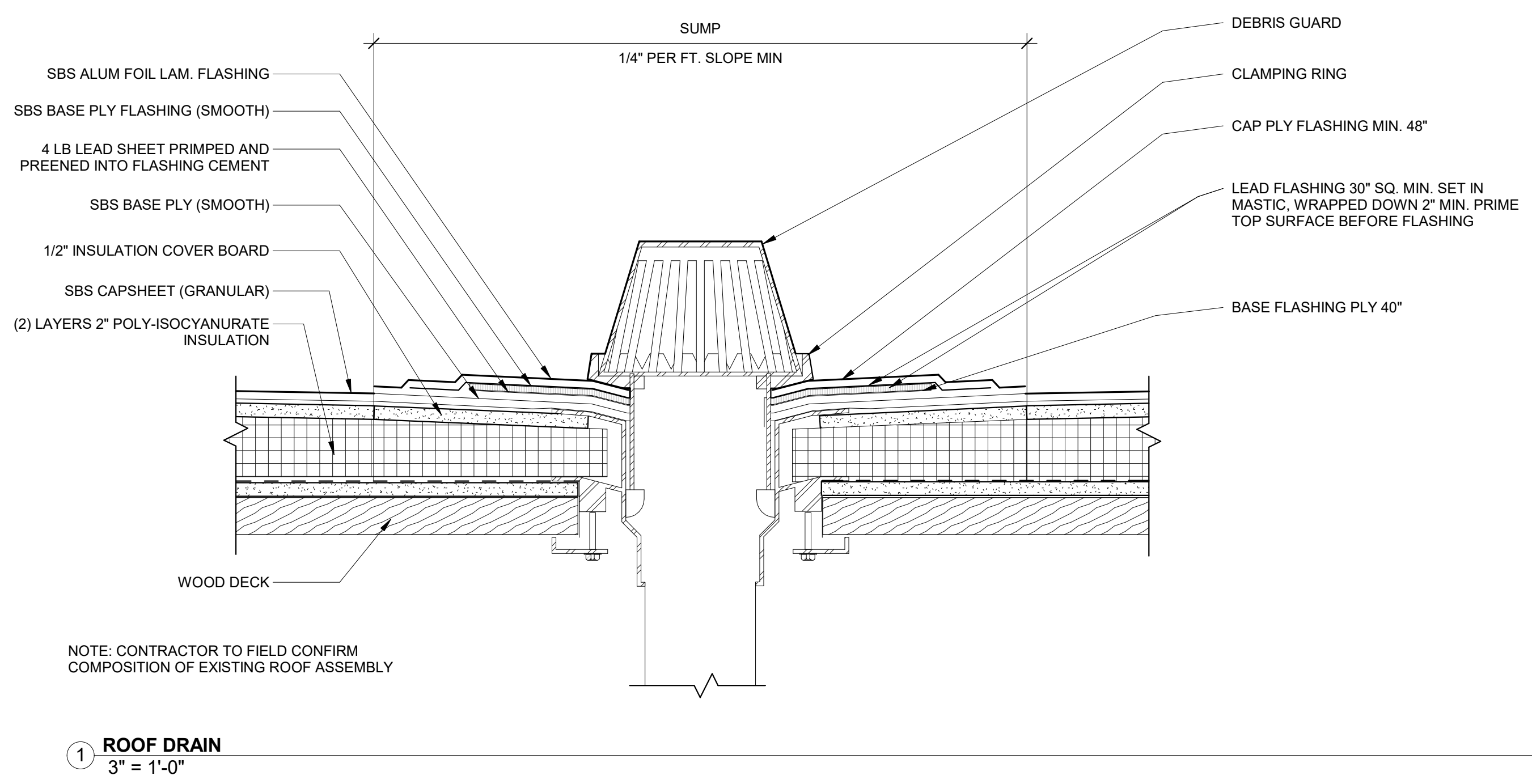
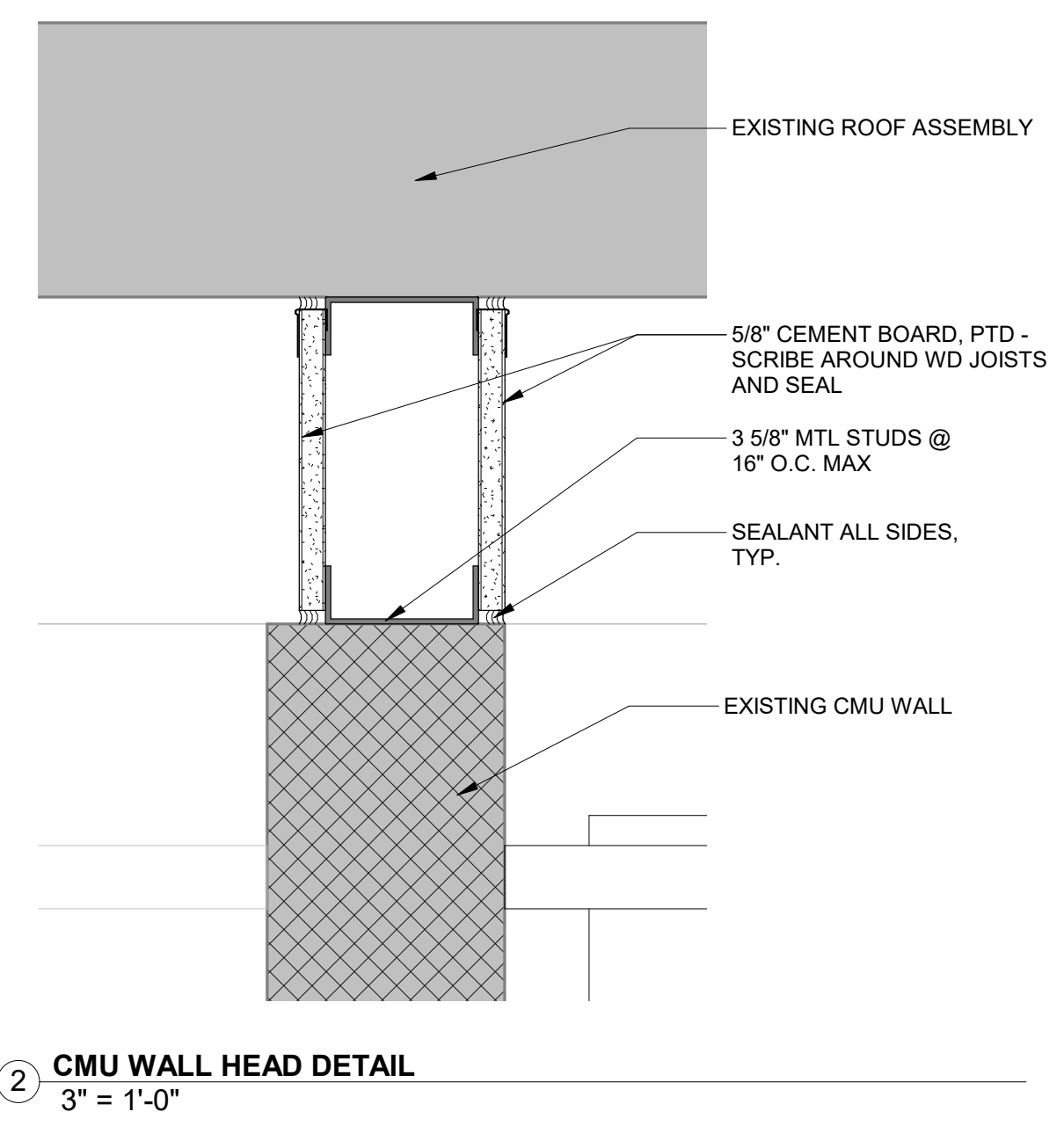
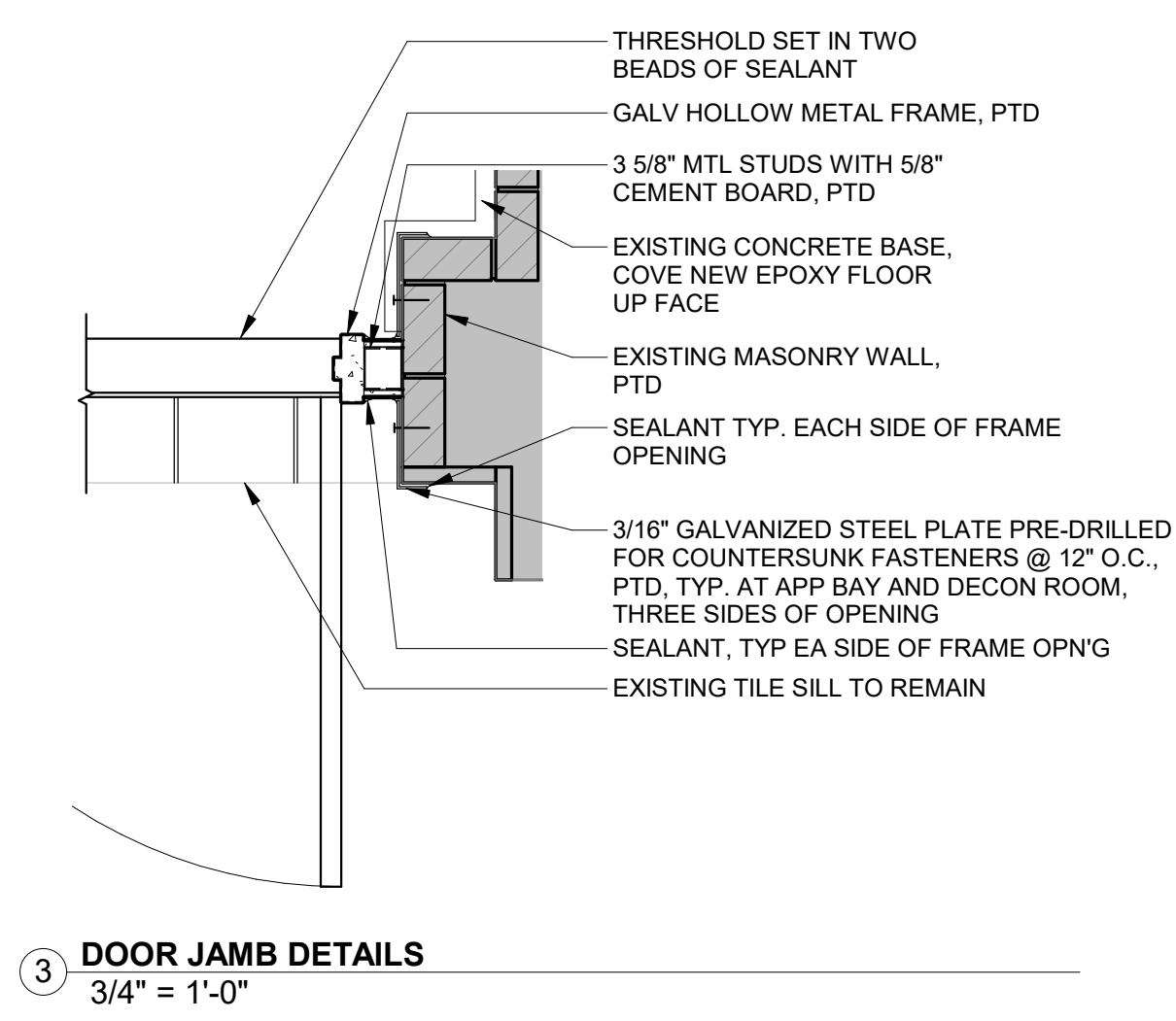
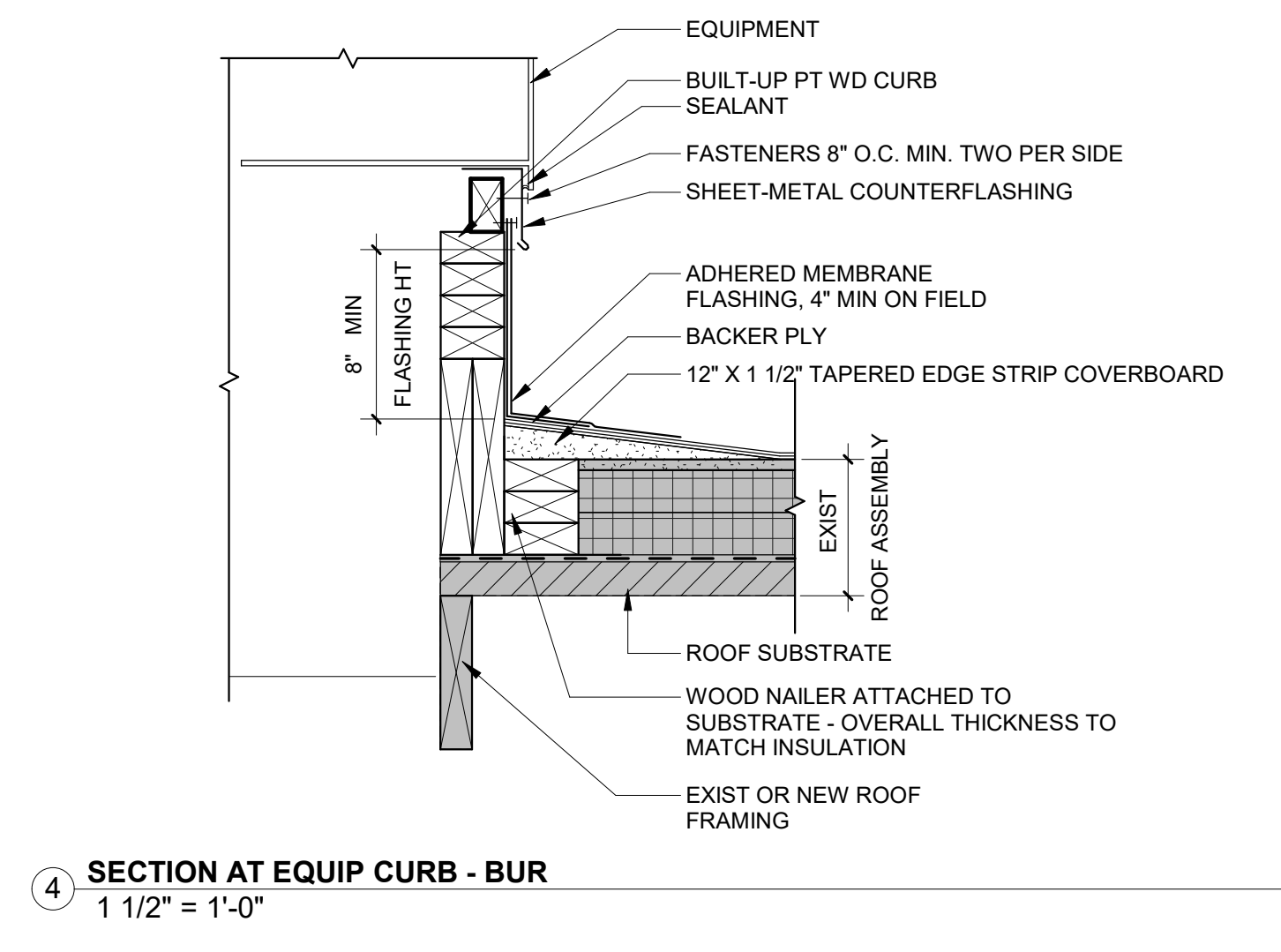
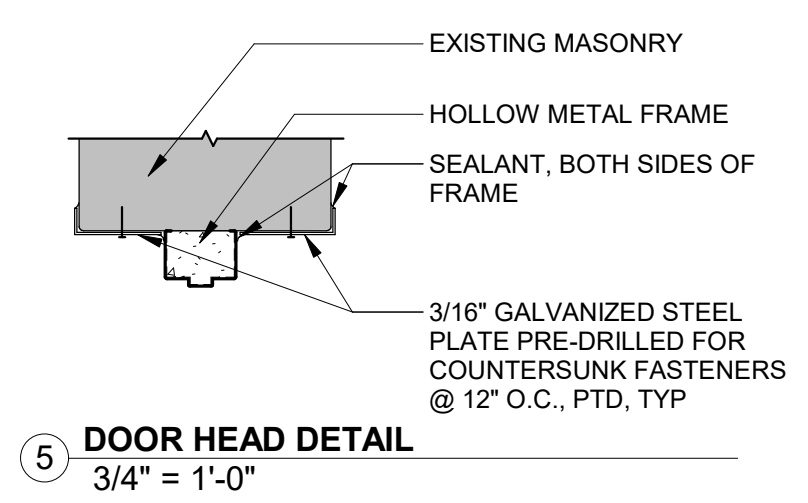
DRAWING TITLE
**ENLARGED PLANS
AND DOORS**

PROJECT NO. 13-21-4643-01	DRAWING NO.
DATE 11/08/22	A1.2
SCALE NOTED	
DRAWN BY BH	
CHECKED BY CS	BHA No.: 20-105

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REVISIONS

ISSUE	DATE	REVISIONS
	09/09/21	ISSUE FOR BID



KYLE O'CONNOR, PROJECT MANAGER

SEALS

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PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

DRAWING TITLE
DETAILS

PROJECT NO. 13-21-4643-01	DRAWING NO.
DATE 11/08/22	A1.3
SCALE NOTED	
DRAWN BY BH	
CHECKED BY CS	
BHA No.: 20-105	

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CITY OF PHILADELPHIA - DEPARTMENT OF PUBLIC PROPERTY

DECONTAMINATION SUITE ENGINE 72

REVISIONS		
ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID

LEGENDS

HVAC	HVAC	ELECTRICAL	GENERAL NOTES																																																																																																																																																																																																																																																																																																																																																												
	<table border="0"> <tr><td>AD</td><td>ACCESS DOOR</td><td>HTR</td><td>HEATER</td></tr> <tr><td>AD</td><td>AIR DEVICE</td><td>HVAC</td><td>HEATING, VENTILATING & AIR COND.</td></tr> <tr><td>AF</td><td>AIR FILTER</td><td>HZC</td><td>HERTZ (FREQUENCY)</td></tr> <tr><td>AFF</td><td>ABOVE FINISHED FLOOR</td><td>INTLK</td><td>INTERLOCK</td></tr> <tr><td>AP</td><td>ACCESS PANEL</td><td>KW</td><td>KILOWATT</td></tr> <tr><td>APD</td><td>AIR PRESSURE DROP</td><td>KWH</td><td>KILOWATT HOUR</td></tr> <tr><td>ATC</td><td>AUTOMATIC TEMPERATURE CONTROL</td><td>LAT</td><td>LEAVING AIR TEMPERATURE</td></tr> <tr><td>BDO</td><td>BACKDRIFT DAMPER</td><td>LB</td><td>POUNDS</td></tr> <tr><td>BHP</td><td>BRAKE HORSEPOWER</td><td>LF</td><td>LINE FEET</td></tr> <tr><td>BOD</td><td>BOTTOM OF DUCT</td><td>LVG</td><td>LEAVING</td></tr> <tr><td>BTUH</td><td>BRITISH THERMAL UNIT/HOUR</td><td>LVR</td><td>LOW VOLT</td></tr> <tr><td>CD</td><td>CEILING DIFFUSER</td><td>LWT</td><td>LEAVING WATER TEMPERATURE</td></tr> <tr><td>CFM</td><td>CUBIC FEET PER MINUTE</td><td>MAU</td><td>MAKE UP AIR UNIT</td></tr> <tr><td>CONN</td><td>CONNECTION</td><td>MV</td><td>MANUAL AIR VENT OR MV</td></tr> <tr><td>CU FT</td><td>CUBIC FEET (FT³)</td><td>MBH</td><td>THOUSANDS BTU</td></tr> <tr><td>DB</td><td>DEGREE</td><td>MF</td><td>MAKE UP AIR FAN</td></tr> <tr><td>DB</td><td>DRY BULB</td><td>ML</td><td>MAKE UP AIR LOUVER</td></tr> <tr><td>DHC</td><td>DUCT HEATING COIL</td><td>MOD</td><td>MOTOR OPERATED DAMPER</td></tr> <tr><td>DIFF</td><td>DIFFUSER</td><td>MTR</td><td>MOTOR</td></tr> <tr><td>DISCH</td><td>DISCHARGE</td><td>MUA</td><td>MAKE UP AIR</td></tr> <tr><td>DMPR</td><td>DAMPER</td><td>NC</td><td>NORMALLY CLOSED</td></tr> <tr><td>EAT</td><td>ENTERING AIR TEMPERATURE</td><td>NC</td><td>NOISE CRITERIA</td></tr> <tr><td>EDH</td><td>ELECTRIC DUCT HEATER</td><td>NO</td><td>NORMALLY OPEN</td></tr> <tr><td>EF</td><td>EXHAUST FAN</td><td>CA</td><td>OUTSIDE AIR</td></tr> <tr><td>EFF</td><td>EFFICIENCY</td><td>OBD</td><td>OPPOSED BLADE DAMPER</td></tr> <tr><td>EG</td><td>EXHAUST GRILLE</td><td>PH</td><td>PHASE</td></tr> <tr><td>DHC</td><td>ELECTRIC HEATING COIL</td><td>PM</td><td>PREVENTIVE MAINTENANCE</td></tr> <tr><td>ER</td><td>EXHAUST REGISTER</td><td>PPM</td><td>PARTS PER MILLION</td></tr> <tr><td>ESP</td><td>EXTERNAL STATIC PRESSURE</td><td>PRES</td><td>PRESSURE</td></tr> <tr><td>ET</td><td>EXPANSION TANK</td><td>PSI</td><td>POUNDS PER SQUARE INCH</td></tr> <tr><td>ELH</td><td>ELECTRIC UNIT HEATER</td><td>RA</td><td>RETURN AIR</td></tr> <tr><td>EVAP</td><td>EVAPORATING</td><td>RAF</td><td>RETURN AIR FAN REGISTER</td></tr> <tr><td>EWT</td><td>ENTERING WATER TEMPERATURE</td><td>REG</td><td>REGISTER</td></tr> <tr><td>EXH</td><td>EXHAUST</td><td>REL</td><td>RELIEF</td></tr> <tr><td>EXP</td><td>EXPANSION</td><td>RET</td><td>RETURN</td></tr> <tr><td>F</td><td>FAN</td><td>RG</td><td>RETURN GRILLE</td></tr> <tr><td>FA</td><td>FACE AREA</td><td>RH</td><td>RELATIVE HUMIDITY</td></tr> <tr><td>FD</td><td>FIRE DAMPER</td><td>RHC</td><td>REHEAT COIL</td></tr> <tr><td>FLA</td><td>FULL LOAD AMPS</td><td>RO</td><td>ROOF OPENING</td></tr> <tr><td>FPF</td><td>FIBER PER FOOT</td><td>RPM</td><td>REVOLUTIONS PER MINUTE</td></tr> <tr><td>FS</td><td>FEET PER SECOND</td><td>RR</td><td>RETURN REGISTER</td></tr> <tr><td>FPS</td><td>FEET PER SECOND</td><td>RV</td><td>ROOF VENTILATOR</td></tr> <tr><td>FT</td><td>FEET</td><td>SA</td><td>SOUND ATTENUATOR</td></tr> <tr><td>GA</td><td>GAUGE</td><td>SA</td><td>SUPPLY AIR</td></tr> <tr><td>GALV</td><td>GALVANIZED</td><td>SAF</td><td>SUPPLY AIR FAN</td></tr> <tr><td>GV</td><td>GRAVITY VENTILATOR</td><td>SC</td><td>STEAM COIL</td></tr> <tr><td>H</td><td>HUMIDIFIER</td><td>SD</td><td>SMOKE DAMPER</td></tr> <tr><td>H</td><td>HUMIDIFIER</td><td>SD</td><td>SMOKE DETECTOR</td></tr> <tr><td>HC</td><td>HEATING COIL</td><td>SF</td><td>SUPPLY FAN</td></tr> <tr><td>HP</td><td>HORSEPOWER</td><td>S.F.</td><td>SAFETY FACTOR</td></tr> <tr><td>HTG</td><td>HEATING</td><td>SG</td><td>SUPPLY GRILLE</td></tr> <tr><td></td><td></td><td>SHG</td><td>SENSIBLE HEAT GAIN</td></tr> <tr><td></td><td></td><td>SR</td><td>SUPPLY REGISTER</td></tr> <tr><td></td><td></td><td>SR</td><td>SUPPLY REGISTER</td></tr> <tr><td></td><td></td><td>STM</td><td>STATIC PRESSURE</td></tr> <tr><td></td><td></td><td>SUCT</td><td>SUCTION</td></tr> <tr><td></td><td></td><td>SUP</td><td>SUPPLY</td></tr> <tr><td></td><td></td><td>SW</td><td>SWITCH</td></tr> <tr><td></td><td></td><td>TD</td><td>TEMPERATURE DIFFERENCE/ΔT</td></tr> <tr><td></td><td></td><td>TEMP</td><td>TEMPERATURE</td></tr> <tr><td></td><td></td><td>TF</td><td>TRANSFER FAN</td></tr> <tr><td></td><td></td><td>TG</td><td>TRANSFER GRILLE</td></tr> <tr><td></td><td></td><td>TS</td><td>TRANSFER</td></tr> <tr><td></td><td></td><td>TSTAT</td><td>THERMOSTAT</td></tr> <tr><td></td><td></td><td>TRANSF</td><td>TRANSFER</td></tr> <tr><td></td><td></td><td>TSP</td><td>TOTAL STATIC PRESSURE</td></tr> <tr><td></td><td></td><td>UC</td><td>UNDERCUT</td></tr> <tr><td></td><td></td><td>UH</td><td>UNIT HEATER</td></tr> <tr><td></td><td></td><td>UV</td><td>UNIT VENTILATOR</td></tr> <tr><td></td><td></td><td>V</td><td>VENT</td></tr> <tr><td></td><td></td><td>VOL</td><td>VENT VOLT</td></tr> <tr><td></td><td></td><td>VAC</td><td>VACUUM</td></tr> <tr><td></td><td></td><td>VAV</td><td>VARIABLE AIR VOLUME</td></tr> <tr><td></td><td></td><td>VB</td><td>VACUUM BREAKER</td></tr> <tr><td></td><td></td><td>VD</td><td>VOLUME DAMPER</td></tr> <tr><td></td><td></td><td>VERT</td><td>VERTICAL</td></tr> <tr><td></td><td></td><td>VIB ISO</td><td>VIBRATION ISOLATION</td></tr> <tr><td></td><td></td><td>W</td><td>WATT</td></tr> <tr><td></td><td></td><td>WB</td><td>WET BULB</td></tr> <tr><td></td><td></td><td>WC</td><td>WATER COLUMN</td></tr> <tr><td></td><td></td><td>WD</td><td>WATER DRAIN</td></tr> <tr><td></td><td></td><td>WMS</td><td>WIRE MESH SCREEN</td></tr> <tr><td></td><td></td><td>WP</td><td>WEATHERPROOF (WATER TIGHT)</td></tr> <tr><td></td><td></td><td>WPD</td><td>WATER PRESSURE DROP</td></tr> <tr><td></td><td></td><td>WR</td><td>WATER RETURN</td></tr> <tr><td></td><td></td><td>WS</td><td>WATER SUPPLY</td></tr> <tr><td></td><td></td><td>WT</td><td>WEIGHT</td></tr> </table>	AD	ACCESS DOOR	HTR	HEATER	AD	AIR DEVICE	HVAC	HEATING, VENTILATING & AIR COND.	AF	AIR FILTER	HZC	HERTZ (FREQUENCY)	AFF	ABOVE FINISHED FLOOR	INTLK	INTERLOCK	AP	ACCESS PANEL	KW	KILOWATT	APD	AIR PRESSURE DROP	KWH	KILOWATT HOUR	ATC	AUTOMATIC TEMPERATURE CONTROL	LAT	LEAVING AIR TEMPERATURE	BDO	BACKDRIFT DAMPER	LB	POUNDS	BHP	BRAKE HORSEPOWER	LF	LINE FEET	BOD	BOTTOM OF DUCT	LVG	LEAVING	BTUH	BRITISH THERMAL UNIT/HOUR	LVR	LOW VOLT	CD	CEILING DIFFUSER	LWT	LEAVING WATER TEMPERATURE	CFM	CUBIC FEET PER MINUTE	MAU	MAKE UP AIR UNIT	CONN	CONNECTION	MV	MANUAL AIR VENT OR MV	CU FT	CUBIC FEET (FT ³)	MBH	THOUSANDS BTU	DB	DEGREE	MF	MAKE UP AIR FAN	DB	DRY BULB	ML	MAKE UP AIR LOUVER	DHC	DUCT HEATING COIL	MOD	MOTOR OPERATED DAMPER	DIFF	DIFFUSER	MTR	MOTOR	DISCH	DISCHARGE	MUA	MAKE UP AIR	DMPR	DAMPER	NC	NORMALLY CLOSED	EAT	ENTERING AIR TEMPERATURE	NC	NOISE CRITERIA	EDH	ELECTRIC DUCT HEATER	NO	NORMALLY OPEN	EF	EXHAUST FAN	CA	OUTSIDE AIR	EFF	EFFICIENCY	OBD	OPPOSED BLADE DAMPER	EG	EXHAUST GRILLE	PH	PHASE	DHC	ELECTRIC HEATING COIL	PM	PREVENTIVE MAINTENANCE	ER	EXHAUST REGISTER	PPM	PARTS PER MILLION	ESP	EXTERNAL STATIC PRESSURE	PRES	PRESSURE	ET	EXPANSION TANK	PSI	POUNDS PER SQUARE INCH	ELH	ELECTRIC UNIT HEATER	RA	RETURN AIR	EVAP	EVAPORATING	RAF	RETURN AIR FAN REGISTER	EWT	ENTERING WATER TEMPERATURE	REG	REGISTER	EXH	EXHAUST	REL	RELIEF	EXP	EXPANSION	RET	RETURN	F	FAN	RG	RETURN GRILLE	FA	FACE AREA	RH	RELATIVE HUMIDITY	FD	FIRE DAMPER	RHC	REHEAT COIL	FLA	FULL LOAD AMPS	RO	ROOF OPENING	FPF	FIBER PER FOOT	RPM	REVOLUTIONS PER MINUTE	FS	FEET PER SECOND	RR	RETURN REGISTER	FPS	FEET PER SECOND	RV	ROOF VENTILATOR	FT	FEET	SA	SOUND ATTENUATOR	GA	GAUGE	SA	SUPPLY AIR	GALV	GALVANIZED	SAF	SUPPLY AIR FAN	GV	GRAVITY VENTILATOR	SC	STEAM COIL	H	HUMIDIFIER	SD	SMOKE DAMPER	H	HUMIDIFIER	SD	SMOKE DETECTOR	HC	HEATING COIL	SF	SUPPLY FAN	HP	HORSEPOWER	S.F.	SAFETY FACTOR	HTG	HEATING	SG	SUPPLY GRILLE			SHG	SENSIBLE HEAT GAIN			SR	SUPPLY REGISTER			SR	SUPPLY REGISTER			STM	STATIC PRESSURE			SUCT	SUCTION			SUP	SUPPLY			SW	SWITCH			TD	TEMPERATURE DIFFERENCE/ΔT			TEMP	TEMPERATURE			TF	TRANSFER FAN			TG	TRANSFER GRILLE			TS	TRANSFER			TSTAT	THERMOSTAT			TRANSF	TRANSFER			TSP	TOTAL STATIC PRESSURE			UC	UNDERCUT			UH	UNIT HEATER			UV	UNIT VENTILATOR			V	VENT			VOL	VENT VOLT			VAC	VACUUM			VAV	VARIABLE AIR VOLUME			VB	VACUUM BREAKER			VD	VOLUME DAMPER			VERT	VERTICAL			VIB ISO	VIBRATION ISOLATION			W	WATT			WB	WET BULB			WC	WATER COLUMN			WD	WATER DRAIN			WMS	WIRE MESH SCREEN			WP	WEATHERPROOF (WATER TIGHT)			WPD	WATER PRESSURE DROP			WR	WATER RETURN			WS	WATER SUPPLY			WT	WEIGHT	<h4 style="text-align: center;">LIGHTING</h4> <p style="text-align: center;">FOR TYPE AND DESIGNATION REFER TO LUMINAIRE SCHEDULE</p> <p> </p> <p>NOTE: SWITCHES TO BE MOUNTED AT 4' AFF TO CENTERLINE. SWITCHES LOCATED ABOVE COUNTERTOPS SHALL BE MOUNTED AT 4" AFF TO CENTERLINE</p> <h4 style="text-align: center;">POWER</h4> <p> </p> <p>NOTE: RECEPTACLE MOUNTING HEIGHT IS TO THE CENTER OF THE DEVICE</p> <h4 style="text-align: center;">SYSTEMS</h4> <p> </p> <p>(*) MOUNTING HEIGHT MEASURED TO THE BOTTOM OF THE APPLIANCE WHERE MOUNTING HEIGHT IS NOT FEASIBLE DUE TO LOW CEILING, MOUNT WITHIN 6" OF CEILING</p> <h4 style="text-align: center;">SINGLE LINE DIAGRAMS</h4> <p> </p>	<ol style="list-style-type: none"> EACH CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS OF ALL TRADES REVIEWING ALL OF THE PROJECT REQUIREMENTS PRIOR TO BIDDING. DISCREPANCIES BETWEEN DOCUMENTS SHALL BE REPORTED AT THE TIME OF BID. VERIFY ALL FIELD CONDITIONS, ACCESS WAYS, DIMENSIONS, AND DETAILS IN THE FIELD PRIOR TO BID AND PRIOR TO FABRICATION. INCLUDE IN BID ALL WORK NECESSARY TO COVER COSTS RESULTING FROM FIELD CONDITIONS. ALL WORK SHALL BE IN CONFORMANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS ADOPTED BY MUNICIPAL, COUNTY, STATE AND FEDERAL AUTHORITIES, UTILITY COMPANIES, INSURANCE AGENCIES AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK. ALL WORK SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER SO THAT DISRUPTION TO THE AREAS INVOLVED IS KEPT TO A MINIMUM. CONTRACTOR SHALL GIVE OWNER A MINIMUM OF 5 WORKING DAYS NOTICE OF ANY AND ALL WORK THAT WILL INTERFERE WITH THE OWNER'S OPERATION SO A SCHEDULE SUITABLE TO THE OWNER CAN BE ARRANGED. IN ADDITION TO SPECIFICS AS MAY BE DEFINED HEREINAFTER THE CONTRACTOR SHALL PROTECT THE WORK SITE AND ALL HIS WORK AGAINST DAMAGE FROM ANY SOURCE (INCLUDING BUT NOT LIMITED TO WATER, DUST, FREEZING ETC.) UNTIL FINAL COMPLETION AND ACCEPTANCE BY THE OWNER. PRIOR TO DELIVERY OF MATERIALS TO THE SITE CONTRACTOR SHALL PROVIDE MATERIAL SAFETY DATA SHEETS FOR ALL ITEMS AND MATERIALS USED IN THE WORK. ELECTRICAL CONTRACTOR SHALL PROVIDE MOTOR STARTERS, DRIVES AND DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT SPECIFIED WITHOUT MOTOR STARTERS OR DISCONNECTS. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT ENVIRONMENTAL REGULATIONS. UNLESS OTHERWISE NOTED ALL PARTS, EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL BE ASME OR UL APPROVED. CONTRACTOR SHALL REMOVE AND REPLACE ALL CEILING AS REQUIRED FOR THE INSTALLATION OF THE NEW WORK. WHERE EXISTING WALLS, FLOORS OR CEILINGS ARE REMOVED OR PENETRATED, AND WHERE EXISTING END WALLS OF THE BUILDING ARE POINTS OF CONNECTION OF ADDITIONS, ALL SERVICES, PIPING, CONDUIT, CONTROL OR SWITCH DEVICES, LIGHTS, OR OTHER HVAC, PLUMBING, FIRE PROTECTION OR ELECTRICAL EQUIPMENT SHALL BE REMOVED OR RELOCATED WHERE THEY MUST REMAIN IN SERVICE, OR SERVE, AREAS BEYOND THE IMMEDIATE WORK CONTRACTOR SHALL FIELD VERIFY CONDITIONS AT THE SITE.
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ABBREVIATIONS

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WHERE EXISTING WALLS, FLOORS OR CEILINGS ARE REMOVED OR PENETRATED, AND WHERE EXISTING END WALLS OF THE BUILDING ARE POINTS OF CONNECTION OF ADDITIONS, ALL SERVICES, PIPING, CONDUIT, CONTROL OR SWITCH DEVICES, LIGHTS, OR OTHER HVAC, PLUMBING, FIRE PROTECTION OR ELECTRICAL EQUIPMENT SHALL BE REMOVED OR RELOCATED WHERE THEY MUST REMAIN IN SERVICE, OR SERVE, AREAS BEYOND THE IMMEDIATE WORK CONTRACTOR SHALL FIELD VERIFY CONDITIONS AT THE SITE. PRIOR TO DEMOLITION CONTRACTOR SHALL REVIEW WITH OWNER ALL MATERIALS TO BE REMOVED. SHOULD THE OWNER OPT TO KEEP ANY MATERIALS THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER. DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE AND BE CAPPED, PLUGGED OR SEALED AND THE SURROUNDING SURFACE SHALL BE REFINISHED IN AN APPROVED MANNER. MAINTAIN EXISTING UTILITIES INDICATED OR REQUIRED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN SCHEDULED WITH THE OWNER. DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY. REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES. PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN, TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK. PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS. TEMPORARY DUSTPROOF BARRIERS AND BARRICADES SHALL BE ERECTED WHERE REQUIRED FOR PROTECTION OF PERSONNEL, PROTECTION FROM DUST AND DIRT, FOR SECURITY, FIRE AND WEATHER PROTECTIVE REASONS. CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA OR THE OWNER'S INSURANCE UNDERWRITER. USE TEMPORARY ENCLOSURES, OR OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING TO LOWEST PRACTICAL LEVEL, COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION. ALL EXISTING EQUIPMENT REQUIRED TO BE REUSED SHALL BE CLEANED, RECONDITIONED, CALIBRATED AND ADJUSTED. IN ALL INSTANCES WHERE CONTRACTOR FINDS THAT EXISTING EQUIPMENT IS DEFECTIVE TO THE POINT WHERE IT CANNOT BE PROPERLY RESTORED AND WILL NOT OPERATE PROPERLY, HE SHALL REPORT THE SPECIFIC INSTRUMENTS OR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR DIRECTIONS. ELECTRICAL CONTRACTOR SHALL RING OUT AND IDENTIFY ALL CIRCUITS REMAINING IN CONTRACT AREA, AFTER DEMOLITION. REMOVE ALL CIRCUITS BACK TO POINT OF SOURCE. MARK PANEL CIRCUITS NO LONGER IN USE "SPARE". 		<table border="0"> <tr><td>ABV</td><td>ABOVE</td><td>L</td><td>LENGTH</td></tr> <tr><td>AFF</td><td>ABOVE FINISHED FLOOR</td><td>Lb</td><td>POUNDS</td></tr> <tr><td>AVG</td><td>AVERAGE</td><td>MAX</td><td>MAXIMUM</td></tr> <tr><td>BLW</td><td>BELOW</td><td>M.C.</td><td>MECHANICAL CONTRACTOR</td></tr> <tr><td>BSMT</td><td>BASEMENT</td><td>MECH</td><td>MECHANICAL</td></tr> <tr><td>CLG</td><td>CEILING</td><td>MFR</td><td>MANUFACTURER</td></tr> <tr><td>COL</td><td>COLUMN</td><td>MIN</td><td>MINIMUM</td></tr> <tr><td>CONC.</td><td>CONCRETE</td><td>MTD</td><td>MOUNTED</td></tr> <tr><td>CONTR.</td><td>CONTRACTOR</td><td>(N)</td><td>NOTED</td></tr> <tr><td>DA</td><td>DIAMETER</td><td>NA</td><td>NOT APPLICABLE</td></tr> <tr><td>DN</td><td>DOWN</td><td>NC</td><td>NOT IN CONTRACT</td></tr> <tr><td>DP</td><td>DEEP</td><td>NTS</td><td>NOT TO SCALE</td></tr> <tr><td>DWG.</td><td>DRAWING</td><td>O.C.</td><td>ON CENTER</td></tr> <tr><td>(E)</td><td>EXISTING</td><td>OD</td><td>OUTSIDE DIAMETER</td></tr> <tr><td>EA</td><td>EACH</td><td>OPG</td><td>OPENING</td></tr> <tr><td>EC</td><td>ELECTRICAL CONTRACTOR</td><td>PC</td><td>PLUMBING CONTRACTOR</td></tr> <tr><td>ELEC.</td><td>ELECTRIC</td><td>PCF</td><td>PER CIRCULAR FOOT</td></tr> <tr><td>EQUIP.</td><td>EQUIPMENT</td><td>(R)</td><td>REMOVE EXISTING</td></tr> <tr><td>(ER)</td><td>EXISTING TO BE RELOCATED</td><td>(RE)</td><td>RELOCATED EXISTING</td></tr> <tr><td>FL</td><td>FLOOR</td><td>SG FT</td><td>SQUARE FEET (FOOT)</td></tr> <tr><td>GAL</td><td>GALLONS</td><td>SPEC</td><td>SPECIFICATION</td></tr> <tr><td>G.C.</td><td>GENERAL CONTRACTOR</td><td>STL</td><td>STEEL</td></tr> <tr><td>HR</td><td>HORIZONTAL</td><td>TYP.</td><td>TYPICAL</td></tr> <tr><td>HR</td><td>HOUR</td><td>NC</td><td>NOT TO SCALE</td></tr> <tr><td>HT</td><td>HEIGHT</td><td>VERT.</td><td>VERTICAL</td></tr> <tr><td>ID</td><td>INSIDE DIAMETER</td><td>W</td><td>WIDTH</td></tr> <tr><td>IN</td><td>INCH</td><td>WT</td><td>WEIGHT</td></tr> <tr><td>INCL.</td><td>INCLUDING</td><td></td><td></td></tr> </table>	ABV	ABOVE	L	LENGTH	AFF	ABOVE FINISHED FLOOR	Lb	POUNDS	AVG	AVERAGE	MAX	MAXIMUM	BLW	BELOW	M.C.	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KYLE O'CONNOR, PROJECT MANAGER

SCALE FOR CONSULTANT RECOGNITION

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA, PENNSYLVANIA

PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

DRAWING TITLE
MPE COVER SHEET

PROJECT NO. 13-21-4643-01
DATE 11/08/22
SCALE NOTED
DRAWN WFW
CHECKED WFW
BHA No.: 20-150

MPE1.1

ALL DIMENSIONS AND CONNECTIONS SHALL BE SHOWN UNLESS OTHERWISE NOTED ON THE WORK.

DRAWING SPECIFICATIONS - ELECTRICAL (DIVISION 16)

SECTION 1601 - SUMMARY OF THE WORK

- 1. WORK UNDER DIVISION 16 SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
A. UPGRADE ELECTRIC UTILITY SERVICE, INCLUDING NEW MAIN SERVICE PANEL
B. POWER TO NEW WASHER, DRYING CABINETS, AND HVAC EQUIPMENT
C. RELOCATION OF EXISTING LIGHTS, INCLUDING NEW BRANCH CIRCUIT AND PROVISION OF NEW SWITCH
D. NEW WIRING DEVICES

SECTION 1610 - BASIC ELECTRICAL REQUIREMENTS

- 1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL WORK AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND SERVICES NECESSARY FOR REMOVAL OR RELOCATION OF EXISTING ELECTRICAL EQUIPMENT AS REQUIRED BY THE PROJECT.
3. TEST AND OPERATE ALL SYSTEMS TO DEMONSTRATE TO THE OWNER, OR HIS DESIGNATED REPRESENTATIVE, THAT THE INSTALLATION OF THESE SYSTEMS CONFORM TO DESIGN INTENT.
4. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE OWNER, LOCAL, STATE AND FEDERAL LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THE WORK SHOWN OR SPECIFIED, AND WITH THE RULES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE OWNERS UNDERWRITER, AND ALL PUBLIC UTILITIES HAVING CONNECTION WITH ANY OF THE VARIOUS SYSTEMS HEREIN SPECIFIED. WHERE APPLICABLE, ALL EQUIPMENT SHALL CARRY THE LABEL OF THE UNDERWRITERS LABORATORIES, INC.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY NOTICES, OBTAIN PAY FOR AND DELIVER ALL PERMITS, CERTIFICATES OF INSPECTION, AND PAY ALL COSTS, REQUIRED BY THE AUTHORITIES HAVING JURISDICTION, DELIVER ALL PERMITS, CERTIFICATES AND APPROVALS TO THE OWNERS AGENT PRIOR TO FINAL ACCEPTANCE OF THE WORK. THE CONTRACTOR MUST OBTAIN NECESSARY DRAWINGS, PREPARE DOCUMENTS AND MAKE APPLICATIONS FOR EACH REQUIRED PERMIT AND INSPECTION, PRIOR TO COMMENCING WORK TO AVOID DELAYS DURING CONSTRUCTION.
6. INDEPENDENT INSPECTION AGENCY CERTIFICATES SHALL BE FURNISHED FOR ALL ELECTRICAL WORK. ALL CERTIFICATES SHALL BE IN DUPLICATE AND SHALL BE DELIVERED TO THE OWNERS AGENT AND SHALL BECOME THE PROPERTY OF THE OWNER.
7. BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO PAY FOR ALL COSTS THAT MAY BE INCURRED DUE TO THE RELOCATION, REMOVAL OR MODIFICATION OF ANY PART OF THE EXISTING ELECTRICAL WORK THAT MAY BE REQUIRED, OR ANY CONDITION THAT MAY AFFECT THE COST OF INSTALLING THE NEW WORK.
8. IT IS THE INTENTION OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR CLEAR FINISHED WORK, TESTED AND READY FOR OPERATION. ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED OR SHOWN, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK, THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS.
9. SUBMIT DIGITAL FILES OF SHOP DRAWINGS IN PDF FORMAT. SHOP DRAWINGS SHALL INCLUDE PLANS, ELEVATIONS, SECTIONS, MOUNTING DETAILS OF COMPONENT PARTS, POINT TO POINT INTERCONNECTION DIAGRAMS, ELEMENTARY DIAGRAMS, SINGLE LINE DIAGRAMS AND ANY OTHER DRAWINGS NECESSARY TO SHOW THE FABRICATION AND CONNECTION OF THE COMPLETE ITEM OR SYSTEM.
10. RECORD DRAWINGS SHALL BE KEPT IN THE CONTRACTORS JOB SITE OFFICE FROM THE BEGINNING OF THE WORK, SHALL BE MAINTAINED DAILY AND SHALL BE PRODUCED FOR INSPECTION BY THE OWNER OR HIS AGENTS UPON DEMAND, AT THE COMPLETION OF THE PROJECT, AND BE PRINTED AND SET ASIDE TOWARD THE OWNER'S AGENT WITHIN 30 DAYS OF SYSTEM ACCEPTANCE. THE RECORD DRAWINGS SHALL CONSIST OF A SEPARATE SET OF WHITE PRINTS OF THE CONTRACT DRAWINGS ON WHICH SHALL BE REPRODUCED IN INK OR COLORED PENCIL, THE FOLLOWING:
A. DIMENSIONED LOCATIONS OF CONDUITS BURIED BELOW OR CAST INTO CONCRETE FLOOR SLABS
B. DIMENSIONED LOCATIONS OF CONDUITS OUTSIDE THE BUILDING
C. LUMINAIRE ARRANGEMENTS, IF DIFFERENT FROM CONTRACT DRAWINGS
D. LOCATIONS OF ELECTRIC PANELS, MOTOR STARTERS, WALL MOUNTED EQUIPMENT AND THE LIKE, IF DIFFERENT FROM CONTRACT DRAWINGS
E. ALL WORK ADDED TO THE CONTRACT BY LAYOUT DRAWINGS, FIELD SKETCHES, ADDENDUM OR CHANGE ORDER.

- 11. BEFORE COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL FURNISH THREE COPIES OF MANUALS COVERING IN DETAIL ALL REQUIRED INSTRUCTIONS FOR THE OPERATION OF THE SYSTEMS PROVIDED.
12. FURNISH ALL LABOR REQUIRED BY THE OWNER, HIS AGENT, AND/OR INSPECTION AGENCIES IN MAKING EXAMINATION OF WORK DURING THE COURSE OF CONSTRUCTION.
13. THE CONTRACTOR SHALL FURNISH A WRITTEN WARRANTY FOR THIS INSTALLATION, SUBSTANTIALLY STATING THAT ALL MATERIALS, EQUIPMENT, FIXTURES AND APPURTENANCES AND THE SYSTEMS WHICH THEY COMPRISE ARE FREE FROM INHERENT DEFECTS OR FLAWS IN WORKMANSHIP OR OPERATION, AND ARE FUNCTIONING PROPERLY AND CAPABLE OF PROVIDING SATISFACTORY OPERATION IN ACCORDANCE WITH DESIGN CONDITIONS. ANY DEFECTS IN WORKMANSHIP, DEFECTIVE MATERIALS, MALFUNCTION OF EQUIPMENT OR UNSATISFACTORY PERFORMANCE, AND ALL OTHER WORK DAMAGED THEREBY, SHALL BE REPAIRED, REPLACED OR OTHERWISE REMEDIED WITHOUT EXPENSE TO THE OWNER. SUCH REPAIRS OR REPLACEMENTS SHALL BE MADE WITH REASONABLE TIME AND AT THE CONVENIENCE OF THE OWNER. SUCH WARRANTY SHALL BE IN EFFECT FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OF THE SYSTEMS AS A WHOLE.
14. MATERIAL OR EQUIPMENT SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR CATALOG NUMBER, ARE DESIGNED TO ESTABLISH STANDARDS OF DESIRED QUALITY, STYLE, PERFORMANCE, ELECTRICAL, MECHANICAL, AND PHYSICAL CHARACTERISTICS, AND DIMENSIONS. SUBSTITUTION OF ANY ITEMS SO SPECIFIED WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE OWNERS AGENT, WHERE THE SUBSTITUTION REQUIRES ANY REDESIGN OR RELOCATION OF THE STRUCTURES, FOUNDATIONS, PARTITIONS, PIPING, RACEWAYS, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL, STRUCTURAL OR ARCHITECTURAL WORK. ALL SUCH REDESIGN AND ALL THE NEW DRAWINGS AND DETAILS REQUIRED SHALL BE PREPARED BY THE CONTRACTOR AT HIS OWN EXPENSE AND SUBMITTED FOR THE APPROVAL OF THE OWNERS AGENT. ALL SUCH ADDITIONAL WORK AND ANY ADDITIONAL EQUIPMENT FOR THESE SYSTEMS SHALL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR.
15. THE CONTRACTOR SHALL PROVIDE, UPON REQUEST, COPIES OF MATERIAL SAFETY DATA SHEETS FOR ANY MATERIAL OR PRODUCT USED IN THE WORK AND NOT SUPPLIED BY THE OWNER. MSDS SHEETS SHALL BE PROVIDED PRIOR TO DELIVERY OF MATERIALS TO THE JOB SITE.
16. WORKMANSHIP SHALL BE FIRST CLASS IN EVERY RESPECT AND SHALL BE PERFORMED BY TRADESMAN SKILLED IN THE PARTICULAR AREA OF THE WORK AND IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE OR PUBLIC UTILITY LAWS, ORDINANCES OR REGULATIONS.
17. THE CONTRACTOR SHALL EFFECTIVELY PROTECT THE EXISTING BUILDING, ITS CONTENTS AND ALL HIS NEW WORK AGAINST DAMAGE FROM ANY SOURCE RELATED TO THIS CONTRACT UNTIL FINAL COMPLETION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED WORK AT HIS EXPENSE AND TO THE SATISFACTION OF THE OWNERS AGENT.
18. AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL AND RUBBISH CAUSED BY AGENTS AND EMPLOYEES OF THE CONTRACTOR.
19. THE CONTRACTOR SHALL NOT PERFORM ANY FUNCTIONS WHICH WILL INTERRUPT MECHANICAL OR ELECTRICAL SERVICES WITHOUT PRIOR APPROVAL OF THE OWNER. NECESSARY INTERRUPTIONS SHALL BE REVIEWED, SCHEDULED AND APPROVED BY THE OWNER, DURING PARTIAL OR FULL OCCUPANCY OF THE FACILITY. ALL WORK SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER SO THAT DISRUPTION TO THE AREAS INVOLVED IS KEPT TO A MINIMUM. THE CONTRACTOR SHALL GIVE THE OWNERS A MINIMUM OF FIVE WORKING DAYS NOTICE OF ANY WORK THAT WILL INTERFERE WITH THE OWNERS OPERATION SO A SCHEDULE SUITABLE TO THE OWNER CAN BE ARRANGED. ANY INCIDENTAL INTERRUPTIONS TO SERVICES SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.
20. PROVIDE SCAFFOLDING, LADDERS, RIGGING, HOISTING AND ALL OTHER EQUIPMENT REQUIRED FOR THE INSTALLATION OF THE WORK.
21. ESTABLISH PASSAGE CLEARANCES REQUIRED TO DELIVER, INSTALL AND ERECT ALL REQUIRED EQUIPMENT. EQUIPMENT AND SYSTEMS MUST BE ALTERED TO PROVIDE PASSAGE OF EQUIPMENT. THE CONTRACTOR SHALL RESTORE STRUCTURES, EQUIPMENT AND SYSTEMS TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.
22. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL MAKE A THOROUGH INSPECTION OF ALL THE ELECTRICAL WORK. AT THE FINAL INSPECTION, ALL SYSTEMS MUST BE 100 PERCENT COMPLETE AND TESTS SHALL BE PERFORMED IN STRICT COMPLIANCE WITH EACH EQUIPMENT MANUFACTURERS STANDARD TEST PROCEDURES AND THE ACCEPTANCE TEST STANDARDS OF THE INTERNATIONAL ELECTRICAL TESTING ASSOCIATION. ALL INSTRUMENTS, METERS, WIRING, PERSONNEL, ETC., REQUIRED FOR TESTING SHALL BE INCLUDED UNDER THIS CONTRACT.
23. AFTER ALL ADJUSTMENTS AND TESTS HAVE BEEN COMPLETED, CLEAN, DUST, WASH AND VACUUM, ETC., ALL PARTS OF INSTALLATION, INCLUDING INTERIORS OF BOXES, CABINETS AND EQUIPMENT ENCLOSURES, CLEAN LIGHTING FIXTURE LENS AND REFLECTORS WITH ANTI-STATIC DETERGENT TO ENSURE RATED OUTPUT.
24. PROVIDE SERVICES OF MANUFACTURERS FACTORY ENGINEERS TO SUPERVISE INSTALLATION, FINAL CONNECTIONS AND TESTING. PROVIDE SERVICES OF FACTORY ENGINEERS OR REPRESENTATIVES WHO WILL GIVE FULL INSTRUCTIONS AND DEMONSTRATIONS IN THE OPERATION AND MAINTENANCE OF ALL THE ELECTRICAL SYSTEMS AND EQUIPMENT INSTALLED TO THE DESIGNATED REPRESENTATIVE OF THE OWNER.

SECTION 1610 - CONDUIT SYSTEMS

- 1. INSTALL ALL WIRE AND CABLES IN ELECTRICAL METALLIC TUBING UNLESS OTHERWISE SPECIFIED OR INDICATED BY THE DRAWINGS. ELECTRICAL METALLIC TUBING (EMT) SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH FS WWC 363, ANSI C82 AND UL 797. FITTINGS 1-1/4 INCH AND SMALLER SHALL BE COMPRESSION TYPE AND 1-1/2 INCH AND LARGER SHALL BE SET SCREW TYPE. ALL FITTINGS SHALL BE OF WROUGHT STEEL CONSTRUCTION.
2. RIGID ALUMINUM CONDUIT WITH THREADED FITTINGS SHALL BE USED FOR ALL CONDUIT INSTALLATIONS EXPOSED TO THE WEATHER. RIGID ALUMINUM CONDUIT SHALL BE 6063 ALLOY, T4 TEMPER, CONFORMING TO FS WWC 540, ANSI C82.5 AND UL 6 FITTINGS SHALL BE THREADED TYPE OF ALUMINUM CONSTRUCTION.
3. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR CONNECTION TO MOTORS AND OTHER EQUIPMENT WHICH PRODUCES OR TRANSMITS VIBRATION OR NOISE, UNLESS THE MOTORS OR EQUIPMENT ARE MOUNTED ABOVE SUSPENDED CEILING. PROVIDE SUITABLE BONDING JUMPER FOR ALL CONNECTIONS. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE CONSTRUCTED OF SINGLE STRIP FLEXIBLE CONTROLER, INTERLOCKED AND DOUBLE WRAPPED STEEL OR GALVANIZED INSIDE AND OUTSIDE AND COATED WITH LIQUID-TIGHT JACKET OF FLEXIBLE POLYVINYL CHLORIDE (PVC). FITTINGS SHALL BE LIQUID-TIGHT COMPRESSION TYPE.
4. FLEXIBLE METALLIC CONDUIT (MM, 1/2-1/4 INCH TRADE SIZE) SHALL BE USED FOR CONNECTION FROM A JUNCTION BOX TO LIGHTING FIXTURES, MOTORS AND SIMILAR EQUIPMENT MOUNTED IN A SUSPENDED CEILING, AS WELL AS FOR CONNECTION TO TRANSFORMERS. FLEXIBLE METAL CONDUIT SHALL BE FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED ZINC-COATED STRIP STEEL CONFORMING TO FS WWC 586 AND UL 1. FITTINGS SHALL BE OF THE THREADLESS, HINGED CLAMP TYPE.
5. RIGID STEEL CONDUIT SHALL BE USED WHERE CONDUIT IS ENCASED IN THE BUILDING'S POURED CONCRETE CONSTRUCTION. RIGID STEEL CONDUIT SHALL BE HOT DIP GALVANIZED CONFORMING TO FS WWC 581, ANSI C82.1 AND 1/4 FITTINGS SHALL BE THREADED TYPE OF GALVANIZED MALLEABLE IRON CONSTRUCTION.
6. HEAVY WALL PVC CONDUIT SHALL BE USED FOR ALL GROUNDING CONDUCTORS AND OTHER SPECIFIC USES AS INDICATED BY THE DRAWINGS. HEAVY WALL PVC CONDUIT SHALL BE SCHEDULE 40, 90 DEGREE, E.C. J, A, RATED, CONSTRUCTED OF POLYVINYL CHLORIDE AND CONFORMING TO NEMA 1-2 FOR DIRECT BURIAL OR NORMAL ABOVE GROUND USE. FITTING SHALL BE OF THE SOLVENT WELDED TYPE. CONDUITS SHALL BE SUPPORTED WITH HORIZONTAL SPACERS.
7. MINIMUM SIZE CONDUIT UNLESS OTHERWISE INDICATED SHALL BE 3/4 INCH TRADE SIZE. ALL CONDUITS WHICH ARE TO REMAIN EMPTY SHALL BE PROVIDED WITH A NYLON PULL LINE. CONDUITS SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE AND SHALL NOT BE ATTACHED TO THE SUPPORT SYSTEMS PROVIDED BY OTHER TRADES UNLESS SPECIFICALLY INDICATED.
8. PROVIDE SLEEVES FOR ALL CONDUITS PASSING THROUGH FLOOR SLABS AND WALLS. THE ANNULAR SPACE BETWEEN THE WALL AND THE SLEEVE SHALL BE KEPT TO A MINIMUM AND FILLED WITH FIRE STOP MATERIALS. SLEEVES SHALL BE NOMINALLY 1/4 INCH TRADE SIZE LARGER AND CONSTRUCTED OF THE SAME MATERIAL AS THE CONDUIT BEING INSTALLED.

SECTION 1612 - WIRE AND CABLES (600 VOLT AND BELOW)

- 1. WIRE AND CABLES FOR FEEDER AND BRANCH CIRCUITS SHALL BE SINGLE ANNEALED STRANDED COPPER CONDUCTORS WITH CONDUCTIVITY OF NOT LESS THAN 98 PERCENT AT 20 DEGREES C. WIRE AND CABLE SHALL BEAR THE UL LABEL AND SHALL MEET OR EXCEED THE REQUIREMENTS OF IEEE-ANEMA STANDARDS 5-19-81 AND ASTM 1-132.
2. WIRE SIZES SHALL GENERALLY BE AS FOLLOWS:
A. CONTROL AND INTERLOCK WIRING NO. 14 AWG
B. BRANCH CIRCUIT AND FEEDER WIRING NO. 12 AWG AND LARGER
3. WIRE AND CABLE INSULATION SHALL BE AS FOLLOWS:
A. CONDUCTORS SIZE NO. 14 AWG THROUGH NO. 40 AWG SHALL BE 600 VOLT TYPE THIN WALL RAYON AND WET LOCATIONS WITH A MAXIMUM OPERATING TEMPERATURE OF 75 DEGREES C.
B. CONDUCTORS SIZE 250 KCMIL AND LARGER SHALL BE 600 VOLT TYPE THIRTYTHIN OR XHHW FOR DRY AND WET LOCATIONS WITH A MAXIMUM OPERATING TEMPERATURE OF 90 AND 75 DEGREES C, RESPECTIVELY.
4. FOR CONVENIENCE IN TESTING AND MAINTENANCE ALL SECONDARY CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH THE ESTABLISHED BUILDING STANDARD. CONTROL CIRCUIT WIRING SHALL HAVE SEPARATED IDENTIFYING COLORS OR MARKERS.
5. METAL CLAD CABLE (TYPE MC) SHALL BE PERMISSIBLE FOR INSTALLATION OF INDOOR BRANCH CIRCUITS NOT MORE THAN 30 AMPERES ABOVE ACCESSIBLE CEILING AND IN HOLLOW DRYWALL PARTITIONS, WITHOUT BEING INSTALLED IN RACEWAYS, IF PERMISSIBLE BY CODE. TYPE MC CABLES SHALL NOT BE INSTALLED EXPOSED, INCLUDING IN ELECTRICAL CLOSETS. TYPE MC CABLE SHALL BE SUPPORTED AND SECURED NOT EXCEEDING EVERY 6 FEET, AND SHALL BE SECURED WITHIN 12 INCHES OF EVERY BOX, CABINET OR FITTING FOR CABLES TYPE MC CABLE SHALL NOT BE USED IN HEALTH CARE FACILITIES. METAL CLAD CABLE (TYPE MC) SHALL BE COPPER, MULTI CONDUCTOR TYPE, WITH NO MORE THAN EIGHT CONDUCTORS. THE INTERLOCKING SHEATH SHALL BE OF EITHER GALVANIZED STEEL OR ALUMINUM. CONDUCTORS SHALL BE SOFT ANNEALED COPPER, MEETING ASTM B3 AND STRANDED AS PER ASTM B8. TYPE MC CABLE SHALL BE UL LABELED. THE GROUNDING CONDUCTOR SHALL BE INSULATED AND SHALL BE ROUTED WITH THE CIRCUIT CONDUCTORS.
6. PROVIDE UL LABELED CONNECTORS OF AMPACITY RATINGS AND TYPES FOR APPLICATIONS INDICATED:
A. CONNECTIONS FOR WIRE SIZES NO. 14 AWG THROUGH NO. 10 AWG SHALL BE MADE WITH #4 SCOTCHLOK SPRING CONNECTORS
B. CONDUCTORS NO. 8 AWG AND LARGER SHALL BE SPLICED AND TAPPED WITH COLOR KEVED WROUGHT COPPER COMPRESSION CONNECTORS AS MANUFACTURED BY THOMAS & BETTS. THE MANUFACTURERS RECOMMENDED TOOLING SHALL BE USED FOR INSTALLATION. LONG BARREL SELECTIVE TWO HOLE LUGS AND "C" TYPE CONNECTORS SHALL BE USED. SPlice AND TAP CONNECTORS SHALL BE COMPATIBLE WITH CONDUCTOR MATERIAL.
7. UNLESS SPECIFICALLY INDICATED OTHERWISE, EACH SINGLE PHASE BRANCH CIRCUIT SHALL CONSIST OF INSULATED GROUND WIRE CONDUCTOR AND A DEDICATED NEUTRAL CONDUCTOR.
8. PROVIDE A SEPARATE "GREEN" INSULATED GROUND WIRE IN EACH FEEDER, BRANCH CIRCUIT AND OTHER CONDUITS CONTAINING CURRENT CARRYING CONDUCTORS.

SECTION 1615 - ELECTRICAL BOXES AND FITTINGS

- 1. OUTLET BOXES SHALL BE CONSTRUCTED OF GALVANIZED FLAT ROLLED SHEET STEEL OF SHAPES AND SIZES SUITABLE FOR INSTALLATION OF WIRING DEVICES. PROVIDE BOXES WITH THREADED SCREW HOLES, WITH CORROSION-RESISTANT COVER AND GROUNDING SCREWS FOR FASTENING SURFACE AND DEVICE TYPE BOX COVERS AND/OR EQUIPMENT TYPE GROUNDING. OUTLET BOX ACCESSORIES SHALL BE PROVIDED AS REQUIRED FOR EACH INSTALLATION.
2. JUNCTION AND PULL BOXES SHALL BE CONSTRUCTED OF GALVANIZED COLOR-GAUGE SHEET STEEL. TYPES AND SIZES SUITABLE FOR TYPES, SHAPES AND SIZES TO SUIT EACH RESPECTIVE LOCATION AND INSTALLATION. BOXES SHALL BE OF RIVETED OR WELDED CONSTRUCTION AND SHALL HAVE PLAIN MACHINE SCREW ATTACHED COVERS.

SECTION 1614 - WIRING DEVICES

- 1. GROUND FAULT DUPLEX RECEPTABLES SHALL BE SPECIFICATION GRADE, BROWN IN COLOR, 3-POLE, 3-WIRE GROUNDING TYPE, RATED 20 AMPERES, 120 VOLTS, NEMA CONFIGURATION 3-20R, HUBBELL GF 582, OR APPROVED EQUAL.
2. SINGLE-POLE TOGGLE SWITCHES SHALL BE SPECIFICATION GRADE, BROWN IN COLOR QUIET TYPE RATED 20 AMPERES, 120-277 VOLTS, 60 HERTZ, HUBBELL 1221, OR APPROVED EQUAL.
3. WALL PLATES SHALL BE FOR SINGLE WIRING DEVICES OF TYPES, SIZES AND WITH GANDING AND CUTOUPS AS REQUIRED. WALL PLATES SHALL BE .025 GAUGE THICK, TYPE 302 SATIN FINISHED STAINLESS STEEL.
4. PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR CONNECTION FOR ALL WIRING DEVICES, UNLESS OTHERWISE INDICATED.
5. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING FOR ELECTRICAL CONTINUITY AND FOR SHORT CIRCUITS. ENSURE PROPER POLARITY OF CONNECTIONS IS MAINTAINED.

SECTION 1617 - DISCONNECT SWITCHES

- 1. PROVIDE SURFACE MOUNTED, HEAVY-DUTY TYPE, SHEET-STEEL ENCLOSED SAFETY SWITCHES, OF TYPES, SIZES AND ELECTRICAL CHARACTERISTICS INDICATED. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK TYPE CONSTRUCTED SO THAT SWITCH BLADES ARE VISIBLE IN OFF POSITION WITH COVER OPEN, EQUIP WITH OPERATING HANDLE WHICH IS INTEGRAL PART OF ENCLOSURE BASE AND WHOSE OPERATING POSITION IS EASILY RECOGNIZABLE, AND IS PULL-OFFABLE IN THE ON OR OFF POSITION. CONSTRUCT CURRENT CARRYING PARTS OF HIGH-CONDUCTIVITY COPPER, WITH SILVER-TUNGSTEN TYPE SWITCH CONTACTS AND POSITIVE-PRESSURE-TYPE REINFORCED FUSE CLIPS. SWITCH ENCLOSURES GENERALLY SHALL BE NEMA TYPE 1 AND 3R FOR RAIN-TIGHT CONSTRUCTION.
2. PROVIDE FUSES FOR SAFETY SWITCHES, AS RECOMMENDED BY SWITCH MANUFACTURER, OR CLASSES, TYPES AND RATINGS NEEDED TO FULLFILL ELECTRICAL REQUIREMENTS FOR SERVICE INDICATION.

SECTION 1619 - SUPPORTING DEVICES

- 1. PROVIDE SUPPORTING DEVICES OF TYPES, SIZES AND MATERIALS INDICATED, HAVING THE FOLLOWING CONSTRUCTION FEATURES:
A. CLEVIS HANGERS SHALL BE USED FOR SUPPORTING 2-INCH AND LARGER CONDUIT AND SHALL BE CONSTRUCTED OF GALVANIZED STEEL WITH 1/2-INCH DIAMETER HOLE FOR ROUND STEEL ROD.
B. ONE-HOLE CONDUIT STRAPS SHALL BE USED FOR SUPPORTING 3/4-INCH TO 1-1/2-INCH CONDUIT AND SHALL BE CONSTRUCTED OF GALVANIZED STEEL.
C. TWO-HOLE CONDUIT STRAPS SHALL BE USED FOR SUPPORTING CONDUIT ON STEEL RACKS.
2. PROVIDE STEEL ANCHORS OF TYPES, SIZES AND MATERIALS REQUIRED FOR THE EQUIPMENT BEING SUPPORTED.
3. PROVIDE U-CHANNEL, STRUT SYSTEM FOR SUPPORTING ELECTRICAL EQUIPMENT TO GAUGE HOT DIP GALVANIZED STEEL, OF TYPES AND SIZES INDICATED AND WITH THE CONDUIT CLAMPS, CONDUIT HANGERS AND OTHER FITTINGS WHICH MATE AND MATCH WITH U-CHANNEL.
4. INSTALL HANGERS, SUPPORTS, CLAMPS AND ATTACHMENTS TO SUPPORT PIPING PROPERLY FROM BUILDING STRUCTURE. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL CONDUITS TO BE SUPPORTED TOGETHER ON TRAPEZE TYPE HANGERS WHERE POSSIBLE. INSTALL SUPPORTS WITH SPACINGS INDICATED AND IN COMPLIANCE WITH NEC REQUIREMENTS.
5. NO MINERALLAC "SFFEY" TYPE CONDUIT SUPPORTS SHALL BE INSTALLED EXPOSED BELOW 6' 4" A.F.F. USE ONE-HOLE STRAPS INSTEAD.

SECTION 1619 - ELECTRICAL IDENTIFICATION

- 1. PANELBOARDS MOTOR STARTERS AND SIMILAR ELECTRICAL ENCLOSURES SHALL BE IDENTIFIED BY NAMEPLATES SHOWING THE EQUIPMENT IDENTIFICATION NUMBER, VOLTAGE AND FEEDER OR BRANCH CIRCUIT NUMBERS. (E.G. PANEL LP-1 - 02V/30 1/2 1S - FOR 1-5 NAMEPLATES GENERALLY SHALL BE CUSTOM TWO-TONE LAMINATED PLASTIC WITH BEVELLED EDGES. NAMEPLATES, UNLESS OTHERWISE INDICATED, SHALL BE WHITE LETTERS ON BLACK BACKGROUND.
2. CONDUITS SHALL BE IDENTIFIED IN EACH ROOM AND 50 FOOT ON CENTERS ON OPEN AREAS BY VOLTAGE AND FEEDER NUMBER (E.G. FOR 1-5, 208/120 VOLTS). CONDUIT MARKERS SHALL BE STANDARD PRE-PRINTED FLEXIBLE PLASTIC SHEET MATERIAL OR SELF-ADHERING VINYL LABELS.
3. FEEDER CONDUCTORS IN EACH PULL BOX AND IDENTIFIED WITH A PAPER TAG AS TO NUMBER, VOLTAGE AND CABLE SIZE (E.G. FOR 1-5, 208/120 VOLTS AND 250 MCM), BRANCH CIRCUITS SHALL BE IDENTIFIED WITH A PAPER TAG IN EACH JUNCTION AND OUTLET BOX BY PANEL AND CIRCUIT NUMBER (E.G. PNL LP-5 - CIRCUIT 3).

SECTION 1619 - PANELBOARDS (600A OR BELOW)

- 1. PANELBOARDS SHALL BE NEMA 1 FOR SURFACE OR RECESSED MOUNTING, CIRCUIT BREAKER TYPE. IN A SINGLE WITH FACTORY MOUNTED CIRCUIT BREAKERS SHALL CONFORM TO STANDARDS ESTABLISHED BY UNDERWRITERS LABORATORIES, INC., AND REQUIREMENTS OF NEG AND SHALL BEAR THE UL LABEL, UNLESS OTHERWISE INDICATED. PANELBOARDS SHALL BE MOUNTED 6 FEET TO THE TOP OF THE CABINET.
2. EACH PANEL BOARD SHALL BE PROVIDED WITH AN INSULATED NEUTRAL BUS AND A GROUND BUS BONDED TO THE PANEL BACKBOX. NEUTRAL AND GROUND BUS SHALL BE READY IDENTIFIED AND SHALL BE PROVIDED WITH SCREW TYPE TERMINALS. ALL BUS BARS SHALL BE ELECTRICAL GRADE COPPER. THE MAIN BUS BRACING SHALL BE EQUAL OR GREATER THAN THE INTERRUPTING CURRENT RATING CALLED FOR BY THE DRAWINGS.
3. EACH PANEL SHALL BE EQUIPPED WITH A TYPED PRINTED DIRECTORY, INDICATING PLAINLY WHAT EACH BRANCH CIRCUIT OF THE PANEL CONTROLS. THE DIRECTORY SHALL BE PLACED IN A CLEAR PLASTIC PROTECTIVE ENVELOPE AND FASTENED TO THE INSIDE OF THE DOOR.
4. BRANCH CIRCUIT PROTECTION DEVICES SHALL BE MOLDED CASE CIRCUIT BREAKERS WITH QUICK-MAKE, QUICK-BREAK TOGGLE MECHANISM. INVERSE TIME DELAY OVERLOAD AND INSTANTANEOUS SHORT CIRCUIT PROTECTION BY MEANS OF THERMAL MAGNETIC ELEMENT. AUTOMATIC TRIPPING SHALL BE INDICATED BY A HANDLE POSITION BETWEEN THE MANUAL "OFF" AND "ON" POSITIONS. BREAKERS SHALL BE "BOLT-ON" INTERCHANGEABLE TYPE AND CAPABLE OF BEING OPERATED IN ANY POSITION. CIRCUIT BREAKERS SHALL BE DESIGNED TO CARRY THEIR FULL RATING CONTINUOUSLY IN AMBIENT TEMPERATURE OF 40 DEGREES C. TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIP HANDLE. ALL LIGHTING BRANCH CIRCUIT BREAKERS SHALL BE SWITCH RATED. PANELBOARDS SHALL HAVE MAIN AND BRANCH CIRCUIT BREAKERS AS INDICATED ON THE DRAWINGS, WHERE PANELS HAVE SPACES FOR FUTURE BREAKERS, THE SPACE SHALL INCLUDE COMPLETE BUSWORK, HARDWARE, APPURTENANCES, ETC., TO ACCOMMODATE FUTURE BREAKERS. PROVIDE LOCKING DEVICES FOR CIRCUIT BREAKERS WHICH ARE TO BE KEPT IN LOCKED POSITION.
5. PANEL FRONTS SHALL BE PROVIDED WITH A CONTINUOUS HINGE ALONG THE LEFT SIDE FOR EASY ACCESS TO THE WIRE COMPARTMENT (DOOR WITH DOOR CONSTRUCTION).

SECTION 1648 - MOTOR STARTERS

- 1. PROVIDE COMBINATION CIRCUIT BREAKERMAGNETIC MOTOR STARTER FOR EQUIPMENT REQUIRING MANUAL AND AUTOMATIC CONTROL. STARTERS GENERALLY SHALL BE FULL VOLTAGE, NON-REVERSING, UNITS CONSISTING OF A FUSED DISCONNECT (THERMAL DISCONNECT), MOTOR CIRCUIT PROTECTOR, HORSEPOWER RATED CONTACTOR AND THERMAL OVERLOAD RELAY MOUNTED IN A NEMA TYPE I COMMON ENCLOSURE. STARTER UNITS SHALL BE FURNISHED WITH EXTERNAL OPERATING HANDLE, CONTROL CIRCUIT TRANSFORMER (120V, SECONDARY), PILOT LIGHT, THERMAL OVERLOADS AND, UNLESS OTHERWISE INDICATED, A HANDLE-OFF AUTOMATIC SELECTOR SWITCH. AUXILIARY CONTACTS SHALL BE PROVIDED AS REQUIRED. COMBINATION STARTERS SHALL BE MADE BY ALLEN BRADLEY OR APPROVED EQUAL, SUITABLE FOR THE VOLTAGE AND HORSEPOWER INDICATED ON THE DRAWINGS. STARTER UNITS SHALL BE MINIMUM NEMA SIZE "0".
2. MANUAL MOTOR STARTERS SHALL BE PROVIDED FOR EQUIPMENT REQUIRING MANUAL CONTROL. ONLY MANUAL STARTING SWITCHES GENERAL Y SHALL BE FULL VOLTAGE, NON-REVERSING UNITS CONSISTING OF A MOTOR RATED TOGGLE SWITCH AND THERMAL OVERLOAD RELAY MOUNTED IN A COMMON ENCLOSURE. STARTER UNITS SHALL BE FURNISHED WITH A NEON PILOT LIGHT. UNITS IN MECHANICAL AREAS OR OTHERWISE UNFINISHED AREAS SHALL HAVE A NEMA TYPE 1 SURFACE MOUNTED ENCLOSURE. UNITS IN FINISHED AREAS SHALL BE MOUNTED IN A RECESSED BOX WITH FLUSH COVERS. MANUAL MOTOR STARTERS SHALL BE ALLEN BRADLEY BULLETIN 600 OR APPROVED EQUAL, SUITABLE FOR FRACTIONAL HORSEPOWER MOTORS AT 120 VOLTS, 60 HERTZ.
3. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO DETERMINE THE QUANTITY AND SIZE OF MOTOR STARTERS REQUIRED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. MOTOR THERMAL OVERLOAD UNITS SHALL BE PROVIDED IN ACCORDANCE WITH THE ACTUAL MOTOR NAMEPLATE.

SECTION 1621 - FIRE ALARM SYSTEM

- 1. THE EXISTING SYSTEM SHALL BE TESTED FOR PROPER OPERATION PRIOR TO ANY WORK BEING PERFORMED. ANY MALFUNCTION SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO ANY WORK BEING PERFORMED.
2. EXISTING DETECTORS IN AREAS BEING RENOVATED SHALL BE CLEANED AND CALIBRATED.
3. NEW MODULES AND PERIPHERAL DEVICES SHALL BE BY THE SERVICING INSTALLER (FORSTRSS PROTECTION 218-854-8400) AND SHALL BE RATED WITH AND COMPATIBLE TO THE EXISTING HONEYWELL S3 SERIES FIRE ALARM CONTROL PANEL. FORSTRSS PROTECTION SHALL BE RETAINED BY THE CONTRACTOR TO PROVIDE ALL NECESSARY MODIFICATIONS TO THE HEAD-END EQUIPMENT, INCLUDING POWER EXTENDER PANELS FOR SUPPORTING ADDITIONAL ALDIBLEVISUAL APPLIANCES.
4. DETECTION CIRCUITS SHALL BE MINIMUM NO. 16 AWG STRANDED COPPER CONDUCTORS INSTALLED IN 1/2-INCH EMT. AUDIOVISUAL ALARM CIRCUITS AND CONTROL WIRING SHALL BE MINIMUM NO. 14 AWG STRANDED COPPER CONDUCTORS INSTALLED IN 1/2-INCH EMT. ALL SPLICES SHALL BE SOLDERED AND TAPED, WHERE INSTALLED IN HOLLOW DRY WALL PARTITION OR ABOVE. SUSPENDED CEILING MANUFACTURERS RECOMMENDED POWER LIMITED FIRE ALARM CABLE MAY BE USED WITHOUT CONDUIT. ALL WIRING SHALL BE PLENUM RATED, UNLESS ENTIRELY INSTALLED IN RACEWAY.
5. OUTLET BOXES WHICH ARE PART OF THE SYSTEM SHALL HAVE THE COVERS PAINTED RED. CONDUITS SHALL HAVE A RED BAND NOMINALLY 6-INCH WIDE PAINTED ON EACH FULL LENGTH.
6. THE SYSTEM SHALL BE CHECKED AND TESTED FOR PROPER OPERATION BY THE MANUFACTURERS REPRESENTATIVE PRIOR TO FINAL ACCEPTANCE. EACH DEVICE SHALL BE OPERATED AND ADJUSTED FOR PROPER SENSITIVITY. AS PART OF THE FINAL ACCEPTANCE THE SYSTEM SHALL BE DEMONSTRATED FOR PROPER OPERATION IN THE PRESENCE OF THE OWNERS REPRESENTATIVES.
7. THE FIRE ALARM SYSTEM VENDORS SHALL SUBMIT SHOP DRAWINGS FOR ALL SYSTEM COMPONENTS AND WIRING, SUBMITTALS SHALL INCLUDE ALL PLANS, DEVICES LAYOUTS, WIRING DIAGRAMS, SEQUENCE OF OPERATION, VOLTAGE DROP CALCULATIONS AND BATTERY CALCULATIONS.
8. THE FIRE ALARM SYSTEM VENDORS SHALL SUBMIT ALL REQUIRED INFORMATION FOR REVIEW BY THE AUI IN ORDER TO OBTAIN A PERMIT.

REVISIONS

ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID



KYLE O'CONNOR, PROJECT MANAGER

SEALS

SPACE FOR CONSULTANT REGISTRATION
WICK FISHER WHITE
Federal Reserve Bank Building
100 North Independence Mall West
Suite 5 SE - Philadelphia, PA 19106
215-627-4000 - wickfisherwhite.com
Project No. 200151-000

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA PENNSYLVANIA

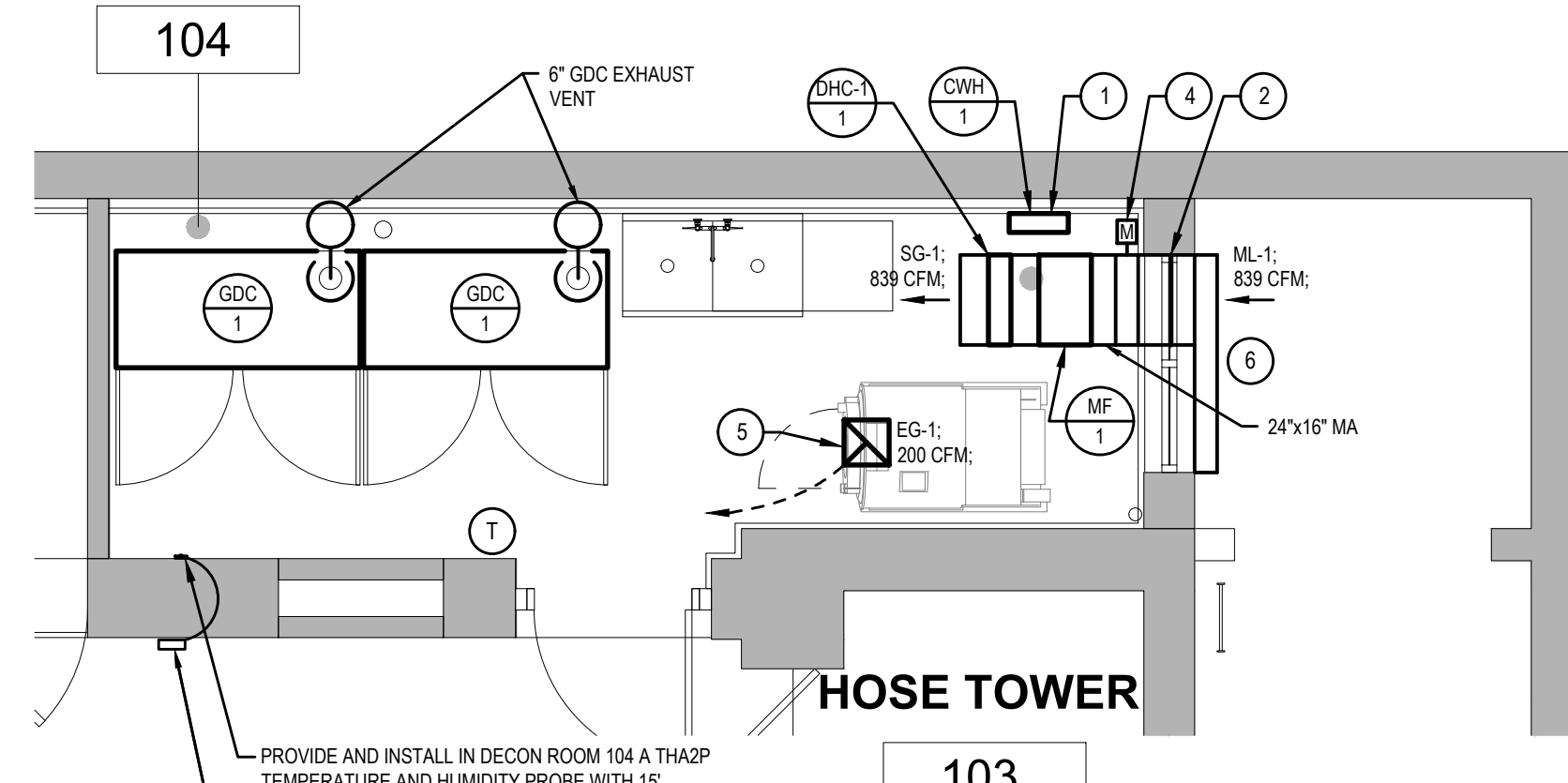
PROJECT TITLE
ENGINE 72
DECONTAMINATION SUITE
DRAWING TITLE
ELECTRICAL
SPECIFICATIONS

PROJECT NO.	DRAWING NO.
13-21-4643-01	
DATE	11/08/22
SCALE	NOTED
DRAWN BY	WFW
CHECKED BY	WFW
BHA No.:	20-150

ALL DIMENSIONS AND CONNECTIONS SHALL BE MEASURED FROM FACE UNLESS NOTED OTHERWISE

MPE1.3

DECON ROOM

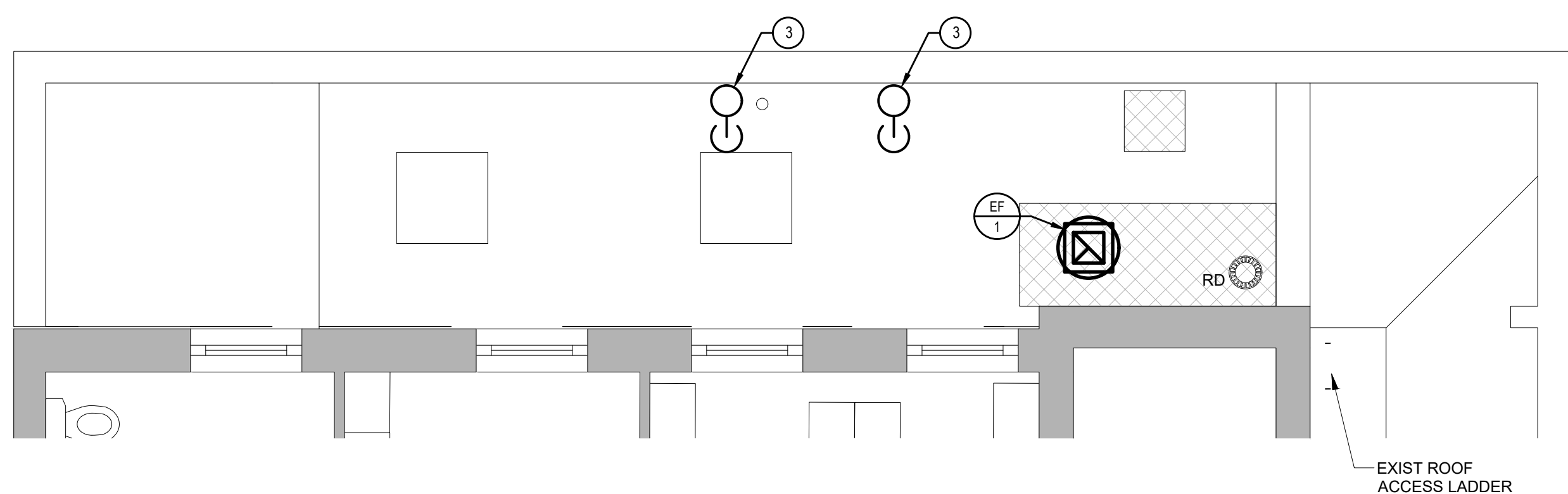


PROVIDE AND INSTALL IN DECON ROOM 104 A THAP TEMPERATURE AND HUMIDITY PROBE WITH 1/2" PROBE. CONTROL WIRING: CORE HOLE IN EXISTING WALL. SLEEVE WITH 4" GALVANIZED STEEL SCHEDULE 10 TUBE AND SEAL PENETRATION WITH 3/4" FIRE CAULK.

PROVIDE AND INSTALL A SUPCO MODEL THRU TEMPERATURE AND HUMIDITY ALARM PANEL ON WALL 5' ABOVE FINISHED FLOOR.

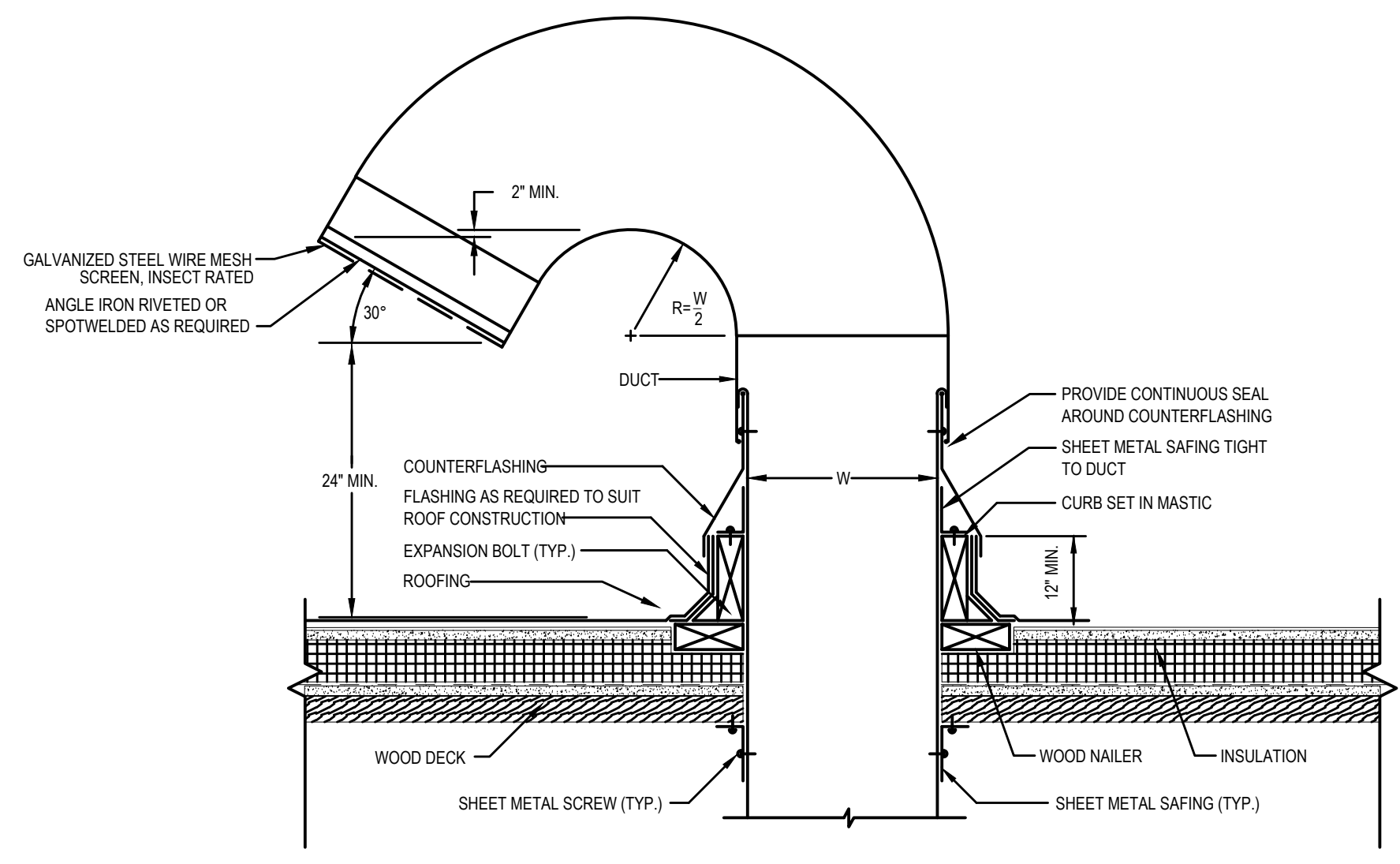
1 PARTIAL FIRST FLOOR PLAN MECHANICAL NEW WORK

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



2 PARTIAL ROOF PLAN MECHANICAL NEW WORK

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



3 GOOSENECK GDC EXHAUST DUCT THROUGH ROOF DETAIL

SCALE : NONE

FAN SCHEDULE

No	LOCATION	TYPE	CFM	W	RPM	ESP (IN.W.C)	DRIVE	ELECTRICAL DATA			BASIS OF DESIGN	NOTES
								V	Ø	Hz		
EF-1	ROOF TOP AREA OF DECON ROOM 104	ROOF MOUNTED DOWNBLAST DIRECT DRIVEN EXHAUST FAN	200	1/8 HP	1140	0.20	DIRECT	115	1	60	GREENHECK 507R-8X W/BD-100	INSTALLED AND FURNISHED BY M.C. MOUNT ON ROOF CURB. W/ BACK DRAFT DAMPER (GREENHECK BD-100 SPRING LOADED) AND TERMINATED WITH AN EXHAUST GRILLE. PROVIDE ROOF PENETRATION. SEE CONTROL NOTES DIAGRAM FOR DETAILS. COORDINATE CONTROL MEANS OF DISCONNECT INSTALLATION WITH E.C.
MF-1	DECON ROOM 104	INLINE MOUNTED SUSPENDED FROM ROOF MAKE UP AIR FAN	839	467 W	1070	0.66	DIRECT	115	1	60	GREENHECK CSP-A1050	INSTALLED AND FURNISHED BY M.C. MOUNT INLINE ON THE DUCT. SEE CONTROL NOTES DIAGRAM FOR DETAILS. COORDINATE CONTROL MEANS OF DISCONNECT INSTALLATION WITH E.C.

ELECTRIC CABINET WALL HEATER SCHEDULE

No	LOCATION	TYPE	BASIS OF DESIGN	KW	ELECTRICAL DATA			FAN DATA	NOTES
					V	Ø	Hz		
WCH-1	DECON ROOM 104	SEMI RECESSED CABINET WALL HEATER	BERRI FRAM4024F	4.2	240	1	60	100	INSTALLED AND FURNISHED BY M.C. MOUNT AT 3' 6" A.F.F. PROVIDE THERMOSTAT AND SEE CONTROL DIAGRAM AND NOTES FOR DETAILS. PROVIDE A SURFACE MOUNTING BOX KIT (P/N:FX-5M) AND MOUNT ON SURFACE INSTEAD OF RECESSED. SEE ELECTRICAL PLANS FOR MEANS OF DISCONNECT. PROVIDE MOUNTING EQUIPMENT REQUIRED.

ELECTRIC DUCT HEATER COIL

No	LOCATION	TYPE	BASIS OF DESIGN	KW	ELECTRICAL DATA			AIR FLOW DATA		NOTES	
					V	Ø	Hz	CFM	PRESSURE DROP		DELTA T/F
DHC-1	DECON ROOM 104	DUCT HEATER COIL OPEN COIL W/ PRESSURE PLATE DESIGN	INDEECO	16	240	1	60	839	0.034" W.C.	80°F	INSTALLED AND FURNISHED BY M.C. MOUNT INSIDE DUCT AFTER THE MF-1 AS INDICATED ON FLOOR PLANS. SEE CONTROL NOTES DIAGRAM FOR DETAILS. COORDINATE CONTROL MEANS OF DISCONNECT INSTALLATION WITH E.C. PROVIDE INTEGRAL PLC TO START ON 70°F AND CUT OFF AT 80°F. MOUNT INSIDE DUCT BEHIND COIL.

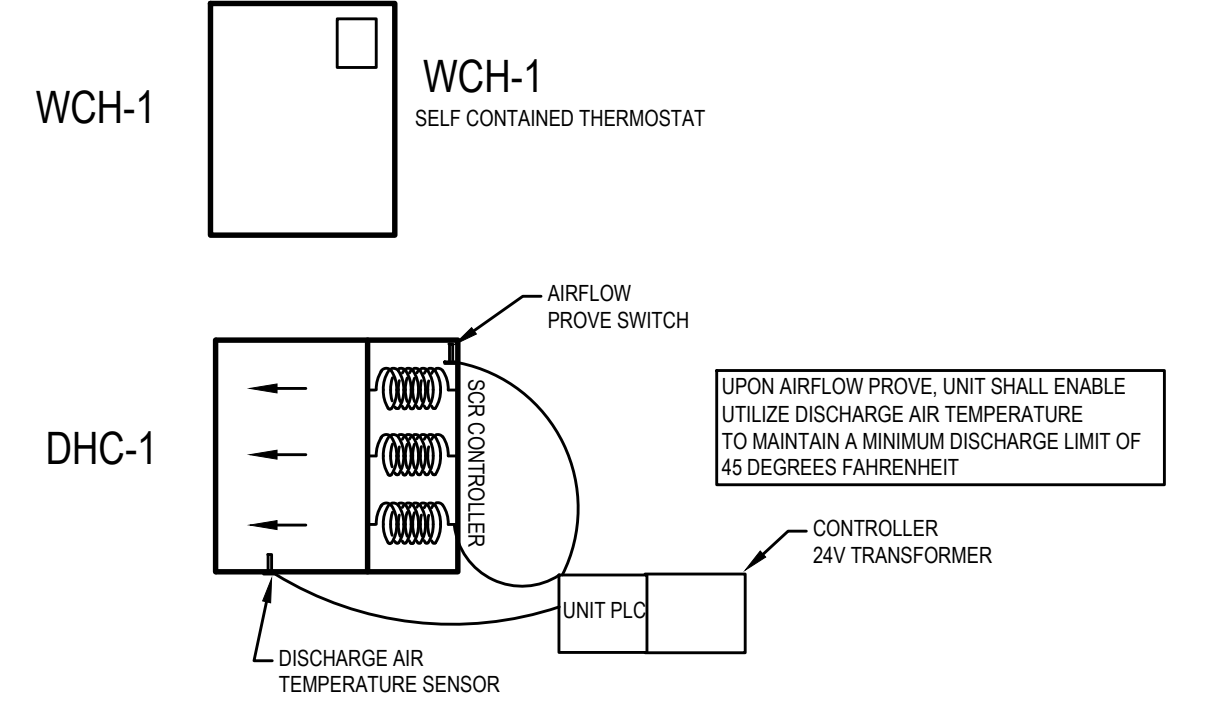
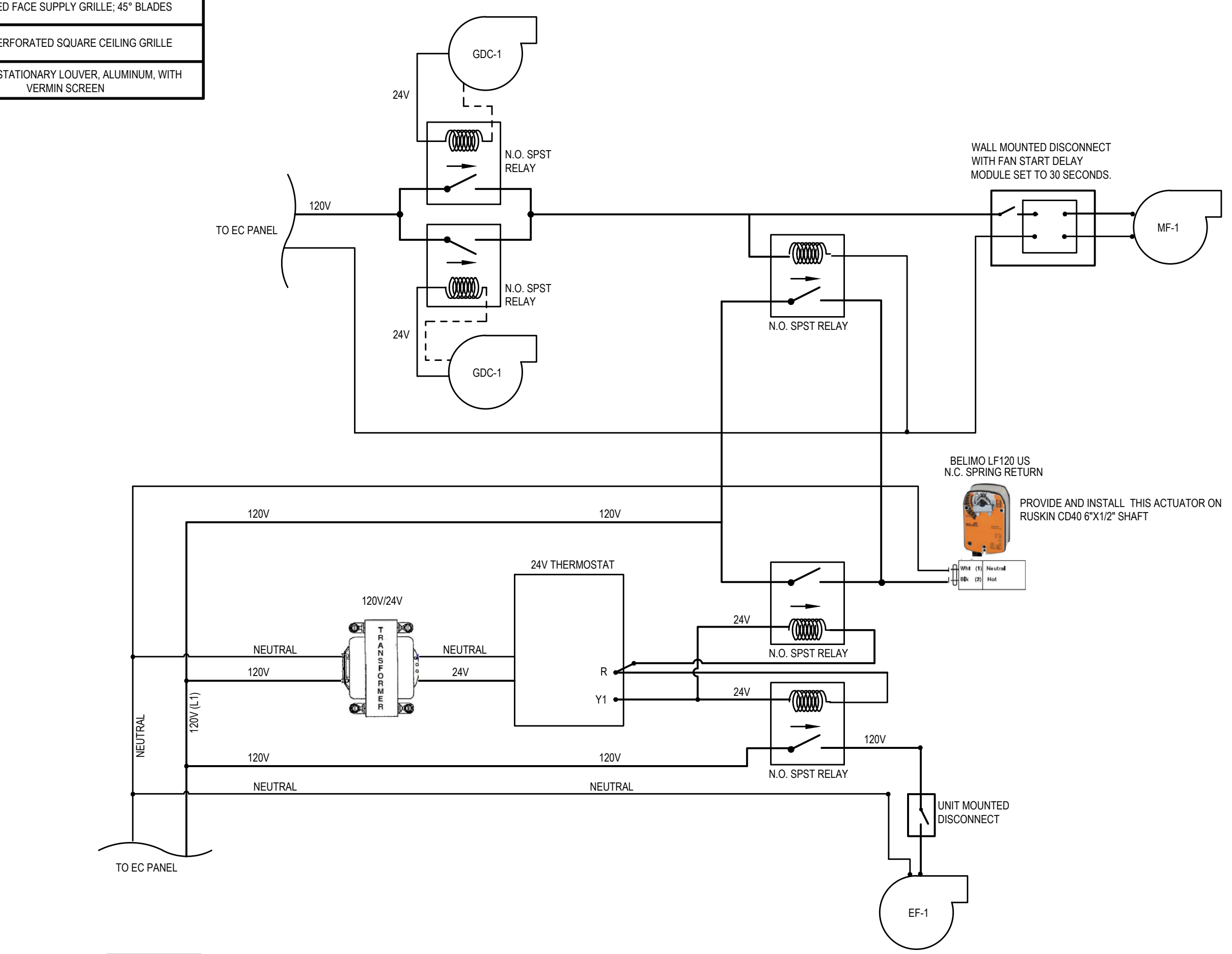
PROVIDE AND INSTALL WITH UNIT CONTROLLER (PLC) AND SCR CONTROL. NOTED TO CONTROL DETAIL FOR FURTHER REQUIREMENTS.

GEAR DRYING CABINET

No	LOCATION	TYPE	BASIS OF DESIGN	KW	ELECTRICAL DATA			EXHAUST DATA	NOTES
					V	Ø	Hz		
GDC-1	DECON ROOM 104	FLOOR MOUNTED CABINET	ADC LAUNDRY MODEL ADFG-6	12	240	1	60	300	INSTALLED BY M.C. SELECTED FURNISHED BY OPIFFO. NO SUBSTITUTIONS WILL BE ACCEPTED. SEE PLUMBING DRAWINGS FOR DRAIN LINES. FOLLOW MANUFACTURER INSTALLATION INSTRUCTIONS. NO MORE THAN 2 90° ELBOWS IN EXHAUST DUCT. COORDINATE CONTROL MEANS OF DISCONNECT INSTALLATION WITH E.C.

AIR DEVICE SCHEDULE

DEVICE NO.	FUNCTION	NECK SIZE	MANUFACTURER & MODEL NO.	FINISH	NC LEVEL	REMARKS
SG-1	MAKE UP	24"x18"	KRUEGER 80 STEEL	WHITE	<30	LOUVERED FACE SUPPLY GRILLE: 45° BLADES
EG-1	EXHAUST	14"x14"	KRUEGER 6490	WHITE	<30	STEEL PERFORATED SQUARE CEILING GRILLE
ML-1	MAKE UP	58"x40"	RUSKIN ELF211	GRAY	<30	THIN LINE STATIONARY LOUVER, ALUMINUM, WITH VERMIN SCREEN



4 CONTROL WIRING DIAGRAMS

SCALE : NONE

NOTES :

- REFER TO DRAWING MPE1.1 FOR HVAC, PLUMBING/FIRE PROTECTION & ELECTRICAL GENERAL NOTES, ABBREVIATIONS, LEGENDS & DRAWING LIST.
- ALL EXPOSED DUCTWORK SHALL BE 1/2" ACOUSTICALLY LINED. EXPOSED DUCTWORK SHALL NOT BE EXTERNALLY LINED AND CONTRACTOR SHALL REMOVE ALL MARKINGS FROM EXPOSED DUCTWORK. UNEXPOSED DUCTWORK SHALL BE EXTERNALLY INSULATED PER SPECIFICATION.
- WORK TO CONFORM TO PHILADELPHIA IBC 2018 AS ADOPTED BY COUNTY OF PHILADELPHIA.
- THIS DRAWING IS DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR COORDINATING DUCT ROUTES WITH ALL OTHER TRADES. NO SUPPORT HANGER OR CLAMP TO BE MOUNTED ON DUCTWORK. CONSULT STRUCTURAL TEAM FOR ALL ROOF PENETRATIONS AND MOUNTING METHODS PRIOR TO IMPLEMENTING THEM.
- PROVIDE AND INSTALL CLEAR LOCKABLE COVERS FOR ALL THERMOSTATS.
- TEST ALL INTERLOCKED CONTROLS. BALANCE THE ROOM TO BE POSITIVELY PRESSURIZED, AS NO MAKE UP AIR IS ALLOWED TO BE DRAWN FROM GARAGE.

DRAWING NOTES :

- INSTALL NEW WCH-1 WITH REMOTE THERMOSTATIC CONTROLS. SEE CONTROL NOTES FOR WIRING INFORMATION.
- PROVIDE NEW 24"x18" TYPE B FIRE DAMPER, MATCHING OUTSIDE WALL RATING. IF RATING CAN NOT BE DETERMINED, PROVIDE A 2H RATED TYPE B FIRE DAMPER.
- 6" Ø EXHAUST DUCT GOOSE NECK TERMINATION. SEE THE DETAIL 3/1/1-2 FOR ADDITIONAL INFORMATION. TERMINATE W/ 45° ELBOW. PROVIDE GALVANIZED STEEL WIRE MESH SCREEN ON THE END.
- PROVIDE A MOTORIZED BACK DRAFT DAMPER RUSKIN CD40 OR EQUAL MATCHING THE DUCT 24"x18" IN SIZE. SEE CONTROL NOTES FOR WIRING INFORMATION.
- INSTALL AN EF-1 W/ BD-100 AND EG-1 W/ ENOUGH DUCT TO HOUSE THE BACKDRAFT DAMPER UNOBSTRUCTED. SEE CONTROL NOTES FOR WIRING INFORMATION.
- PROVIDE INSULATED PANEL BEHIND LOUVER TO INFILL THE REMAINDER OF THE EXISTING WINDOW OPENING UNLESS BY NEW DUCT.

CONTROL NOTES :

- PROVIDE CONTROLS, RELAYS AND INTERLOCKS, AS NOTED IN DETAIL BELOW.
- ALL CONTROL AND LOW VOLTAGE WIRING SHALL BE ENCASED IN RIGID GALVANIZED STEEL CONDUIT WITH ALL RELAYS, TRANSFORMERS AND SENSORS MOUNTED IN LABELED JUNCTION BOXES AND PLCS SHALL BE INSTALLED IN A NEMA 3R ENCLOSURE.
- PROVIDE A CIRCUIT WIRED IN PARALLEL THAT ENERGIZES MAKE UP AIR FAN MF-1 WHEN EITHER OF THE GEAR DRYING CABINETS GDC-1s ARE ENERGIZED AS NOTED IN CONTROL DIAGRAM.
- 24V SOURCE FROM DRYING CABINETS SHALL BE TAPPED FROM CONTROL NODE FOR INTERNAL FAN CONTACT. REFER TO MANUFACTURERS WIRING DIAGRAM.

REVISIONS

ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID



KYLE O'CONNOR, PROJECT MANAGER

SEALS

SPACE FOR CONSULTANT RECOGNITION



CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA, PENNSYLVANIA

ENGINE 72 DECONTAMINATION SUITE

ENLARGED PLANS, SCHEDULES & DETAILS

PROJECT NO.	DRAWING NO.
13-21-4643-01	M1.2
DATE	11/08/22
SCALE	NOTED
DRAWN BY	WFW
CHECKED BY	WFW
BHA No.:	20-150

ALL DIMENSIONS AND CONDITIONS SHALL BE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED THEREON.

REVISIONS

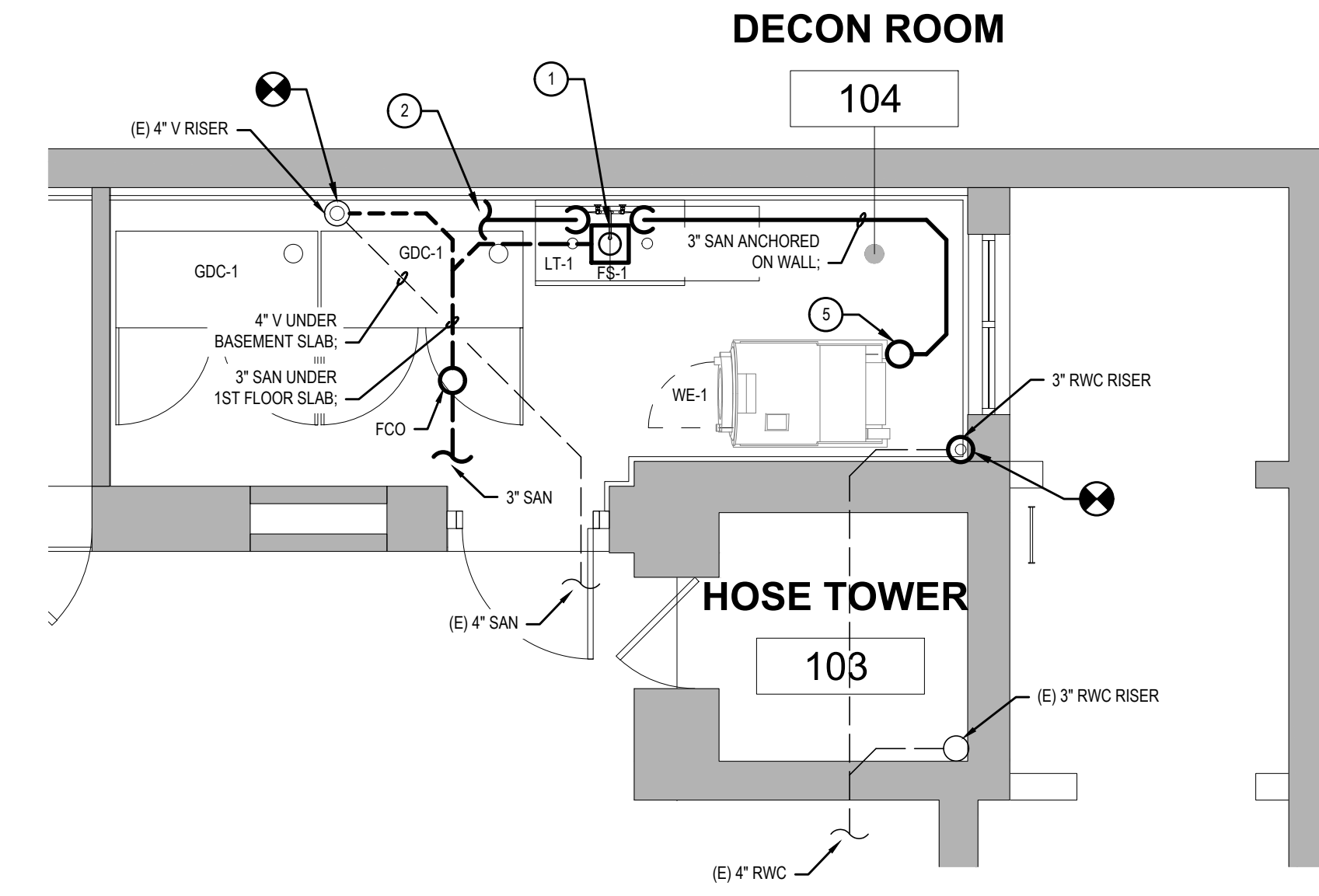
ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID

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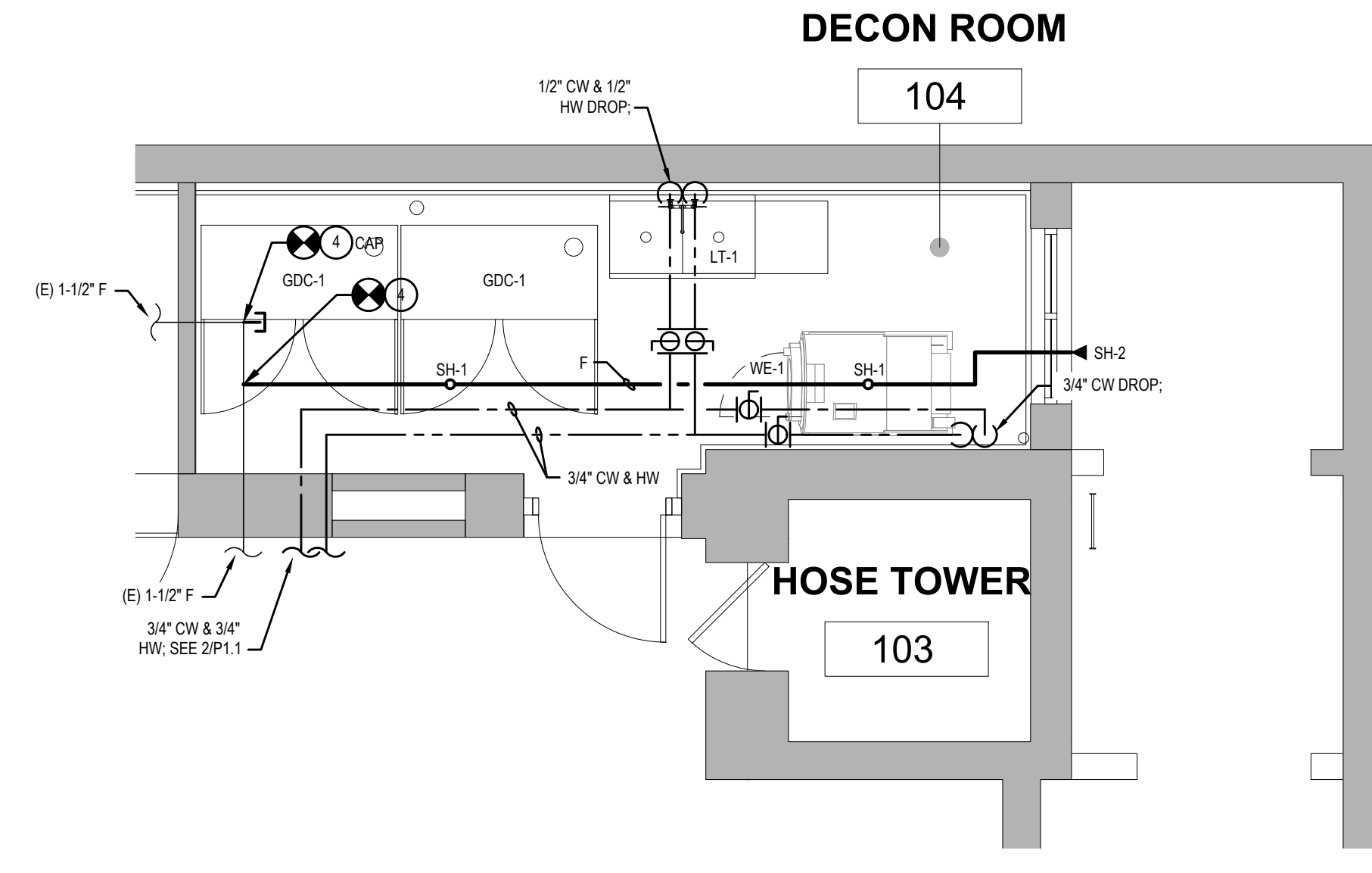
- REFER TO DRAWING MPE1.1 FOR HVAC, PLUMBING/FIRE PROTECTION & ELECTRICAL GENERAL NOTES, ABBREVIATIONS, LEGENDS & DRAWING LIST.
- THIS DRAWING IS DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR COORDINATING PIPING ROUTES WITH ALL OTHER TRADES. NO SUPPORT HANGER OR CLAMP TO BE MOUNTED ON DUCTWORK. NO HORIZONTAL CLEAN OUT (CAPPED EXHIBIT BEND) TO BE OBSTRUCTED BY WALL, DUCT WORK OR OTHER ELEMENTS. ALL FIRE PROTECTION PIPING IS TO TAKE LAST PRIORITIES DURING ROUTE COORDINATION.
- WORK TO CONFORM TO 2018 PHILADELPHIA PLUMBING CODE. USE SECTION 919 FOR SINGLE STACK PHILADELPHIA STYLE SYSTEM AND ALL APPLICABLE TABLES AS MANDATED BY AHJ AND IECC 2018. ALL UNDERGROUND PIPING IS GRANDFATHERED AS PER IECC 2018 SECTION 903 AND CHAPTER CHAPTER 7 "ALTERATIONS LEVEL - 1" AS ADOPTED BY PHILADELPHIA CODE AUTHORITY.
- ALL SANITARY PIPING IS DEPICTED BELOW SLAB OR BURIED UNDER SLAB UNLESS INDICATED OTHERWISE. ALL COLD/HOT WATER SUPPLY / RETURN PIPING IS RUN TIGHT TO SLAB OF FLOOR ABOVE UNLESS INDICATED OTHERWISE. ALL VENT PIPING IS RUN TIGHT TO SLAB OF FLOOR ABOVE UNLESS INDICATED OTHERWISE.
- ALL SANITARY PIPING 3" AND LARGER IS SLOPED 1/8" PER FOOT UNLESS INDICATED OTHERWISE. ALL SAN PIPING 2-1/2" AND SMALLER IS SLOPED AT 1/4" PER FOOT. ALL VENT, COLD WATER, HOT WATER, HOT WATER RETURN IS SLOPED TO DRAIN AS NEEDED PER CODE. PROVIDE DRAIN VALVES AT LOW POINTS FOR SYSTEMS MAINTENANCE IN CONVENIENT LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS, THE LOCATIONS OF THOSE VALVES. ALL VENT PIPING MUST BE SLOPED TO DRAIN AS REQUIRED PER CODE AWAY FROM STACK TOWARDS A FIXTURE.

DRAWING NOTES :

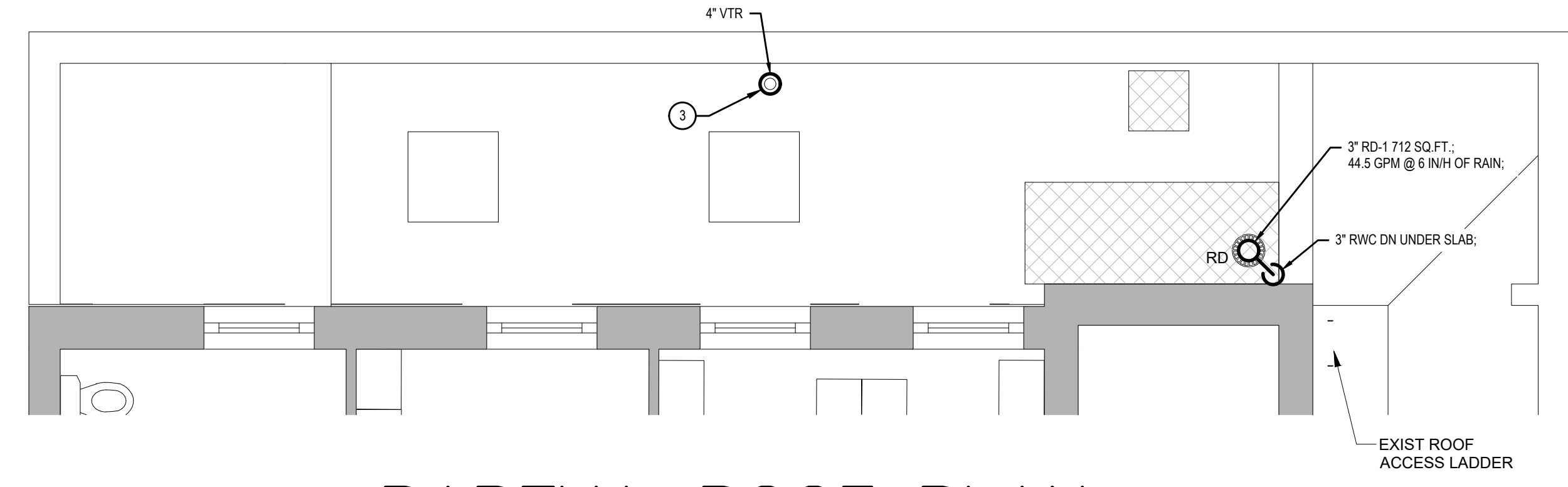
- INSTALL NEW FLOOR SINK FS-1 AND DIRECT WASTE FROM GDC-1s, WE-1 AND LT-1 TO THE NEW FLOOR SINK. MAINTAIN 1" AIRGAP ABOVE THE FLOOR SINK.
- PIPE AND ROUTE 2" DRAIN CONNECTION FROM EACH GDC-1 TO THE FS-1 ROUTE AGAINST THE WALL.
- PROVIDE NEW VENT THRU ROOF ASSEMBLY ON EXISTING VENT STACK. REFLASH EXISTING 4" VENT THRU ROOF DURING ROOF RESTORATIONS.
- CONNECT NEW FIRE PROTECTION LINE AS INDICATED. CAP EXISTING TEE AS INDICATED. DO NOT RE-USE SPRINKLERS. PROVIDE NEW UPRIGHT SPRINKLERS SH-1 W/ PROTECTIVE GUARDS (TO PROTECT FROM MECHANICAL DAMAGE). SEE PS-1 FOR DESIGN CRITERIA.
- PIPE AND ROUTE 3" DRAIN CONNECTION FROM WE-1 TO THE FS-1 ROUTE AGAINST WALL. EXACT HEIGHT OF OPEN CONNECTION FOR NEW DRAIN LINE TO BE COORDINATED WITH REQUIRED SLOPE TO FS-1 AND LENGTH OF DISCHARGE HOSE RECOMMENDED BY MANUFACTURER.



1 PARTIAL FIRST FLOOR PLAN
PL.2 **SANITARY NEW WORK**
SCALE : 1/4" = 1'-0"



2 PARTIAL FIRST FLOOR PLAN
PL.2 **DOMESTIC WATER NEW WORK**
SCALE : 1/4" = 1'-0"



3 PARTIAL ROOF PLAN
PL.2 **PLUMBING NEW WORK**
SCALE : 1/4" = 1'-0"



KYLE O'CONNOR, PROJECT MANAGER

SEALS

SPACE FOR CONSULTANT RECOGNITION



WICK FISHER WHITE
Federal Reserve Bank Building
100 North Independence Mall West
Suite 5 SE - Philadelphia, PA 19106
215-627-4000 - wickfisherwhite.com
Project No. 200151-000

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

DRAWING TITLE
**ENLARGED
PLANS**

PROJECT NO.	DRAWING NO.
13-21-4643-01	P1.2
DATE	11/08/22
SCALE	NOTED
DRAWN BY	WFW
CHECKED BY	WFW
BHA No.:	20-150

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE AS SHOWN ON THIS DRAWING UNLESS OTHERWISE SPECIFIED. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH THE WORK.

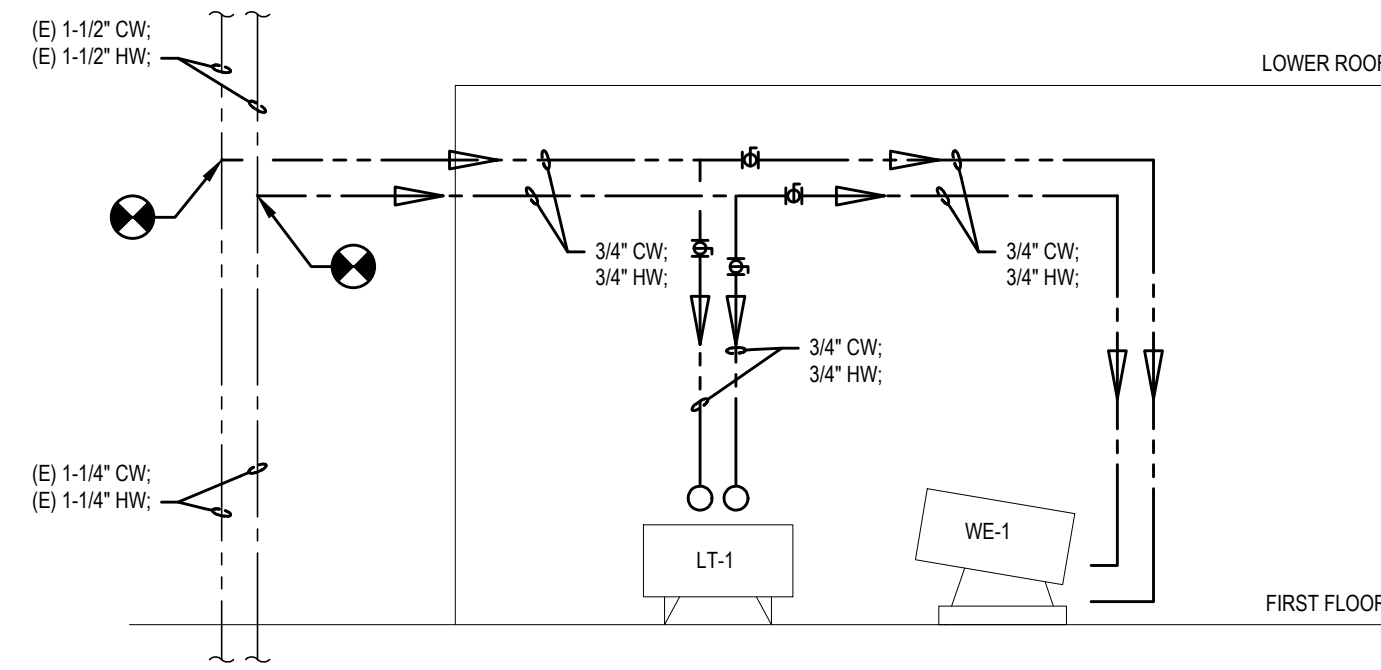
PLUMBING FIXTURE SCHEDULE											
No	FIXTURE	MANUFACTURER	MODEL #	TYPE	TRIM	DRAINAGE FIXTURE UNITS	CONNECTIONS				REMARKS
							CW	HW	WASTE	TRAP	
LT-1	TWO COMPARTMENT LAUNDRY TRAY	REGENCY TABLES AND SINKS	800S2424B	16 GA TYPE 430 STAINLESS STEEL W/ BACKSPASH AND ROLLED EDGES, 3" CENTERED FAUCET, 48" x 24" x 13"	FAUCET: CHICAGO FAUCET 860-0233-317W/AB, DRAIN NOZZLE K-861, REGENCY 930124213 24" DETACHABLE DRAIN BOARD; SHUT OFF BALL VALVES MOUNTED TIGHT TO CEILING	2	3/4"	3/4"	1-1/2"		FURNISHED AND INSTALLED BY P.C. INSTALL AGAINST THE WALL. DIRECT DRAINAGE TO FS-1 INSTALLED BELOW. MAINTAIN 1" AIR GAP. PROVIDE SHUT OFF VALVES TIGHT TO CEILING IN THE DECON 104 ROOM.
FS-1	FLOOR SINK	ZURN INDUSTRIES	ZN1801-NL	CAST IRON ENAMEL COATED 12" DEEP FLOOR SINK W/ A GRATE AND A STEEL FRAME AND NEOLOCK OUTLET. PROVIDE CHARLOTTE SERVICE WEIGHT DEEP SEAL TRAP.	PROVIDE ALL LISTED OPTIONS AND A CHARLOTTE SERVICE WEIGHT DEEP SEAL TRAP OR EQUAL.	2				3"	FURNISHED AND INSTALLED BY P.C. INSTALL UNDER LT-1 AND DIRECT LT-1, WE-1 AND BOTH GDC-1s DISCHARGES TO THIS FLOOR SINK.
RD-1	MAIN ROOF DRAIN	ZURN INDUSTRIES	ZC100-C	CAST IRON DOMED PRIMARY ROOF DRAIN W/ UNDERDECK CLAMP & CAST IRON DOME.	PROVIDE ALL LISTED OPTIONS.					3"	FURNISHED AND INSTALLED BY P.C. PROVIDE ANY OTHER PRODUCT OPTION (SUFFIX) THAT IS REQUIRED FOR COMPLETE INSTALLATION.
WE-1	RIGID MOUNTED WASHER EXTRACTOR	MILNOR INC.	3002 VJR	RIGID MOUNTED WASHER EXTRACTOR, 60LB CAPACITY, 208V / 3PH / 60HZ, 5 HP MOTOR.	PROVIDE ISOLATION BALL VALVES AND UNIONS FOR COLD AND HOT WATER SUPPLY. PROVIDE A 3" DWV COPPER DRAIN. PROVIDE WATER HAMMER ARRESTORS.		3/4"	3/4"	3"		FURNISHED AND INSTALLED BY P.C. MOUNT AND CONNECT AS DIRECTED BY MANUFACTURER. PROVIDE VIBRATIONAL ISOLATION MOUNTS AS REQUIRED BY MANUFACTURER. PROVIDE A 3" DWV COPPER DRAIN PIPE AND ROUTE AGAINST THE WALL AND TERMINATE AT FS-1 W/ A 1" AIR GAP. PROVIDE WMA.

PIPE INSULATION SCHEDULE					
SERVICE	MANUFACTURER	TYPE	VAPOR BARRIER	INSULATION THICKNESS	REMARKS
DOMESTIC COLD WATER	OWENS CORNING OR AEROFLEX	FIBERGLASS OR CLOSED CELL ELASTOMERIC	YES, FACTORY APPLIED OR INTEGRAL	1" : FOR PIPES 2" AND BELOW 1-1/2" : FOR PIPES 2-1/2" AND ABOVE	RUNOUTS NOT TO EXCEED 12" IN LENGTH. ASTM C534 5 PCF DENSITY FOR ELASTOMERIC ASTM C547 4 PCF DENSITY FOR MINERAL FIBER
DOMESTIC HOT WATER / HOT WATER RETURN	OWENS CORNING OR AEROFLEX	FIBERGLASS OR CLOSED CELL ELASTOMERIC	YES, FACTORY APPLIED OR INTEGRAL	1" : FOR PIPES 2" AND BELOW 1-1/2" : FOR PIPES 2-1/2" AND ABOVE	RUNOUTS NOT TO EXCEED 12" IN LENGTH. ASTM C534 5 PCF DENSITY FOR ELASTOMERIC ASTM C547 4 PCF DENSITY FOR MINERAL FIBER
STORM WATER	OWENS CORNING OR AEROFLEX	FIBERGLASS OR CLOSED CELL ELASTOMERIC	YES, FACTORY APPLIED OR INTEGRAL	1" : FOR PIPES 2" AND BELOW 1-1/2" : FOR PIPES 2-1/2" AND ABOVE	RUNOUTS NOT TO EXCEED 12" IN LENGTH. ASTM C534 5 PCF DENSITY FOR ELASTOMERIC ASTM C547 4 PCF DENSITY FOR MINERAL FIBER

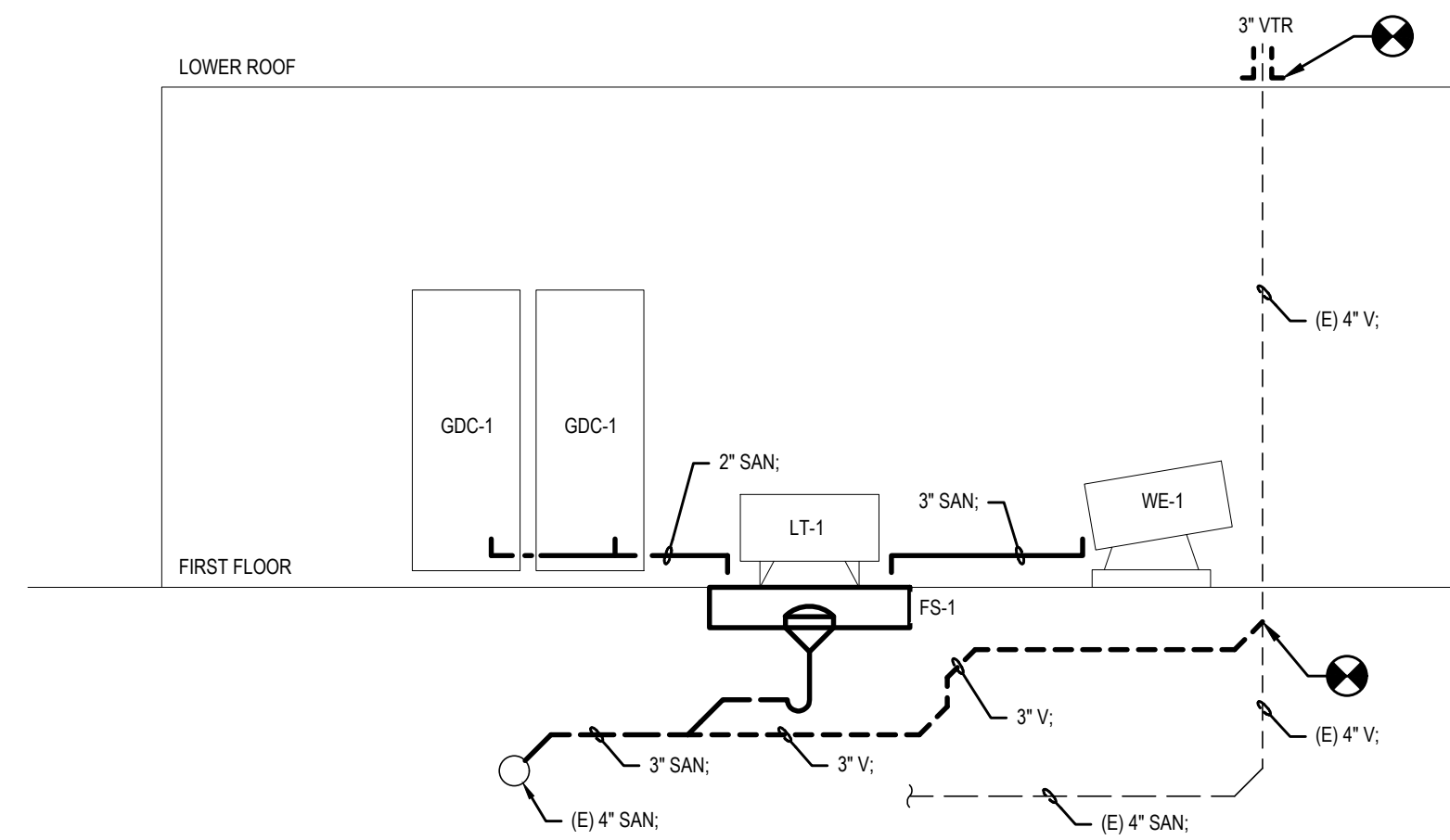
PLUMBING PIPE AND FITTING SCHEDULE							
SYSTEM	PIPE SIZE	LOCATION	MATERIAL	SCHEDULE AND/OR TYPE	FITTING	JOINT	REMARKS
SANITARY, STORM & WASTE	2" & LARGER	ABOVE GRADE/GROUND	CAST IRON	SERVICE WEIGHT	CAST IRON	NO-HUB	STAINLESS STEEL CLAMPS & NEOPRENE GASKETS
	1-1/2" & SMALLER	ABOVE GRADE/GROUND	COPPER	TYPE DWV	COPPER	SOLDERED	95% TN & 5% ANTIMONY
SANITARY VENT & WASTE VENT	ALL	BELOW GRADE/GROUND	CAST IRON	SERVICE WEIGHT	CAST IRON	BELL AND SPIGOT	PUSH ON RUBBER GASKET JOINTS OR LEAD AND OAKUM
	2" & LARGER	ABOVE GRADE/GROUND	CAST IRON	SERVICE WEIGHT	CAST IRON	NO-HUB	STAINLESS STEEL CLAMPS & NEOPRENE GASKETS
COLD WATER	1-1/2" & SMALLER	ABOVE GRADE/GROUND	COPPER	TYPE DWV	COPPER	SOLDERED	95% TN & 5% ANTIMONY
	ALL	BELOW GRADE/GROUND	CAST IRON	SERVICE WEIGHT	CAST IRON	BELL AND SPIGOT	PUSH ON RUBBER GASKET JOINTS OR LEAD AND OAKUM
TRAY WATER / HOT WATER RETURN	ALL	ABOVE GRADE/GROUND	COPPER	TYPE L	COPPER	SOLDERED	95% TN & 5% ANTIMONY
NATURAL GAS PIPING	ALL	BELOW GRADE/GROUND					CONSULT PGW COMPANY FOR DETAILS
	ALL	ABOVE GRADE/GROUND, CONCEALED AND OR >7" W.C.	BLACK STEEL	SCHEDULE 40	FORGED, CLASS 2000 SOCKET WELD	SOCKET WELDED	IN CONCEALED SPACES, NO UNIONS ARE PERMITTED.
	ALL	ABOVE GRADE/GROUND AND BELOW 4" W.C.	BLACK STEEL	SCHEDULE 40	CAST IRON CLASS 125	THREADED	PROTECTIVE COATING PER IFGC 2009 403.8

WATER HAMMER SCHEDULE WA-1				
PPP SIZE	P.O.I. SYMBOL	MAX FIXTURES RATINGS	'N' SIZE	'W' SIZE
1/2"	A	1-11	5"	1/2"
3/4"	B	12-32	5"	3/4"

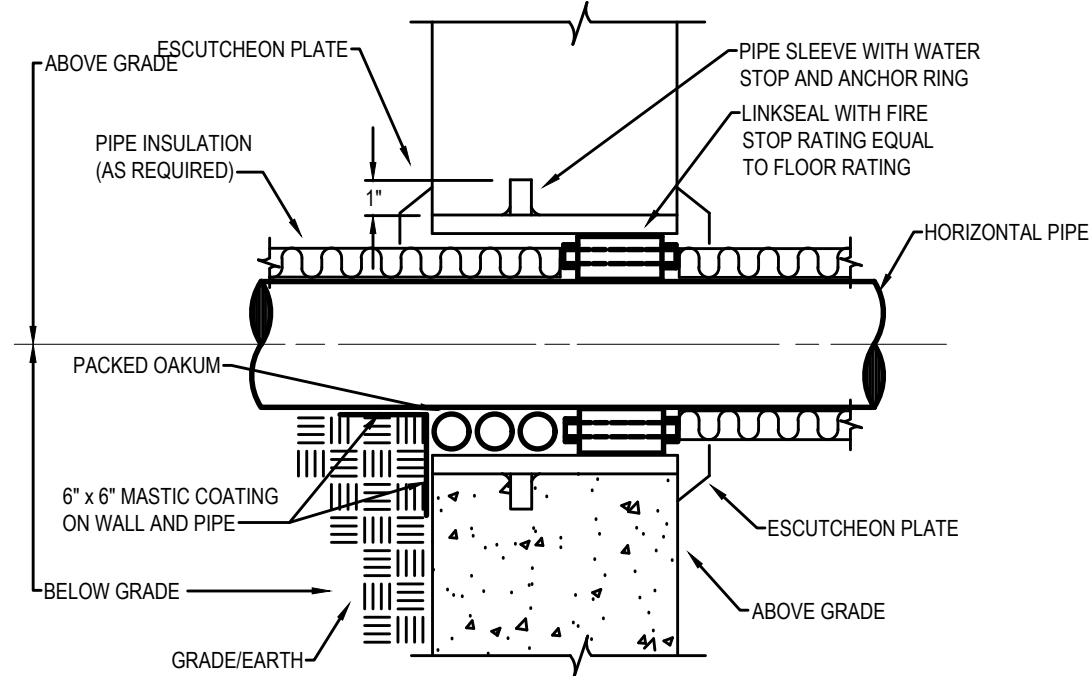
FIRE PROTECTION DESIGN DATA: DECON ROOM 104	
HAZARD CLASSIFICATION	: ORDINARY HAZARD GROUP II
SPRINKLER TAG	: SH-1
OPERATING AREA	: 1,500 SQ FT MINIMUM
DENSITY	: 0.2 MINIMUM GPM SQ FT
HOSE STREAM ALLOWANCE	: 250 GPM
SPRINKLER COVERAGE	: 130 SQ FT MAXIMUM
SPRINKLER TYPE	: UPRIGHT, W/ GUARDS
SPRINKLER RESPONSE TYPE	: QUICK RESPONSE HIGH TEMPERATURE
TEMPERATURE RATING	: PER NFPA 13
NOMINAL K-FACTOR	: 5.6
PIPING - WET SYSTEM	: SCHEDULE 40 BLACK STEEL, GROOVED, THREADED OR WELDED, CLASS 125 FITTINGS
HAZARD CLASSIFICATION	: ORDINARY HAZARD GROUP II
SPRINKLER TAG	: SH-2
OPERATING AREA	: 1,500 SQ FT MINIMUM
DENSITY	: 0.2 MINIMUM GPM SQ FT
HOSE STREAM ALLOWANCE	: 250 GPM
SPRINKLER COVERAGE	: 130 SQ FT MAXIMUM
SPRINKLER TYPE	: SEVERAL, DRYTYPE, NITROGEN LOADED
SPRINKLER RESPONSE TYPE	: QUICK RESPONSE INTERMEDIATE TEMPERATURE
TEMPERATURE RATING	: PER NFPA 13
NOMINAL K-FACTOR	: 5.6
PIPING - WET SYSTEM	: SCHEDULE 40 BLACK STEEL, GROOVED, THREADED OR WELDED, CLASS 125 FITTINGS



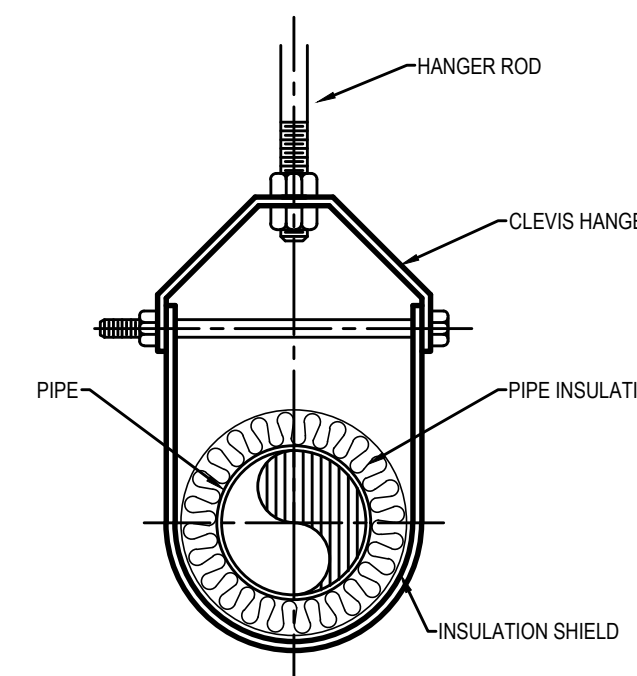
**1 PARTIAL RISER DIAGRAM
PLUMBING - DOMESTIC**
SCALE : DIAGRAMMATIC



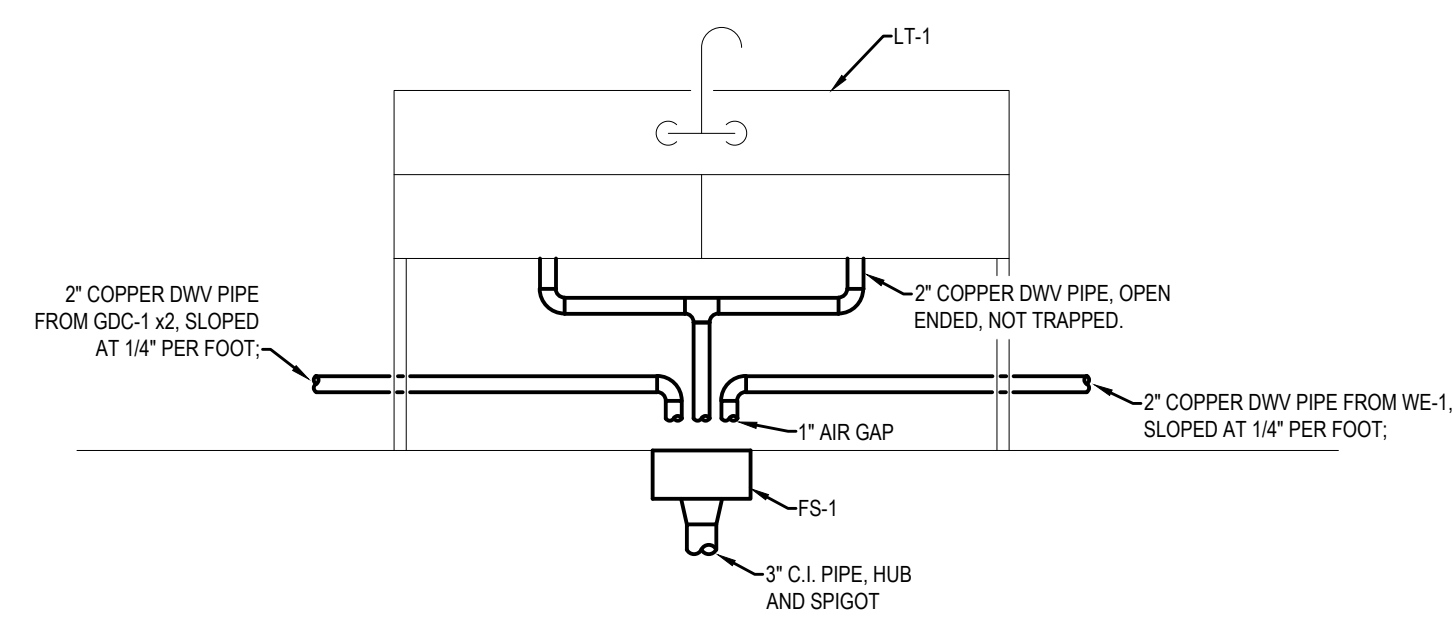
**2 PARTIAL RISER DIAGRAM
PLUMBING - SANITARY**
SCALE : DIAGRAMMATIC



**3 FIRE STOPPING
SLEEVE DETAIL**
SCALE : NONE



4 CLEVIS HANGER DETAIL
SCALE : NONE



NOTE: AGGREGATE THREE 2" COPPER PIPES OVER FLOOR SINK FS-1 WITH 1" AIR GAP ABOVE FLOOR SINK.
5 SINK DRAINAGE DETAIL
SCALE : NONE

- NOTES :**
- REFER TO DRAWING MPE1.1 FOR HVAC, PLUMBING/FIRE PROTECTION & ELECTRICAL GENERAL NOTES, ABBREVIATIONS, LEGENDS & DRAWING LIST.
 - WORK TO CONFORM TO PHILADELPHIA PLUMBING CODE 2018 EDITION, WITH ALL CURRENT AMENDMENTS AS WELL AS ALL EXCEPTIONS MANDATED BY OFFICE OF PHILADELPHIA PLUMBING INSPECTOR.

REVISIONS

ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID



KYLE O'CONNOR, PROJECT MANAGER

SEALS

SPACE FOR CONSULTANT RECOGNITION



CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1400 JFK BOULEVARD
7TH FLOOR, CITY HALL
PHILADELPHIA, PENNSYLVANIA

PROJECT TITLE
**ENGINE 72
DECONTAMINATION SUITE**

DRAWING TITLE
**DETAILS, SCHEDULES
AND DIAGRAMS**

PROJECT NO.	DRAWING NO.
13-21-4643-01	P5.1
DATE	11/08/22
SCALE	NOTED
DRAWN BY	WFW
CHECKED BY	WFW
BHA No.:	20-150

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE SHOWN ON THIS DRAWING AND SHALL BE FOLLOWED UNLESS OTHERWISE NOTED ON THE WORK.

REVISIONS

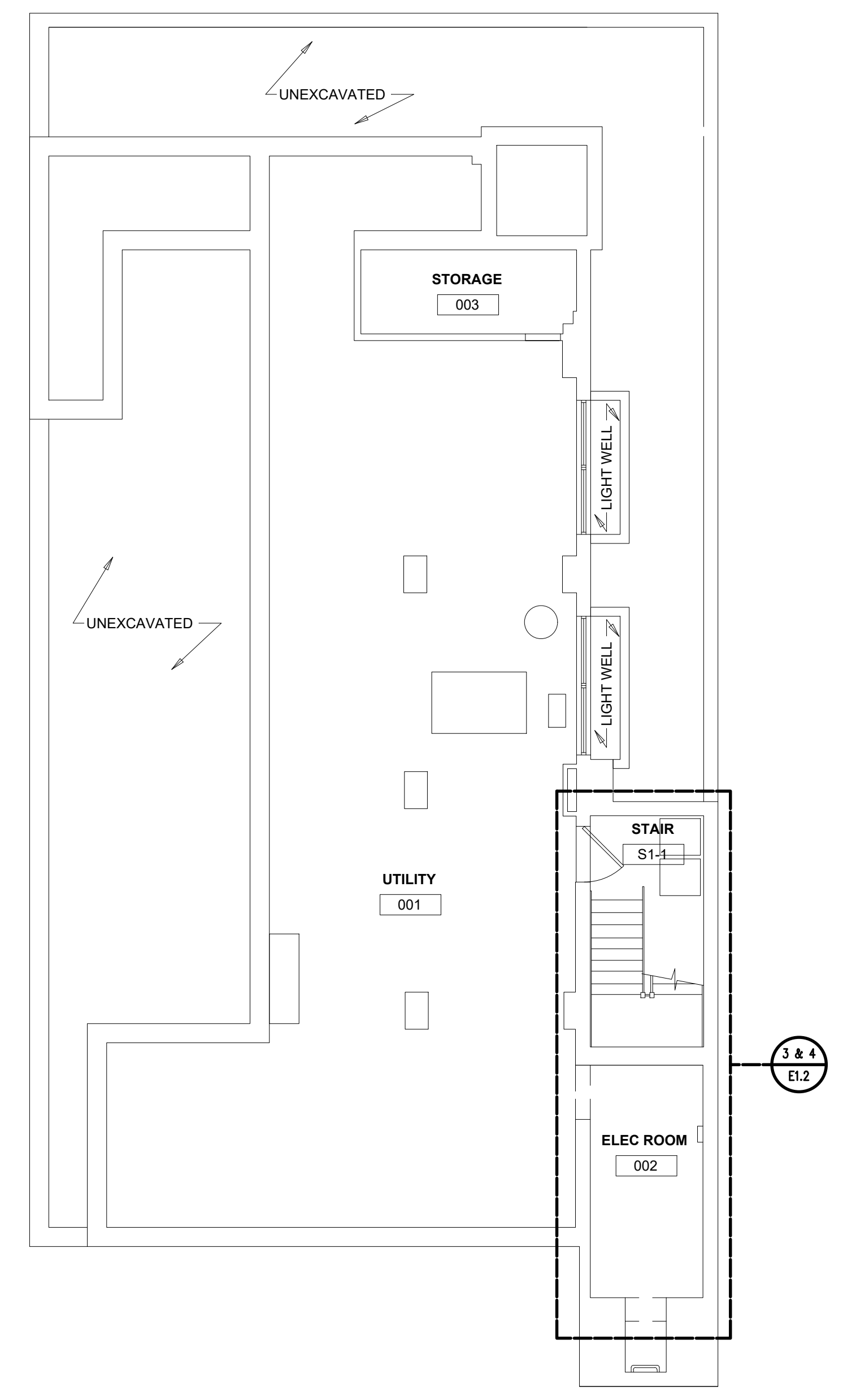
ISSUE	DATE	REVISIONS
1	11/08/22	ISSUED FOR BID

NOTES :

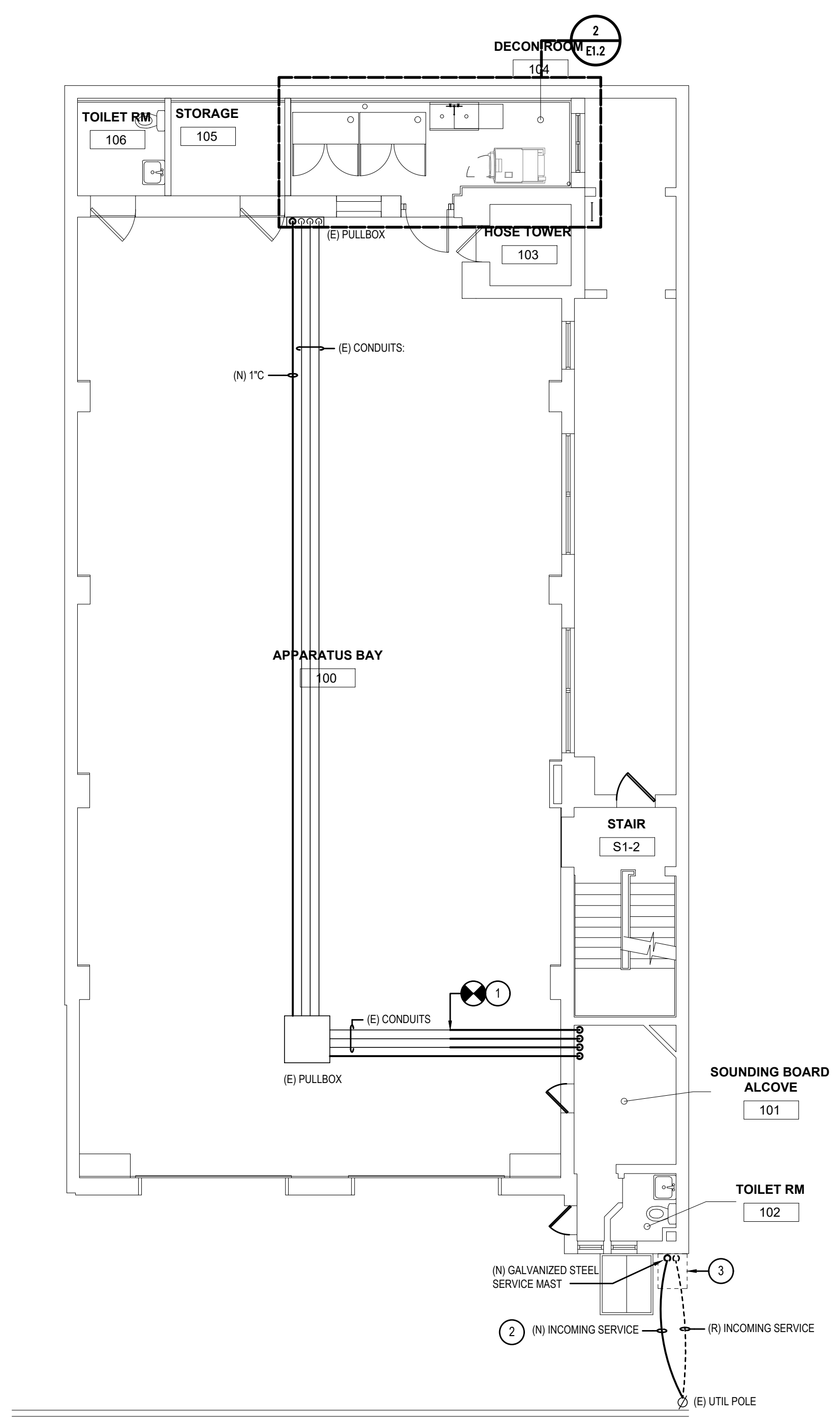
- 1- REFER TO DRAWING MPE-1 FOR HVAC, PLUMBING/FIRE PROTECTION & ELECTRICAL GENERAL NOTES, ABBREVIATIONS, LEGENDS & DRAWING LIST.

DRAWING NOTES :

- 1 EXTEND EXISTING CONDUIT PROVISIONS, AND CORE DOWN THROUGH FLOOR TO BASEMENT ELECTRICAL ROOM BELOW.
- 2 NEW INCOMING AERIAL SERVICE SHALL BE IN ACCORDANCE WITH PECC ILLUSTRATIONS 12.02 AND 12.03.
- 3 E.C. TO EXCAVATE FOR NEW SERVICE ENTRANCE AS REQUIRED, BACKFILL AND REPAIR SIDEWALK TO MATCH EXISTING. ENSURE GRADING SLOPES AWAY FROM BUILDING.



1 E1.1
BASEMENT FLOOR PLAN
ELECTRICAL NEW WORK
 SCALE : 1/8" = 1'-0"



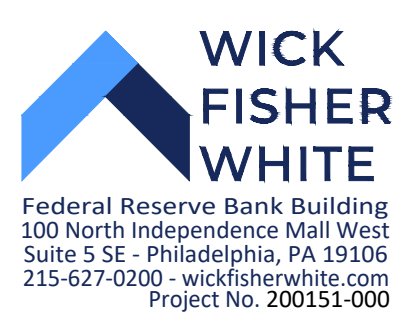
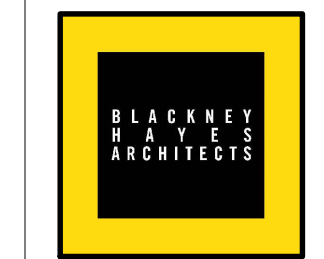
2 E1.1
FIRST FLOOR PLAN
ELECTRICAL NEW WORK
 SCALE : 1/8" = 1'-0"



KYLE O'CONNOR, PROJECT MANAGER

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SPACE FOR CONSULTANT RECOGNITION



CITY OF PHILADELPHIA
 DEPARTMENT OF PUBLIC PROPERTY
 1400 JFK BOULEVARD
 7TH FLOOR, CITY HALL
 PHILADELPHIA, PENNSYLVANIA

PROJECT TITLE
**ENGINE 72
 DECONTAMINATION SUITE**

DRAWING TITLE
FLOOR PLANS

PROJECT NO. 13-21-4643-01	DRAWING NO. E1.1
DATE 11/08/22	
SCALE NOTED	
DRAWN BY WFW	
CHECKED BY WFW	BHA No.: 20-150

1/8" ALL DIMENSIONS AND CONDITIONS SHALL BE SHOWN ON THIS DRAWING. ALL DIMENSIONS SHALL BE MEASURED FROM THE WORK.

