

GENERAL NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE NEC 2014, THE SPECIFICATIONS FOR GROUNDING, THE CONTRACT DRAWINGS, FEDERAL, STATE AND LOCAL CODES AND TO THE SATISFACTION OF THE ENGINEER. ALL

GROUNDING CONNECTIONS TO BE MADE BY THE CADWELD PROCESS OR EQUAL. 2. ALL CONDUITS AND ELECTRICAL EQUIPMENT ARE SHOWN DIAGRAMMATICALLY AND MAY BE ALTERED TO SUIT FIELD

CONDITIONS PENDING ENGINEER'S APPROVAL. 3. ALL PLANS ELEVATIONS AND CLEARANCES SHALL BE CHECKED IN THE FIELD PRIOR TO INSTALLATION TO AVOID

ALL OBSTRUCTIONS. 4. ALL JUNCTION BOXES SHALL BE OF SUFFICIENT SIZE TO PROVIDE FREE SPACE FOR ALL CONDUCTORS ENCLOSED IN THE BOX AND SHALL BE SIZED WITH THE LATEST N.E.C. ARTICLE 314.

5. ALL DIMENSIONS ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR 6. CONTRACTOR SHALL CHECK FOR OBSTRUCTIONS AND CLEAN OUT ALL CONDUITS PRIOR TO PULLING IN CABLES. 7. PHASING OF ALL ELECTRICAL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND

SHALL BE MADE IN ACCORDANCE WITH THE LOCAL UTILITY COMPANY REQUIREMENTS. 8. ALL HOLES THROUGH STRUCTURE TO ACCOMMODATE ELECTRICAL CONDUITS SHALL BE CORE DRILLED AND SEALED WITH NON-SHRINK GROUTING COMPOUND. WHERE RACEWAYS PASS THROUGH FLOORS AND FIRE RATED WALLS AND/OR PARTITIONS, CONTRACTOR SHALL FURNISH UL RATED FIREPROOFING MATERIAL TO BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND RESTORE ORIGINAL FIRE RATING.

9. THE CONTRACTOR SHALL FURNISH STRUCTURAL SUPPORT FOR ALL EQUIPMENT. FOR SURFACE MOUNTED EQUIPMENT, SUCH AS PANELBOARDS, STARTERS, SAFETY SWITCHES AND THE LIKE, PROVIDE "UNISTRUT" WITH

CORROSION RESISTANT MOUNTING HARDWARE. 10. NO CONDUIT SMALLER THAN 3/4" SHALL BE USED UNLESS OTHERWISE SPECIFIED.

11. ALL JOINTS BETWEEN DISSIMILAR METALS SHALL BE COATED WITH A LITHIUM BASED THREAD LUBRICANT.

12. RACEWAYS SHALL BE PROVIDED WITH AN APPROVED EXPANSION-DEFLECTION FITTINGS WHERE CROSSING BUILDING CONSTRUCTION EXPANSION JOINTS AND WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION. 13. FURNISH AND INSTALL CONCRETE PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.

14. PRIOR TO SUBMITTING PROPOSALS, BIDDERS ARE INSTRUCTED TO REVIEW PLANS AND SPECIFICATIONS OF ALL CONCURRENT WORK TO DETERMINE QUANTITIES OF LABOR AND MATERIAL NECESSARY TO INSTALL, CONNECT, AND TEST MATERIAL FURNISHED UNDER THESE SPECIFICATIONS. ANY ADDITIONAL LABOR AND MATERIAL REQUIRED DUE TO FAILURE OF THE CONTRACTOR TO FOLLOW THESE INSTRUCTIONS, SHALL BE FURNISHED AT NO ADDITIONAL COST TO THE OWNER.

15. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER CONTRACTORS EMPLOYED ON THIS PROJECT PRIOR TO ROUGHING IN. THE CONTRACTOR SHALL OBTAIN AND REVIEW APPROVED SHOP

DRAWINGS OF ALL OTHER TRADES AFFECTING ALL ELECTRICAL WORK 16. THE CONTRACTOR SHALL CHECK AND TORQUE TIGHTEN ALL CONNECTIONS, WHETHER FACTORY MADE OR MADE UNDER THIS CONTRACT, USING ACCURATELY CALIBRATED TOOLS. TORQUE SETTINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC RECOMMENDATIONS. IN THE ABSENCE OF THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL USE THE VALUES LISTED IN TABLES 110-2, 110-3, 110-4, AND

110-5 OF THE NATIONAL ELECTRICAL CODE HANDBOOK 17. INSTALL AN 1/8" INCH POLY PROPYLENE (PULL-IN-ROPE) IN ALL SPARE CONDUITS. 18. INSULATED COPPER CONDUCTORS FOR EQUIPMENT GROUNDING SHALL BE ROUTED WITH ALL POWER CONDUCTORS. 19. CONDUCTORS USED FOR CONTROL WIRING SHALL BE AT LEAST NO. 14 AWG AND ALL POWER CONDUCTORS SHALL

BE AT LEAST NO. 12 AWG UNLESS OTHERWISE SPECIFIED. 20. CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFETY EQUIPMENT AND EXERCISE PRECAUTIONARY PROCEDURES

WHEN WORKING WITH OR NEAR ENERGIZED EQUIPMENT. 21. CONTRACTOR SHALL REMOVE ALL OBSOLETE EQUIPMENT, CONDUITS AND WIRING, EXCEPT WHERE OTHERWISE

22. INTERRUPTION OF SERVICE SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER AND HELD TO MINIMUM IN

ORDER TO MAINTAIN THE PROPER OPERATION OF THE FACILITY. 23. WHEN CONDUIT OR CABLE RUNS FOR POWER AND LIGHTING EXCEED 60 FT. FOR 120 VOLT OR 120 FT. FOR 277 VOLT TO CENTER OF LOAD, NO. 10 AWG WIRE OR LARGER SHALL BE USED AS REQUIRED FOR A MAXIMUM 2%

VOLTAGE DROP AT FULL CIRCUIT CAPACITY. 24. HEAVIER LINE WEIGHT SYMBOLS AND TEXT INDICATE NEW WORK UNLESS OTHERWISE NOTED. LIGHT LINE WEIGHT SYMBOLS AND ITALICIZED TEXT INDICATE EXISTING CONDITIONS TO REMAIN UNLESS OTHERWISE NOTED.

25. ALL RACEWAYS SHALL BE CONCEALED AND/OR EMBEDDED WITHIN CONCRETE STRUCTURES. WHERE RACEWAYS ARE SUBJECT TO EXPOSURE AN 12 GA. ALUMINUM CHASE/COVER SHALL BE PROVIDED.

EQUIP.

EST.

EQUIPMENT

ESTIMATE

NORMAL CLOSED

NOT IN CONTRACT NORMALLY OPEN

NOT TO SCALE NIGHT LIGHT CIRCUT

PAYSTATION TELEPHONE

REMOTE CONTROL SWITCH

RECESSED, RECEPTACLE

RIGID GALVANIZED STEEL

STAINLESS STEEL, SET SCREW

POLYVINYLCHLORIDE

REINFORCING BAR

RADIO FREQUENCY

TRANSIENT VOLTAGE SURGE

UNLESS OTHERWISE NOTED

UNDERWRITING LABORATORIES

VARIABLE FREQUENCY DRIVE

CROSSLINKED POLYETHYLENE

UNINTERRUPTIBLE POWER SOURCE

SUPPRESSION DEVICE

WEATHER PROOF

NATIONAL ELECTRICAL CODE

NATIONAL ELECTRICAL MANUF. ASSOC.

PLUMBING CONTRACTOR/PULL CHAIN

PULL BOX, BREAKER OR SWITCH POLE

PAPER INSULATED LEAD COVERED

REMOTE GENERATOR ANNUNCIATOR

<u>ABBREVIATIONS</u>	
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ENCL.

ENCLOSURE

ENTRANCE

PERCENT

AND

PHASE

ø, PH	PHASE	ESI.	ESTIMATE	NEMA	NATIONAL ELECT
C*.	CENTIGRADE DEGREES	EX.	EXISTING	NIC	NOT IN CONTRAC
C*. F*.	FAHRENHEIT DEGREES	EXT.	EXTERNAL/EXTERIOR	NO	NORMALLY OPEN
1/0	SINGLE CONDUCTOR	F.A.	FIRE ALARM	NO., #	NUMBER
1/C A.C.B.	AIR CIRCUIT BREAKER	F.E.	FIRE EXTINGUISHER	NTS"	NOT TO SCALE
A.C.B.		£.E.		AII	NIGHT LIGHT CIR
A.I.C.	AMPERES INTERRUPTING CAPACITY	F.O.	FIBER OPTIC	NL	
A.T.C.	AUTOMATIC TEMPERATURE CONTROL	FDN.	FOUNDATION	P	POLE
A.T.S.	AUTOMATIC TRANSFER SWITCH	FIG.	FIGURE	PC	PHOTO CELL
A/C.	AIR CONDITION	FIN.	FINISH/FINISHED	P.C.	PLUMBING CONTI
ÁC.	ALTERNATING CURRENT	FIXT.	FIXTURE	P.I.L.C.	PAPER INSULATE
AC				PB, P	PULL BOX, BREA
ADDL.	ADDITIONAL	FL.	FLOOR	rp, r	DANIEL DOADD
AF	AMPERE FRAME	FLA	FULL LOAD AMPERES	PNL.	PANELBOARD
A-F	AMPERE FUSE	FLEX.	FLEXIBLE	PORC.	PORCELAIN
AFF	ABOVE FINISHED FLOOR	F.L.M.C.	FLEXIBLE LIQUIDTIGHT METALLIC CONDUIT	PRI. PS	PRIMARY
AFG	AROVE FINISHED GRADE	FLUOR.	LED	PS	PAYSTATION TEL
AFG	AID HANDING HAIT	FC.		PTD.	PAINTED
AHU	AIR HANDLING UNIT	FC	FOOTCANDLE		
AL.	ALUMINUM	FT.	FOOTCANDLE FEET FUSE/FUSED GENERAL CONTRACTOR	PVC	POLYVINYLCHLOF
AMP., A.	AMPERE	FU.	FUSE/FUSED	R	RADIUS
APPROX.	APPROXIMATE	G.C.	GENERAL CONTRACTOR	R.C.SW.	REMOTE CONTRO
ARCH.	ARCHITECTURAL	GA.	GAGE/GAUGE	REBAR.	REINFORCING BA
AT	AMPEDE TOID	GALV.	GAGE/GAUGE GALVANIZED	REC.	RECESSED, RECE
A 1	AMPERE INF	OCH.		RECPT.	RECEPTACLES
ASY.	ASTMMETRICAL	GEN.	GENERATOR	NEOL II	
AUX.	AUXILIARY	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	REQ'D	REQUIRED
B.F.C.	BELOW FINISHED CEILING	GFI	GROUND FAULT INTERRUPTER	REV.	REVISE/REVISION
BKR.	BREAKER	GND., G	GROUND	RF	RADIO FREQUEN
BLDG.	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AIR HANDLING UNIT ALUMINUM AMPERE APPROXIMATE ARCHITECTURAL AMPERE TRIP ASYMMETRICAL AUXILIARY BELOW FINISHED CEILING BREAKER BUILDING	H.I.D.	HIGH INTENSITY DISCHARGE HAND OFF AUTO HIGH PRESSURE SODIUM HEXAGON HANDHOLE	RGA	REMOTE GENERA
BSMT.	BASEMENT	H.O.A.	HAND OFF AUTO	RGS	RIGID GALVANIZE
		11.V.A.	HIGH PRESCURE CONTIN	RM	ROOM
C	CONDUIT	H.P.S.	HIGH PRESSURE SUDIUM	IVIVI	
C OF U	COEFFICIENT OF UTILIZATION	HEX.	HEXAGON	RT	ROOFTOP
C.T., CT	CURRENT TRANSFORMER	HH HORIZ.	HANDHOLE	S.F.	SQUARE FEET
CB, CIR. BKR., C/B	CIRCUIT BREAKER	HÖRİZ.	HORIZONTAL	5.5.	STAINLESS STEE
CCTV	CLOSED CIRCUIT TELEVISION	HP	HORSEPOWER	SEC.	SECONDARY
CKT., CIR, CIRC	CIRCUIT	HP. HPF	HIGH POWER FACTOR	SECT.	SECTION
CK I., CIR, CIRC			HEIGHT	SEP.	SEPARATE
CL.	CLOSET	HT., H	TEIGH I	SERV.	
CLG.	CEILING	HWH	HORIZONTAL HORSEPOWER HIGH POWER FACTOR HEIGHT HOT WATER HEATER HERTZ INTERMEDIATE CONDUIT INCANDESCENT INSULATION/INSULATED		SERVICE
CO.	COMPANY	HZ.	HERTZ	SHT.	SHEET
COAX.	COAXIAL CABLE	IMC	INTERMEDIATE CONDUIT	SIG.	SIGNAL
COL.	COLUMN	INC.	INCANDESCENT	SK.	SKETCH
COMP	COMPLETE	INSUL.	INSULATION/INSULATED	SN	SOLID NEUTRAL
	CONCRETE	ISOL.	ISOLATED	SPECS.	SPECIFICATIONS
CONC.				SQ.	
CONDR.	CONDUCTOR	JB, J	JUNCTION BOX		SQUARE
CONN	CONNECTED, CONNECTOR	KAIC	THOUSAND AMPERES INTERRUPTING CAPAC		STATION
CONST.	CONSTRUCTION	KVAR	KILOVAR	SURF.	SURFACE
CONT.	CONTINUATION	KO	KNOCKOUT	SUSP.	SUSPENDED
CONTR.	CONTRACTOR	KW	KILOWATT	SW.	SWITCH
		KCMIL	THOUSAND CIRCULAR MILS	SWBD	SWITCHBOARD
COORD.	COORDINATE	KWH	KII OWATT HOUR	SYM.	SYMMETRICAL
CORR	CORRIDOR	KHZ	VII AUEDT7	JIM.	
CPU	CENTRAL PROCESSING UNIT	ND4	KILOHERIZ	TC	TIME CLOCK
CT	CURRENT TRANSFORMER	KV	KILUVULI	TEL.	TELEPHONE
Cu	CORRIDOR CENTRAL PROCESSING UNIT CURRENT TRANSFORMER COPPER, CONDENSING UNIT CONDENSING UNIT CUBIC FEET	KVA	KILOVAR KNOCKOUT KILOWATT THOUSAND CIRCULAR MILS KILOWATT HOUR KILOHERTZ KILOVOLT KILOVOLT KILOVOLT—AMPERE LENGTH LINEAR FEET	THRU	THROUGH
ou .	CONDENSING UNIT	LG.	LENGTH	TRANS./XFMR	TRANSFORMER
CU	CUBIC FEET	LF	LINEAR FEET	TVSS	TRANSIENT VOLT
		LG.	LONG	1422	
CM	CLOCKWISE, COOL WHITE	1 Ph 4	LOOKED DOTOD ALIDEDED	JU	SUPPRESSION D
D	DEPTH DEMAND DIAMETER DISCONNECT SWITCH DIVISION DOWN	#!/\\	LOUNED NOTON AWITENES	TYP.	TYPICAL
DEM	DEMAND	<u>L1.</u>	LIOTI	U.O.N.	UNLESS OTHERW
DIA.	DIAMETER	LTG.	LIGHTING	UH	UNIT HEATER
DISC	DISCONNECT SWITCH	M.L.O.	MAIN LUGS ONLY	UL	UNDERWRITING L
DIV.	DIVICION	M/C	MULTI-CONDUCTOR	UPS	UNINTERRUPTIBL
	DIVISION	MANUE MER	MANUFACTURER	V	VOLTAGE, VOLTS
DN.	DOWN	MAN () MILEN	AAAVIMI IM	V	
DPST	DOUBLE POLE SINGLE THROW	MAX.	LIGHT LIGHTING MAIN LUGS ONLY MULTI-CONDUCTOR MANUFACTURER MAXIMUM MAIN BREAKER MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER THOUSAND CIRCULAR MILLS MAIN DISTRIBUTION PANEL MAIN DISTRIBUTION SWITCHBOARD MECHANICAL	VD	VOLTAGE DROP
DRAW., DWG.	DRAWING	MB	MAIN BREAKER	VERT.	VERTICAL
E.C.	ELECTRICAL CONTRACTOR	MCB	MAIN CIRCUIT BREAKER	VS.	VERSUS
E.F., EF	DRAWING ELECTRICAL CONTRACTOR EXHAUST FAN	MCC	MOTOR CONTROL CENTER	VFD	VARIABLE FREQU
imitis for for the form to th	ELECTRIC HEATER	MCM	THOUSAND CIRCULAR MILLS	w	WIRE
E.H.	CTIVICIE DOODY CHE DUDDED	MDP	MAIN DISTRIBUTION PANEL	** *** (WROUGHT IRON
E.P.R.	ETHYLENE PROPYLENE RUBBER	MDS	MAIN DISTRIBUTION SWITCHROADD	W.I.	
E.W.	EACH WAY	M ひつ	MUNICAL MONTON THE MONTON OF T	W/	WITH
EA.	EACH		MECHANICAL	11/ 0	WITHOUT
EHT	ELECTRICAL HEAT TRACING CABLE	MET.	METALLIC	WD.	WIDE
ELEC. CLO.	ELECTRICAL CLOSET	MF	MECHANICAL METALLIC MAINTENANCE FACTOR MOTOR GENERATOR	WP	WEATHER PROOF
ELEC. /ELECT.	ELECTRIC	MG	MOTOR GENERATOR	XLP	CROSSLINKED P
		MIN.	MINIMUM		with the second
ELEV./EL.	ELEVATION/ELEVATOR	1 11 44 44	MISCELLANEOUS		
EM	EMERGENCY POWER PACK COMPLETE				
EMT	ELECTRICAL METALLIC TUBING	MTD.	MOUNTED		
ENO	ENICH OCHIDE	MTG.	MOUNTING		

MOUNTING

NEUTRAL

	ELECTRICAL DRAWING LIST
DWG. No.	DRAWING TITLES
E-1.0	ELECTRICAL COVER SHEET
ES-1.1	ELECTRICAL DEMOLITION SITE PLAN
ES-2.1	ELECTRICAL SITE PLAN
E-1.1	ELECTRICAL DEMOLITION FIRST AND PARTIAL SECOND FLOOR PLANS
E-2.1	ELECTRICAL LIGHTING FIRST AND PARTIAL SECOND FLOOR PLANS
E-3.1	ELECTRICAL POWER FIRST FLOOR PLAN
E-3.2	ELECTRICAL HVAC POWER FIRST AND ENLARGED BOILER ROOM FLOOR PLANS
E-3.3	ELECTRICAL HVAC POWER ROOF PLAN
E-4.1	ELECTRICAL SYSTEMS FIRST AND PARTIAL SECOND FLOOR PLANS
E-5.1	ELECTRICAL SINGLE LINE DIAGRAM AND DETAILS
E-6.1	ELECTRICAL SCHEDULES

STANDARD MO	UNTING HEIGHTS
MOUNTING HEIGHTS FOR EQUIPMENT SHAL SPECIFICALLY LABELED. (UNLESS OTHERW CENTERLINE OF BOXES.)	L BE AS LISTED BELOW UNLESS OTHERWIS SE NOTED, ALL DIMENSIONS ARE TO THE
SWITCHES	3'-8" A.F.F.
TELEPHONE - WALL TYPE	3'-8" A.F.F.
TELEPHONE - DESK TYPE	1'-6" A.F.F.
RECEPTACLE - GENERAL OFFICE	1'-6" A.F.F.
RECEPTACLE - MECHANICAL ROOMS	3'-0" A.F.F.
FIRE ALARM GONG OR HORN	6'-8" TO BOTTOM OF GONG OR HORN
FIRE ALARM PULL STATION	3'-8" A.F.F. TO CENTER OF PULL
FIRE ALARM STROBE LIGHT	6'-8" A.F.F. TO BOTTOM OF STROBE
MOTION DETECTORS	6'-5" A.F.F.
PANELBOARDS	6'-0" TO TOP OF CIRCUIT BREAKER MA
EXIT LIGHTS - WALL OR END MOUNTED	ABOVE DOORS (MIN. 7'-6" A.F.F. CLEA
KEY PAD	3'-8" A.F.F.
DATA ·	1'-6" A.F.F.
VOLUME CONTROL	3'-8" A.F.F.
TIMERS (NON-ADA)	4'-6" A.F.F.

	WIRE SIZE (AWG/K	CMIL)		& CONDUIT S	
CKT. TYPE	CONDUCTOR & NEUTRAL	GROUND	A 2W+G	B 3W+G	C 4W+G
1	14	14	3/4	3/4	3/4
2	12	12	3/4	3/4	3/4
3	10	10	3/4	3/4	3/4
4	8	10	3/4	3/4	3/4
5	6	10	3/4	1	1
6	4	10	1	1-1/4	1-1/4
7	4	8	1	1-1/4	1-1/4
8	3	8	1-1/4	1-1/4	1-1/4
9	2	8	1-1/4	1-1/4	11/2
10	1	6	1-1/4	1-1/2	2
11	. 1	6	1-1/4	11/2	2
12	1/0	6	1-1/2	2	2
13	2/0	6	2	2	2
14	3/0	6	2	2	2-1/2
15	4/0	2	2	2-1/2	2-1/2
16	250 KCMIL	2	2	2-1/2	2-1/2
17	300 KCMIL	2	2	2-1/2	2-1/2
18	350 KCMIL	2	2	2-1/2	3
19	400 KCMIL	1/0	2	2-1/2	3
20	500 KCMIL	1/0	2-1/2	3	3-1/2
21	(2) 4/0	(2) 2		(2) 2	(2) 2-1
22	(2) 250 KCMIL	(2) 2		(2) 2	(2) 2-1
23	(2) 350 KCMIL	(2) 1		(2) 2-1/2	(2) 3
24	(2) 500 KCMIL	(2) 1/0		(2) 3	(2) 3-1
25	(3) 300 KCMIL	(3) 1/0	****	(3) 2-1/2	(3) 3
26	(3) 400 KCMIL	(3) 2/0		(3) 3	(3) 3
27	(3) 500 KCMIL	$(3) \ 3/0$		(3) 3	(3) 3-1
28	(4) 350 KCMIL	$(4) \ 3/0$		(4) 2-1/2	(4) 3
29	(4) 500 KCMIL			(4) 3	(4) 3-1
30	(5) 400 KCMIL			(5) 3	(5) 3
31	(5) 500 KCMIL	(5) 250		(5) 3	(5) 3–1
32	(6) 400 KCMIL			(6) 3	(6) 3-1
33	(7) 500 KCMIL	(7) 350		(7) 3	(7) 3–1
34	(8) 500 KCMIL	(8) 400		(8) 3	(8) 3-1

REMINGTON, VERNICE &WALBERG ENGINEERS 4907 NEW JERSEY AVENUE

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EDWARD J. WALBERG NJ PROFESSIONAL ENGINEER LIC. No. 37259

DATE: 08-22-77 CHRISTOPHER A. SAPONARO

NJ PROFESSIONAL ENGINEER LIC. No. 40059

PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID

ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK
ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF
SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT
INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE
BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT
OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, RESULTING THEREFROM

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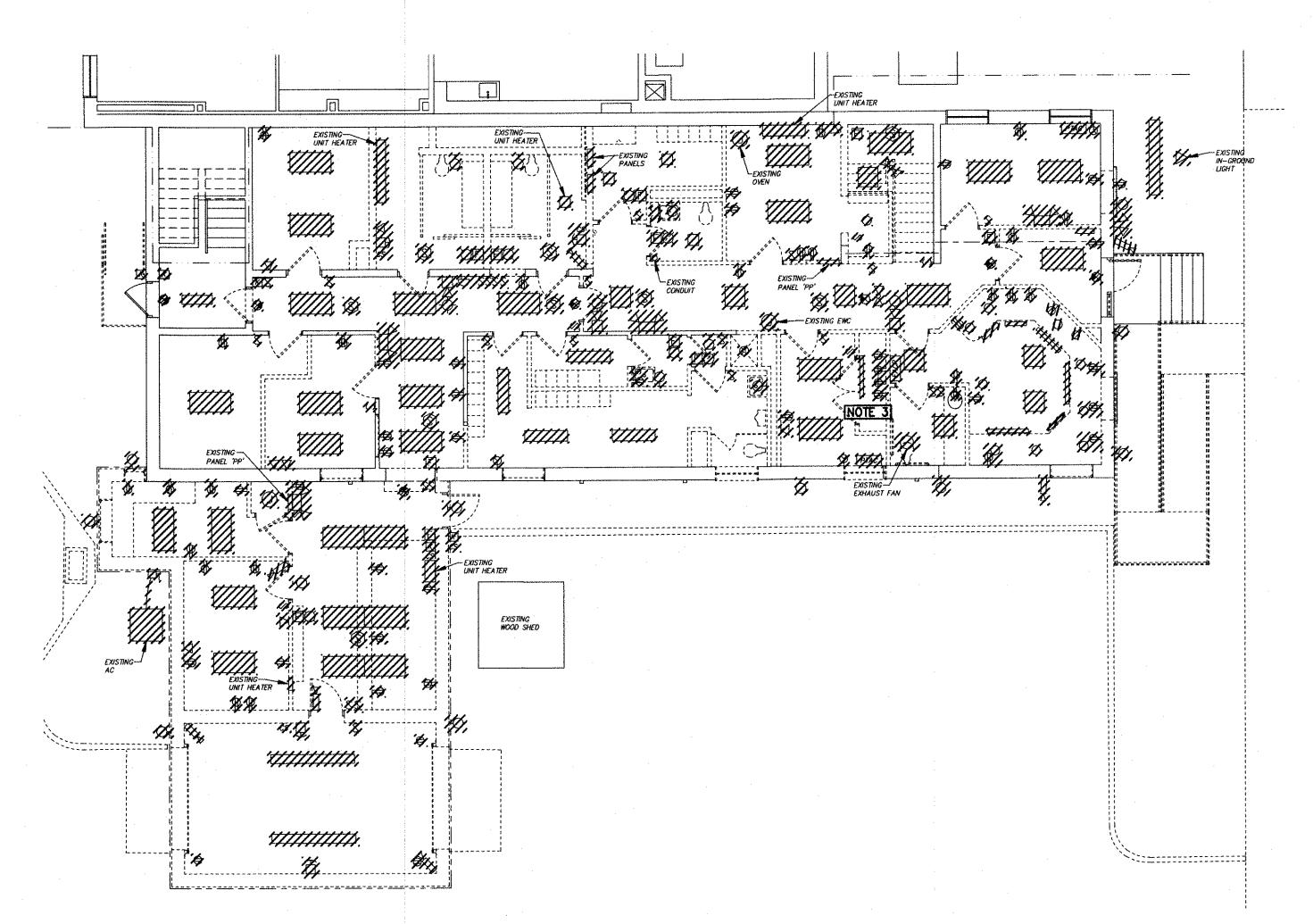
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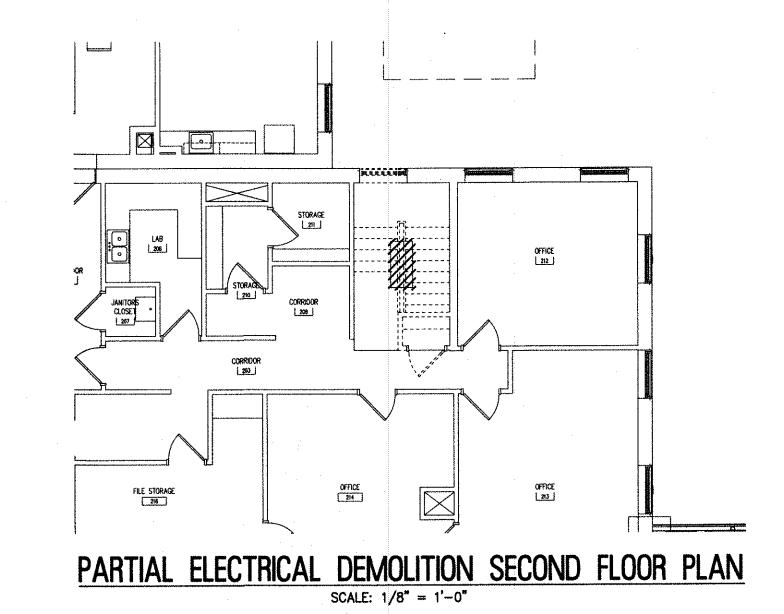
JOB No.:

05-10-U-072.1

ISSUED FOR BID DATE: 08-26-2017

(2A) = (2)#12AWG, (1)#12GRD IN 3/4" C.





ELECTRICAL DEMOLITION FIRST FLOOR PLAN SCALE: 1/8" = 1'-0"

1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING E-1.0 APPLY TO THIS DRAWING.
2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS ARE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
3. RELOCATE EXISTING RADIOS AND COMMUNICATION EQUIPMENT TO MAIN SERVER 113.

ISSUED FOR BID

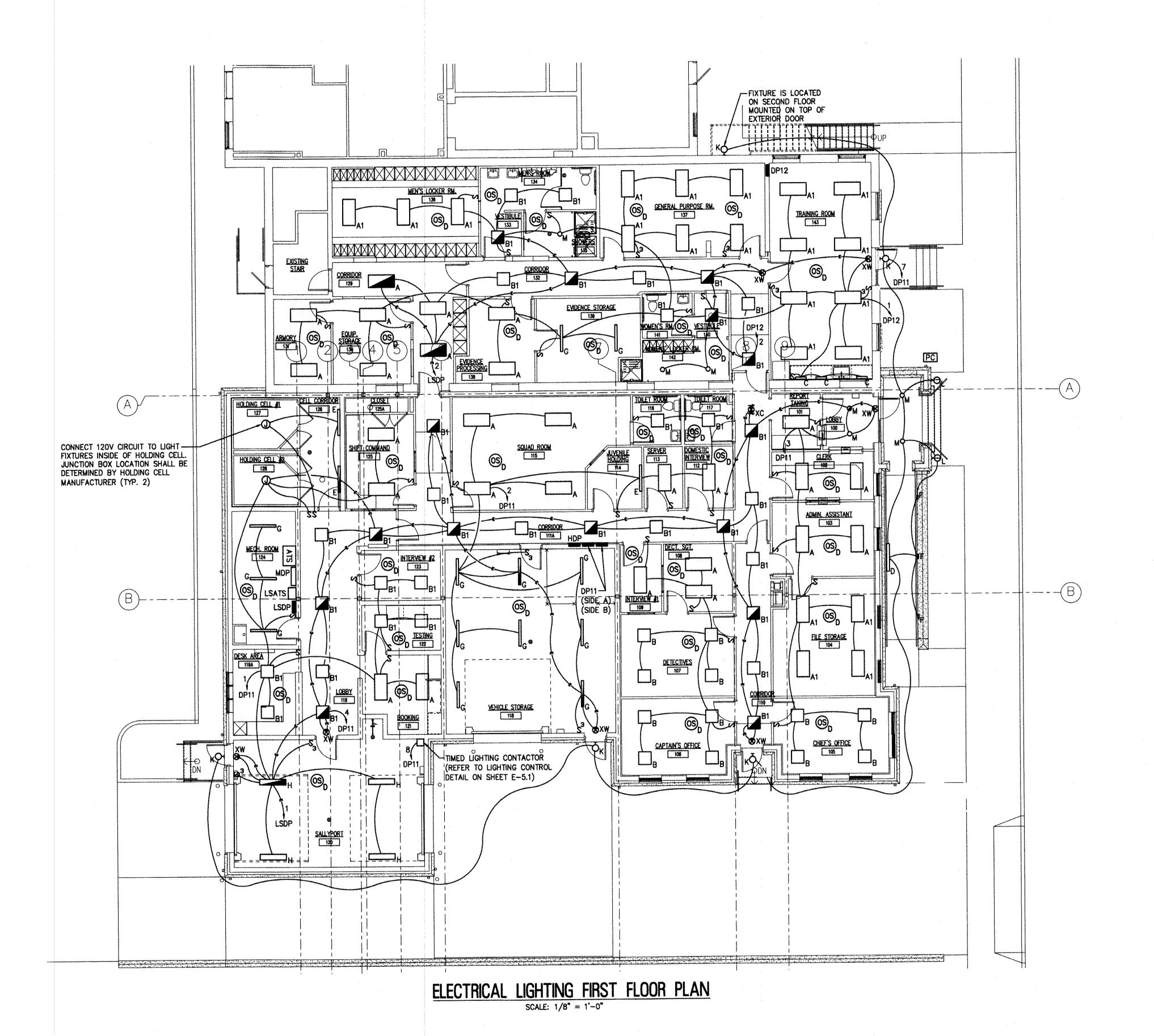
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i				IGIN RVII OW RITTI RNII RPC THO VER IALL RNII MAC	L A		_	V		
FIRST DEWONTENS AND				EEF CE II NER I AN EN V CK E SES, UNIC CK E SES,	N			VA 49 WI (60 VEB		
				RS AN RE OR F OR F OR F OR F OR F OR F OR F OR F	S 3 O S	ST	A			
DADTIAL SEPOND CLOND DIANIC				ND SPE SPE OTH THE ICA NEE NDE LITY IGIN INSE SEE	V 1			BI NE WC 522- TE A		
LANIAL SECOND FLOOR FLANS				AFF CT RESE RESERVICE RESE	111	H		EF W OOI 515	2	
				ILIA OF T NTE ON I ROJ I OR IND / ILL B I HO IND / ID E)	CHSE	EF	-	JEI D C i0, F RES	?	
				TES HE I D TO EXTE ADA AFFI AL E ND I LD I (PEN	D	2/	_	RS ITY AX SS:		
				AR PRO BE ENSI I A! PTAT I OW XPO VFF!! IAR! ISES	O	1.		EY (, N (60) W on: 2		
STONE HARROR DOI ICE STATION				E INC. SUIT SUIT SUIT SUIT SUIT SUIT SUIT SUIT	N R E			G AV I.J. 9) 5 w. 4 G/	7	
				STF TABL OF SEVI ES SETC ES; SE FOR ISIN	ONO	P		IN 08 22-4 RVI 28		
SINGLE STORY EXPANSION				RUM HEY E FC THE SE V REM THE OLE OLE AND EMI ALI G OI	r i			1UE 326 531: E.C.		
				ENT ARE PRO VITH INGT SPEK MINIO NGT L CL	B E			E 0 3 0 0 0 0 0	٠.	
ROUGH OF STONE HARBOR CAPE MAY COUNTY NEW JERSEY	No. REVISION	NOI	DATE BY CHK	S OF NOT EUSE JECT JOUT ON & CIFIC (AND STON WIER ON & AIMS, IF OR	A RID.	RO 059	G 259	RS		$\overline{\ \ }$
blE-1.1 Electrical Demolifian Floor Planding]

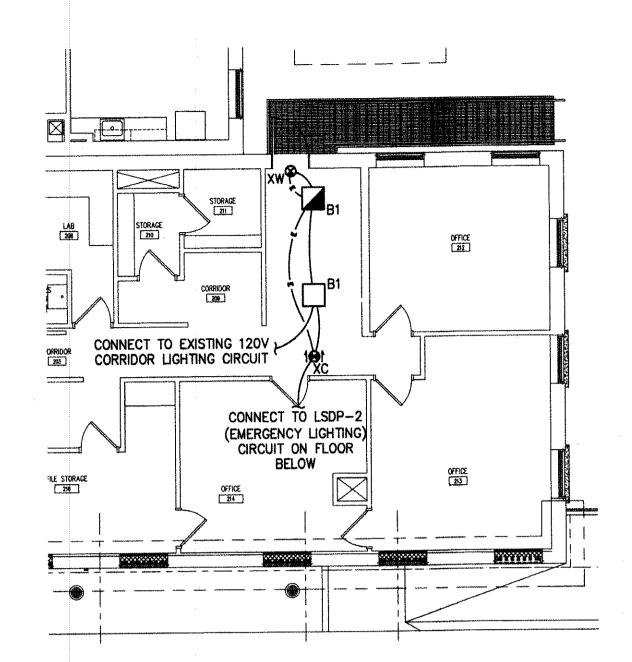
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B.G. AS NOTED

DATE:

8/2017 JOB No.: 05-10-U-072.1





PARTIAL ELECTRICAL LIGHTING SECOND FLOOR PLAN SCALE: 1/8" = 1'-0"



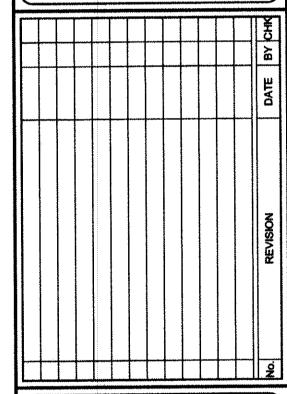
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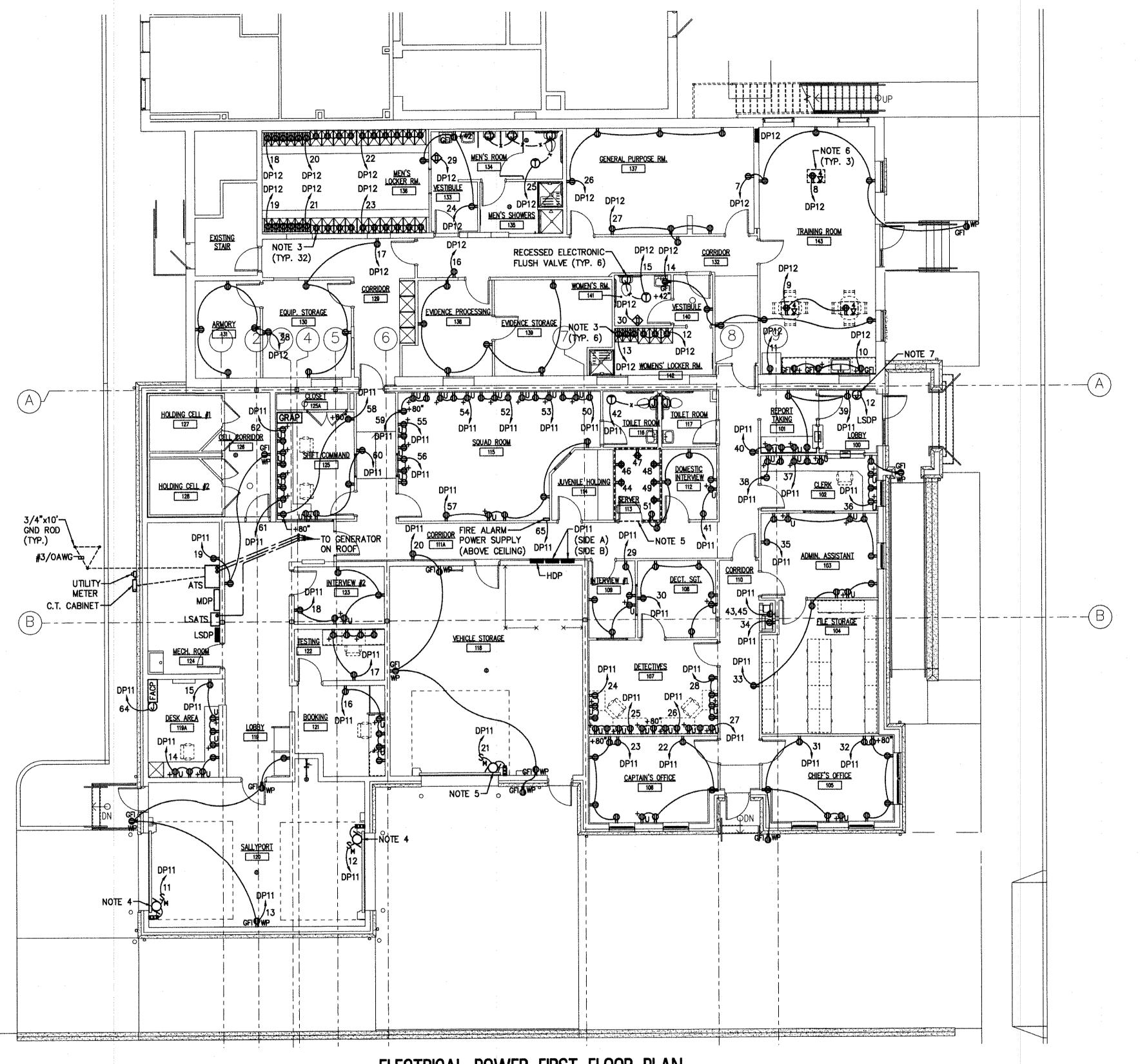
ELECTRICAL PARTIAL SI

DRAWN BY: DESIGN BY: OFFICE DEV: SCALE:

8.M. B.G. AS NOTED SHEET No. : JOB No. : 05-10-U-072.1

NOTES:

1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING E-1.0 APPLY TO THIS DRAWING.
2. THIS DRAWING IS DIAGRAMMATIC, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM EXISTING SITE CONDITIONS AND INSTALLATION CLEARANCES PRIOR TO SHOP DRAWING SUBMISSIONS AND INSTALLATION. SHOULD THE CONTRACTOR DETERMINE THAT THE INSTALLATION OF ANY ELECTRICAL COMPONENT IS RESTRICTED OR NOT ABLE TO BE INSTALLED IN THE SUGGESTED LOCATION THE CONTRACTOR SHALL READDRESS THE INSTALLATION ACCORDINGLY AND IN COMPLIANCE WITH NEC2014, AT NO ADDITIONAL COST.

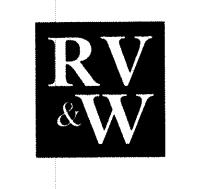


ELECTRICAL POWER FIRST FLOOR PLAN SCALE: 1/8" = 1'-0"

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- 3. MOUNT RECEPTACLES WITHIN LOCKERS. 4. INTEGRATE WITH WIRELESS ENTRY CONTROLLER TO ALLOW VEHICLE ACCESS.
- 5. ALL QUADRAPLEX RECEPTACLES IN SERVER 113 SHALL BE WIRED TO PANEL 'DP11'. 6. PROVIDE MIN. 2 HOUR UL FIRE RATED, LEGRAND EVOLUTION SERIES 10" POKE THRU DEVICE OR APPROVED EQUAL.
- 7. PROVIDE POWER FOR EMERGENCY CALL BOX.

ISSUED FOR BID



REMINGTON, VERNICK &WALBERG ENGINEERS

> 4907 NEW JERSEY AVENUE WILDWOOD CITY, N.J. 08260 (609) 522-5150, FAX (609) 522-5313 WEB SITE ADDRESS : WWW.RVE.COM Certification of Authorization: 24 GA 28048700 ~ENGINEERING EXCELLENCE SINCE 1901~

EDWARD J. WALBERG NJ PROFESSIONAL ENGINEER LIC. No. 37259

NJ PROFESSIONAL ENGINEER LIC. No. 40059

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FL00R **POWER**

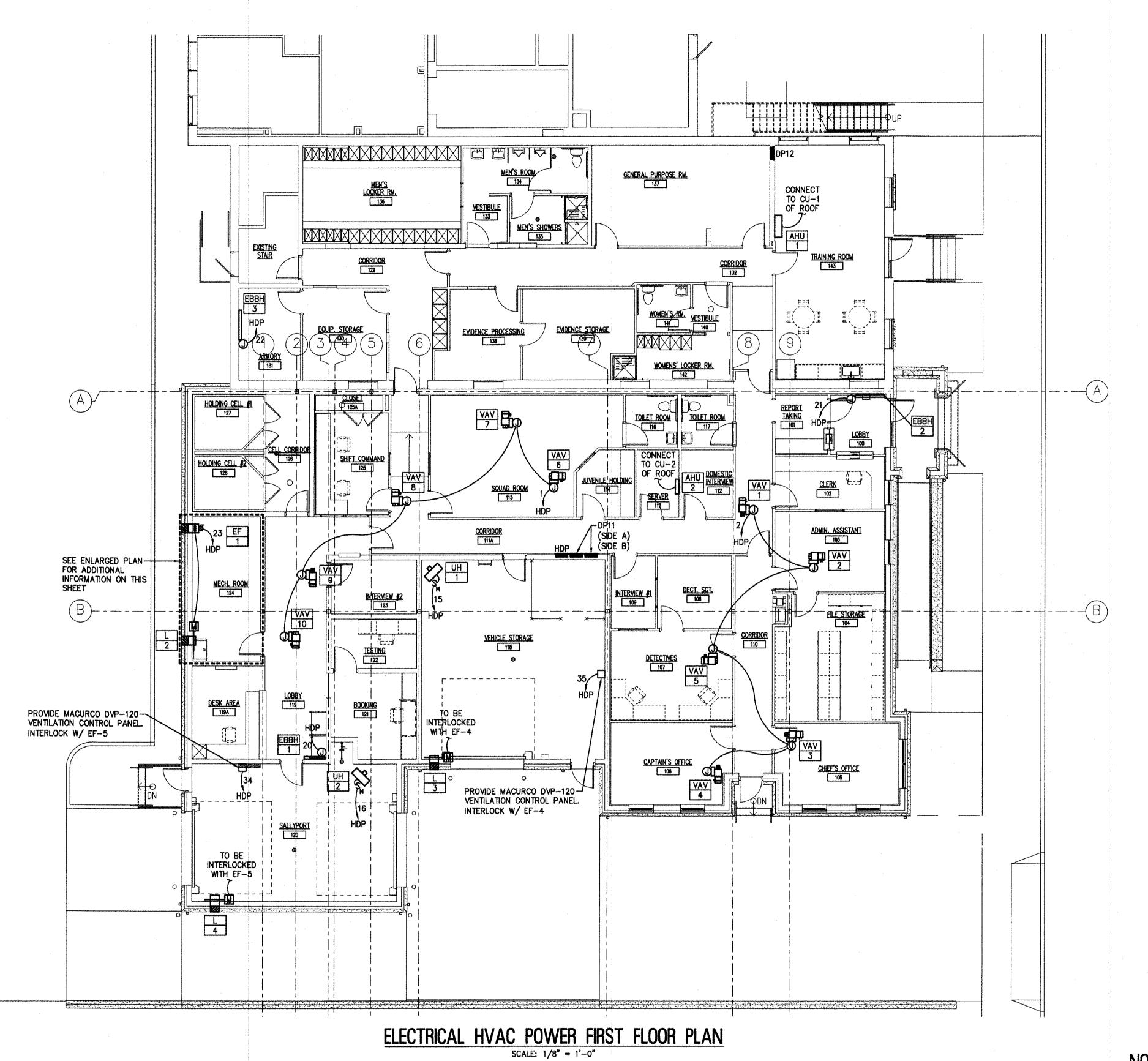
STONE HARBOR POLICE STATION SINGLE STORY EXPANSION

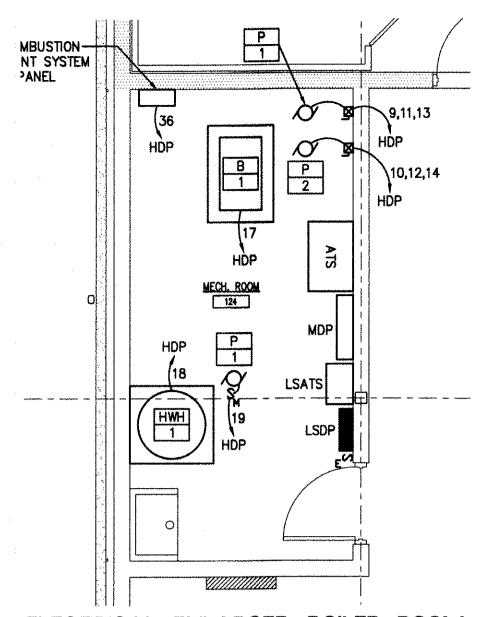
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AS NOTED 8/2017

ELECTRICAL

JOB No.: 05-10-U-072.1





ELECTRICAL ENLARGED BOILER ROOM HVAC POWER FLOOR PLAN

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

NOTES:

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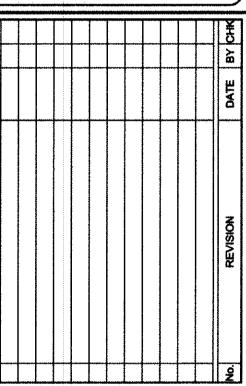
> 4907 NEW JERSEY AVENUE WILDWOOD CITY, N.J. 08260 (609) 522-5150, FAX (609) 522-5313 WEB SITE ADDRESS : WWW.RVE.COM Certification of Authorization: 24 GA 28048700 ~ENGINEERING EXCELLENCE SINCE 1901~

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CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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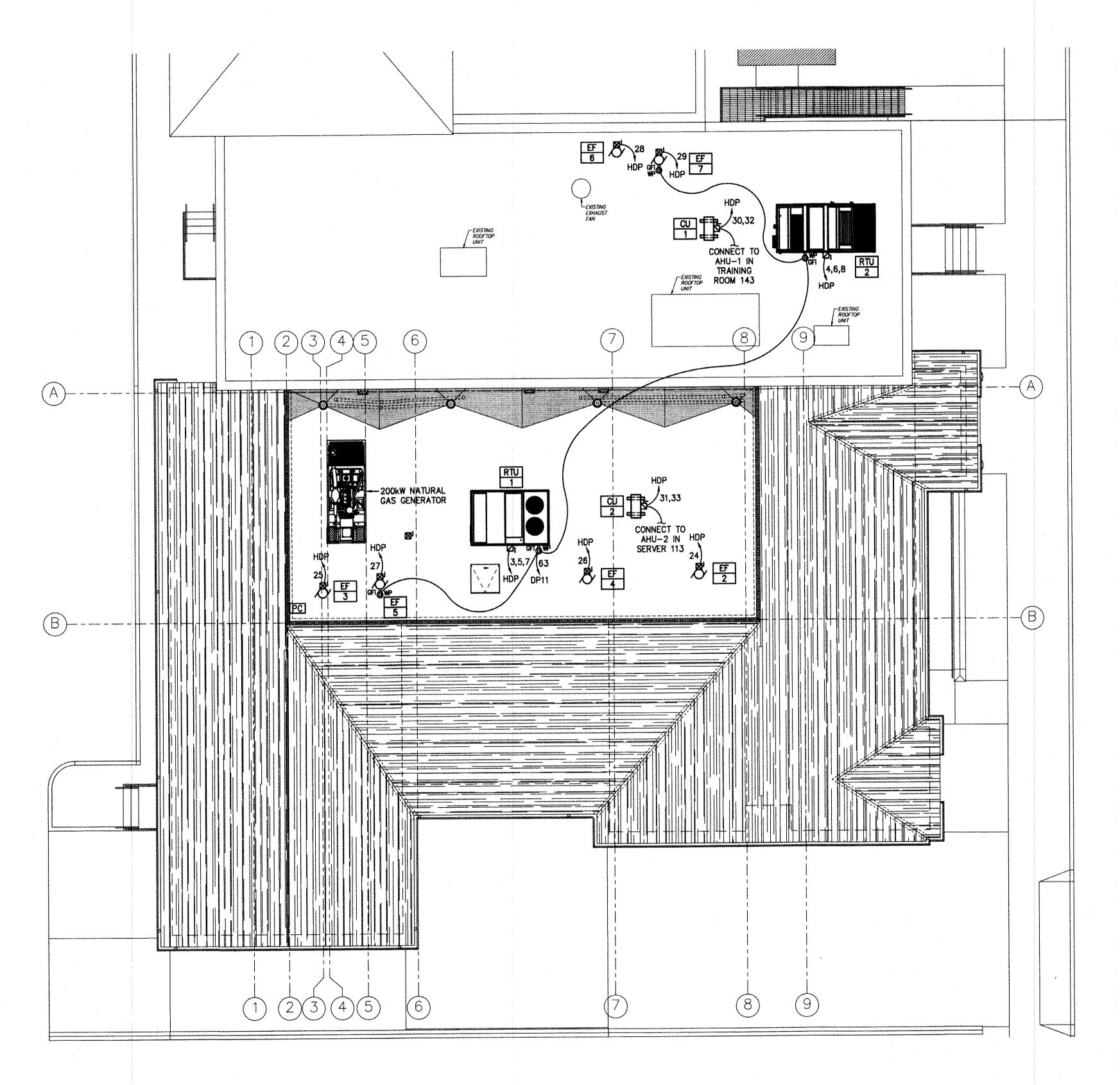
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R FIRST FLOOR POWER ROOM FL

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JOB No.: 05-10-U-072.1



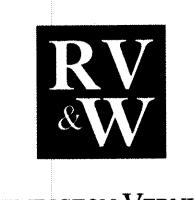
ELECTRICAL HVAC POWER ROOF PLAN

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

NOTES:

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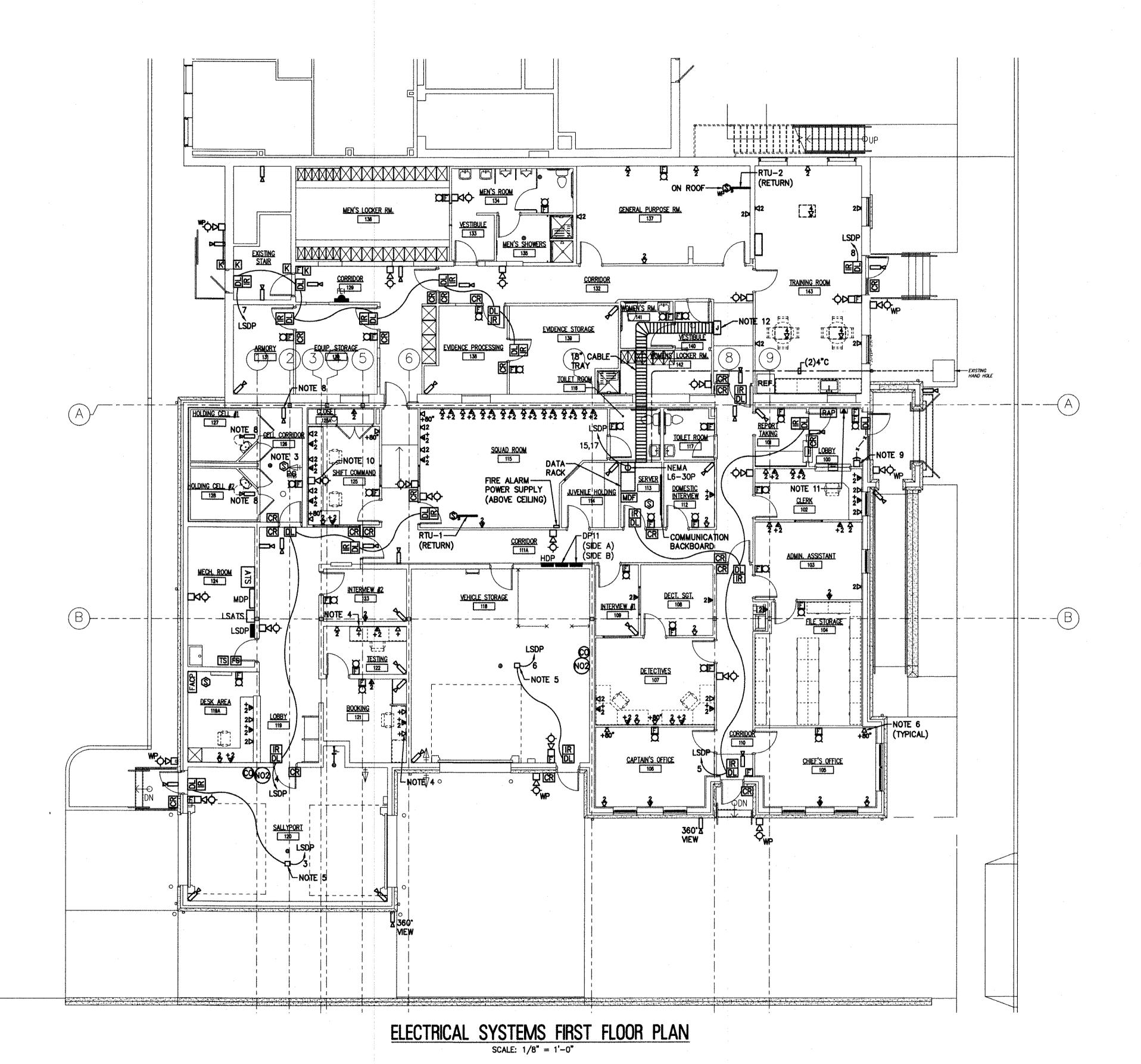
ROOF **POWER**

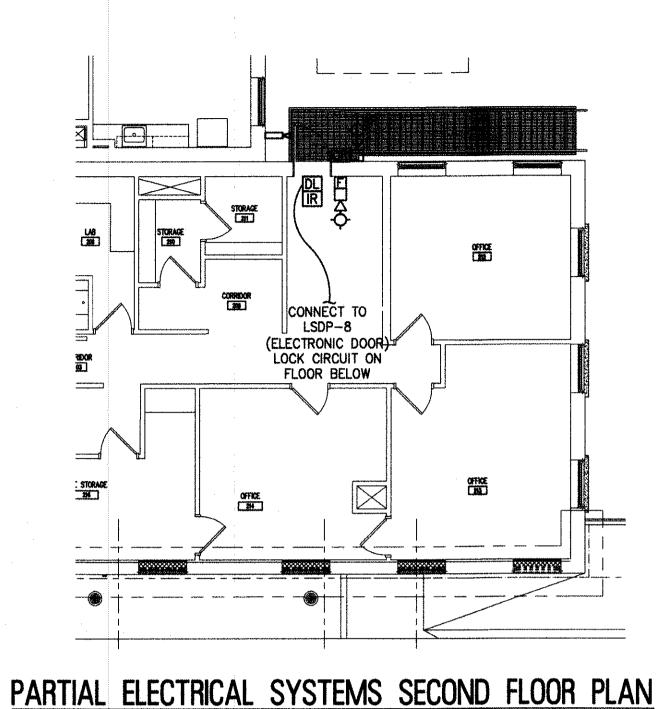
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B.G.

B.G.

05-10-U-072.1





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

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- 3. PROVIDE PROTECTIVE GUARD FOR SMOKE DETECTOR.
 4. PROVIDE CAT 6 DATA CABLE TO COMMUNICATIONS BACKBOARD FOR DIRECT LINE TO STATE
- 5. PROVIDE WIRELESS ACCESS CONTROL FOR VEHICLE ENTRY AND EXIT INTO SALLY PORT AND VEHICLE STORAGE. INTEGRATE ACCESS CONTROL WITH OVERHEAD DOOR CONTROLLER. PROVIDE (30) WIRELESS ACCESS CONTROLLERS FOR VEHICLES.
- 6. PROVIDE WALL MOUNTED 36" LCD FLAT SCREEN MONITOR FOR VIDEO SURVEILLANCE SYSTEM. PROVIDE HDMI CABLE IN SURFACE MOUNTED RACEWAY TO BELOW WORKING TABLE.
 7. PROVIDE 24/12VOLT.
- 7. PROVIDE 24/12VOLT.
 8. PROVIDE VANDAL PROOF SECURITY CAMERA ENCLOSURES.
- 9. PROVIDE EMERGENCY PANIC BUTTON TO LOCK MAIN ENTRANCE DOOR (LOBBY 100) AND NOTIFY SHIFT COMMAND OF AN EMERGENCY.

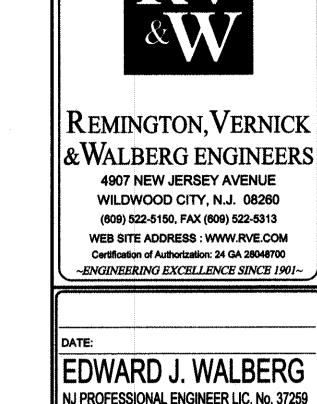
 10. PROVIDE A HORN/STROBE ALARM ACTIVATED WHEN THE EMERGENCY PUSH BUTTON IN
- LOBBY 100 IS PUSHED.

 11. PROVIDE A PHONE CONNECTION FOR EMERGENCY CALL STATION.

 12. PROVIDE MINICIPAL BOY ABOVE CEUING EXTEND ALL EXISTING ANTENNA AND

12. PROVIDE JUNCTION BOX ABOVE CEILING. EXTEND ALL EXISTING ANTENNA AND COMMUNICATIONS WIRE TO NEW SERVER 113.

ISSUED FOR BID



EDWARD J. WALBERG

NJ PROFESSIONAL ENGINEER LIC. No. 37259

MANUAL PROFESSIONAL ENGINEER LIC. No. 40059

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No. REVISION DATE BY CHK

ELECTRICAL SYSTEMS FIRST AND PARTIAL SECOND FLOOR PLANS STONE HARBOR POLICE STATION SINGLE STORY EXPANSION

DRAWN BY: DESIGN BY: CREATER BY SCALE:

8.M. B.G. SHEET No.:
8/2017
JOB No.:
05-10-U-072.1



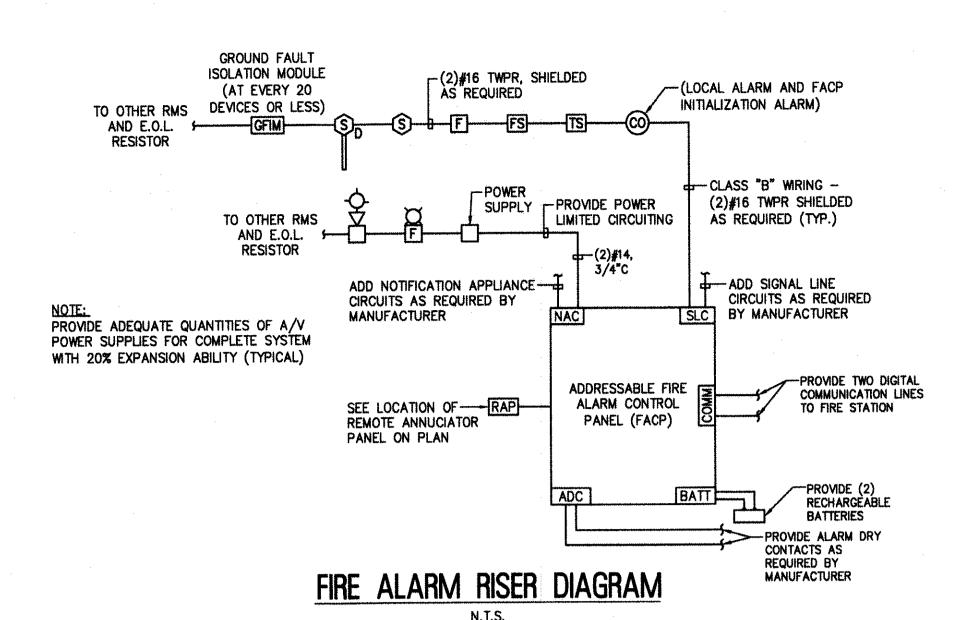
- 1. THIS SYSTEM DESIGN AND PERFORMANCE IS BASED ON AN ADDRESSABLE VOICE ANNUNCIATED FIRE ALARM CONTROL PANEL (FACP) WITH DOOR-MOUNTED DISPLAY/CONTROLS AND INTERNAL BATTERY BACKUP.
- 2. ALL WIRING SHALL COMPLY WITH PROJECT SPECIFICATIONS, NFPA 72, IBC 2006, ADAAG, UL 1971. AND THE REQUIREMENTS OF THE LOCAL AHJ.
- 3. ALL WIRE AND CABLE SHALL HAVE A WIRE MARKER ON EACH END, OR EQUAL. ALL MARKERS SHALL BE TYPED. SHIELDS ON ALL SHIELDED CABLE SHALL BE CONTINUOUS, GROUNDED AT THE FIRE ALARM CONTROL PANEL ONLY, AND ISOLATED FROM GROUND ELSEWHERE. 4. MOUNTING FOR ALL DEVICES SHALL COMPLY WITH IBC, NFPA 90A, NFPA 72, NEC, AND ADAAG.
- 5. FOR CONDUIT APPLICATIONS. USE ELECTRICAL METALLIC TUBING (EMT) AT ALL LOCATIONS INDOORS AND RIGID METAL CONDUIT OUTDOORS. ALL CONDUIT SIZE SHALL BE 3/4" MINIMUM. 6. CONTRACTOR SHALL REPAIR/PATCH AND/OR REPAINT TO MATCH ADJACENT AREAS, ANY
- 7. THE FIRE ALARM VENDOR MUST CALCULATE THE NOTIFICATION APPLIANCES CANDELA RATINGS AND DESIGNATE THEM ON THE SHOP DRAWINGS. ALL STROBE SETTING MUST COMPLY WITH NFPA 72 REQUIREMENTS.

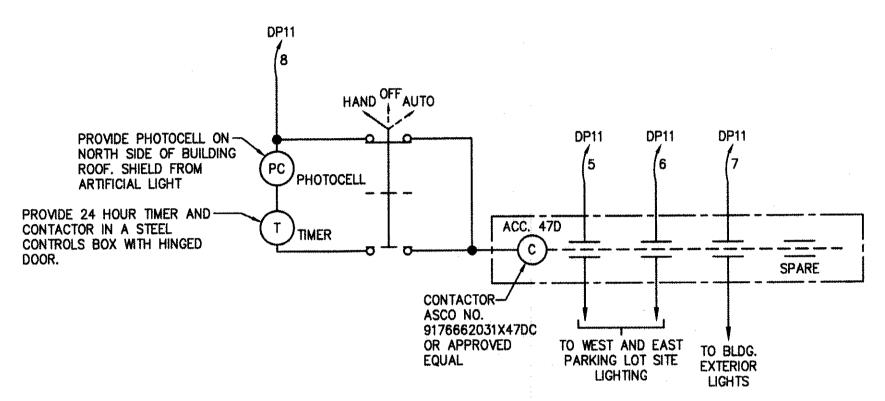
AREAS DAMAGED (OR WHERE ITEMS WERE REMOVED/DEMOLISHED) BY WORK OF THIS

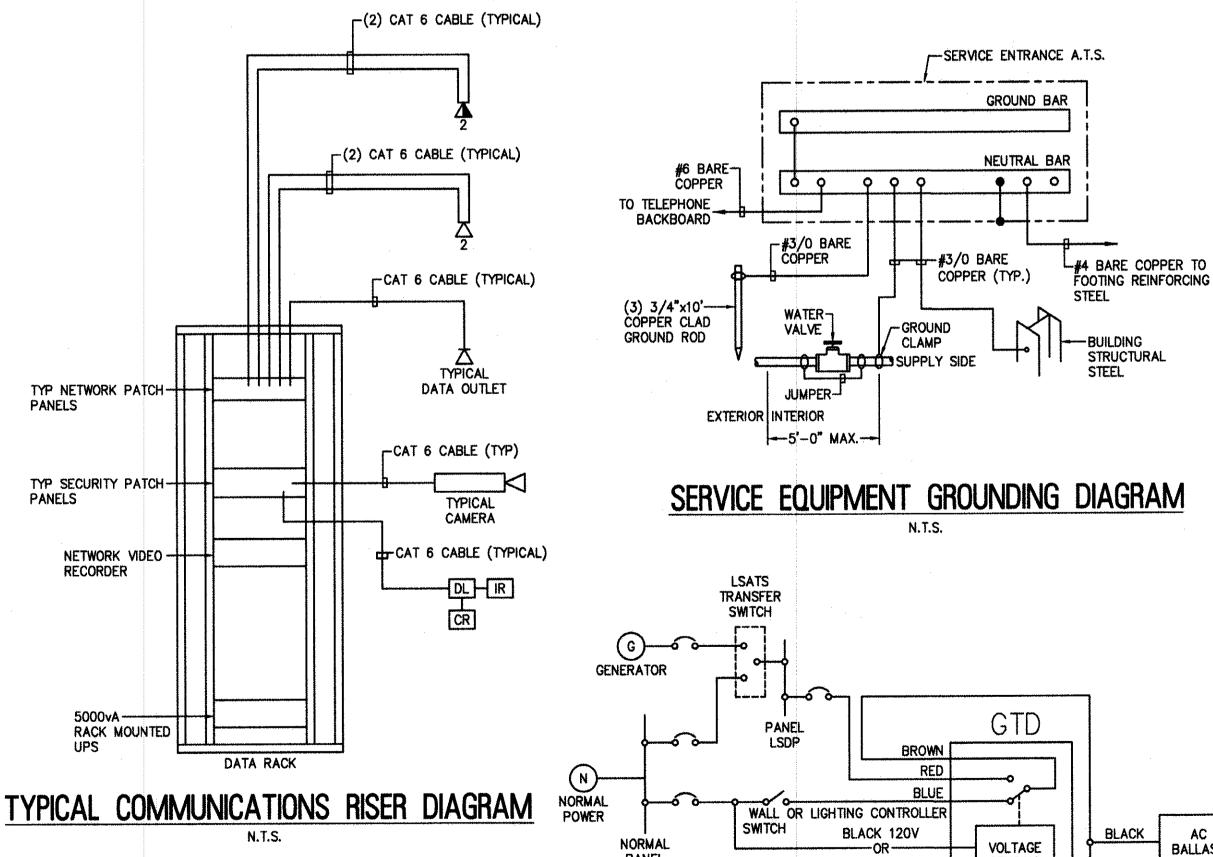
- 8. DUCT SMOKE DETECTORS SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR AND WRED FOR FAN SHUTDOWN BY THE ELECTRICAL CONTRACTOR. EACH DUCT SMOKE DETECTOR SHALL HAVE A REMOTE ALARM INDICATOR WITH KEY TEST SWITCH, INSTALLED AND WIRED. PROVIDE A DUCT DETECTOR FOR EACH AIR HANDLING UNIT RATED 2000 CFM OR GREATER. COORDINATE INSTALLATION LOCATION AND QUANTITIES WITH THE MECHANICAL CONTRACTOR.
- 9. ACCEPTANCE TESTING MUST BE PERFORMED IN ACCORDANCE WITH NFPA 72 AND THE AUTHORITY HAVING JURISDICTION.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROGRAMMING NECESSARY FOR SYSTEM MODIFICATION. IN THE EVENT, IF CONTRACTOR PULLS THE EXISTING SERVICE SOFTWARE, CONTRACTOR SHALL BARE ALL THE EXPENSES AND FEES ASSOCIATED WITH THE SCOPE OF
- 11. UPON COMPLETION OF FINAL TESTING. THE SYSTEM MANUFACTURER SHALL SUBMIT RECORD DRAWINGS DETAILING AS-BUILT CIRCUITING AND INCORPORATING ALL FIELD AND DESIGN DIRECTIVES GIVEN THROUGH OUT THE PROJECT
- 12. ALL FIRE ALARM DEVICES PROVIDED SHALL MEET THE ATMOSPHERIC APPLICATION RATING FOR THE LOCATION EACH DEVICE IS INSTALLED (PROVIDE WET LOCATION RATED IN ALL AREAS WHERE DEVICE IS LIKELY TO GET WET).
- 13. WHERE MAGNETIC DOOR RELEASE DEVICES ARE REQUIRED THE CONTRACTOR SHALL PROVIDE ALL POWER SUPPLY AND WIRING FOR A COMPLETE INSTALLATION.

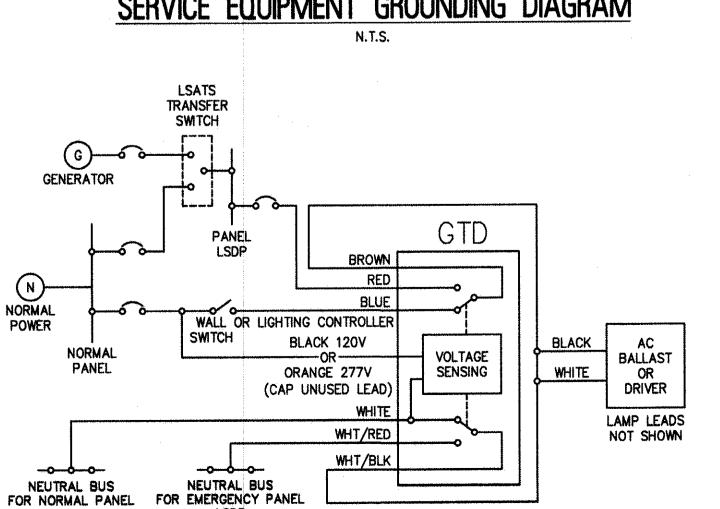
FIRE ALARM SYSTEM RISER NOTES:

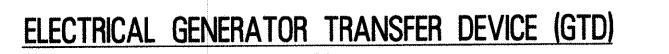
- 1. THIS RISER DIAGRAM IS A REPRESENTATION OF THE INTENDED SYSTEM FOR THIS PROJECT. SEE THE FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF FIELD EQUIPMENT. SEE THE PROJECT SPECIFICATIONS FOR PERFORMANCE AND COMPLIANCE REQUIREMENTS. QUANTITY AND SIZE OF CONDUCTORS TO BE DETERMINED BY MANUFACTURER.
- 2. CONTRACTOR SHALL PROVIDE ADEQUATE POWER SUPPLIES WITH BATTERY BACKUP TO PROVIDE A TURN KEY INSTALLATION. ALL POWER SUPPLIES SHALL NOT EXCEED 80%
- CAPACITY TO ALLOW FOR FUTURE GROWTH. 3. ALL WIRING REQUIREMENTS SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
- 4. PROVIDE END OF LINE RESISTERS AS NECESSARY.
- 5. PROVIDE ADDRESSABLE MONITORING AND CONTROL MODULES AS REQUIRED.
- 6. ALL ADDRESSABLE SLC'S SHALL BE NFPA 72 CLASS B, STYLE 4. 7. ALL NOTIFICATION NAC'S SHALL BE NFPA 72 CLASS B, STYLE Y.
- 8. STROBE CANDELAS MUST BE SIZED AND LOCATED PER NFPA 72 REQUIREMENTS.
- 9. ALL PANEL BATTERY BACKUP SHALL BE SIZED A MINIMUM OF 24HR STANDBY & 5 MINUTES OF ALARM. 10. A COMPLETE SET FOR FIRE ALARM PRODUCT CUT SHEETS, FIRE ALARM SHOP DRAWINGS,
- AND BATTERY/ VOLTAGE/ LOAD CALCULATIONS MUST BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION. IN ADDITION A SEPARATE SUBMISSION SHALL BE PROVIDED TO THE AUTHORITY HAVING JURISDICTION.

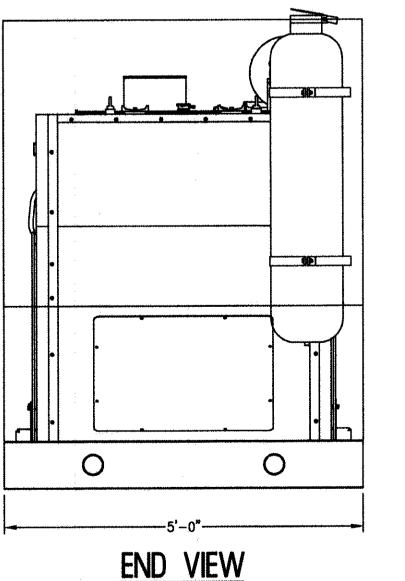


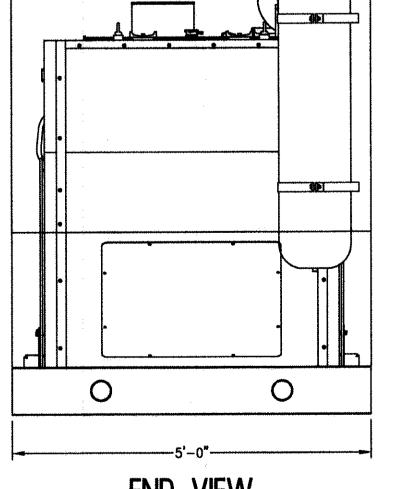


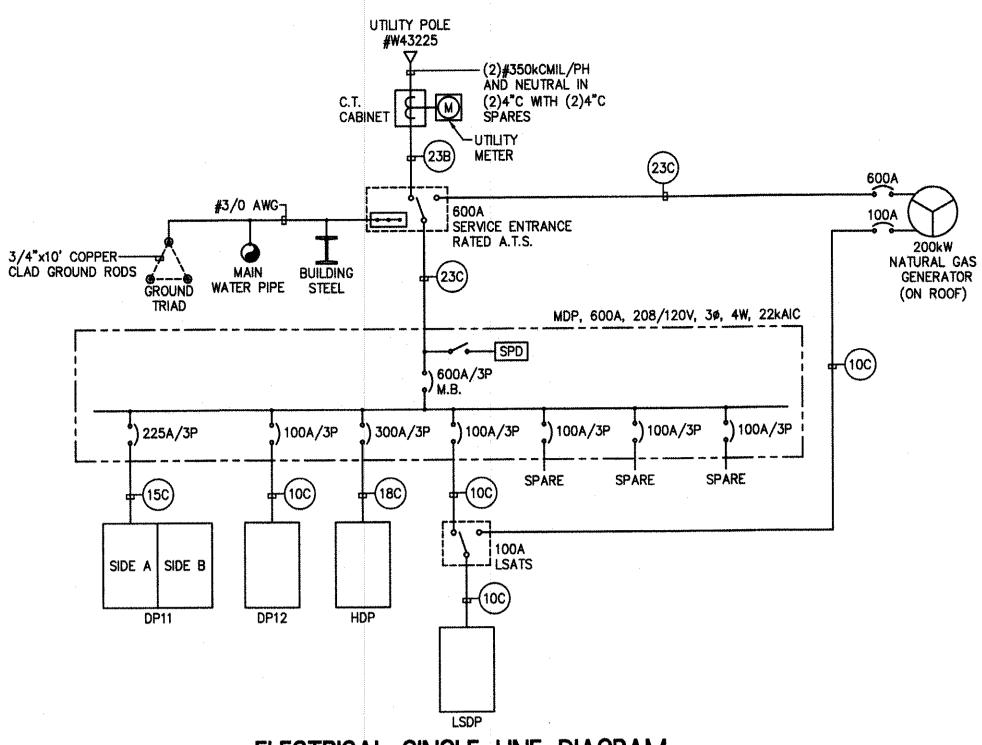




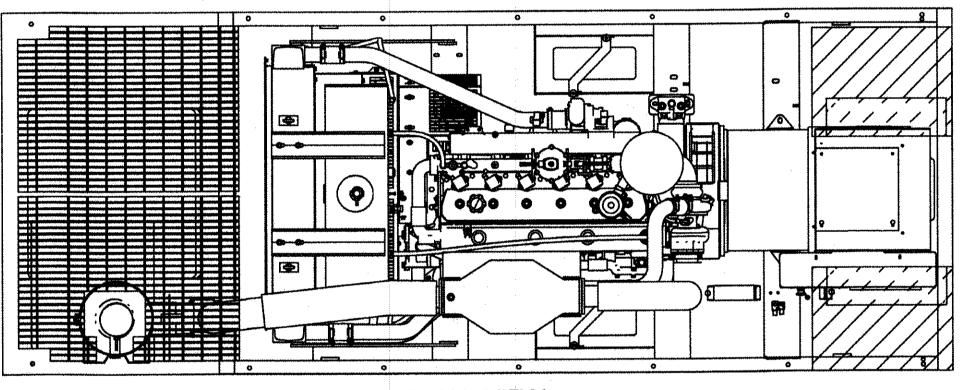




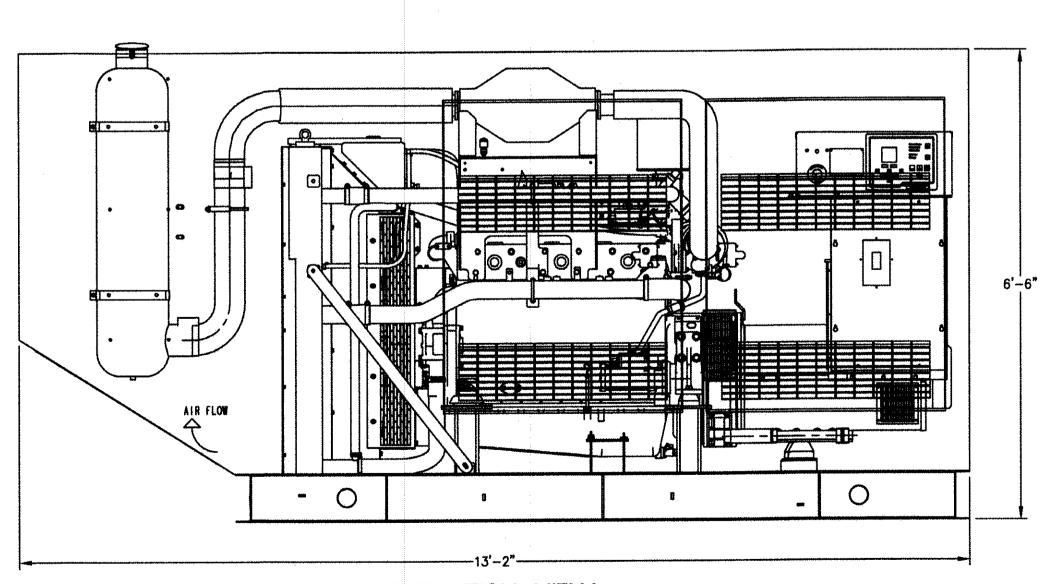




ELECTRICAL SINGLE LINE DIAGRAM N.T.S.



PLAN VIEW



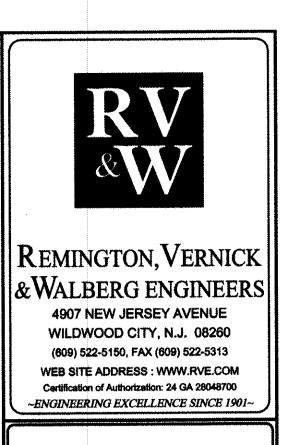
ELEVATION VIEW

200kW NATURAL GAS EMERGENCY GENERATOR SCALE: 3/4" = 1'-0"

NOTES:

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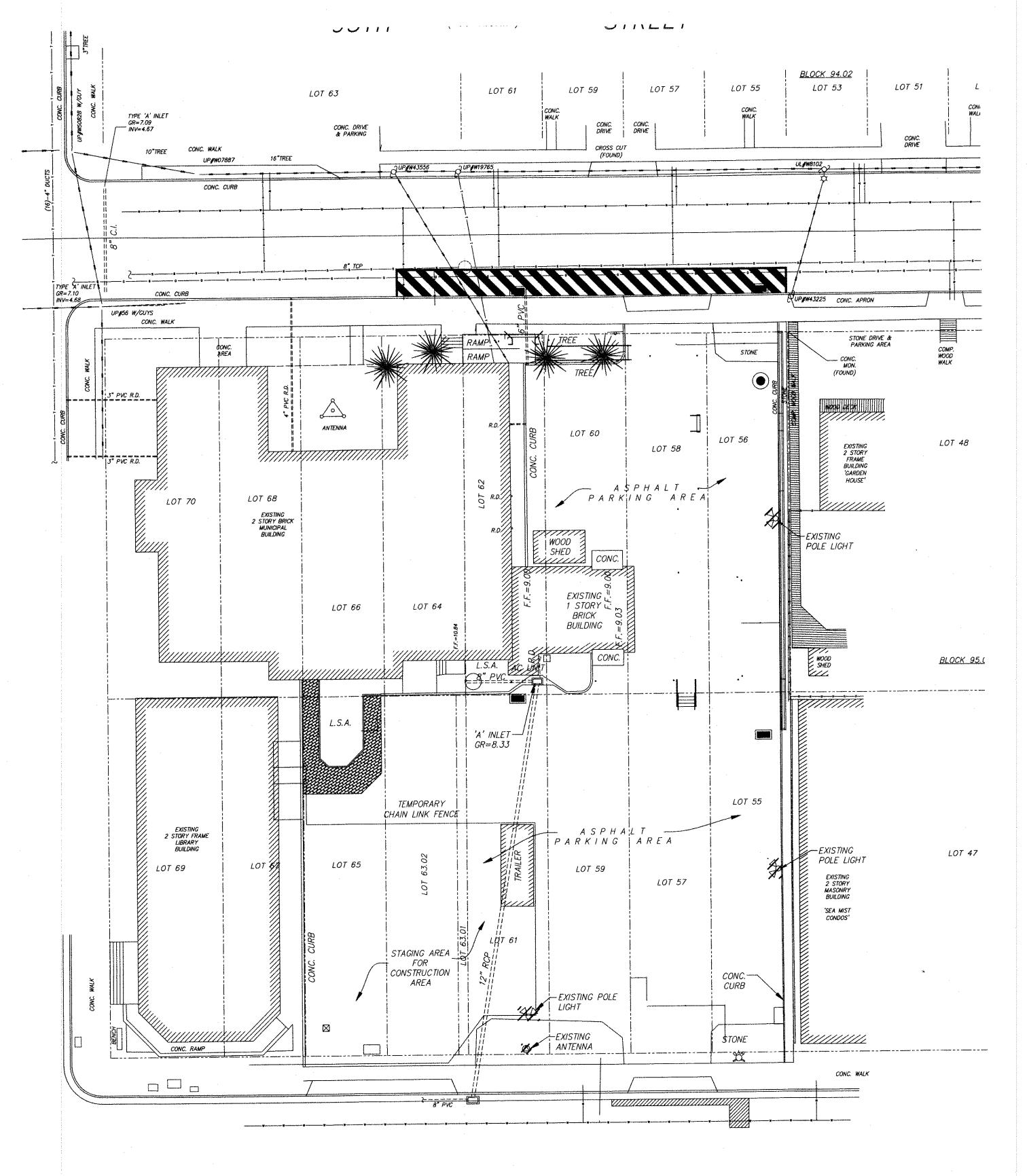
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HARBOR POLICE STATION SLE STORY EXPANSION

E - 5.1

DRAWN BY: DESIGN BY: B.G.

JOB No.: 05-10-U-072.1



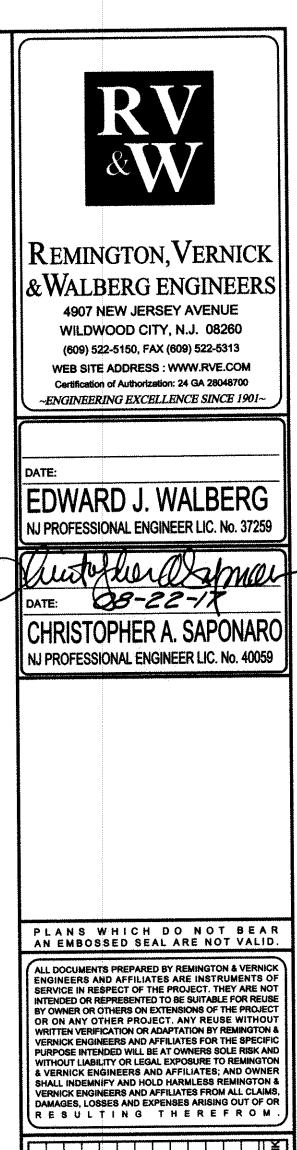
ELECTRICAL DEMOLITION SITE PLAN

SCALE: 1" = 20'-0"

NOTES:

ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING E-1.0 APPLY TO THIS DRAWING.
 THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION
REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF
WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY
INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS ARE
REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING
OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE
COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.

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WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M .

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ECTRICAL DEMOLITION SITE PLAN STONE HARBOR POLICE STATION SINGLE STORY EXPANSION

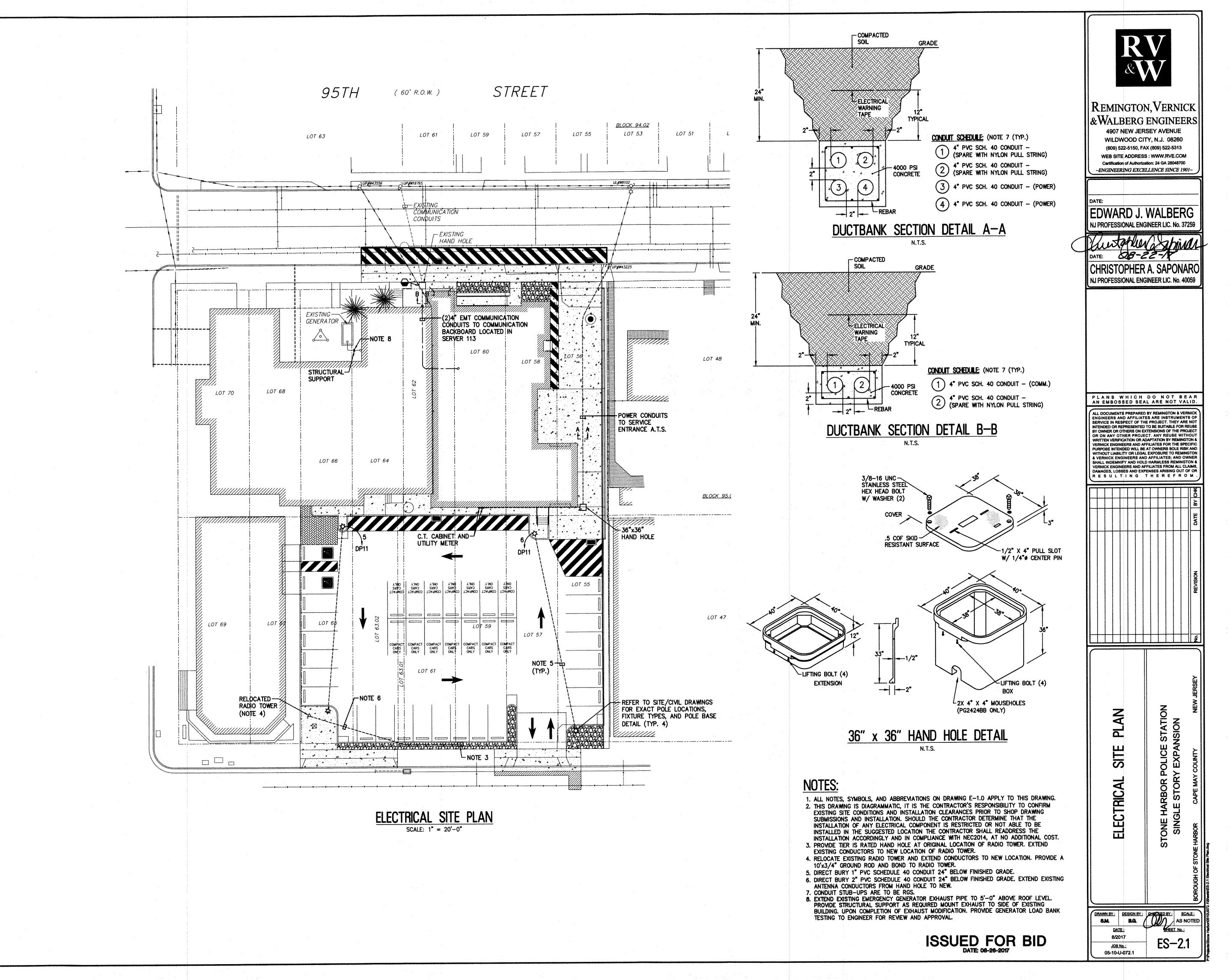
DRAWN BY: DESIGN BY: ONSOKED BY: SCALE:

8.M. B.G. AS NOTED

DATE: SHEET No.:

8/2017 FS—11

05-10-U-072.1



(ALL GENERAL NOTES, SYMBOLS & ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT)

- 1. EXAMINE JOB SITE AND VERIFY ALL SITE CONDITIONS PRIOR TO SIGNING CONTRACT. BRING ANY DISCREPANCY BETWEEN
- THE CONTRACT DOCUMENTS AND THE ACTUAL FIELD CONDITIONS TO THE ATTENTION OF THE ARCHITECT/ENGINEER. 2. THE LOCATION OF EXISTING UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES UNLESS
- 3. THE DRAWINGS ARE DIAGRAMMATIC. COORDINATE IN THE FIELD, WITH THE ARCHITECT AND WITH ALL TRADES, THE EXACT LOCATION OF EQUIPMENT, FIXTURES, VALVES, THERMOSTATS, ETC. AND ROUTING OF PIPING, DUCTWORK, CONDUIT,
- 4. PERFORM WORK IN ACCORDANCE WITH RULES, REGULATIONS, STANDARDS, CODES. ORDINANCES. AND LAWS OF LOCAL. STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES HAVING JURISDICTION AND BE RESPONSIBLE FOR COMPLIANCE THEREWITH
- 5. OBTAIN ALL NECESSARY APPROVALS, PERMITS AND INSPECTIONS. PAY ALL ASSOCIATED FEES.
- 6. GUARANTEE ALL SYSTEMS AND WORK FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. GUARANTEE REFRIGERATION COMPRESSORS FOR FIVE (5) YEARS.
- 7. BEFORE STARTING FABRICATION/ WORK SUBMIT TO ARCHITECT/ENGINEER FOR APPROVAL SIX (6) COMPLETE SETS OF SHOP DRAWINGS AND PRODUCT DATA FROM MANUFACTURERS, SUPPLIERS, ETC.
- 8. ALL MATERIALS SHALL BE NEW AND OF COMMERCIAL GRADE AND BEAR THE UNDERWRITER'S LABEL WHERE APPLICABLE.
- COORDINATE ACCEPTABLE WORKING HOURS WITH SAME.
- 11. REMOVE ALL ABANDONED EQUIPMENT, FIXTURES, DUCTWORK, PIPING, CONDUIT, ETC. CAP ALL PIPING ABANDONED IN
- WALLS.
- 12. ALL CUTTING AND PATCHING IS BY RESPECTIVE CONTRACTORS. CORE DRILL OR SAW CUT ALL MASONRY AND RESTORE ALL SURFACES TO ORIGINAL CONDITION. PAINTING AND FINISHING ARE BY THE GENERAL CONTRACTOR.
- 13. PIPING AND SPECIALTIES a. ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS.
- b. PROVIDE SLEEVES FOR PIPING THROUGH MASONRY, FIRE RATED WALLS AND SMOKE PARTITIONS, SLEEVES SHALL BE 22 GAUGE OR HEAVIER STEEL, SCHEDULE 40 IN BEARING WALLS. SIZE SLEEVES TO ACCOMMODATE PIPE INSULATION WHERE APPLICABLE. PROVIDE UL LISTINGS FOR SLEEVE PACKING.
- c. PROVIDE PIPE HANGERS TO SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED SLOPE, PROVIDE FOR EXPANSION AND CONTRACTION, ISOLATE VIBRATION AND RELIEVE EQUIPMENT AND SPECIALTIES FROM STRAIN. SPACE HANGERS ACCORDING TO APPLICABLE CODES AND MANUFACTURER'S RECOMMENDATIONS.
- d. IDENTIFY ALL PIPING WITH SEMIRIGID OR ADHESIVE PLASTIC INDICATION MARKERS. EXCEPT WITHIN INACCESSIBLE CHASES. MARKERS SHALL SHOW DIRECTION OF FLOW. MARKERS SHALL BE LOCATED NEXT TO EACH VALVE, AT EACH BRANCH, ON BOTH SIDES OF PIPE PASSAGE THROUGH WALLS AND ON ALL HORIZONTAL PIPING AT 20' MAXIMUM INTERVALS.
- e. ROUTE ALL PIPING CONCEALED IN WALLS, ABOVE CEILING AND BELOW FLOOR UNLESS OTHERWISE NOTED. RUN PARALLEL WITH BUILDING LINES.
- f. PROVIDE DRAIN VALVES & PLUGS AT ALL LOW POINTS SUCH THAT PIPING SYSTEMS CAN BE DRAINED. PROVIDE MANUAL AIR VENT VALVES AT ALL HIGH POINTS IN THE SYSTEM.
- q. PROVIDE BACKFLOW PREVENTION DEVICES AT ALL EQUIPMENT AS REQUIRED BY CODE. UNLESS STATED OTHERWISE PROVIDE CHECK VALVE AND SHUT-OFF VALVE BOTH RATED FOR 250'F DOWN STREAM OF BACKFLOW PREVENTER ON MAKE UP WATER LINE FOR HYDRONIC HEATING HOT WATER SYSTEMS.
- h. PROVIDE DIELECTRIC UNIONS AT ALL JUNCTIONS OF DISSIMILAR METALS.
- i. ALL SHUTOFF VALVES, CONTROL VALVES, ETC. ARE FULL LINE SIZE UNLESS OTHERWISE NOTED.
- I. INSTALL PIPING ON WARM SIDE OF BUILDING INSULATION. DO NOT INSTALL PIPING WHERE SUBJECT TO FREEZING. k. ALL PIPING INSULATION SHALL BE CONTINUOUS THROUGH WALLS AND CEILING OPENINGS, SLEEVES AND PIPE
- I. TEST ALL PIPING IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND INSPECTOR'S REQUIREMENTS PRIOR TO INSULATION OR ENCLOSING.
- m. BALANCE ALL HYDRONIC DEVICES FOR FLOW RATES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO ARCHITECT/ENGINEER.
- n. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) ONE AND A HALF (1-1/2") INCH THICK LAYER OF PREFORMED MINERAL FIBER PIPE INSULATION WITH PREFORMED MINERAL FIBER FITTINGS ON ALL DOMESTIC HOT AND COLD WATER PIPING, HYDRONIC HEATING AND CHILLED WATER SUPPLY AND RETURN PIPING. REFRIGERANT PIPING AND CONDENSATE DRAIN PIPING. INCLUDE A FIELD APPLIED FOIL AND PVC JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY.
- O. UNLESS STATED OTHERWISE ALL UNDERGROUND PIPING SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT (PE) FOR CORROSION RESISTANCE.
- p. UNLESS STATED OTHERWISE ALL FUEL GAS VENT PIPING TO BE SA-53GrB CARBON STEEL. ALL VENT PIPING TO BE PRIMED AND FINISH PAINTED IN A COLOR ACCEPTABLE TO THE OWNER.
- 14. DUCTWORK AND SPECIALTIES
- a. ALL DUCTWORK TO BE IN ACCORDANCE WITH S.M.A.C.N.A. "H.V.A.C. DUCT CONSTRUCTION STANDARDS", LATEST
- EDITION. PRESSURE CLASS "B". b. ALL DUCTWORK TO BE CONSTRUCTED OF GALVANIZED SHEETMETAL.
- c. PROVIDE 45 DEGREE COLLARS TO ALL BRANCH CONNECTIONS. PROVIDE TURNING VANES AT ALL ELBOWS 12"x6" OR LARGER. PROVIDE STANDARD RADIUS ELBOWS AT ALL ELBOWS SMALLER THAN 12"x6".
- d. PROVIDE ALL VOLUME DAMPERS REQUIRED TO BALANCE THE SYSTEMS. INSTALL VOLUME DAMPERS AT BRANCH TAKE-OFFS FROM TRUNK.
- e. PROVIDE CURTAIN TYPE FIRE DAMPERS WHEREVER DUCT PENETRATES FIRE RATED PARTITIONS. UNITS SHALL PROVIDE NOT LESS THAN 90% FREE AREA. PROVIDE ACCESS DOORS AT ALL FIRE DAMPERS.
- f. TEST DUCT SYSTEMS FOR AIR TIGHTNESS AND ABSENCE OF AUDIBLE LEAKS BEFORE ENCLOSURE. g. BALANCE ALL AIR DEVICES FOR AIR QUANTITIES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO
- ARCHITECT/ENGINEER. h. FLEXIBLE DUCTS: ALL FLEXIBLE DUCTS SHALL BE IN COMPLIANCE WITH THE INTERNATIONAL MECHANICAL
- I. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY
- AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION. I. PROVIDE FIRE DAMPERS IN THE DUCTWORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND THE CONTRACT
- DOCUMENTS. k. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO AND ONE HALF (2-1/2") INCH THICK LAYER OF MINERAL FIBER BLANKET INSULATION ON ALL NEW INDOOR ROUND AND RECTANGULAR SUPPLY AIR. EXHAUST AIR, RETURN AIR AND OUTDOOR AIR DUCTWORK. INCLUDE A FIELD APPLIED PAPER AND FOIL JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY.
- I. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO (2") INCH THICK LAYER OF MINERAL FIBER BOARD INSULATION ON ALL NEW OUTDOOR ROUND AND RECTANGULAR SUPPLY AIR, EXHAUST AIR, RETURN AIR AND OUTDOOR AIR DUCTWORK, INCLUDE A WEATHERPROOF FIELD APPLIED 22 GAUGE ALUMINUM JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY. COORDINATE FINISH COLOR OF EXTERIOR JACKET WITH THE OWNER.
- m. UNLESS OTHERWISE NOTED ALL EXPOSED SUPPLY, RETURN AND EXHAUST AIR DUCTWORK SHALL BE PRIMED AND PAINTED. COLOR TO BE DETERMINED BY THE ENGINEER/ OWNER.

- Q. VERIFY ALL ELECTRICAL CHARACTERISTICS WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- b. ALL MECHANICAL EQUIPMENT AND APPLIANCE INSTALLATIONS SHALL BE IN COMPLIANCE WITH INTERNATIONAL MECHANICAL CODE/2015, AS WELL AS WITH MANUFACTURER'S RECOMMENDATIONS,
- c. ALL ELECTRICAL POWER WIRING IS BY ELECTRICAL CONTRACTOR. ALL CONTROL WIRING IS BY RESPECTIVE d. PROVIDE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR INSTALLED EQUIPMENT. INCLUDE CONTRACTOR'S,
- SUPPLIER'S AND MANUFACTURER'S NAMES, ADDRESS AND TELEPHONE NUMBERS. e. SUPPLY STARTERS AND DISCONNECTS WITH EQUIPMENT. f. PROVIDE CONCRETE PADS FOR FLOOR MOUNTED EQUIPMENT. PADS SHALL BE A MINIMUM 4" HIGH AND SHALL
- EXTEND 6" BEYOND EQUIPMENT ON ALL SIDES. q. LABELING: ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BEAR LABELING IN COMPLIANCE WITH THE
- INTERNATIONAL MECHANICAL CODE/2015. h. UNLESS NOTED OTHERWISE, ALL HYDRONIC SYSTEMS BOILER/ CHILLED WATER SHALL BE PROVIDED WITH A NEW BLADDER TYPE EXPANSION TANK AS REQUIRED. TANK TO BE SIZED FOR EACH SYSTEM BASED UPON TANK
- MANUFACTURER'S RECOMMENDATIONS. I. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL PROPYLENE GLYCOL ANTI FREEZE FOR ALL HYDRONIC HEATING AND COOLING SYSTEMS. THE CONTRACTOR SHALL SUPPLY A 35% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR CHILLED WATER COOLING SYSTEMS AND A 25% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR HOT WATER HEATING SYSTEMS. PROPYLENE GLYCOL ANTI FREEZE SHALL BE COMPATIBLE WITH ALL MATERIALS OF THE HYDRONIC SYSTEM (PIPING, VALVES, PUMPS, CHILLER,
- 16. AUTOMATIC TEMPERATURE AND SAFETY CONTROLS

BOILER, ETC.) AS WELL AS ALL TERMINAL EQUIPMENT.

- a. PROVIDE ALL WIRING, RELAYS, CONTACTS, TRANSFORMERS, ETC. REQUIRED TO DELIVER A COMPLETE OPERABLE
- b. THERMOSTATS SHALL BE 24 HOUR/7 DAY PROGRAMMABLE WITH FAN "OFF/ON/AUTO" AND SYSTEM "HEAT/COOL/AUTO/OFF" SWITCHES. VERIFY OPERATION OF ALL FUNCTIONS.

- 17. FIRE PROTECTION
- a. THE QUANTITY AND LOCATION OF SPRINKLERS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND INTENDED FOR SCHEMATIC PURPOSES ONLY. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND COMMISSIONING ALL NECESSARY SPRINKLERS, PIPE, EQUIPMENT AND APPURTENANCES NECESSA IN FULL ACCORDANCE WITH THE NFPA AND APPROVED BY THE ENGINEER AND ALL AUTHORITIES HAVING
- JURISDICTION. b. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED DESIGN DRAWINGS, HYDRAULIC CALCULATIONS. PI FITTINGS, SPRINKLERS, ALARM AND MONITORING DEVICES, SIGNAGE AND APPURTENANCES COMPLETE AND IN FUL ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND NFPA 13 & 14. ALL WIRING OF DEVICES SHALL BE DO BY ELECTRICAL CONTRACTOR.
- ALL SPRINKLER HEADS SHALL BE LOCATED AT THE CENTER POINT OF ALL ACOUSTICAL CEILING TILES. 18. ALL EXISTING PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE EITHER EXPOSED OR CONCEALED AND THAT INTERFERE WITH ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS SHALL BE REMOVED, RELOCATED, REROUTED, OR ABANDONED. DRAWINGS GENERALLY INDICATE MAJOR ITEMS OF EXISTI MATERIALS AND EQUIPMENT THAT ARE AFFECTED. IT IS NOT POSSIBLE TO INDICATE ALL RELATED ACCESSORIES SPECIALTIES AND OTHER MINOR ITEMS; HOWEVER, THEIR REMOVAL, RELOCATION, REROUTING AND ABANDONMENT SHALL ALSO BE INCLUDED IN THIS WORK.
- 19. EXISTING CONCEALED PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE TO REMAIN BUT BECOME EXPOSED DUE TO RENOVATION WORK, SHALL BE RELOCATED AND RECONNECTED AS PART OF THIS WOR 20. PLUMBING DRAWINGS ARE DIAGRAMMATIC, ALL DEVICES & FITTINGS MAY NOT BE SHOWN ON THE DRAWINGS FOR CLARITY. PROVIDE CLEANOUTS NEAR THE BASE OF ALL VERTICAL WASTE & STORM WATER STACKS IN ACCORDA
- WITH NSPC 2015 SECTION 5.4.5. 10. OBTAIN APPROVAL FROM THE BUILDING OWNER'S REPRESENTATIVE PRIOR TO ANY INTERRUPTION OF BUILDING SYSTEMS. AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THEN 30 INCHES ABOVE THE FLOOR, ROOF OR GRADE BELO GUARD SHALL EXTEND NOT LESS THEN 30 INCHES BEYOND EACH END OF SUCH APPLIANCES, EQUIPMENT, FANS COMPONENTS AND ROOF HATCH OPENINGS AND THE TOP OF THE GUARD SHALL BE LOCATED NOT LESS THEN INCHES ABOVE THE ELEVATED SURFACE ADJACENT TO THE GUARD. THE GUARD SHALL BE CONSTRUCTED SO AS PREVENT THE PASSAGE OF A 21 INCH-DIAMETER SPHERE AND SHALL COMPLY WITH THE LOADING REQUIREMENT GUARDS SPECIFIED IN A INTERNATIONAL BUILDING CODE 2015.
 - 22. PROVIDE ALL FAN AND MOTOR PULLEYS, SHEAVES, BELTS AND LABOR REQUIRED TO BALANCE THE NEW AND E ROOFTOP UNITS TO THE SPECIFIED SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR FLOWS SHOWN ON THE CONTI DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER. THE TESTING, ADJUSTING AND BALANCING CONTRACTOR BE RESPONSIBLE FOR PROVIDING ALL REQUIRED PULLEYS, SHEAVES AND BELTS EVEN IF THEY ARE NOT PROVI WITH THE EQUIPMENT BY THE MANUFACTURER.
 - 23. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL ALL CONNECTION/ TRANSIT DUCTS BETWEEN NEW HVAC EQUIPMENT (UNIT VENTILATORS, BLOWER COILS, FAN COILS, AIR HANDLERS, ETC.) NEW OR EXISTING OUTSIDE AIR LOUVERS. CONTRACTOR IS ALSO RESPONSIBLE FOR REINFORCING ANY OUTSIDE LOUVER OPENING THAT IS CREATED OR ENLARGED TO ACCOMMODATE THE NEW INSTALLATION.

MECHANICAL DRAWING LIST

<u>IV</u>	VIEUTANICAL DIAVVING LIST
DWG. No.	DRAWING TITLES
M-1.0	MECHANICAL COVER SHEET
M1.1	MECHANICAL DEMOLITION FLOOR PLAN
M-1.2	MECHANICAL ENLARGED DEMOLITION SECOND FLOOR PLAN
M-2.1	MECHANICAL FLOOR PLAN
M-2.2	MECHANICAL ENLARGED SECOND FLOOR PLAN
M-2.3	MECHANICAL ROOF PLAN
M3.1	MECHANICAL HYDRONIC PIPING FLOOR PLAN
M-3.2	MECHANICAL ENLARGED BOILER ROOM HYDRONIC PIPING FLOOR PLAN
M-4.1	MECHANICAL DETAILS
M-4.2	MECHANICAL DETAILS
M-4.3	MECHANICAL DETAILS
M-5.1	MECHANICAL SCHEDULES
M-5.2	MECHANICAL SCHEDULES
M-5.3	MECHANICAL SCHEDULES
P-1.1	PLUMBING DEMOLITION SANITARY PIPING FIRST FLOOR PLAN
P-1.2	PLUMBING DEMOLITION UTILITY PIPING FIRST FLOOR PLAN
P-2.1	PLUMBING SANITARY PIPING FLOOR PLAN
P-2.2	PLUMBING SANITARY PIPING ENLARGED FLOOR PLAN
P-2.3	PLUMBING STORM PIPING ROOF PLAN
P-3.1	PLUMBING UTILITY PIPING FLOOR PLAN
P-3.2	PLUMBING UTILITY PIPING ENLARGED FLOOR PLAN
P-3.3	PLUMBING FUEL GAS PIPING ROOF PLAN
P-4.1	PLUMBING SANITARY PIPING RISER DIAGRAM
P-4.2	PLUMBING UTILITY PIPING RISER DIAGRAM
P-4.3	PLUMBING NATURAL GAS PIPING RISER DIAGRAM AND PLUMBING STORM PIPING RISER DIAGRAM
P-5.1	PLUMBING DETAILS
P-6.1	PLUMBING SCHEDULES

MECHANICAL ABBREVIATIONS

	IAIFOLIVII AIOVIE	/ \L/L/1 144 V 1/	1770710	
AD ADJ. AFF AHU AP BFF BOD BOL CI	ACCESS DOOR ADJACENT ABOVE FINISHED FLOOR AIR HANDLER UNIT ACCESS PANEL BOILER BELOW FINISHED FLOOR BACKFLOW PREVENTOR BOTTOM OF DUCT BOTTOM OF LOUVER CONDENSATE CAST IRON	LRG LSR MD MH MSB MUA MV NC NO NTS OA P	LINEAR RETURN GRILLE LINEAR SUPPLY REGISTER MOTORIZED DAMPER MANHOLE MOP SERVICE BASIN MAKE-UP AIR UNIT MIXING VALVE (THERMOSTATIC) NORMALLY CLOSED	CTS CU CUH CWS CWS/R DF DFU DN EA EBBH EF EWC
CI CD CEG CER CFH CFM CO	CAST IRON CEILING DIFFUSER CEILING EXHAUST GRILLE CEILING EXHAUST REGISTER CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CLEANOUT	RA RD RH RPBP RWC S	RETURN AIR ROOF DRAIN RADIANT HEATER REDUCED PRESSURE BACKFLOW PREVENTOR RAIN WATER CONDUCTOR SINK/SANITARY PIPING	EWH EX FC FCO FD FRG FRR
COG COND CONT CRG CRR CSV CT CTR	CLEANOUT ON GRADE CONDENSATE PIPING CONTINUED CEILING RETURN GRILLE CEILING RETURN REGISTER CIRCUIT SETTER VALVE COOLING TOWER COOLING TOWER RETURN	S=02' SA SD SH SP SS ST	SLOPE SUPPLY AIR SUPPLY AIR SPLITTER DAMPER SHOWER SPRINKLER PIPING SOIL STACK STORM PIPING STEAM PIPING	G GV HB HD HP HW HWC

-	N VECT	ANICAL SYMBO) (C		\Diamond	DDFCCHDE	/TEMPERATURE TEST PLUG		
OR			<u>JLO</u>	-	<u>Y</u> Ø	PRESSURE		₽	LOCK SHIELD GATE VALVE
SARY,		EQUIPMENT MARK (TYPE FC, NUMBER 1)		•		GAUGECOC		•	GLOBE VALVE
PIPING,		SECTION INDICATOR			<u> </u>	THERMOME	ETER		ANGLE GLOBE VALVE
DONE	H1.3/	(SECTION B2 ON DWG. H1.3))	•	TI	PRESSURÉ	TEMPERATURE TAP	, , , , , , , , , , , , , , , , , , ,	PLUG VALVE
		DETAIL INDICATOR (DETAIL B2 ON DWG. H1.3)		c	HŽ4-	EXISTING	HYDRONIC CONTROL VALVE		OS & Y GATE VALVE
L STING		KEY NOTE INDICATOR (REFE	rs to note	S ON SAME SHEET)	Hy	HOSE BIB	B DRAIN VALVE		2-WAY CONTROL VALVE 3-WAY CONTROL VALVE
ES, NT	^	REVISIONS INDICATOR			-	INSULATE) PIPE		PRESSURE RELIEF VALVE
UT		PIPE RISER			Ø	VERTICAL	VALVE		TEMPERATURE & PRESSURE RELIEF VALVE
VORK. OR	H1.3	(RISER HWS-11 ON DWG. H	1.3)		M	CIRCUIT	ETTER		CALIBRATED BALANCE VALVE
DANCE	V 1 1	DUCT RISER (RISER E-1 ON	•		-E)-		TER (MAGNETIC)		AUTOMATIC FLOW CONTROL VALVE
SERVICE SURFACE LOW. THE INS, 1 42 AS TO	A/150 S	DIFFUSER/REGISTER/GRILLE	MARK (TYPE	A, 150 CFM, DIRECTION)	-		TER (VENTURI)		SWING CHECK VALVE
LOW. THE. NS,	UC	DOOR UNDERCUT		•		BALL JOIN		7	SPRING LOADED CHECK VALVE
AS TO INTS FOR		TRANSFER AIR			SD	SUCTION PIPE AND		124	ALARM CHECK VALVE
EXISTING	-	DIAMETER				PIPE GUID		- 	MBINATION CHECK/BALANCE/SHUT OFF VALVE
ITRACT R SHALL	•	CONNECTION TO EXISTING			***************************************	FIFE GOIL	/t	- 1 -	NEEDLE VALVE
OVIDED		POINT OF DISCONNECTION FLAT OVAL DUCT DIMENS	SION			 -	NON		PRESSURE REGULATOR
AND	\$16x10 →			FIRST DIMENSION IS AS V		-	VACUUM BREAKER		BACK PRESSURE REGULATOR
AIR	> 10X10	SOUND LINED DUCTWORK		THO DIMENSION IS AS V	·		CAP AND VALVED		DIAPHRAGM VALVE
	₹ 🛛	SUPPLY DUCT TURNED U			-		CONCENTRIC REDUCER	~	SOLENOID VALVE
	5 X	SUPPLY DUCT TURNED D			•		ECCENTRIC REDUCER STRAIGHT INVERT		FLOW SWITCH
	\$ 1/2	RETURN/EXHAUST DUCT					ECCENTRIC REDUCER STRAIGHT CROWN		PRESSURE SWTCH
	\$ 1/2	RETURN/EXHAUST DUCT				_ 	METER		VALVE MONITOR SWITCH
	<u>~</u> } ₁^	1 SQUARE ELBOW (WITH TO					(SEE CONNECTED PIPING FOR TYPE OF SER CHAIN OPERATOR	Y	STRAINER
		ROUND ELBOW		,			MOTOR OPERATOR	+ 2+	BLOW-OFF STRAINER
	E	SPIN-IN WITH VOLUME D	AMPER FOR	ROUND DUCT			FLOAT		- DOMESTIC HOT WATER PIPE
	*	TAKE OFF WITH VOLUME	DAMPER FO	R RECTANGULAR DUCT	••••		PUMP	manufactor scores princip access systems	- DOMESTIC HOT WATER RETURN PIPE
	4	OPEN END DUCT WITH W	VMS:	С	0 1	co O	CLEANOUT		- SANITARY SEWER
	E	EXISTING DUCT WORK OF	R EQUIPMENT	·	FD 📵	C	FLOOR DRAIN WITH P-TRAP	,	- SANITARY SEWER BELOW GRADE OR SLAB
		DUCT WORK TO BE REM	OVED & EXIS	STING		Y	FUNNEL DRAIN	ST	- STORM SEWER
		EXISTING DUCTWORK TO		TED	*****		TRAP	ST	- STORM SEWER BELOW GRADE OR SLAB - PLUMBING VENT
·	~~~~	FLEXIBLE DUCTWORK (SI	NGLE LINE)		-MF		DOUBLE CHECK VALVE TYPE BACKFLOW PRI	•	DRAIN PIPE
	00000	FLEXIBLE DUCTWORK (DO	OUBLE LINE)	+	, 6 7		REDUCED PRESSURE ZONE BACKFLOW PREV	ENTERF	FIRE PROTECTION PIPE
	X	SUPPLY DIFFUSER			•	HB H	HOSE BIBB	CH	- CHEMICAL FEED PIPE
	X	SUPPLY AIR DIFFUSER W (BLACK TRIANGLE INDICA			•		FROSTPROOF HOSE BIBB	EX	- EXPANSION TANK PIPE
		RETURN/EXHAUST REGIS	TER OR GRIL	LE		里_	WATER HAMMER ARRESTOR	****	HEATING HOT WATER SUPPLY PIPE
	红鹭	SLOT DIFFUSER WITH	PLENUMS			1	PITCH PIPE DOWN IN DIRECTION OF ARR	оw ——нн w R——	HEATING HOT WATER RETURN PIPE
	Z	EXHAUST FAN					TEE TURN UP	CHWS	CHILLED WATER SUPPLY PIPE
	-1111111111	HHH- ELECTRIC BASEBOARI	D				TEE TURNED DOWN	CHWR	CHILLED WATER RETURN PIPE
		VOLUME DAMPER (MA	ANUAL)			O	PIPE TURNED UP	cws	CONDENSER WATER SUPPLY PIPE
	***************************************	B BACKDRAFT DAMPER				G	PIPE TURNED DOWN	CWR	CONDENSER WATER RETURN PIPE
		FIRE DAMPER				\$к —	KEY SWITCH	COND	CONDENSATE WATER PIPING
		M MOTORIZED DAMPER					BUSHING		- COMPRESSED AIR PIPE
	-	•					FLEXIBLE PIPE CONNECTION		- VACUUM PIPE
AM	©		SENSOR				MANUAL AIR VENT CONCEALED SPRINKLER HEAD	G	- NATURAL GAS PIPING
	(T)					OO	PENDANT SPRINKLER HEAD	AW	- ACID WASTE PIPING
	H S					0	UPRIGHT SPRINKLER HEAD	— FO —	- FUEL OIL PIPING
	(E)					Δ	SIDEWALL SPRINKLER HEAD	"-fffff	PIPING TO BE DEMOLISHED
	@								
	<u>-</u> ф								
	✓						- DOMESTIC COLD WATER PIPE		
		WER SUPPLY		TACK VENT	HWG HWH			VALL RETURN REGISTEI VALL SUPPLY FIXTURE	
CUH	CABINET UNI	IT HEATER	T T	UB RANSFER AIR GRILLE	HWR HWS	AW TOH	TER RETURN WSG \\ TER SUPPLY WSR \\	VALL SUPPLY GRILLE VALL SUPPLY REGISTER	R
CWS/R DF	CONDENSER DRINKING FO	WATER SUPPLY/RETURN DUNTAIN	TP T	OP OF DUCT RAP PRIMER	HX	LOUVER	(CHANGER		
DN	DOWN	IXTURE UNITS	TWR T	RANSITION EMPERED WATER RETURN	LAV LBG LD		BAR GRILLE DIFFUSER		
EBBH	EXHAUST AND EXHAUST FA	ASEBOARD HEATER	TYP T	EMPERED WATER SUPPLY YPICAL INIT HEATER	f	LINEAR			
EWC	ELECTRIC W	ATER COOLER ATER HEATER	UR U	IRINAL ENT PIPING					
EX FC	EXISTING FLEXIBLE CO	NNECTION/FAN COIL	VAV V	'ARIABLE AIR VOLUME 'OLUME DAMPER					
FCO FD	FLOOR CLEA	NOUT N	VIF V	ÆRIFY IN FIELD ÆNT STACK					
FRR	FLOOR RETU FLOOR RETU GAS PIPING	rn grille Rn register	WC V	ÆNT THRU ROOF VATER CLOSET VALL CLEANOUT					
GV HB	GRAVITY VEI HOSE BIBB		WEG V	VALL EXHAUST GRILLE VALL EXHAUST REGISTER					
HD HP	HAND DAMP HEAT PUMP HOT WATER	ER	WHY V	VATER HAMMER ARRESTOR VALL HYDRANT MREMESH SCREEN					
HMC HM	HOT WATER HANDICAPPE	D WATER CLOSET		VALL RETURN GRILLE				1221	JED FOR BID
									DATE: 08-26-2017
			.,						

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OR ON ANY OTHER PROJECT. ANY REUSE WITHOU WRITTEN VERIFICATION OR ADAPTATION BY R

RNICK ENGINEERS AND AFFILIATES FOR THE SPECIF

PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AF

A VERNICK ENGINEERS AND AFFILIATES: AND OWNE SHALL INDEMNIFY AND HOLD HARMLESS REM

ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS

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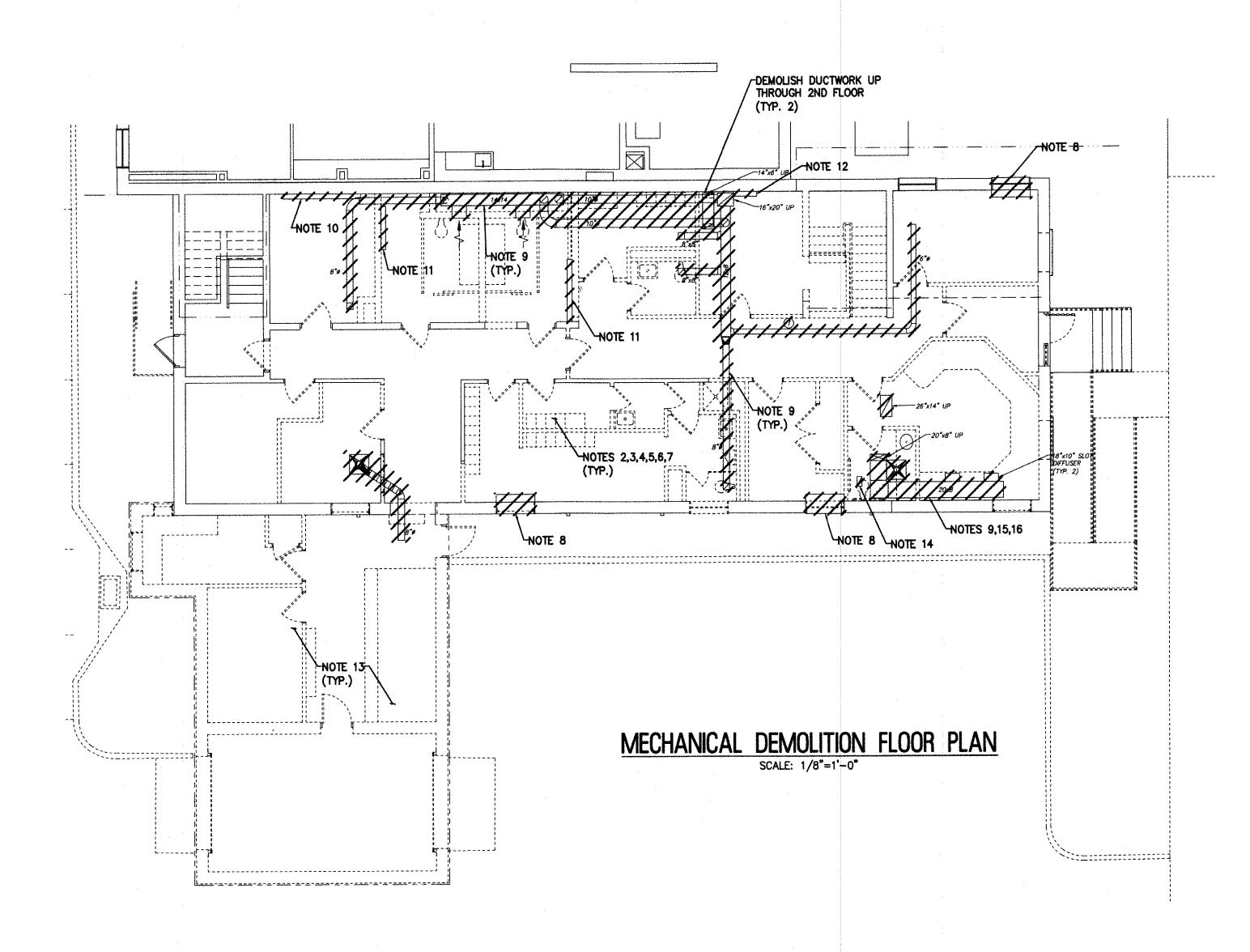
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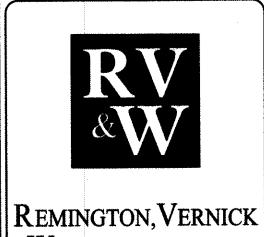
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DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OF

RESULTING THEREFROM



- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK, IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS BE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
- 3. REMOVE PNEUMATIC TUBING BACK TO SOURCE. COORDINATE CONTROL SYSTEM DEMOLITION WITH THE HVAC CONTROL SYSTEM CONTRACTOR.
- 4. COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR. SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.
- 5. CONTRACTOR TO PERFORM DEMOLITION WORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. COORDINATE ALL EQUIPMENT TO BE SALVAGED WITH THE OWNER PRIOR TO DISPOSAL. OWNER HAS THE RIGHT TO FIRST REFUSAL FOR ALL DEMOLISHED EQUIPMENT AND ACCESSORIES.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
- 7. CONTRACTOR TO PATCH AND REPAIR ALL PIPING, DUCTWORK, AND TRANSFER AIR PENETRATIONS THROUGH THE EXISTING WALLS AND FLOORS (EVEN IF NOT SHOWN SPECIFICALLY ON THE PLANS) THAT ARE NOT TO BE REUSED AS PART OF THE NEW WORK. MATERIALS AND FINISH OF PATCHED WALLS AND FLOORS TO MATCH THE SURROUNDING INSTALLATION. ALL OPENINGS CREATED BY THE DEMOLITION OF EXISTING EQUIPMENT/ PIPING, DUCTWORK ETC. PENETRATIONS SHALL BE SEALED TO MAINTAIN A 1-HR FIRE RESISTANCE RATING.
- 8. DEMOLISH EXISTING PTAC AND ALL ASSOCIATED PIPING, CONTROLS, AND ACCESSORIES. 9. DEMOLISH DUCTWORK, DIFFUSERS, AND ALL ACCESSORIES.
- 10. DEMOLISH EXISTING FINNED TUBE BASEBOARD RADIATION, PIPING, CONTROLS, AND ALL
- ACCESSORIES. 11. DEMOLISH EXISTING ELECTRIC BASEBOARD HEATER & ALL ACCESSORIES.
- 12. DEMOLISH EXISTING FAN COIL UNIT, PIPING, CONTROLS, AND ACCESSORIES.
- 13. COORDINATE W/ GENERAL CONTRACTOR FOR DEMOLITION OF EXISTING HVAC SYSTEM IN SALLYPORT. HVAC SYSTEM INCLUDES SPLIT AC UNIT, GAS FURNACE, AND ELECTRIC HEATING UNITS.
- 14. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK, CONTROLS, AND ACCESSORIES. 15. CONTRACTOR SHALL MEASURE AIRFLOW FROM RTU AND FROM DIFFUSERS ON THE FIRST FLOOR PRIOR TO DEMOLITION. REBALANCE EXISTING 2ND FLOOR RTU LESS MEASURED
- AIRFLOW ON 1ST FLOOR. 16. CAP EXISTING SUPPLY & RETURN DUCTWORK FROM 2ND FLOOR.



&WALBERG ENGINEERS

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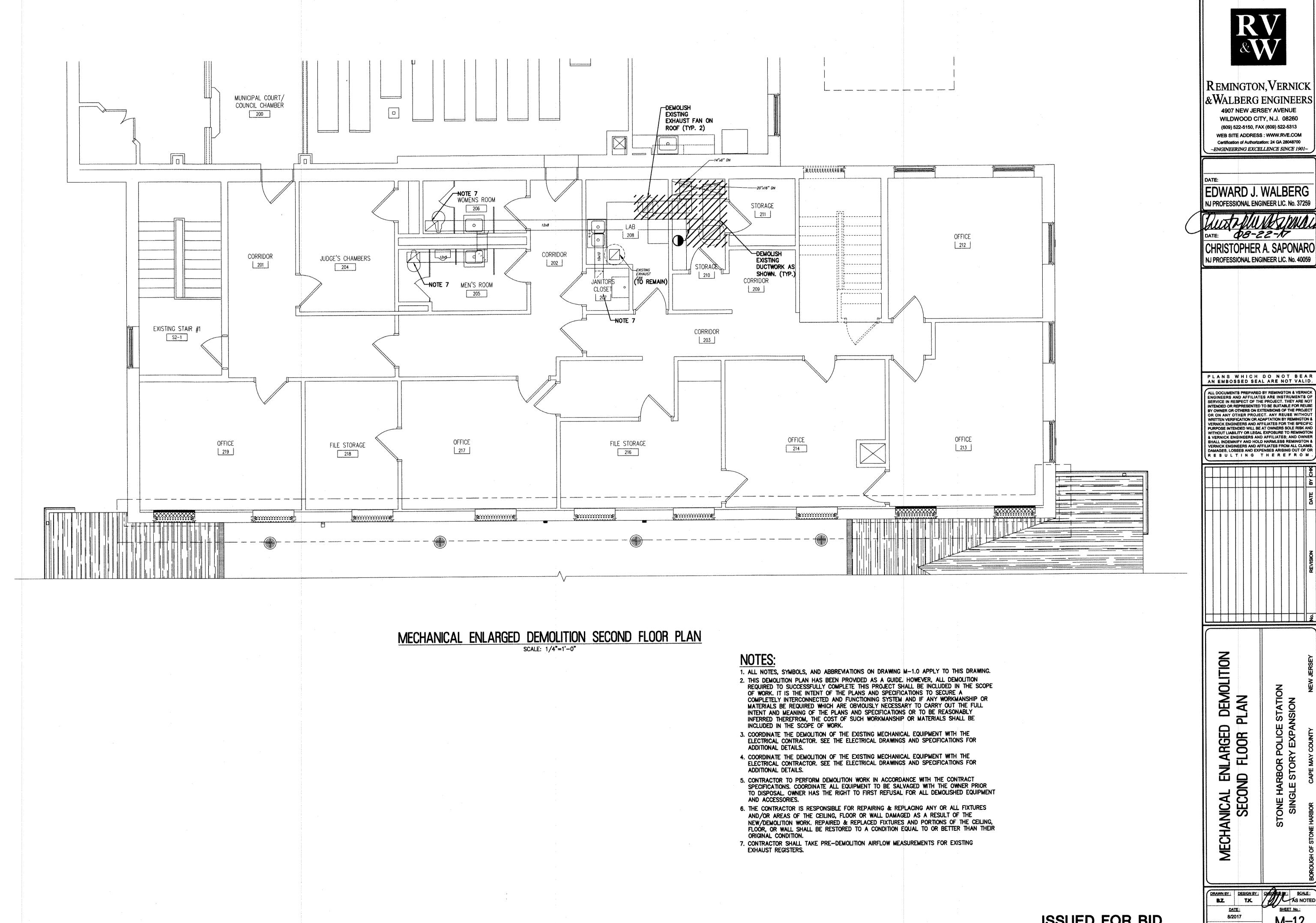
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FLOOR DEMOLITION CHANICAL

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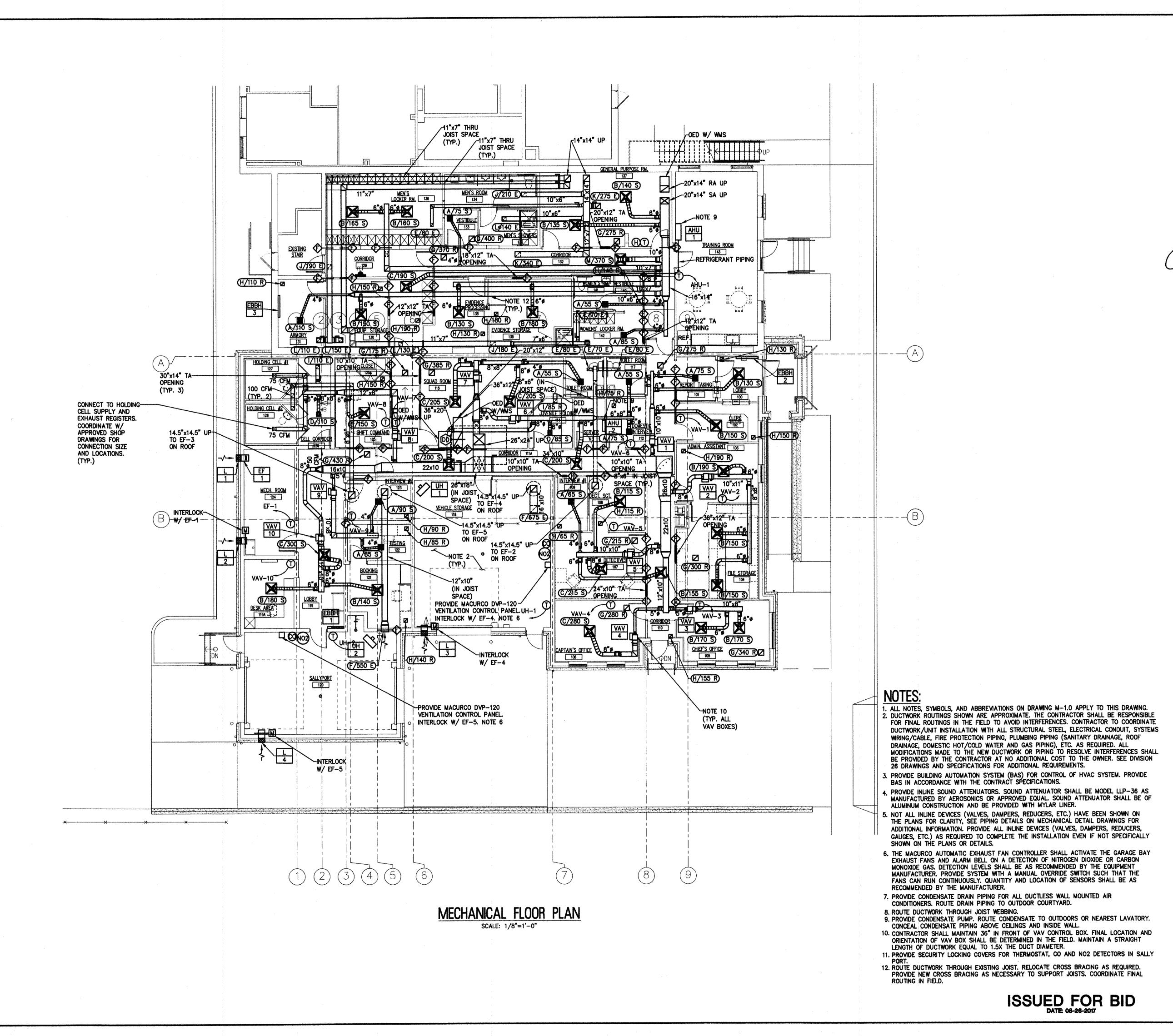


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DATE:

EDWARD J. WALBERG
NJ PROFESSIONAL ENGINEER LIC. No. 37259

DATE: 08-22-77 CHRISTOPHER A SAPONAR

NJ PROFESSIONAL ENGINEER LIC. No. 40059

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FLOOR PLAN

VECHANICAL

TONE HARBOR POLICE STAT SINGLE STORY EXPANSION

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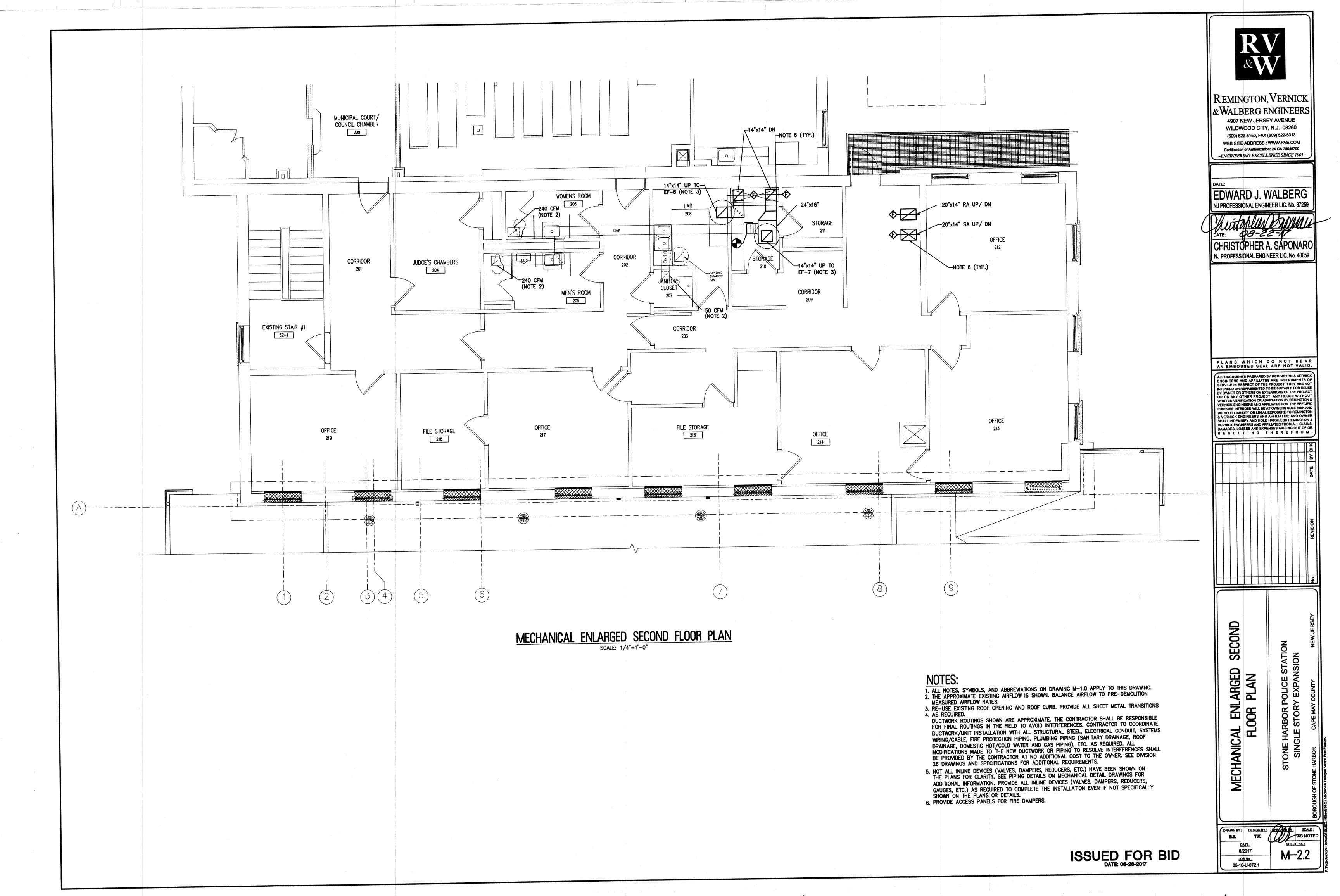
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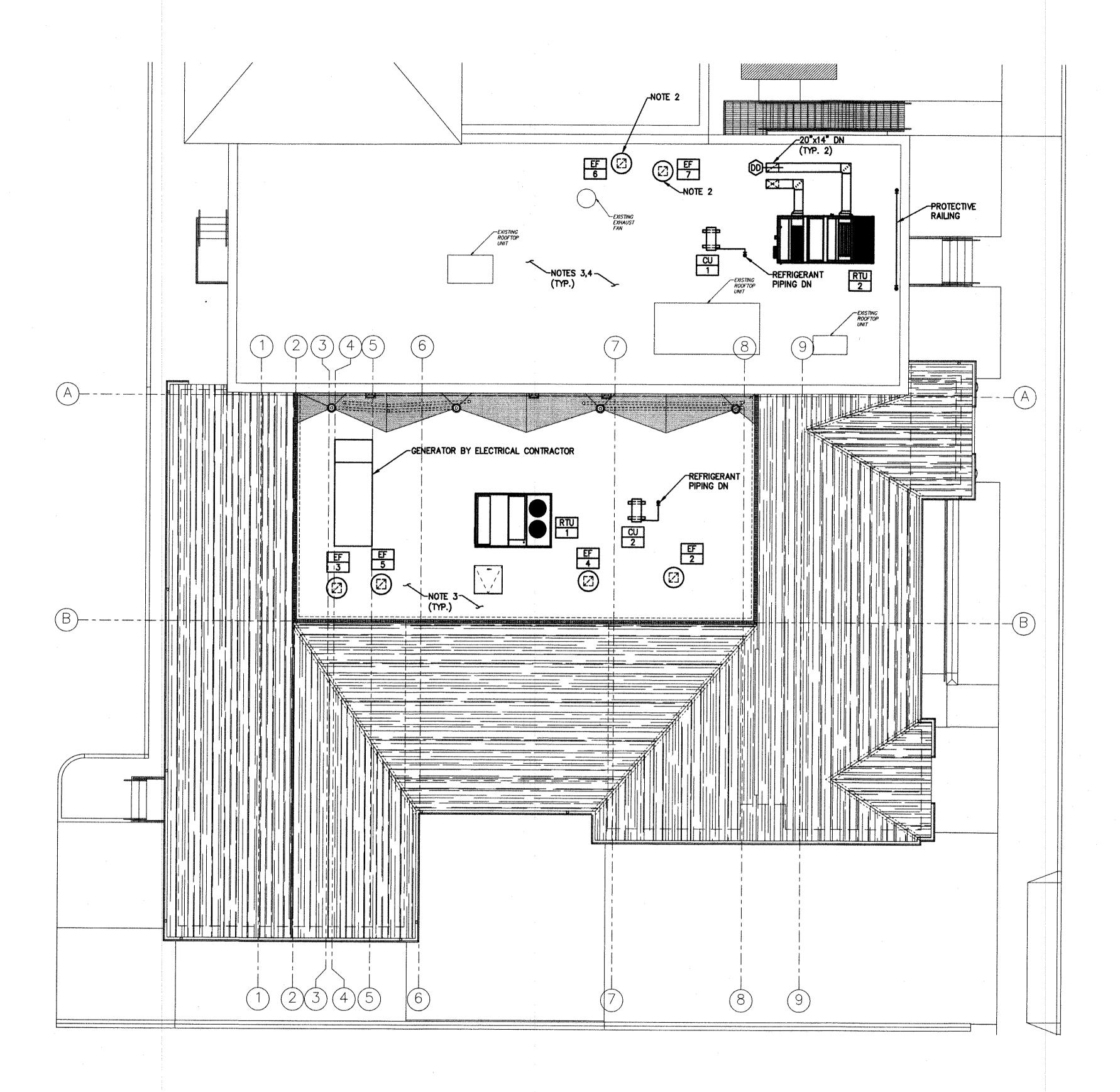
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MECHANICAL ROOF PLAN

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

NOTES

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING A-M-1.0 APPLY TO THIS DRAWING.
- 2. EXISTING ROOF CURB TO REMAIN. PROVIDE ADAPTER CURB/ SHEET METAL TRANSITION TO INSTALL NEW EXHAUST FAN. VERIFY DIMENSIONS IN FIELD.
- INSTALL NEW EXHAUST FAN. VERIFY DIMENSIONS IN FIELD.

 3. PROVIDE STRUCTURAL SUPPORT AND/OR EQUIPMENT CURBS FOR ALL MECHANICAL EQUIPMENT. SEE EQUIPMENT SCHEDULES FOR ADDITIONAL REQUIREMENTS. COORDINATE WITH STRUCTURAL CONTRACTOR FOR ALL EQUIPMENT SUPPORTS AND ROOF PENETRATIONS.

4. COORDINATE W/ OWNER TO MAINTAIN EXISTING ROOF WARRANTY FOR ALL PENETRATIONS THROUGH THE EXISTING ROOF.

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MECHANICAL ROOF PLAN
STONE HARBOR POLICE STATION
SINGLE STORY EXPANSION

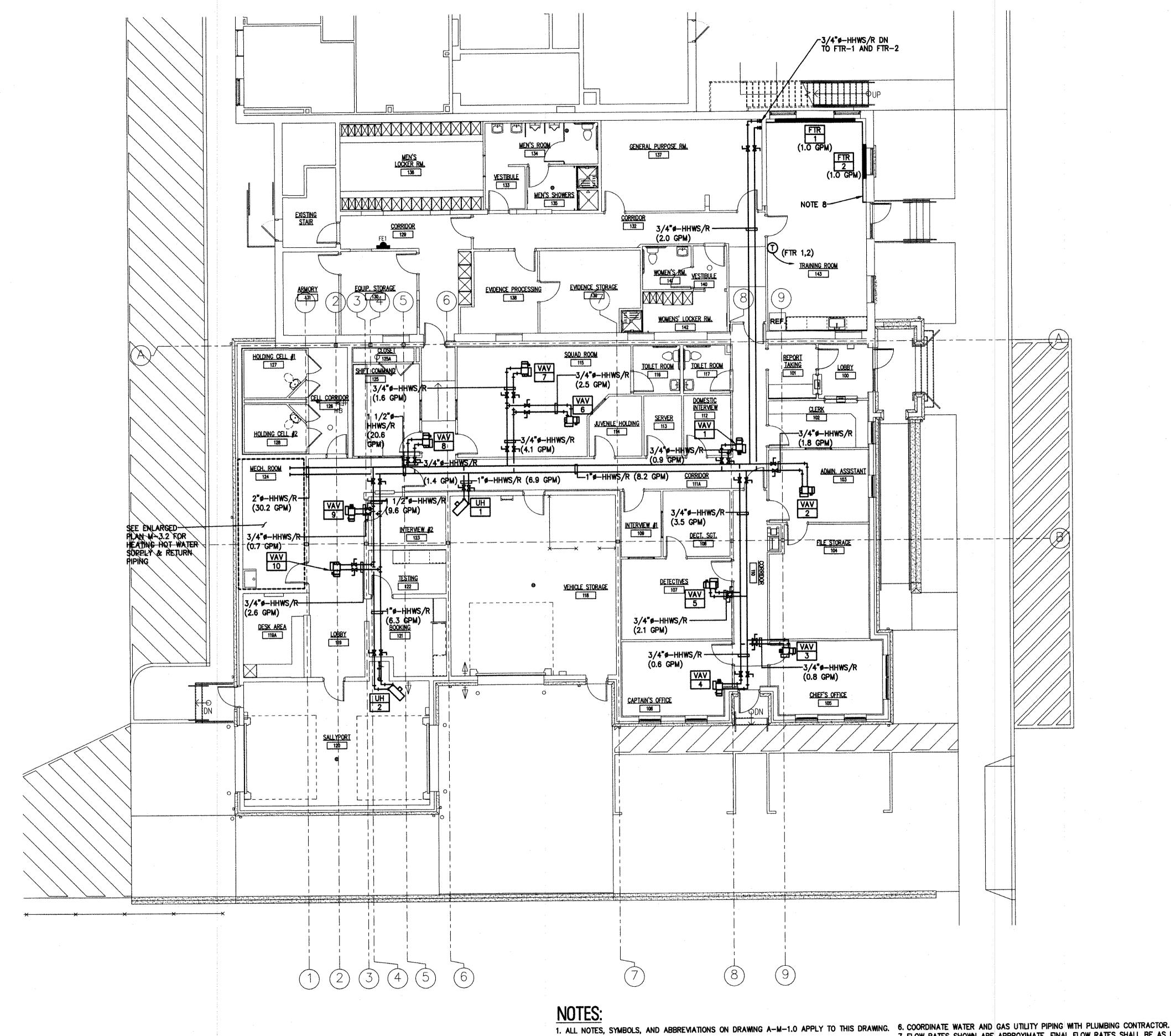
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MECHANICAL HYDRONIC PIPING FLOOR PLAN

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

REMINGTON, VERNICK

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HYDRONIC PLAN CHANICAL

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2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID INTERFERENCE.

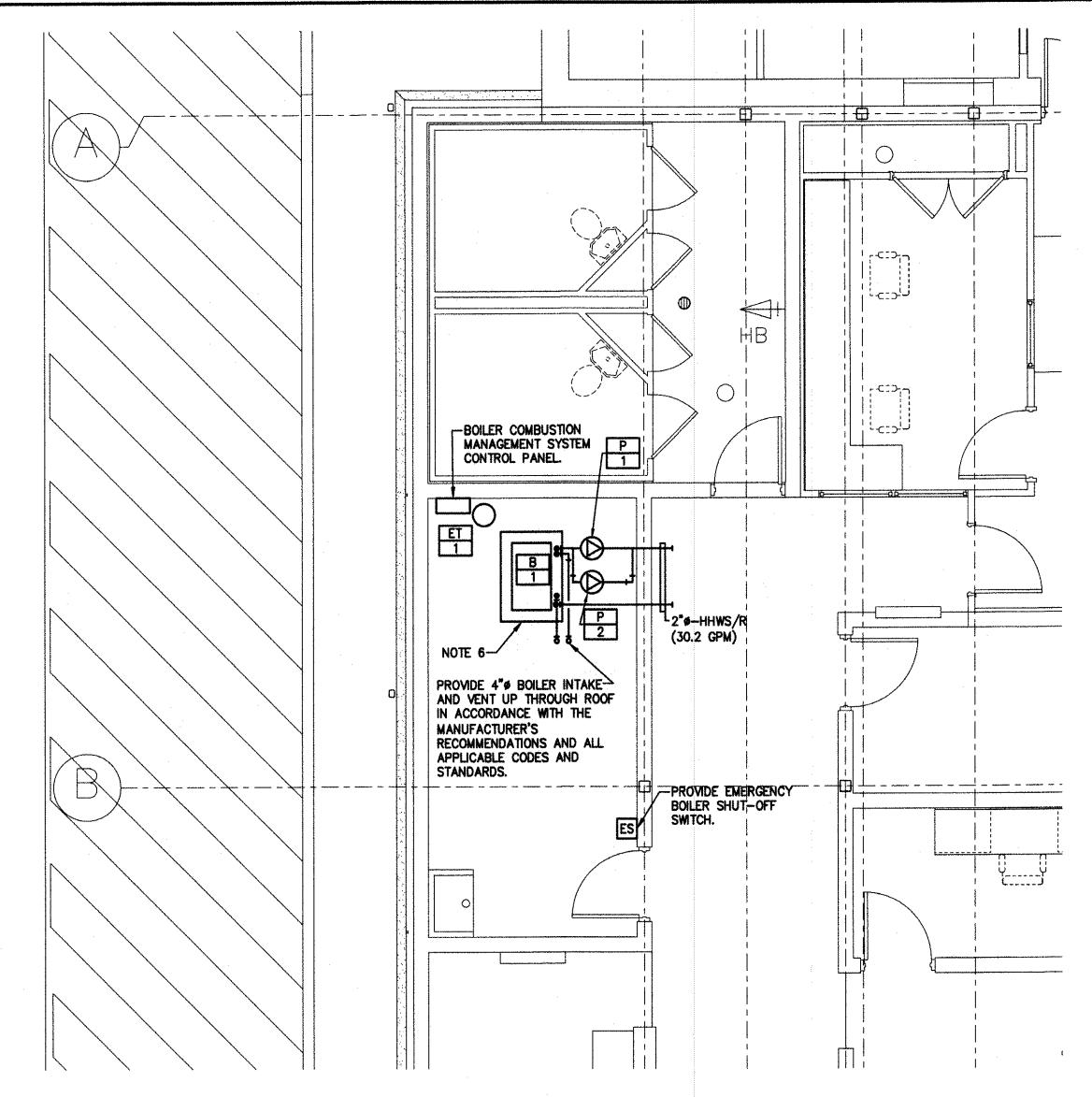
8. PROVIDE MANUFACTURER'S SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL CHASES TO CONCEAL HYDRONIC PIPING WHERE PIPING IS EXPOSED BELOW THE CEILING IN A TYPICALLY OCCUPIED SPACE. 3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY, SEE THE DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, VALVES, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN OR DETAIL DRAWINGS.

4. PROVIDE LINE SIZE SHUT-OFF VALVES IN BRANCH LINE WHERE BRANCH LINES CONNECT TO

5. ALL PIPE ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL PIPE ROUTINGS IN THE FIELD AS REQUIRED TO AVOID INTERFERENCES AT NO ADDITIONAL COST TO THE OWNER.

7. FLOW RATES SHOWN ARE APPROXIMATE. FINAL FLOW RATES SHALL BE AS DETERMINED BY

THE TESTING & BALANCING CONTRACTOR.



MECHANICAL ENLARGED BOILER ROOM HYDRONIC PIPING PLAN

SCALE: 1/4=1'-0"

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID INTERFERENCE.
- 3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY, SEE THE DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, VALVES, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN OR DETAIL DRAWINGS.
- 4. PROVIDE EMERGENCY BURNER SHUT-OFF SWITCHES IN ACCORDANCE WITH CONTRACT SPECIFICATIONS
- 5. PROVIDE CONDENSATE NEUTRALIZATION DEVICE IN DRAIN LINE FOR BOILER. 6. PROVIDE NEW 4" THICK CONCRETE PAD. PAD TO EXTEND 6 INCHES PAST BOILER ON ALL SIDES. INCLUDE WWF 6x6-W2.9xW2.9 IMBEDDED AT MID-DEPTH. PREPARE CONCRETE FLOOR WITH BONDING AGENT TO ENSURE PROPER ADHESION OF NEW CONCRETE PAD. PROVIDE SIX (6) #4 REINFORCING BARS AT A MINIMUM 3" EMBEDMENT AT FOUR (4) CORNERS AND AT MID SPAN ON LONGEST SIDE OF PAD. BARS SHOULD EXTEND 3" ABOVE EXISTING FINISHED FLOOR. GROUT BARS INTO EXISTING FLOOR PRIOR TO POURING NEW EQUIPMENT PAD. CONCRETE PAD SHALL BE IN ACCORDANCE WITH THE DIVISION 15 SPECIFICATIONS.
- 7. PROVIDE FUEL GAS TRAIN VENTS IN ACCORDANCE WITH ALL APPLICABLE CODES.

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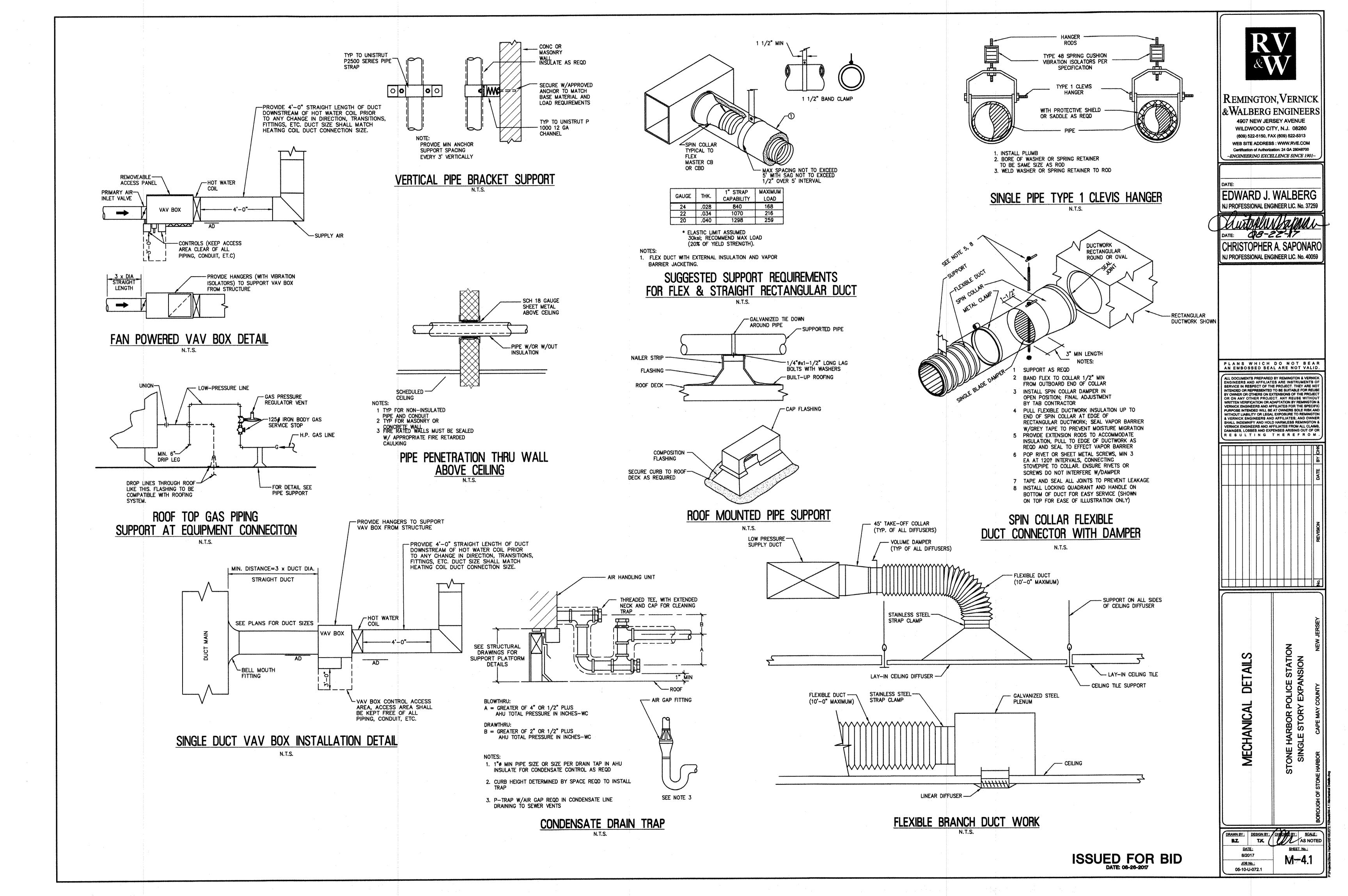
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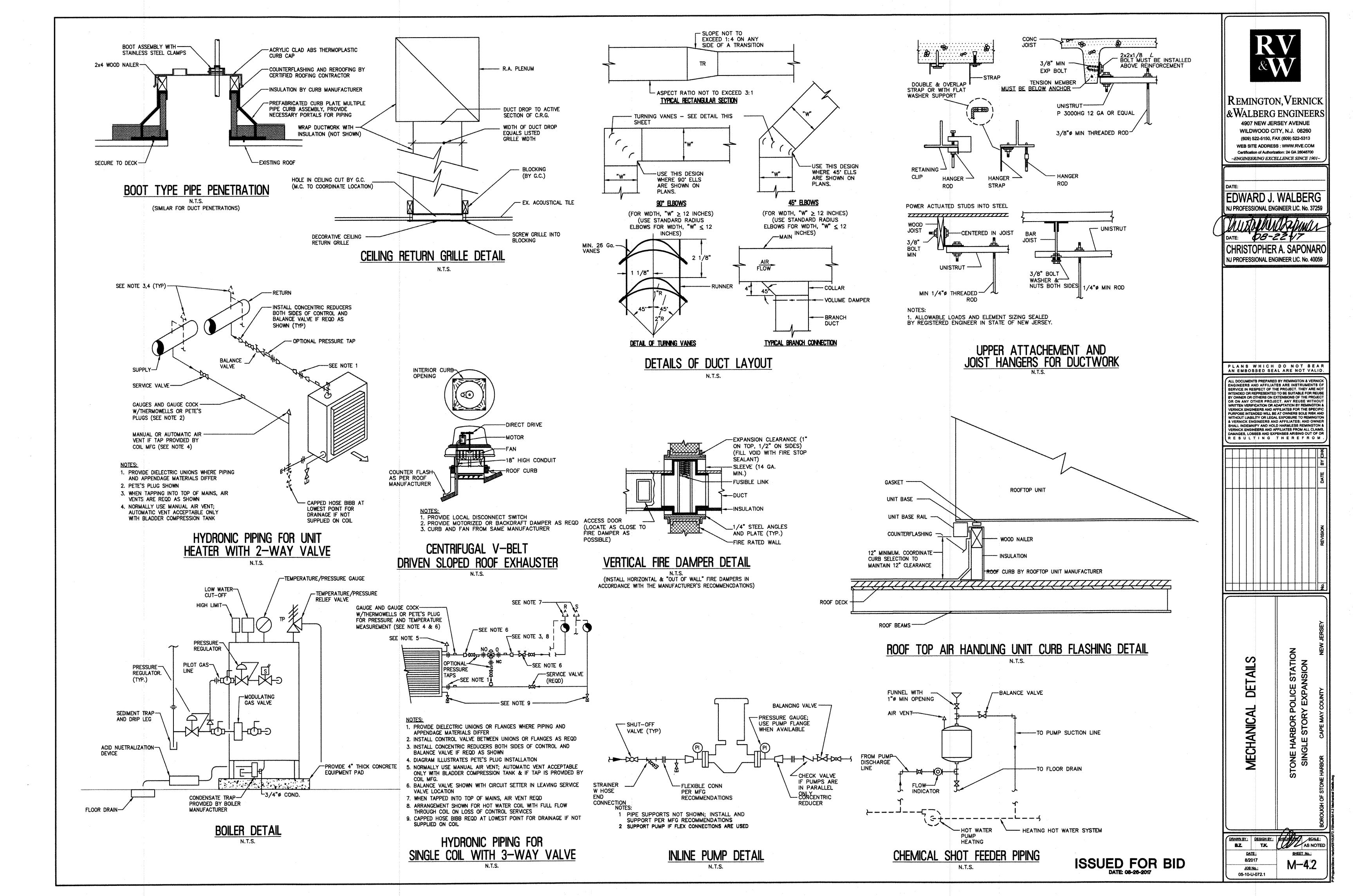
ROOM BOILER STONE HARBOR POLICE STATION SINGLE STORY EXPANSION ARGED PIPING NICAL ENL/ HYDRONIC MECHANICAL

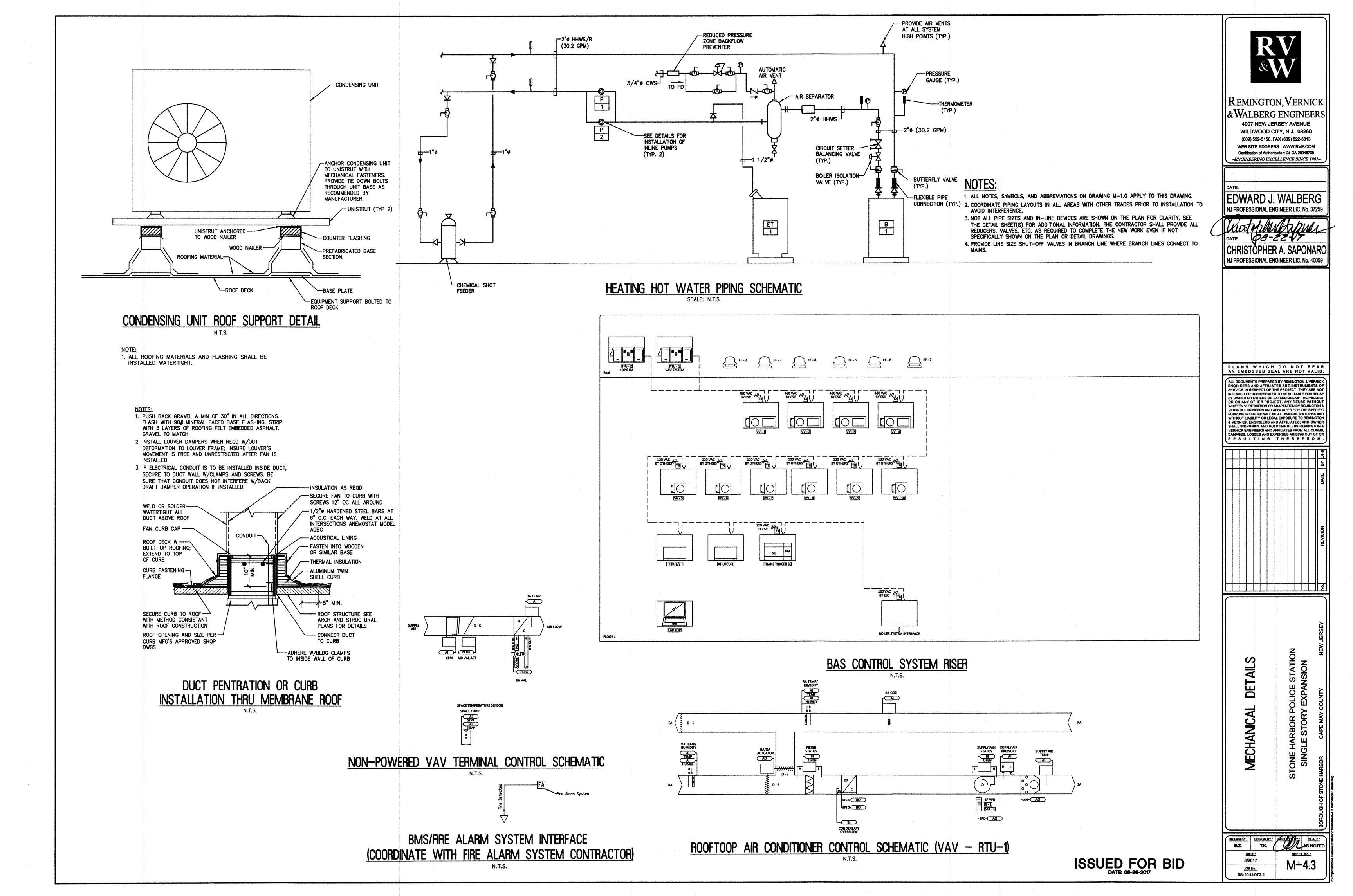
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							VENTILA	ATION AIR REQUIR	EMENTS (ASHRAE 62, INT	TERNATIONAL MECH CO	ODE 2015)					OUTDOOR AIR	EXHAUST		RETURN AIR	SUPPLY AIR
ROOM NAME	TAG	APPROX.	OCCUPANT	NUMBER OF	PEOPLE OUTDOOR	TOTAL PEOPLE	AREA OUTDOOR	TOTAL AREA	BREATHING ZONE	ZONE AIR	ZONE AIR	ZONE OUTDOOR	PRIMARY	EXHAUST	TOTAL	CORRECTED	DESIGN		DESIGN AS-	
		AREA	DENSITY	PEOPLE & /	AIRFLOW RATE	OUTDOOR	AIRFLOW RATE	OUTDOOR	OUTDOOR AIRFLOW	DISTRIBUTION	DISTRIBUTION	AIRFLOW (CFM) Voz	OUTDOOR	AIRFLOW RATE	EXHAUST AIRFLOW		TOTAL (CFM)		TOTAL TOTA (CFM) (CFM	i i
		(SF)	# PEOPLE/	OR FIXTURES	Rp	AIRFLOW (CFM)	Ra	AIRFLOW (CFM)	(CFM) Vbz	EFFECTIVENESS (COOLING) Ez	EFFECTIVENESS (HEATING) Ez	(CFM) VOZ	AIR FRACTION		(CFM)	(CFM) Vot (NOTE 2)	(CEM)	(CFM)	(0, 11)	(CFM)
Ht.			1000 SF	(NOTE 1)		I(CrM)		[(OFM)		[(COOLINO) LZ	Idicatino) cz		1-1-		1701.417	10.00.00				
0 LOBBY		66	10	0 PEOPLE	5 CFM/PERSON	0	0.06 CFM/SQ.FT.	4	4	1.0	0.8	5	0.04	N/A	0	26	0		130	130
1 REPORT TAKING	VAV-1	59	5	1 PERSON	5 CFM/PERSON	5	0.06 CFM/SQ.FT.	4	9	1.0	0.8	11	0.14	N/A	0	15	Ö		75	75
02 CLERK		106	5	1 PERSON	5 CFM/PERSON	5	0.06 CFM/SQ.FT.	6	11	1.0	0.8	14	0.09	N/A	0	30	0		150	150
3 ADMIN. ASSISTANT	VAV-2	162	5	1 PERSON	5.0 CFM/PERSON	5	0.06 CFM/SQ.FT.	10	15	1.0	0.8	18	0.10	N/A	0	38	0		190	190
)4 FILE STORAGE		248	N/A	N/A	N/A	0	0.12 CFM/SQ.FT.	30	30	1.0	0.8	37	0.12	N/A	0	60	0		300	300
05 CHIEF'S OFFICE	VAV3	182	5	1 PERSON	5.0 CFM/PERSON	5	0.06 CFM/SQ.FT.	11	16	1.0	0.8	20	0.06	N/A	0	68	0		340	340
06 CAPTAIN'S OFFICE	VAV-4	180	5	1 PERSON	5.0 CFM/PERSON	5	0.06 CFM/SQ.FT.	11	16	1.0	0.8	20	0.07	N/A	0	56	0		280	280
OF DETECTIVES		201	5	2 PEOPLE	5.0 CFM/PERSON	10	0.06 CFM/SQ.FT.	12	22	1.0	0.8	28	0.13	N/A	0	43	0		215	215
08 DECT. SGT.	VAV5	102	5	1 PERSON	5.0 CFM/PERSON	5	0.06 CFM/SQ.FT.	6	11	1.0	0.8	14	0.12	N/A	<u> </u>	23	0		115	115
09 INTERVIEW		59	5	2 PEOPLE	5.0 CFM/PERSON	10	0.06 CFM/SQ.FT.	4	14	1.0	8.0	17	0.26	N/A	0	13	1 0		65	65 155
10 CORRIDOR		155	N/A	N/A	N/A	0	0.06 CFM/SQ.FT.	9	9	1.0	0.8	12	0.07	N/A	0	31	0	 	155 375	400
11A/B CORRIDOR		421	N/A	N/A	N/A	0	0.06 CFM/SQ.FT.	25	25	1.0	0.8	32	0.08	N/A	0	80	<u> </u>		75	75
12 DOMESTIC INTERVIEW	VAV-6	64	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.		14	1.0	0.8	29	0.23	N/A N/A	0	15	\ \ \ \ \ \ \		75 85	85
14 JUVENILE HOLDING		68	25	3 PEOPLE	5 CFM/PERSON	15	0.12 CFM/SQ.FT.	8	23	1.0	0.8		0.34	70 CFM/FIXTURE	70	11	80	-	0	55
17 TOILET ROOM	12414	50	N/A	1 FIXTURE	N/A	0	N/A	23	73	1.0	0.8	01	0.00	N/A	1 /	82	1 00	+	385	410
15 SQUAD ROOM	VAV-7	377	5 N/A	10 PEOPLE	5 CFM/PERSON N/A	50	0.06 CFM/SQ.FT.	- 23	/3	1.0	0.8		0.00	70 CFM/FIXTURE	70	11	80	+	0	55
16 TOILET ROOM		51	N/A 25	1 FIXTURE		U	0.12 CFM/SQ.FT.	0	13	1.0	0.8	16	0.21	1 CFM/SQ.FT.	66	15	100		0	75
27 HOLDING CELL #1	VAV-8	66	25	1 PERSON 1 PERSON	5 CFM/PERSON 5 CFM/PERSON	5	0.12 CFM/SQ.FT.	Ω	13	1.0	0.8	16	0.21	1 CFM/SQ.FT.	66	15	100		0	75
28 HOLDING CELL #2 26 CELL CORRIDOR	VAV-8	66 107	<u>25</u> N/A	N/A	N/A	3	0.06 CFM/SQ.FT.	6		1.0	0.8	8	0.07	N/A	0	22	110		0	110
25 SHIFT COMMAND		129	N/A	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	8	18	1.0	0.8	22	0.15	N/A	0	30	0		150	150
23 INTERVIEW #2	VAV-9	86	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	5	15	1.0	0.8	19	0.21	N/A	0	18	0		90	90
22 TESTING	*//*-5	78	<u> </u>	1 PERSON	5 CFM/PERSON	5	0.06 CFM/SQ.FT.	5	10	1.0	0.8	12	0.14	N/A	0	: 17	0		85	85
19A DESK AREA		119	5	1 PERSON	5 CFM/PERSON	5	0.06 CFM/SQ.FT.	7	12	1.0	0.8	15	0.08	N/A	0	36	.0		180	180
19 LOBBY	VAV-10	301	10	3 PEOPLE	5 CFM/PERSON	15	0.06 CFM/SQ.FT.	18	33	1.0	0,8	41	0.14	N/A	0	: 60	0		250	300
21 BOOKING		136	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.		18	1.0	0.8	23	0.16	N/A	0	28	0		140	140
		3,837	<u>* </u>													860	470		3,830	4,300
ΠU−2:																				
36 MEN'S LOCKER ROOM		286	N/A	N/A	N/A	0	N/A	0	0	1.0	0.8	0	0.00	0.25 CFM/SQ.FT.	72		80		<u> </u>	325
35 MENS' SHOWERS		70	N/A	2 FIXTURES	N/A	0	N/A	0	0	1.0	0.8	0	0.00	70 CFM/FIXTURE			140		0	0
34 MENS' ROOM		105	N/A	3 FIXTURES	N/A	0	N/A	0	0	1.0	0.8	0	0.00	70 CFM/FIXTURE	210		210		0	75
37 GENERAL PURPOSE ROOM		243	30	3 PEOPLE	5 CFM/PERSON	15	0.06 CFM/SQ.FT.	15	30	1.0	0.8	37	0.13	N/A	0	275	275	-	0	275
29 CORRIDOR		191	N/A	N/A	N/A	0	0.06 CFM/SQ.FT.	11	11	1.0	0.8	14	0.08	N/A	0	190	190	·····	0	190
32 CORRIDOR	RTU-2	366	N/A	N/A	N/A	0	0.06 CFM/SQ.FT.	22	22	1.0	0.8	27	0.07	N/A	0	340	340		0 0	370 110
31 ARMORY		105	N/A	N/A	N/A	0	0.12 CFM/SQ.FT.		13	1.0	0.8	16	0.14	N/A	0	110	110		0	150
30 EQUIPMENT STORAGE		142	N/A	N/A	N/A	0	0.12 CFM/SQ.FT.	17	17	1.0	0.8	21	0.14	N/A	+	150	150 130		0	130
38 EVIDENCE PROCESSING		126	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	8	18	1.0	0.8	22	0.17	N/A N/A	+ ~	130	180		0	180
39 EVIDENCE STORAGE		177	N/A	N/A	N/A	0	0.12 CFM/SQ.FT.	21	21	1.0	0.8	4/	0.15 0.00	70 CFM/FIXTURE	70	70	70	+	0	85
42 WOMENS' LOCKER ROOM		80	N/A	1 FIXTURE	N/A		N/A N/A	<u> </u>	<u> </u>	1.0	0.8	 	0.00	70 CFM/FIXTURE	70	70	70	-	0	55
11 WOMENS' ROOM		47	I N/A	1 FIXTURE	N/A		[N/A	1 0		1.0	J. V.O		1 0.00	1 /0 OF HE / FEATURE		1945	1,945		0	1,945
		1,939								•						- Vertu	- Artic		-	4+ - =
	AHU-1	482	50	10 PEOPLE	5 CFM/PERSON	50	0.06 CFM/SQ.FT.	29	79	1.0	0.8	99	0.00	N/A	0	(NOTE 3)	N/A		N/A	N/A
HU-t 43 TRAINING ROOM	i ADU"I	1 +02	1 30	I IU : FEVELE	J OF MY F CROOK	1 77	I GIVE OF MIT SAFE IT.	3 20		,,,,				,,	-1					
				•																
13 TRAINING ROOM			٠.																	
43 TRAINING ROOM EAT ONLY ZONES: 20 SALLYPORT	UH-2/EF-5	523	l n/a	N/A	l N/A	1 0	l N/A	0	1 0	1.0	0.8	0	0.00	0.75 CFM/SQ.FT.	392	560	560		0	560

1. OCCUPANT LOADS ARE ANTICIPATED OCCUPANT LOADS BASED ON INFORMATION PROVIDED BY THE ARCHITECT.
2. VENTILATION AIR QUANTITIES HAVE BEEN ADJUSTED IN ACCORDANCE WITH SECTION 403 OF THE INTERNATIONAL MECHANICAL CODE 2015.
3. NATURAL VENTILATION SHALL BE PROVIDED THORUGH OPERABLE DOORS AND WINDOWS IN ACCORDANCE WITH SECTION 402 OF THE 2015 INTERNATIONAL MECHANICAL CODE.

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SCHEDULES MECHANICAL

STONE HARBOR POLICE STATION SINGLE STORY EXPANSION

DRAWN BY: DESIGN BY: SHEET NO: <u>.108 No. :</u> 05-10-U-072.1

	SCHEDULE - NON-POWERED		T		TT		HOT WATER CO									SOUND DATA			
AG	AREA(S) SERVED	SYSTEM	MAX. AIRFLOW SETTING (CFM)	MIN. AIRFLOW SETTING (CFM)	INLET SIZE	APD (IN WC)	COIL	COIL	COIL E.W.T. (OF)	DESIGN CAPACITY (MBh)	FLOW (GPM)	HEATING Cv	COIL TYPE	FLUID TYPE	MAX. WATER PD (FT WATER)	DISCHARGE VALVE - NC	RADIATED VALVE - NC	BASIS OF DESIGN	NOTES
/_1	100 LOBBY, 101 REPORT TAKING, 102 CLERK	RTU-1	355	90	6"	0.22	55	95	180	15.4	0.9	1.84	2 ROW	25% PROP. GLYCOL	0.5	37	32	TRANE VCWF06	1,2,3
V-2	103 ADMIN. ASSISTANT, 104 FILE STORAGE	RTU-1	490	125	8"	0.22	55	95	180	21.3	1.8	5.15	2 ROW	25% PROP. GLYCOL	0.3	27	27	TRANE VCWF08	1,2,3
AV-3	105 CHIEF'S OFFICE	RTU-1	340	85	6"	0.20	55	95	180	14.8	0.8	1.83	2 ROW	25% PROP. GLYCOL	0.4	37	31	TRANE VCWF06	1,2,3
AV-4	106 CAPTAIN'S OFFICE	RTU-1	280	70	6"	0.14	55	95	180	12.2	0.6	1.76	2 ROW	25% PROP. GLYCOL	0.3	36	29	TRANE VCWF06	1,2,3
AV-5	107 DETECTIVES, 108 DECT. SGT, 109 INTERVIEW, 110 CORRIDOR	RTU-1	550	140	8"	0.26	55	95	180	23.9	2.1	5.25	2 ROW	25% PROP. GLYCOL	0.4	29	27	TRANE VCWF08	1,2,3
\V-6	111 A/B CORRIDOR, 112 DOMESTIC INTERVIEW, 114 JUVENILE HOLDING, 117 TOILET ROOM	RTU-1	615	155	8"	0.32	55	95	180	26.7	2.5	5,36	2 ROW	25% PROP. GLYCOL	0.5	29	28	TRANE VCWF08	1,2,3
V-7	115 SQUAD ROOM, 116 TOILET ROOM	RTU-1	465	120	8"	0.20	55	95	180	20.2	1.6	5.11	2 ROW	25% PROP. GLYCOL	0.2	27	26	TRANE VCWF08	1,2,3
\V-8		RTU-1	410	105	8"	0.16	55	95	180	17.8	1.4	5.02	2 ROW	25% PROP. GLYCOL	0.2	26	26	TRANE VCWF08	1,2,3
	127 HOLDING CELL #1, 128 HOLDING CELL #2, 126 CELL CORRIDOR, 125 SHIFT COMMAND	RTU-1	175	45	5"	0.03	55	95	180	7.6	0.7	1.07	1 ROW	25% PROP. GLYCOL	1.0	36	25	TRANE VCWF05	1,2,3
/AV-9 AV-10	123 INTERVIEW #2, 122 TESTING 1194 DESK AREA 119 LORBY 121 BOOKING	RTU-1	620	155	g#	0.32	55	95	180	26.9	2.6	5.37	2 ROW	25% PROP. GLYCOL	0.5	29	28	TRANE VCWF08	1,2,3

119A DESK AREA, 119 LOBBY, 121 BOOKING NOTES: 1. PROVIDE VAV TERMINALS WITH 22 GAUGE GALVANIZED STEEL CASING, BACNET CONTROLLER (SIMILAR TO TRANE UC210), DOUBLE WALL 1" INSULATION (1 1/2 LBS), MODULATING HOT WATER REHEAT COIL, MULTI-POINT CENTER AVERAGING VELOCITY SENSOR, DISCONNECT SWITCH, POWER FUSE, AND ALL OTHER INSTRUMENTS AND CONTROL DEVICES REQUIRED TO OPERATE THE BOXES IN ACCORDANCE WITH THE DIVISION 15 SPECIFICATIONS.

2. COORDINATE CONTROL INSTALLATION WITH THE HVAC CONTROL SYSTEM CONTRACTOR FOR FACTORY OR FIELD MOUNTING. PROVIDE 24V TRANSFORMERS AS REQURIED. SEE DIVISION 15 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3. SOUND DATA BASED ON DUAL WALL WITH 1" INSULATION, 1" MAX INLET SP, DISCHARGE TRANSFER FUNCTION AHRI 885-08, AND RADIATED TRANSFER FUNCTION AHRI 885-90 MINERAL FIBER.

FTOP AIR CO	NDITIONER SCH	ADDROY				FLECTRICAL	····		SUPPLY FA	j			DX COOLING							HOT GAS REH	AT			GAS HEA					FILTERS					
		APPRUX.				ELECTRICAL			SUPPLI FA	<u> </u>	T T		DX COOLING		· I		T		T		1			T T					PRE-FILTER	PRE-FILTER	PRIMARY	PRIMARY	BASIS OF DESIGN	1
# OPERATION	CONFIGURATION	UNIT	TOTAL.	MIN.	RETURN	1				İ										04040174				MOUT	AUTOUT !	EAT LAT	GAS	TURNDOWN	TYPE	RATING	FILTER	FILTER		1
		WEIGHT	AIRFLOW	OUTDOOR	AIRFLOW		MCA N	AOP EER	AIRFLOW	E.S.P.	MINIMUM	DRIVE	NOMINAL	TOTAL	SENSIBLE	COIL	COIL	COIL	REFRIG	CAPACITY	LAI	LAI		INFU	OUTPUT	EMI LAI	1	CONTROCAL	1 '''-			RATING		
		W/ CURB	(CEM)	AIRFI OW	(CFM)	V /DH /H2		1	(CEM)	(in WC)	MOTOR	TYPE	TONAGE	CAPACITY	CAPACITY	EAT	EAT	LAT	TYPE	(MBH)	DB	WB	STAGES	(MBH)	(MBH)	(F) (F)	PRESSURE		1		TYPE	KATING		
		// 00110	(Olm)	(OTA)	(Orm)	1 17117112	$\perp \sim \perp$	l	((((((((((((((((((((\". ""	WO COL	• • • • • • • • • • • • • • • • • • • •	1	(MDH)	(MBH)	l na	WR	na/wa		, ,	(F)	(F)		1 1	1		RANGE (IN. W.C.)			<u> </u>				
		(LBS)		(CFM)			1 (A) 1 ((A)	ļ		nr			(MDIT)	100.0	 	4.5	55/54	D4404	N /A	1 1/4	3/4	NI /A	350	290 5	55 75 112 A	714	25.1	N/A	N/A	2" PLEATED MEDIA	MERV 8	TRANE YZD150F3	
VAV	DOWNFLOW	2,750	4,300	860	3,440	208-230/3/60	71	80 12.4	4,300	1.70	3	VFD W/ SGR	12.5	138.1	102.9	/8	63	55/54	KATUA	I N/A	N/A	 "/^ 	17/0	+		30.70 112.4		40.4	OF CHEATER ASSOLA	MERV_R	2" PLEATED MEDIA	MERV 13	TRANE OAGD120D3	
/ (100% QA)	DOWNELOW	3.250	1 045	1 045	0	208-230/3/80	53.9	60 10.6	1 045	1.50	4	CV W/ ECM	10	128.0	73.4	88	73	54/53	R410A	44.8	75.2	61.2	MODULATING	200	160	13 89.2	<u> </u>	10:1	2" PLEATED MEDIA	MERV-0	Z FLEATED MEDIA		INAIL UNGUIZUUS	-

CONDENSATE DRAIN PAN OVERFLOW SWITCH, UNIT MOUNTED DISCONNECT, POWERED CONVENIENCE OUTLET, BACNET MS/TP COMMUNICATIONS INTERFACE, AND ALL OTHER ACCESSORIES REQUIRED BY THE DIVISION 15 SPECIFICATIONS.

3. PROVIDE UNIT WITH 2" DOUBLE WALL FOAMED PANEL CONSTRUCTION, STAINLESS STEEL DRIP PAN, DISCHARGE AIR CONTROL WITH APR VALVE CONTROL, AND 2-POSITION OUTDOOR AND RETURN AIR DAMPERS.

4. PROVIDE UNIT WITH COASTAL CORROSION PROTECTION PACKAGE, INCLUDING STAINLESS STEEL INTERIOR AND COATED COILS.

5. PROVIDE UNIT WITH THROUGH THE BASE ELECTRICAL.

UNIT	HEATER SCHEDULE										*			
TAG	TYPE	ROOMS		FAN(S)					HOT WATER COIL (NOTE 1)). 2.		BASIS	NOTES
17.0	,	SERVED	APPROX. DIM	AIRFLOW	NO.	MOTOR	V/Ph/Hz	DRIVE	TOTAL (MBH)	E.W.T. / FLOW	MAX. WATER	CONTROL VAVLE	of Design	
			(H x W x D)	(CFM)		HP		TYPE	CAPACITY	L.W.T (OF) (GPM)	PD (FT)	TYPE		
UH-1	HORIZONTAL DELIVERY	VEHICLE STORAGE 118	24" x 25" x 9"	2070	1	1/5	115/1/60	DIRECT	56.6	180 / 140 6.9	1.8	3-WAY	MODINE HSB-108	1,2
UH-2	HORIZONTAL DELIVERY	SALLYPORT 120	20" x 21" x 8"	1340	1	1/8	115/1/60	DIRECT	51.6	180 / 140 6.3	1	3-WAY	MODINE HSB-86	1,2
	A DESCRIPTION THE OLYCOL /			<u></u>	······		· · · · · · · · · · · · · · · · · · ·	1, 1, 1		:				1

NOTES: 1. 25% PROPYLENE GLYCOL / 75% WATER SOLUTION. 2. PROVIDE UNIT HEATERS WITH PIPE SUSPENSION ADAPTER KITS, REMOTE THERMOSTATS, SOLID STATE MOTOR SPEED CONTROLLER, AND ALL OTHER DEVICES AND COMPONENTS REQUIRED TO INSTALL AND OPERATE THE UNIT HEATERS.

HOT V	VATER FI	NNED TI	JBE RADIATION	SCHEDULI	• • •					
TAG	LENGTH (FT)	PIPE SIZE (IN DIA)	FIN SIZE (IN)	FINS/FT	TIERS AND CENTERS (IN.)	HEAT CAPACITY 160 DEG. F. AVG. WATER TEMP. (BTUH/LF)	DESIGN GPM	ENCLOSURE HEIGHT x WIDTH (IN.)	BASIS OF DESIGN	NOTES
FTR-1	12	1"	4 1/4 x 3 5/8	40	2-6CL	1400	1.0	24 x 5-5/16	STERLING JVA-F C434	1, 2, 3,4,5 & 6
FTR-2	5	1"	4 1/4 x 3 5/8	40	2-6CL	1400	1.0	24 × 5-5/16	STERLING JVA-F C434	1, 2, 3,4,5 & 6

NOTES: 1. PROVIDE WITH COPPER / ALUMINUM ELEMENT. 2. PROVIDE WALL SLEEVES, BLANK SECTIONS, AND CORNERS AS REQUIRED TO CONCEAL PIPING.

3. PROVIDE FULL BACKPLATE.

4. VERIFY FINAL ELEMENT / ENCLOSURE LENGTH IN FIELD.

5. PROVIDE WALL THERMOSTATS FOR ALL FINNED TUBE RADIATION.

6. PROVIDE CONTROL VALVES FOR ALL FINNED TUBE RADIATION.

DIFFUS	er, register &	GRILLE	SCHEDULE				
TAG	DESCRIPTION	FACE	NECK	DIRECTION	E	BASIS OF DESIGN	Į .
,,,,					MF'R	MODEL	NOTES
A	DIFFUSER	12"x12"	4" DIA,	SUPPLY	PRICE	ACSD	1,2,3,4& 5
В	DIFFUSER	24"x24"	6" DIA.	SUPPLY	PRICE	ACSD	1,2,3,4& 5
С	DIFFUSER	24"x24"	8" DIA.	SUPPLY	PRICE	ACSD	1,2,3,4& 5
D	DIFFUSER	9" x 9"	6" x 6"	SUPPLY	PRICE	MSD	1,2,3,4& 5
Ε	REGISTER	6"x6"	6"x6"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4& 5
F	REGISTER	16" X 16"	16" X 16"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4& 5
G	REGISTER	12" X 12"	12" X 12"	RETURN/EXHAUST	PRICE	82DAL	1,2,3,4& 5
Н	REGISTER	8" X 8"	8" X 8"	RETURN/EXHAUST	PRICE	82DAL	1,2,3,4& 5
	REGISTER	8" X 8"	8" X 8"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4, 5, 6
J	REGISTER	10" X10"	10" X10"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4, 5
к	REGISTER	12" X 12"	12" X 12"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4, 5
L	REGISTER	8" X 8"	8" X 8"	RETURN/EXHAUST	PRICE	630DAL	1,2,3,4, 5
М	DIFFUSER	24"x24"	10" DIA.	SUPPLY	PRICE	ACSD	1,2,3,4& 5

NOTES: 1. COORDINATE MOUNTING FRAME WITH CEILING/WALL TYPE.

2. COORDINATE COLOR & FINISH WITH ARCHITECT.

3. NC (NOISE CRITERIA) LEVEL MAY BE NO GREATER THAN 25.

4. PROVIDE WITH ALUMINUM OPPOSED BLADE DAMPERS. 5. PROVIDE WITH OPPOSED BLADE DAMPERS.

6. PROVIDE REGISTER WITH PRICE MSLP SECURITY COVER.

REMINGTON, VERNICK

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	ģ	REVISION	DATE	₽

SCHEDULES MECHANICAL

8/2017 JOB No.:

05-10-U-072.1

HEATING	HOT WATER BOILER SO	HEDULE				:		-					÷				
TAG	APPROXIMATE DIMENSIONS	APPROXIMATE WEIGHT (LBS)	GAS INPUT	OUTPUT	AHRI CERTIFIED EFFICIENCY	MAX. WORKING PRESSURE (PSI)	1 1	MAX. PD (FT/HD)	EWT LWT (DEG. F.) (DEG. F.)	COMBUSTION AIR INTAKE VENT DIA, (IN)	EXHAUST FLUE VENT DIA. (IN)	COLD WATER INLET (IN)	HOT WATER OUTLET (IN)	GAS CONN. (IN.)	ELECTRICAL V/PH/HZ	BOILER MANUF. & MODEL NUMBER	NOTES
B-1	(H x L x W) 51" x 22" x 35"	780	399	369	92.7	100	7.2 MIN/ 72 MAX	7.5	140 180	4	4	1 1/4	1 1/4	3/4	120/1/60	HYDROTHERM KN-4	1, 2 ,3, 4

PROVIDE WITH CONTROL PANEL, PANEL-MOUNTED TEMPERATURE GAUGES, CAST IRON HEAT EXCHANGER, ADJUSTABLE TEMPERATURE MANUAL RESET HIGH-LIMIT, ADJUSTABLE AQUASTAT (WITH ADJUSTABLE DIFFERENTIAL), ASME PRESSURE RELIEF VALVE, LOW GAS PRESSURE SWITCH, BUILT-IN COMBUSTION AIR FAN, WATER

FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC CONTROL PANEL, TERMINAL STRIP (FOR REMOTE TEMP. CONTROL).

2. PROVIDE WITH MAIN GAS VALVE, FIRING VALVE, IGNITION CONTROL, OPERATING CONTROL & MAIN GAS PRESSURE REGULATOR.

3. PROVIDE WITH MAIN GAS VALVE, FIRING VALVE,

4. PROVIDE COMPLETE DIRECT VENT/INTAKE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

TAG	ROOM(S) SERVED	FAN TYPE	CFM	TOTAL S.P. (in. w.c.)	MOTOR HP OR WATTS	DRIVE TYPE	ELECTRICAL V/PH/HZ	SONES	ROOF / WALL OPENING SIZE	APPROXIMATE WEIGHT (LBS)	BASIS OF DESIGN	NOTE
EF-1	MECHANICAL ROOM 124	SIDEWALL PROPELLER	175	0.15	1/40	BELT	120/1/60	3.5	13" x 13"	70	GREENHECK S1-8-440-G	2
EF-2	TOILET 116 & 117	ROOF MOUNTED DOWNBLAST	160	0.2	1/6	BELT	120/1/60	4	14.5" x 14.5"	60	GREENHECK GB-071	1
EF-3	HOLDING CELLS	ROOF MOUNTED DOWNBLAST	310	0.25	1/6	BELT	120/1/60	4	14.5" x 14.5"	60	GREENHECK GB-081	1 1
EF-4	VEHICLE STORAGE 118	ROOF MOUNTED DOWNBLAST	675	0.25	1/4	BELT	120/1/60	7.6	14.5" x 14.5"	65	GREENHECK GB-091	1
EF-5	SALLYPORT 120	ROOF MOUNTED DOWNBLAST	560	0.25	1/4	BELT	120/1/60	7.6	14.5" x 14.5"	65	GREENHECK GB-091	1
EF-6	ARMORY, STORAGE, EVIDENCE, WOMENS LOCKER	ROOF MOUNTED DOWNBLAST	900	0.50	1/4	BELT	120/1/60	8.0	14.5" x 14.5"	65	GREENHECK GB-101	3
EF-7	MENS LOCKER, GENERAL PURPOSE	ROOF MOUNTED DOWNBLAST	1,045	0.50	1/4	BELT	120/1/60	8.9	14.5" x 14.5"	65	GREENHECK GB-101	3

NOTES: 1. PROVIDE FAN WITH SLOPED ROOF CURB, AUTOMATIC BACKDRAFT DAMPER, AND UNIT MOUNTED DISCONNECT SWITCH IN A NEMA 3K ENCLOSURE (WITH INTEGRAL STARTER).

2. PROVIDE FAN WITH WALL HOUSING, BACKDRAFT DAMPER, DISCONNECT SWITCH, OSHA GUARD, BIRD SCREEN AND MOUNTING ACCESSORIES.

3. PROVIDE FAN WITH AUTOMATIC BACKDRAFT DAMPER, UNIT MOUNTED DISCONNECT SWITCH IN NEMA 3R ENCLOSURE, AND ADAPTER CURB/SHEET METAL TRANSITION TO EXISTING CURB.

PUMP SC	HEDULE							·			
TAG	SERVICE	FLUID	FLOW	TDH (ft)	RPM	MOTOR	ELECTRICAL	BASIS OF DESIGN			NOTES
		TYPE	RATE				:	MANUFACTURER	MODEL	DESCRIPTION	
			(GPM)			HP	(V / Hz / ph)				
P-1	HEATING WATER	25% PROPYLENE GLYCOL / 75% WATER	30.2	25	1750	1	208V/3/60	BELL & GOSSETT	SERIES E-80 1.5X1.5X7C	INLINE	1
P-2	HEATING WATER	25% PROPYLENE GLYCOL / 75% WATER	30.2	25	1750	1	208V/3/60	BELL & GOSSETT	SERIES E-80 1.5X1.5X7C	INLINE	1
NOTES:	1. PROVIDE WITH VARIABLE	FREQUENCY CONTROLLER AND SENSORS. VARIABLE F	REQUENCY CONTRO	LLERS ARE TO	BE IN AC	CORDANCE WITH	THE DIVISION 16/26	SPECIFICATIONS.			

LOUVE	R SCHEDULE								
TAG	SERVICE	SYSTEM	AIRFLOW (CFM)	SIZE (W x H)	FREE AREA (FT2)	MATERIAL	FINISH	BASIS OF DESIGN	NOTES
L-1	EXHAUST	EF-1	175	14"x14"	0.52	ALUMINUM	MILL.	RUSKIN ELF6375DXH	1, 2, 3 & 4
L-2	INTAKE	EF-1	175	14"x14"	0.52	ALUMINUM	MILL.	RUSKIN ELF6375DXH	1, 2, 3 & 4
<u>L-3</u>	INTAKE	EF-4	675	14"X32"	1.52	ALUMINUM	MILL.	RUSKIN ELF6375DXH	1, 2, 3 & 4
L-4	INTAKE	EF-5	560	20"X20"	1.27	ALUMINUM	MILL.	RUSKIN ELF6375DXH	1, 2, 3 & 4
NOTES:	1. PROVIDE WITH BIRD SCREEN	AND BAKED E	NAMEL FINISH (COOF	RDINATE COLOR	WITH ARCHITECT).				
	2. PROVIDE LOUVER WITH CD36								
	3. INTERLOCK LOUVER DAMPER	S WITH ASSOC	ATED EXHAUST FAN	S.					
	4. PROVIDE WITH INTERIOR SEC								

ELECTRIC	BASEBOARD HEATER SCHE	DULE		:				
TAG	LOCATION	LENGTH (IN)	OUTPUT (BTUH)	OUTPUT (WATTS)	AMPS	ELECTRICAL (VOLTS)	BASIS OF DESIGN	NOTES
EBBH-1	LOBBY 119	48	3413	1000	8.3	120	MARKEL MODEL E2910-048C	1,2
EBBH-2	LOBBY 100	40	2550	750	6.3	120	MARKEL MODEL E2907-040C	1,2
EBBH-3	ARMORY 131	40	2550	750	6.3	120	MARKEL MODEL E2907-040C	1,2
NOTES: 1.	HEATERS SHALL BE PROVIDED	1	and the second s	TATS, OVER	TEMPERATU	RE		

THERMAL LIMIT PROTECTION, AND WIREWAY COVERS.

2. COORDINATE FINISH TYPE WITH ARCHITECT. PROVIDE BLANK SECTIONS AS REQUIRED.

PROVIDE WITH SERVICE CHECK VALVE.

EXPAN	SION TAN	K S	•			•		
TAG	TANK VOLUME (GAL)	MAX. ACCEP. FACTOR	MAX. WORKING PRESSURE (PSIG)	TANK DIA. (IN)	TANK LENGTH (IN)	APPROX. TANK WEIGHT (100% FULL) (LBS)	MANUFACTURER & MODEL NUMBER	NOTES
ET-1	10.9	2.4	150	12	27	49	AMTROL AX-20V	1,2

RV &W

REMINGTON, VERNICK & WALBERG ENGINEERS

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EDWARD J. WALBERG

NJ PROFESSIONAL ENGINEER LIC. No. 37259

CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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MECHANICAL SCHEDULES
STONE HARBOR POLICE STATION
SINGLE STORY EXPANSION

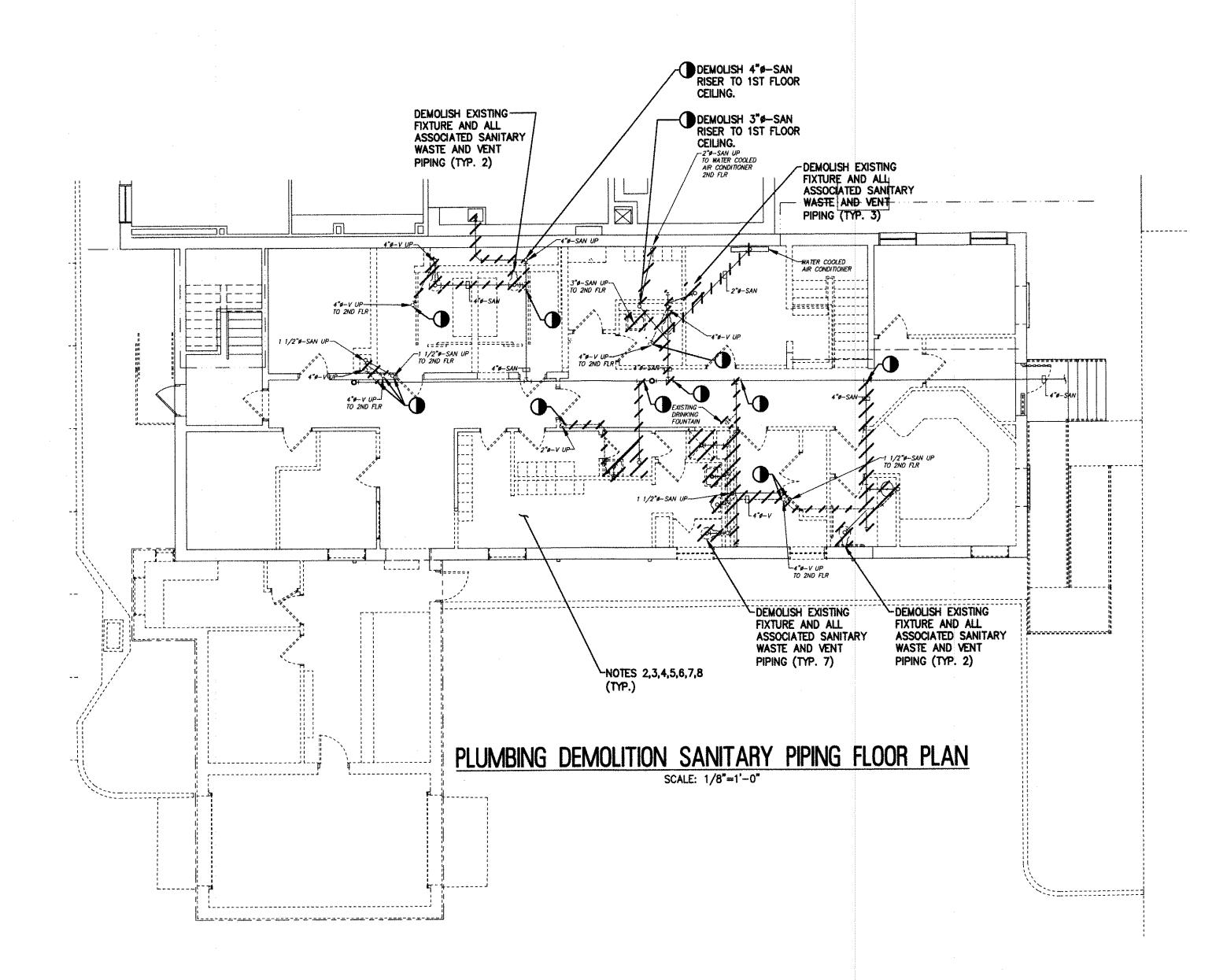
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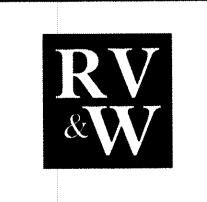
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- COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.

 3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
- 4. DEMOLISH ALL UTILITY PIPING BACK TO MAIN AS SHOWN. TEMPORARILY CAP BRANCH PIPING IF BEING RE-USED FOR THE NEW WORK. PERMANENTLY CAP UNUSED PIPE AT MAIN AIR/WATER TIGHT. PROVIDE FLOOR CLEANOUTS FOR ALL UNUSED/ABANDONED SANITARY DRAIN PIPING.
- 5. THE EXISTING VALVE LAYOUT AS SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY EXISTING VALVE SIZE AND LOCATION PRIOR TO COMMENCING WORK.
- 6. WHERE VENT PIPING IS SHOWN TO BE DEMOLISHED, REMOVE THE VENT PIPING UP THOROUGH ROOF. CONTRACTOR TO VERIFY IN FIELD THAT NO EXISTING FIXTURES SCHEDULED TO REMAIN ARE CONNECTED TO VENT STACK. REMOVE VTR, AND PATCH AND REPAIR ROOF STRUCTURE.
- 7. WHERE UNDERGROUND PIPING IS SHOWN TO BE DEMOLISHED, PROVIDE PROPER BACKFILL AND PATCHING TO FINISHED FLOOR ELEVATION.
- 8. CONTRACTOR TO PATCH AND REPAIR ALL EXISTING UTILITY, SANITARY, AND VENT PIPING AS NECESSARY FOR A FULLY INTERCONNECTED AND OPERATIONAL SYSTEM. CONTRACTOR TO VERIFY EXISTING CONDITION AND RECONNECT PIPING TO REMAINING FIXTURES AS NECESSARY.



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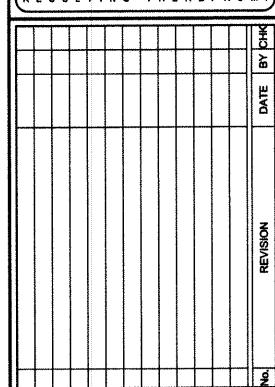
EDWARD J. WALBERG

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CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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NG DEMOLITION SANITARY
PIPING FLOOR PLAN
ONE HARBOR POLICE STATION
SINGLE STORY EXPANSION

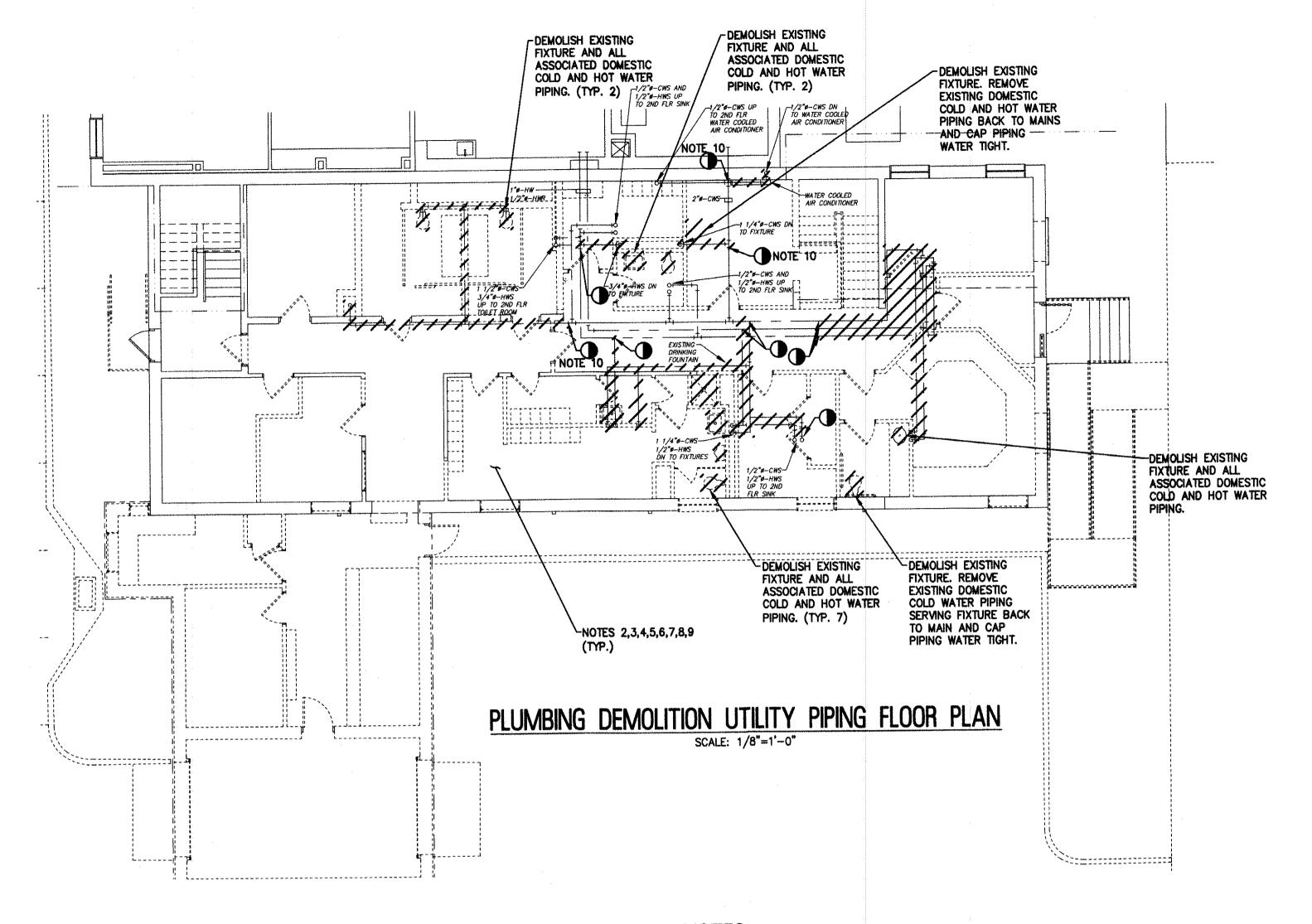
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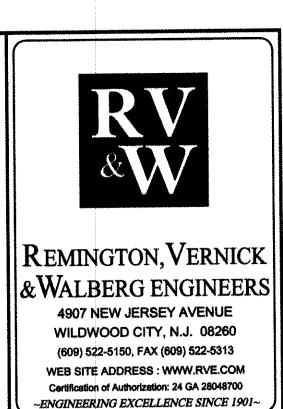
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- 6. WHERE VENT PIPING IS SHOWN TO BE DEMOLISHED, REMOVE THE VENT PIPING UP THOROUGH ROOF. CONTRACTOR TO VERIFY IN FIELD THAT NO EXISTING FIXTURES SCHEDULED TO REMAIN ARE CONNECTED TO VENT STACK. REMOVE VTR, AND PATCH AND REPAIR ROOF STRUCTURE.
- 7. WHERE UNDERGROUND PIPING IS SHOWN TO BE DEMOLISHED, PROVIDE PROPER BACKFILL AND PATCHING TO FINISHED FLOOR ELEVATION.

 8. CONTRACTOR TO PATCH AND REPAIR ALL EXISTING UTILITY, SANITARY, AND VENT PIPING AS
- NECESSARY FOR A FULLY INTERCONNECTED AND OPERATIONAL SYSTEM. CONTRACTOR TO VERIFY EXISTING CONDITION AND RECONNECT PIPING TO REMAINING FIXTURES AS NECESSARY.

 9. PATCH AND REPAIR UTILITY WALL PENETRATION WATERTIGHT. COORDINATE FINISH WITH
- ARCHITECT.

 10. CAP EXISTING PIPING WATERTIGHT.



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CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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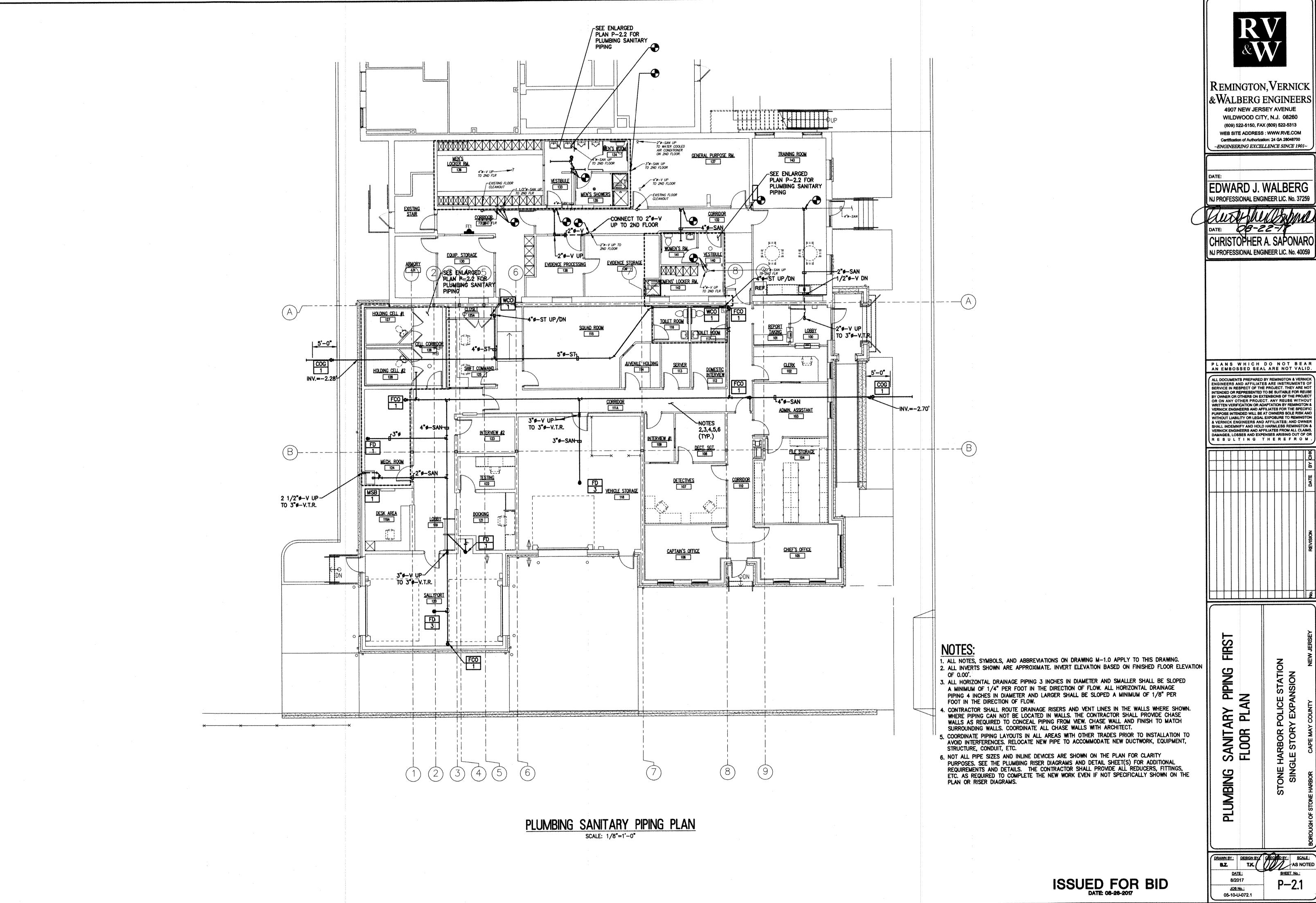
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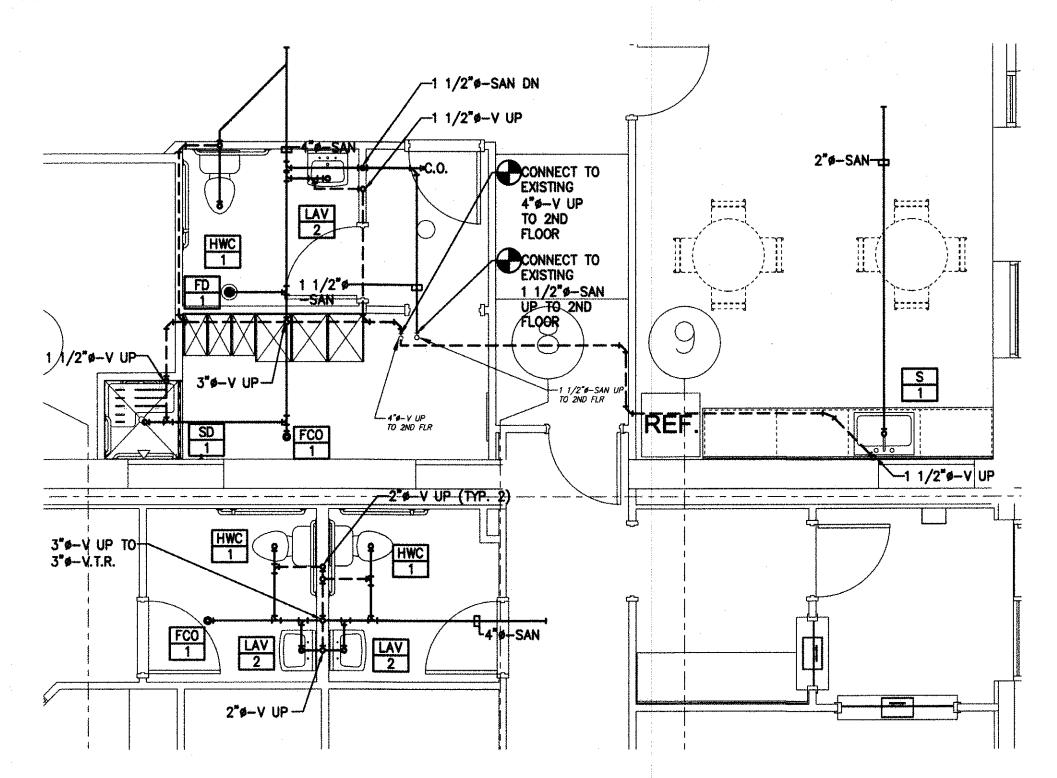
IBING DEMOLITION UTILITY PIPING
FLOOR PLAN
STONE HARBOR POLICE STATION
SINGLE STORY EXPANSION

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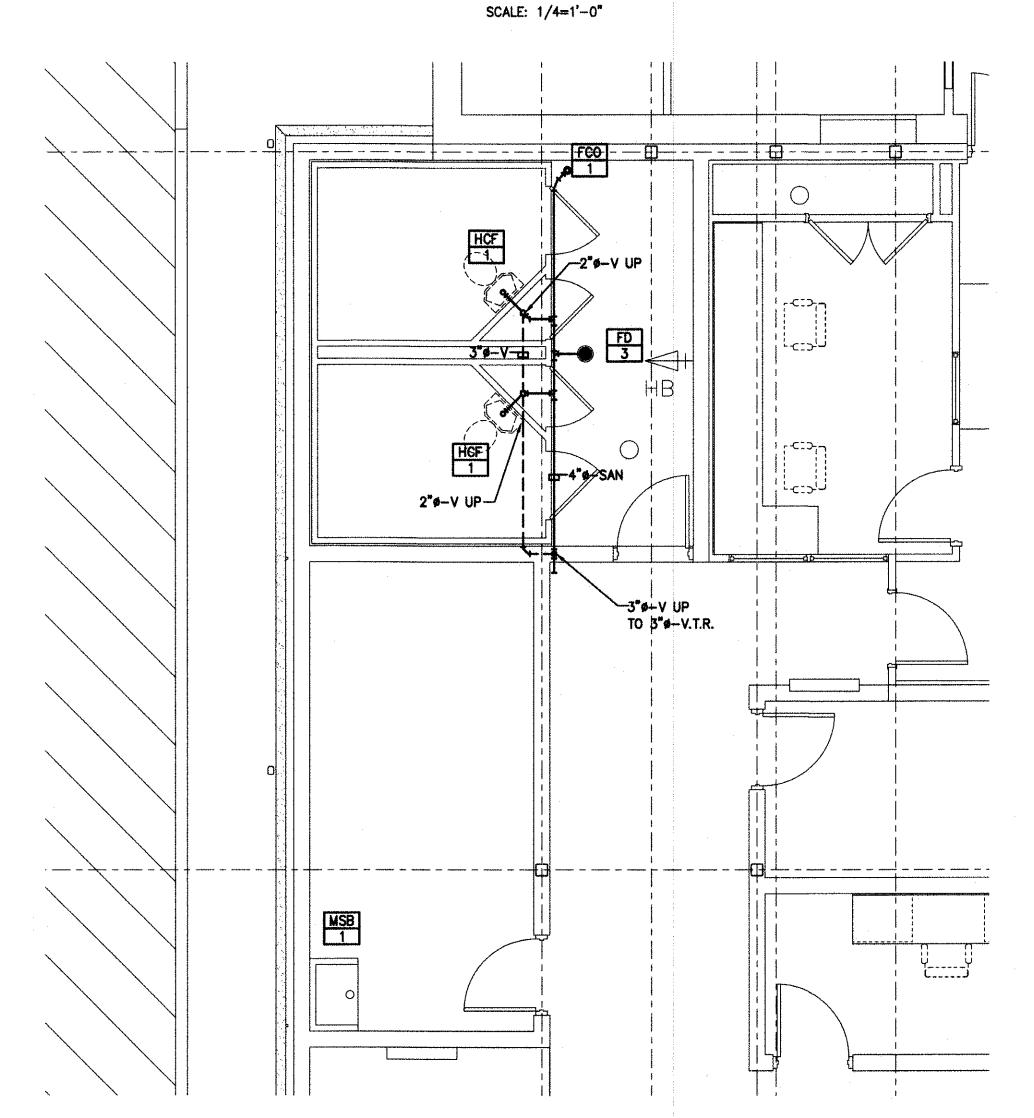
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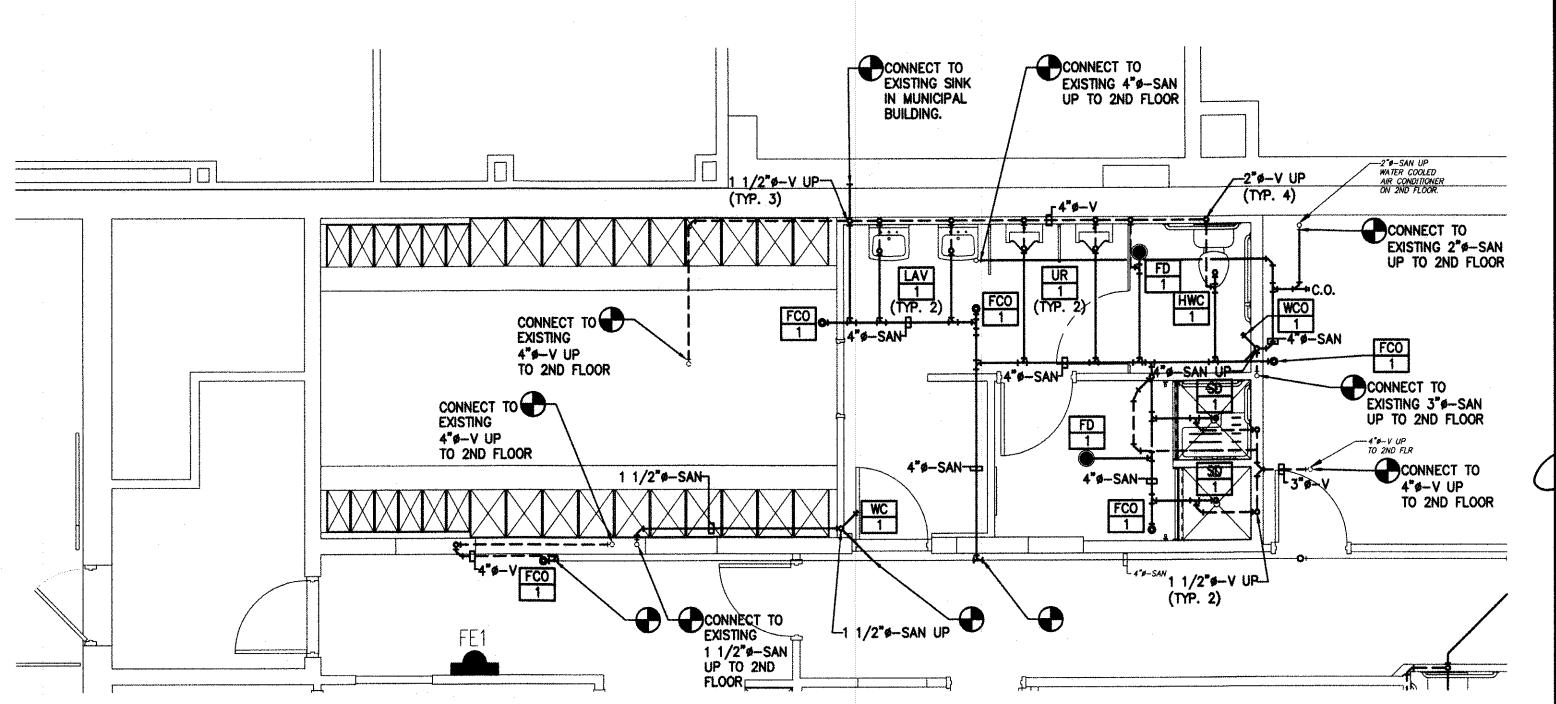




PLUMBING SANITARY PIPING ENLARGED WOMENS RM 141, WOMENS LOCKER ROOM 142 AND TOILER ROOMS 116 & 117 FLOOR PLANS



PLUMBING SANITARY PIPING ENLARGED HOLDING CELLS AND MECHANICAL ROOM FLOOR PLAN SCALE: 1/4=1'-0"



PLUMBING SANITARY PIPING ENLARGED MENS RM 134 AND MENS SHOWER 135 FLOOR PLANS

SCALE: 1/4=1'-0"

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. ALL INVERTS SHOWN ARE APPROXIMATE. INVERT ELEVATION BASED ON FINISHED FLOOR ELEVATION
- 3. ALL HORIZONTAL DRAINAGE PIPING 3 INCHES IN DIAMETER AND SMALLER SHALL BE SLOPED A MINIMUM OF 1/4" PER FOOT IN THE DIRECTION OF FLOW. ALL HORIZONTAL DRAINAGE PIPING 4 INCHES IN DIAMETER AND LARGER SHALL BE SLOPED A MINIMUM OF 1/8" PER FOOT IN THE DIRECTION OF FLOW.
- 4. CONTRACTOR SHALL ROUTE DRAINAGE RISERS AND VENT LINES IN THE WALLS WHERE SHOWN. WHERE PIPING CAN NOT BE LOCATED IN WALLS. THE CONTRACTOR SHALL PROVIDE CHASE WALLS AS REQUIRED TO CONCEAL PIPING FROM VIEW. CHASE WALL AND FINISH TO MATCH SURROUNDING WALLS. COORDINATE ALL CHASE WALLS WITH ARCHITECT.
- 5. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID INTERFERENCES. RELOCATE NEW PIPE TO ACCOMMODATE NEW DUCTWORK, EQUIPMENT, STRUCTURE, CONDUIT, ETC.
- 6. NOT ALL PIPE SIZES AND INLINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY PURPOSES. SEE THE PLUMBING RISER DIAGRAMS AND DETAIL SHEET(S) FOR ADDITIONAL REQUIREMENTS AND DETAILS. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, FITTINGS, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN OR RISER DIAGRAMS.



EDWARD J. WALBERG NJ PROFESSIONAL ENGINEER LIC. No. 37259

Certification of Authorization: 24 GA 28048700

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NJ PROFESSIONAL ENGINEER LIC. No. 40059

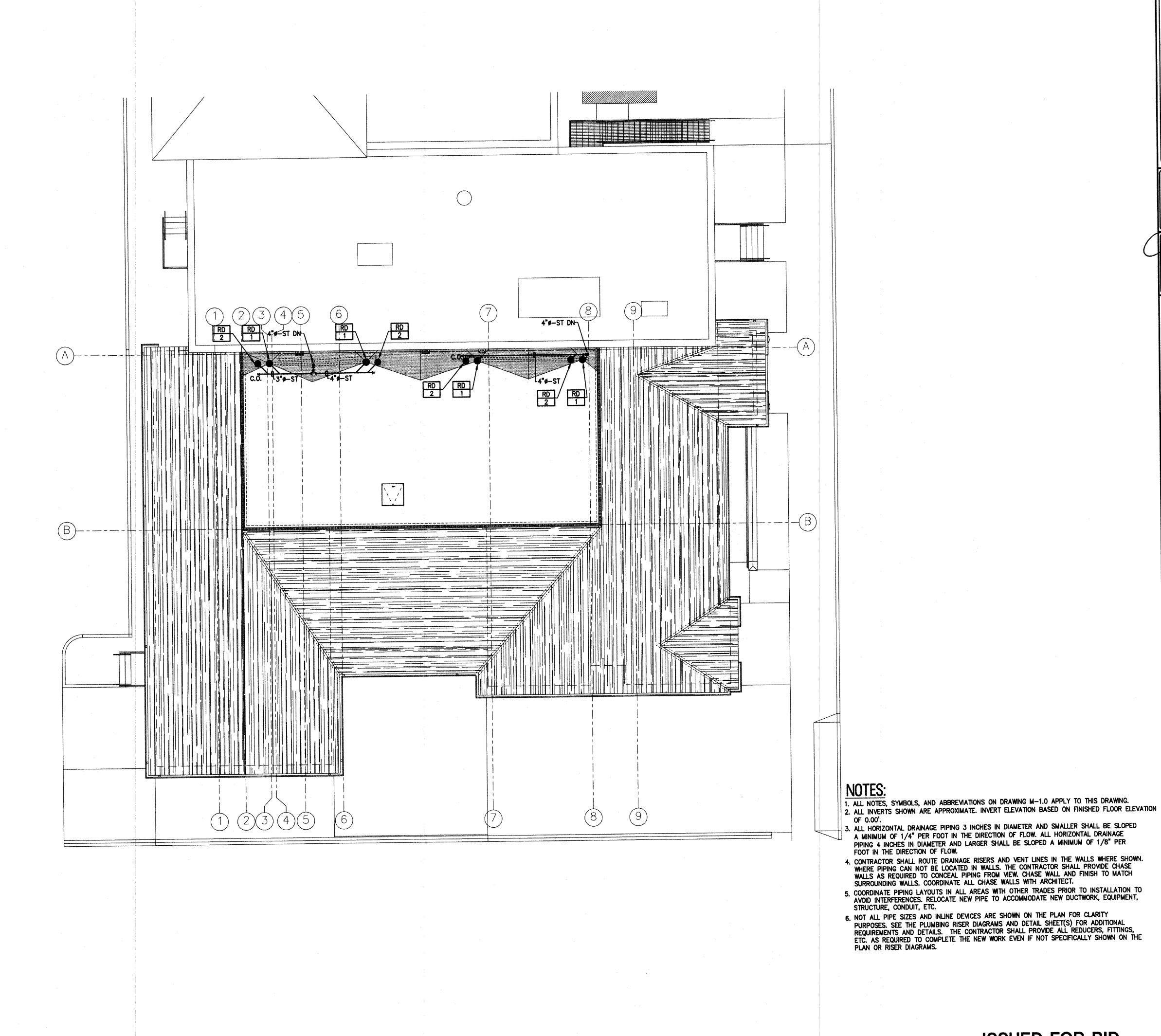
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FLOOR PLAN	LAN				
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REMINGTON, VERNICK & WALBERG ENGINEERS

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DATE:
EDWARD J. WALBERG

NJ PROFESSIONAL ENGINEERAIC. No. 37259

DATE: 08-22-17

CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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ROOF PLAN

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PLUMBING

HARBOR POLICE STATION GLE STORY EXPANSION

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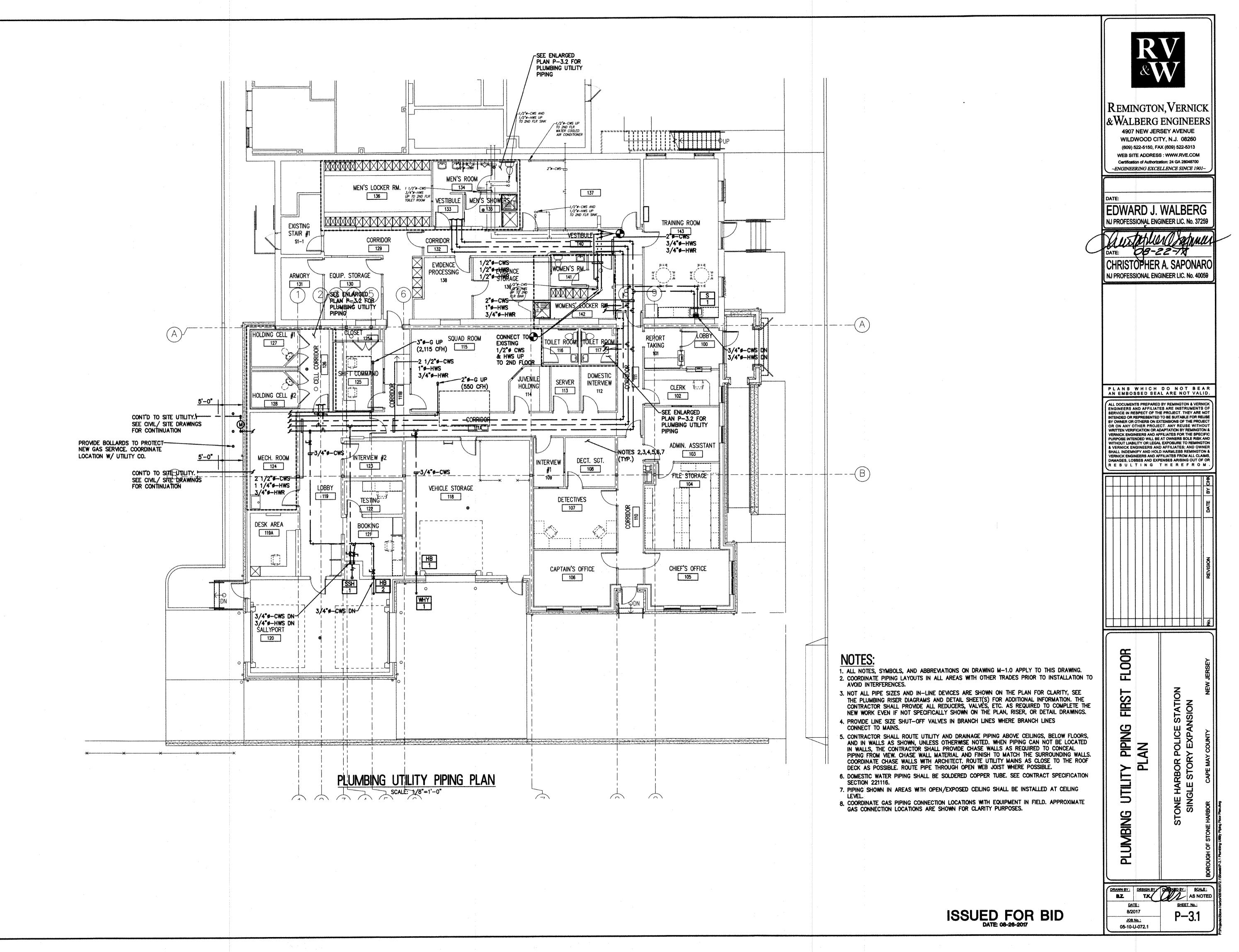
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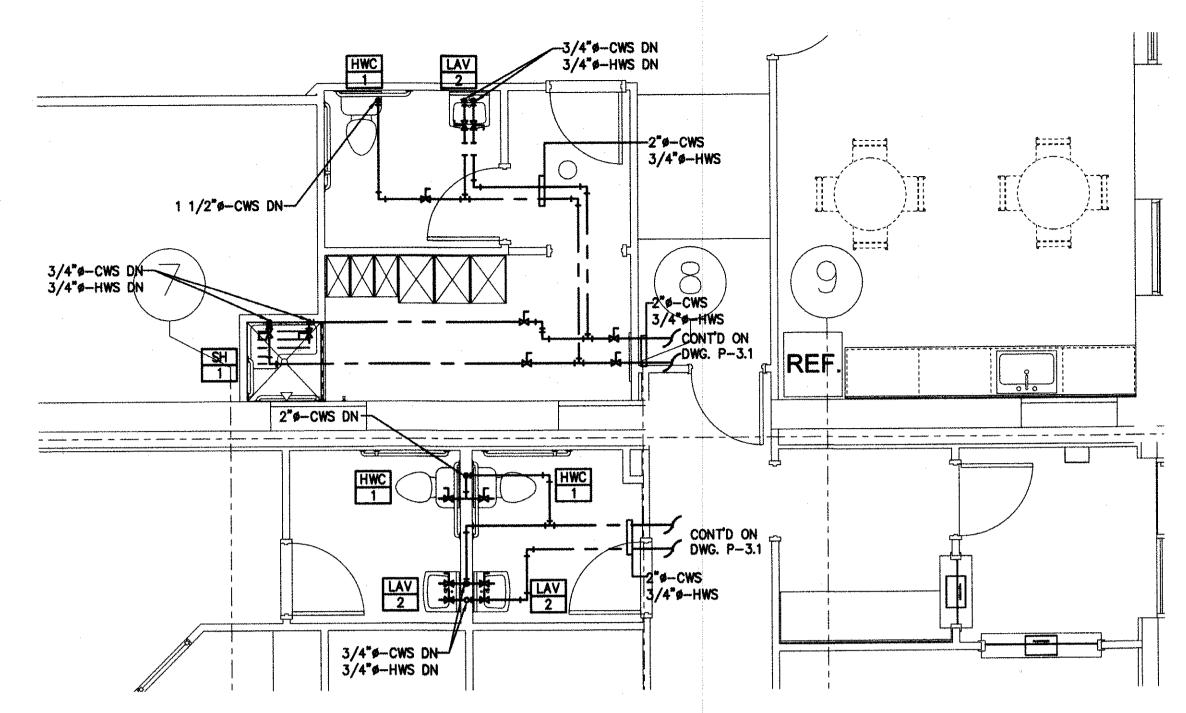
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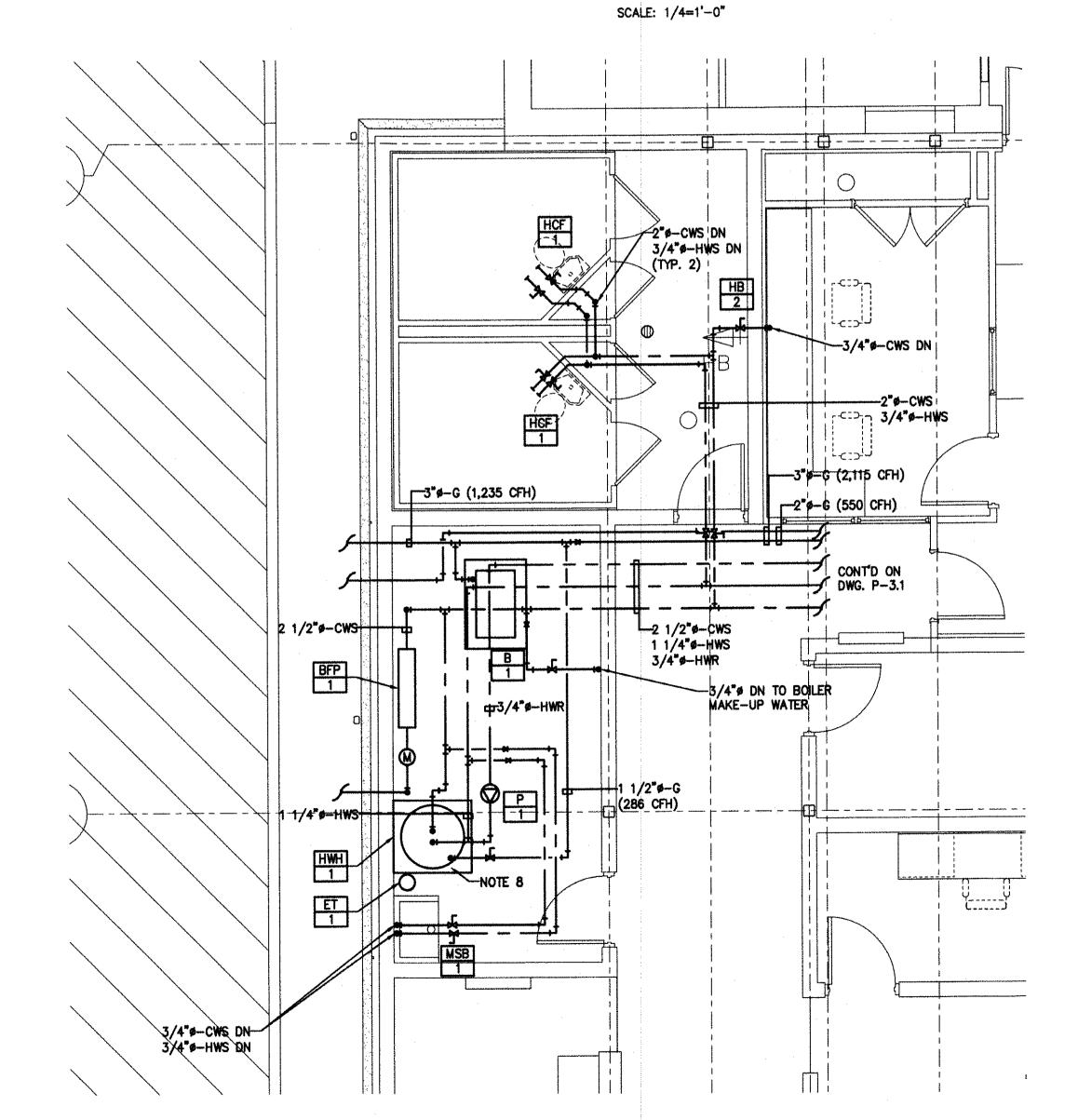
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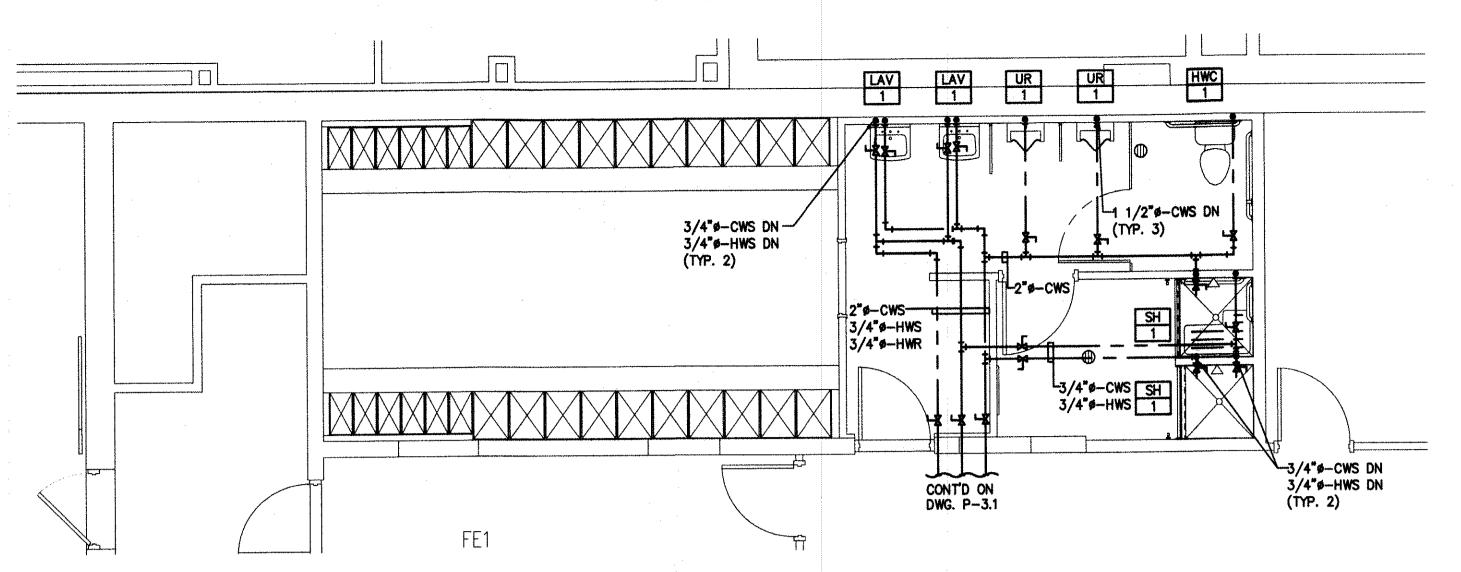


PLUMBING UTILITY PIPING ENLARGED WOMENS RM 141, WOMENS LOCKER ROOM 142 AND TOILER ROOMS 116 & 117 FLOOR PLANS



PLUMBING UTILITY PIPING ENLARGED HOLDING CELLS AND MECHANICAL ROOM FLOOR PLAN

SCALE: 1/4=1'-0"

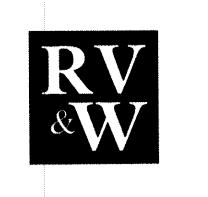


PLUMBING UTILITY PIPING ENLARGED MENS RM 134 AND MENS SHOWER 135 FLOOR PLANS

SCALE: 1/4=1'-0"

NOTES

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 COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID INTERFERENCES.
- 3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY, SEE THE PLUMBING RISER DIAGRAMS AND DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, VALVES, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN, RISER, OR DETAIL DRAWINGS.
- 4. PROVIDE LINE SIZE SHUT-OFF VALVES IN BRANCH LINES WHERE BRANCH LINES
- 5. CONTRACTOR SHALL ROUTE UTILITY AND DRAINAGE PIPING ABOVE CEILINGS, BELOW FLOORS, AND IN WALLS AS SHOWN, UNLESS OTHERWISE NOTED. WHEN PIPING CAN NOT BE LOCATED IN WALLS, THE CONTRACTOR SHALL PROVIDE CHASE WALLS AS REQUIRED TO CONCEAL PIPING FROM VIEW. CHASE WALL MATERIAL AND FINISH TO MATCH THE SURROUNDING WALLS. COORDINATE CHASE WALLS WITH ARCHITECT. ROUTE UTILITY MAINS AS CLOSE TO THE ROOF DECK AS POSSIBLE. ROUTE PIPE THROUGH OPEN WEB JOIST WHERE POSSIBLE.
- 6. DOMESTIC WATER PIPING SHALL BE SOLDERED COPPER TUBE. SEE CONTRACT SPECIFICATION SECTION 221116.
- 7. PIPING SHOWN IN AREAS WITH OPEN/EXPOSED CEILING SHALL BE INSTALLED AT CEILING
- 8. PROVIDE NEW 4" THICK CONCRETE PAD. PAD TO EXTEND 6 INCHES PAST EQUIPMENT ON ALL SIDES. INCLUDE WWF 6x6-W2.9xW2.9 IMBEDDED AT MID-DEPTH. PREPARE CONCRETE FLOOR WITH BONDING AGENT TO ENSURE PROPER ADHESION OF NEW CONCRETE PAD. PROVIDE SIX (6) #4 REINFORCING BARS AT A MINIMUM 3" EMBEDMENT AT FOUR (4) CORNERS AND AT MID SPAN ON LONGEST SIDE OF PAD. BARS SHOULD EXTEND 3" ABOVE EXISTING FINISHED FLOOR. GROUT BARS INTO EXISTING FLOOR PRIOR TO POURING NEW EQUIPMENT PAD. CONCRETE PAD SHALL BE IN ACCORDANCE WITH THE DIVISION 15 SPECIFICATIONS.



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CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059

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UTILITY PIPING ENLARGED
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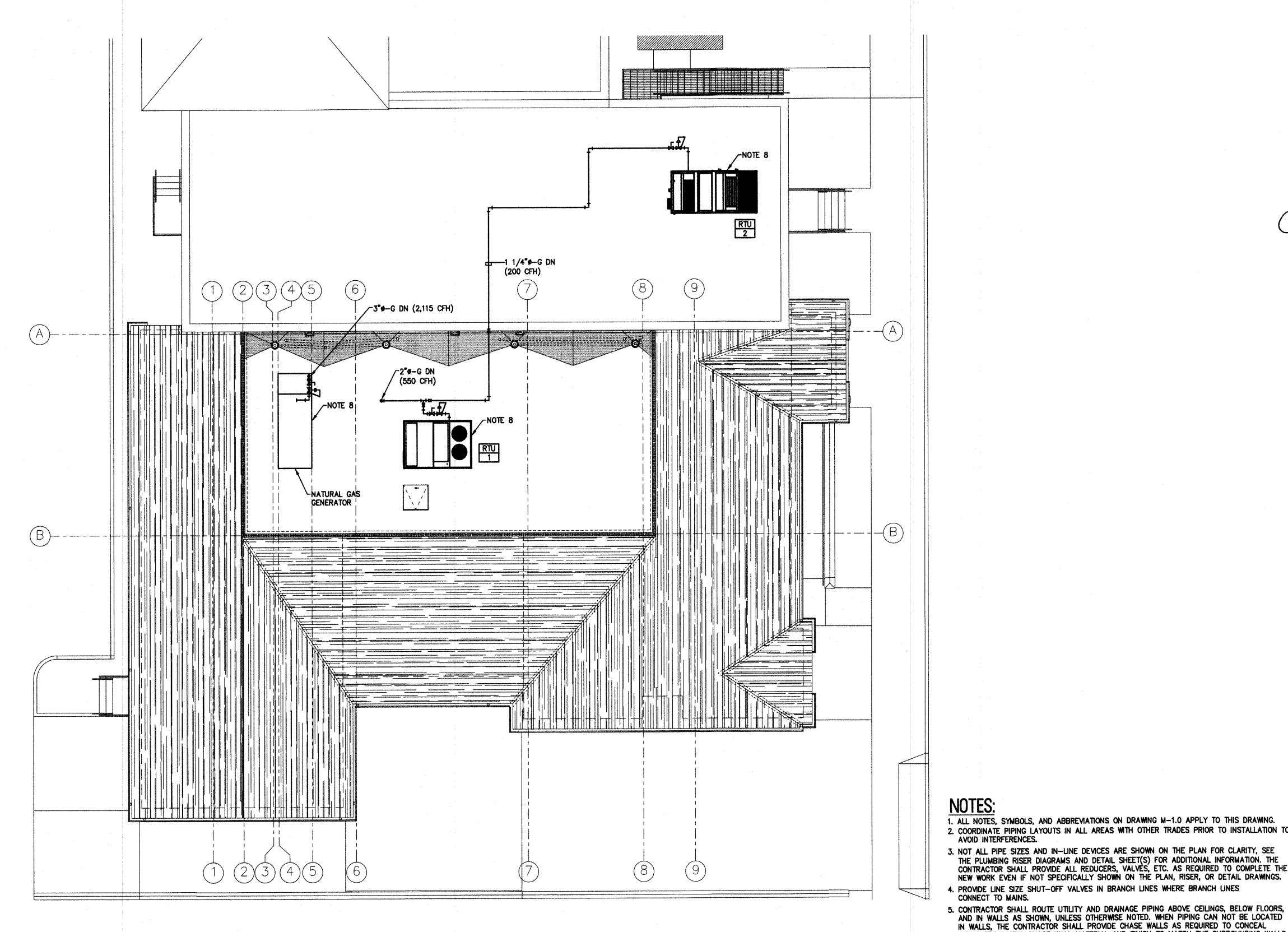
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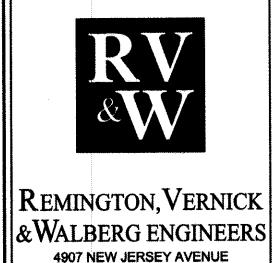
8/2017

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PLUMBING FUEL GAS PIPING ROOF PLAN SCALE: 1/8"=1'-0"



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2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO

FUEL GAS PLAN

STONE HARBOR POLICE STATION SINGLE STORY EXPANSION

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BZ. T.K. AS NOTED JOB No.:

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THE PLUMBING RISER DIAGRAMS AND DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, VALVES, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN, RISER, OR DETAIL DRAWINGS.

IN WALLS, THE CONTRACTOR SHALL PROVIDE CHASE WALLS AS REQUIRED TO CONCEAL PIPING FROM VIEW. CHASE WALL MATERIAL AND FINISH TO MATCH THE SURROUNDING WALLS.

COORDINATE CHASE WALLS WITH ARCHITECT. ROUTE UTILITY MAINS AS CLOSE TO THE ROOF

6. DOMESTIC WATER PIPING SHALL BE SOLDERED COPPER TUBE. SEE CONTRACT SPECIFICATION

8. COORDINATE GAS PIPING CONNECTION LOCATIONS WITH EQUIPMENT IN FIELD. APPROXIMATE GAS CONNECTION LOCATIONS ARE SHOWN FOR CLARITY PURPOSES. SEE RISER DIAGRAM FOR ADDITIONAL PURPOSES.

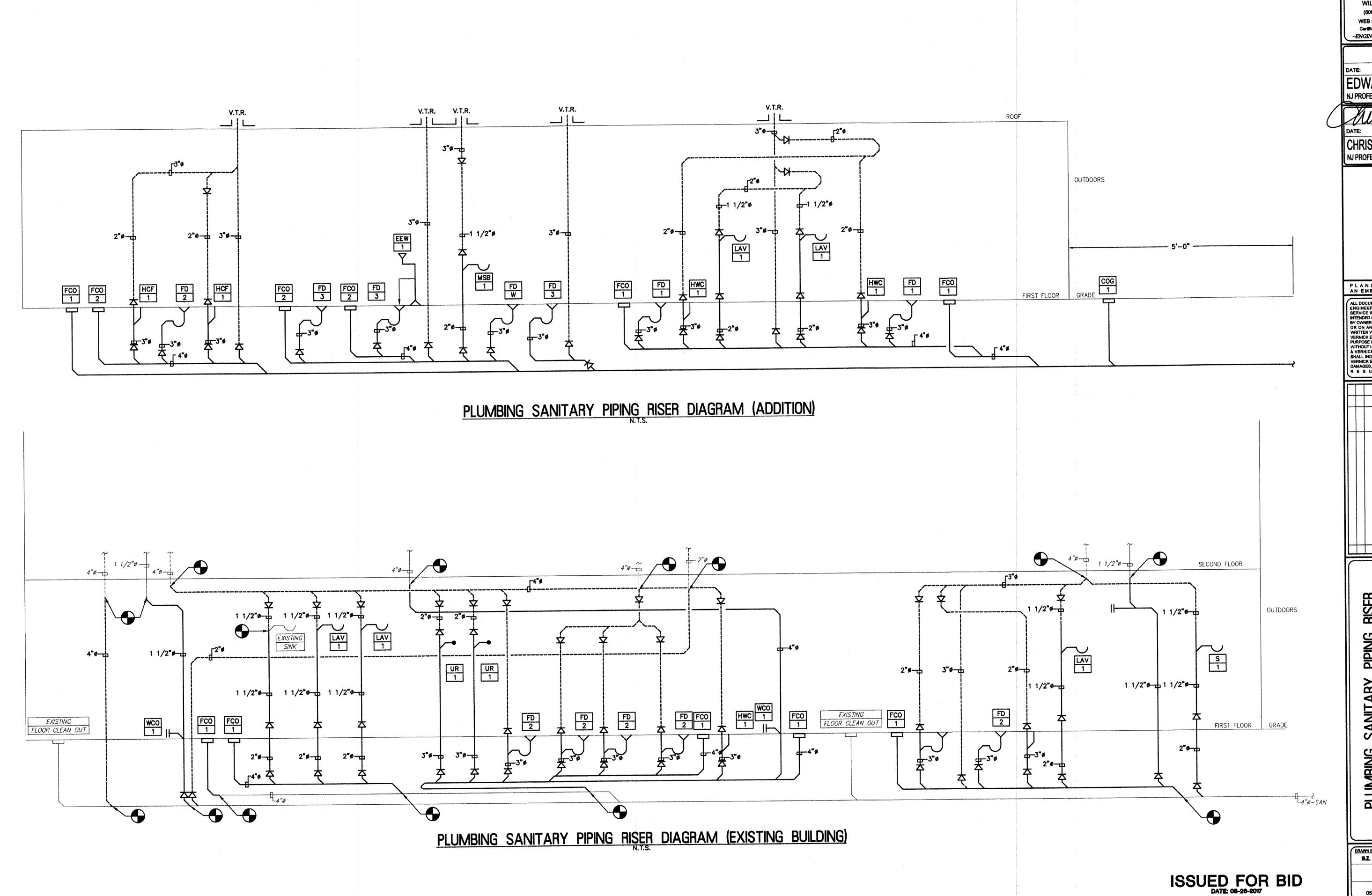
7. PIPING SHOWN IN AREAS WITH OPEN/EXPOSED CEILING SHALL BE INSTALLED AT CEILING

DECK AS POSSIBLE. ROUTE PIPE THROUGH OPEN WEB JOIST WHERE POSSIBLE.

AVOID INTERFERENCES.

CONNECT TO MAINS.

SECTION 221116.



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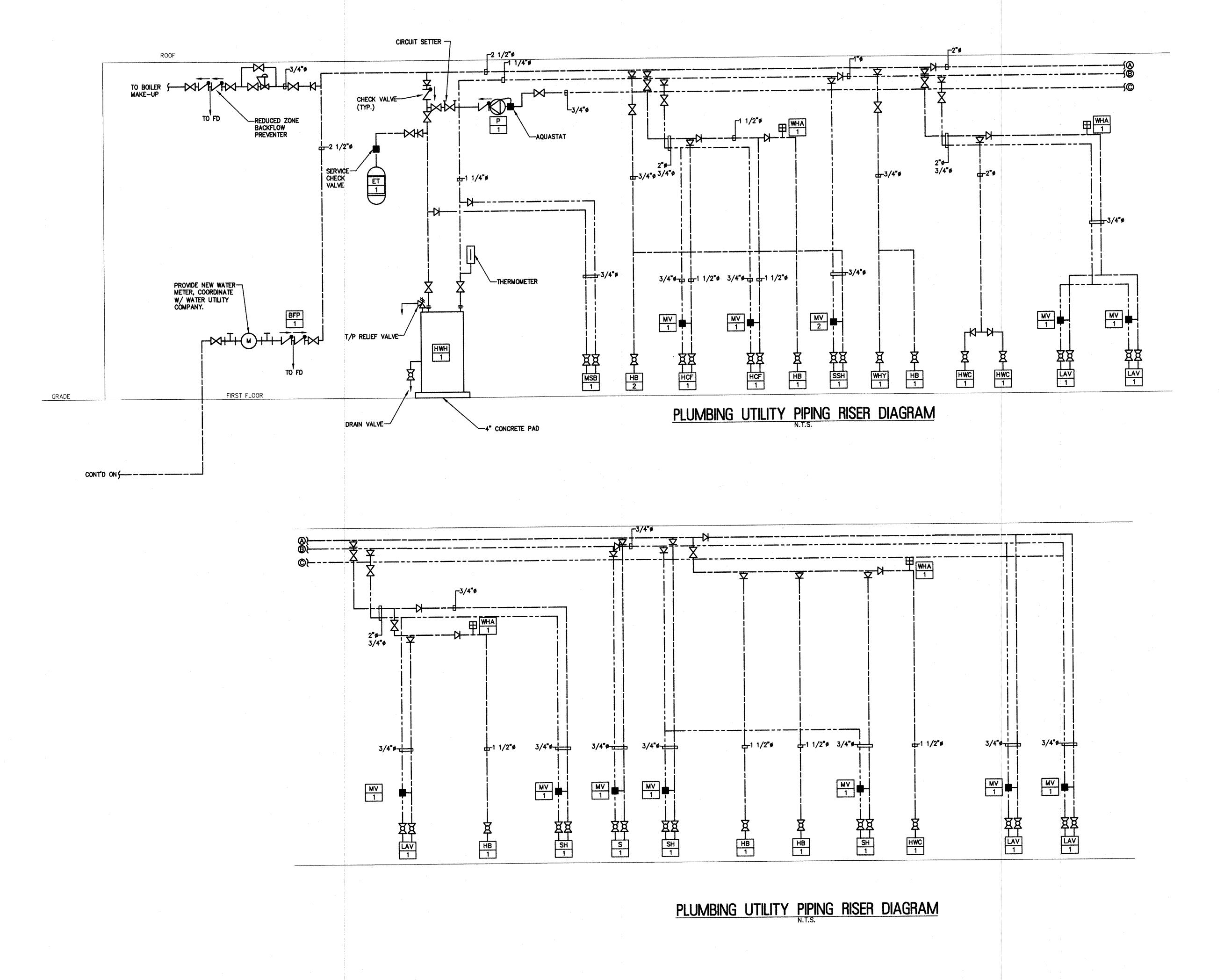
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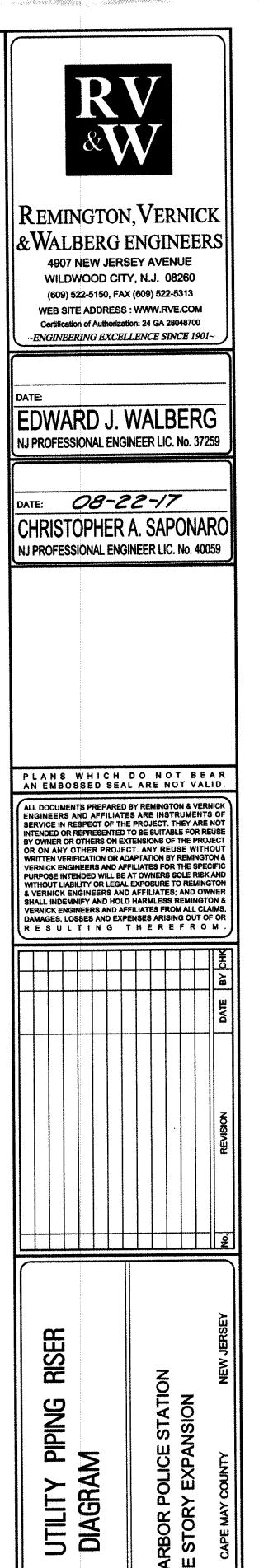
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STONE HARBOR POLICE STATION SINGLE STORY EXPANSION SANITARY I

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AS NOTED <u>JOB No.:</u> 05-10-U-072.1



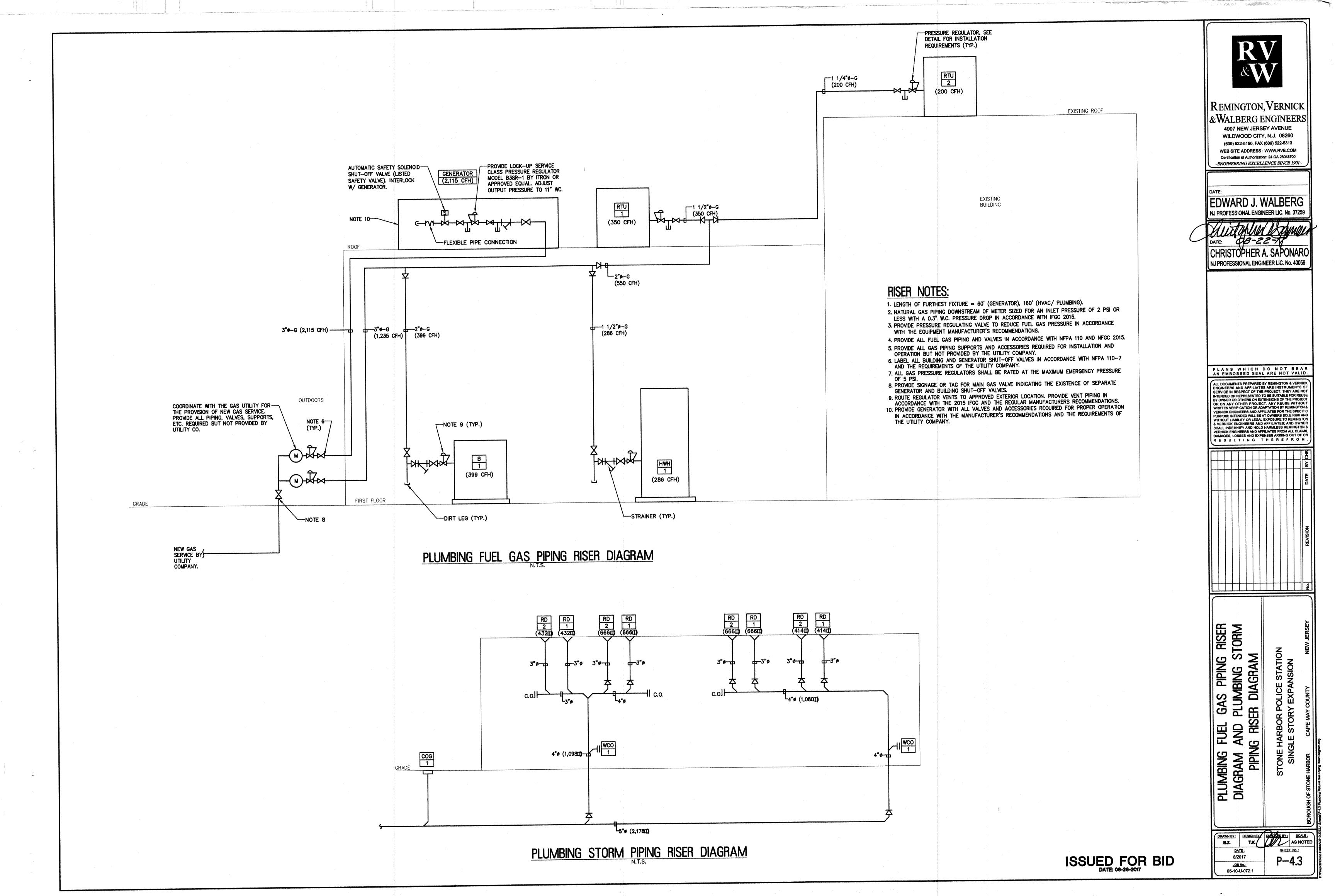


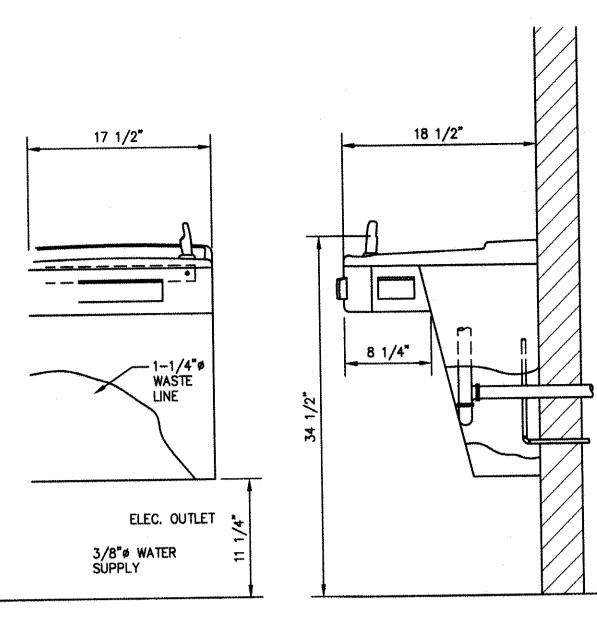
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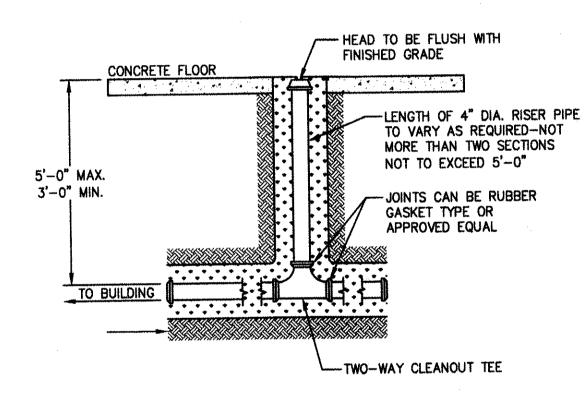




IF COOLER IS SET IN ALCOVE OR NEAR CORNER, ALLOW 1-/2" PER SIDE FOR VENTILATION. SIMILAR FOR BARRIER-FREE SPLIT LEVEL COOLER. PROVIDE IN ACCORDANCE WITH THE ARCHITECTURAL DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, AND ALL APPLICABLE CODES AND STANDARDS.

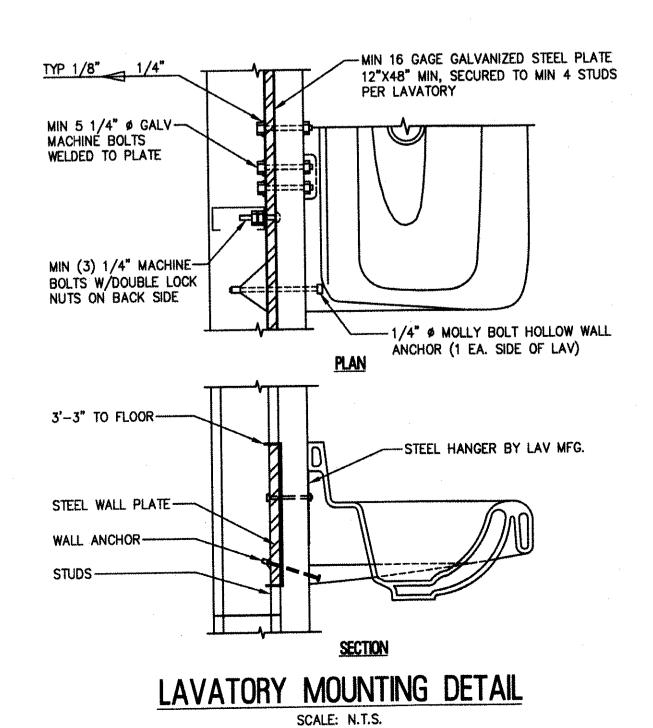
## BARRIER-FREE VERSACOOLER

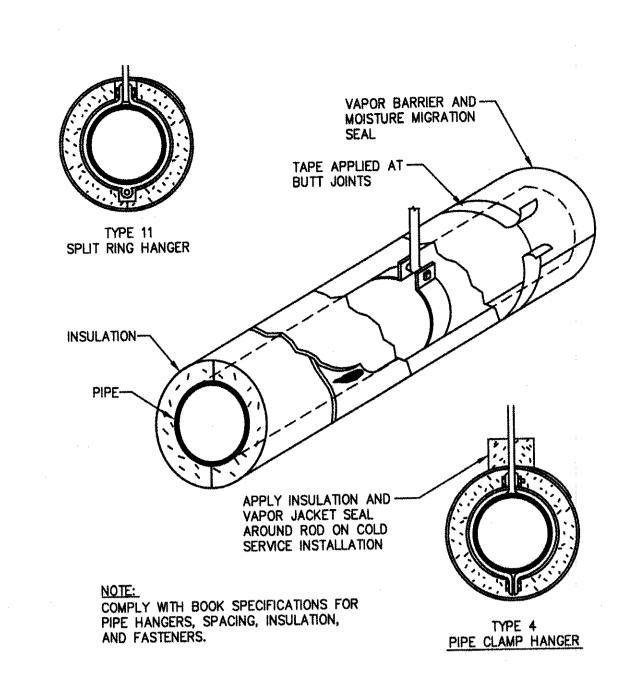
SCALE: N.T.S.



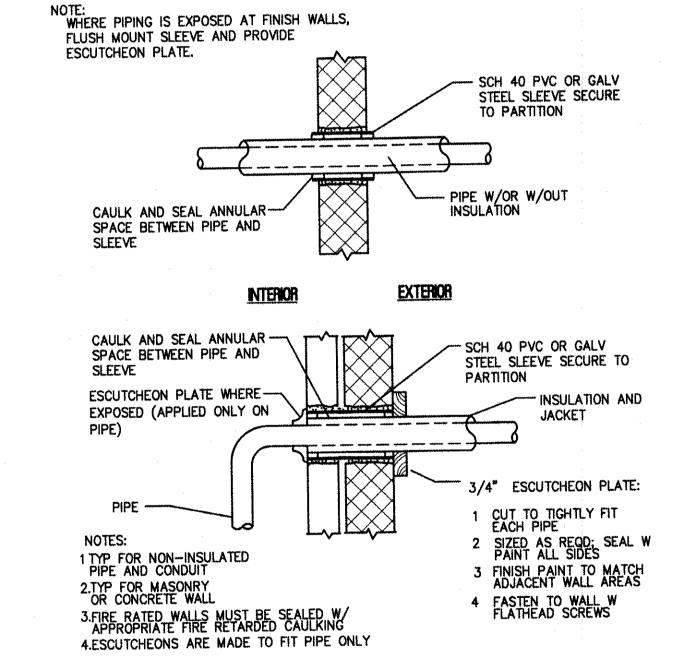
## STANDARD CLEANOUT DETAIL

PIPE TO BE INSTALLED ON VIRGIN OR COMPACTED SOIL (SEE DETAIL)

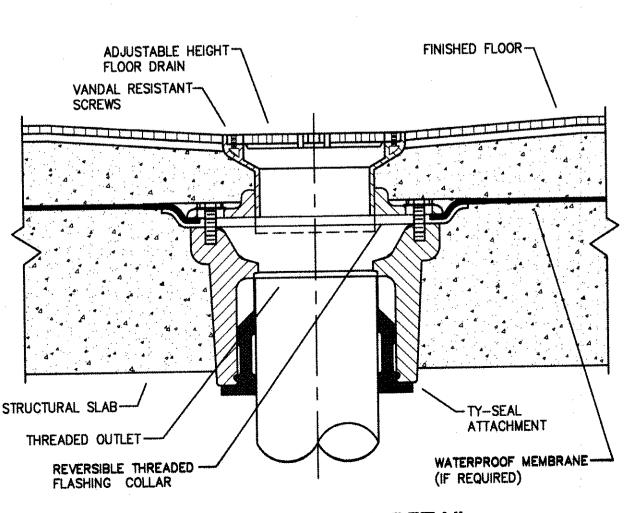




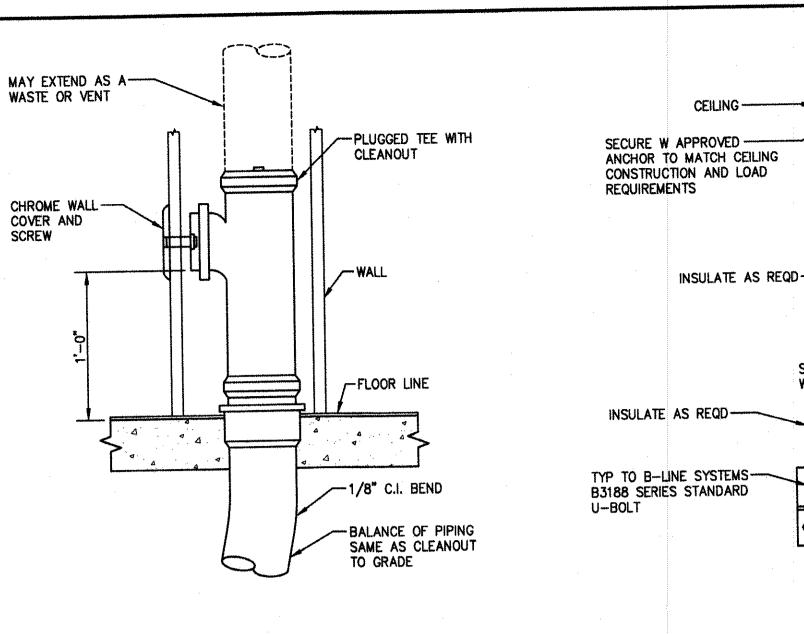
## HANGER, INSULATION AND VAPOR JACKET DETAIL N.T.S.



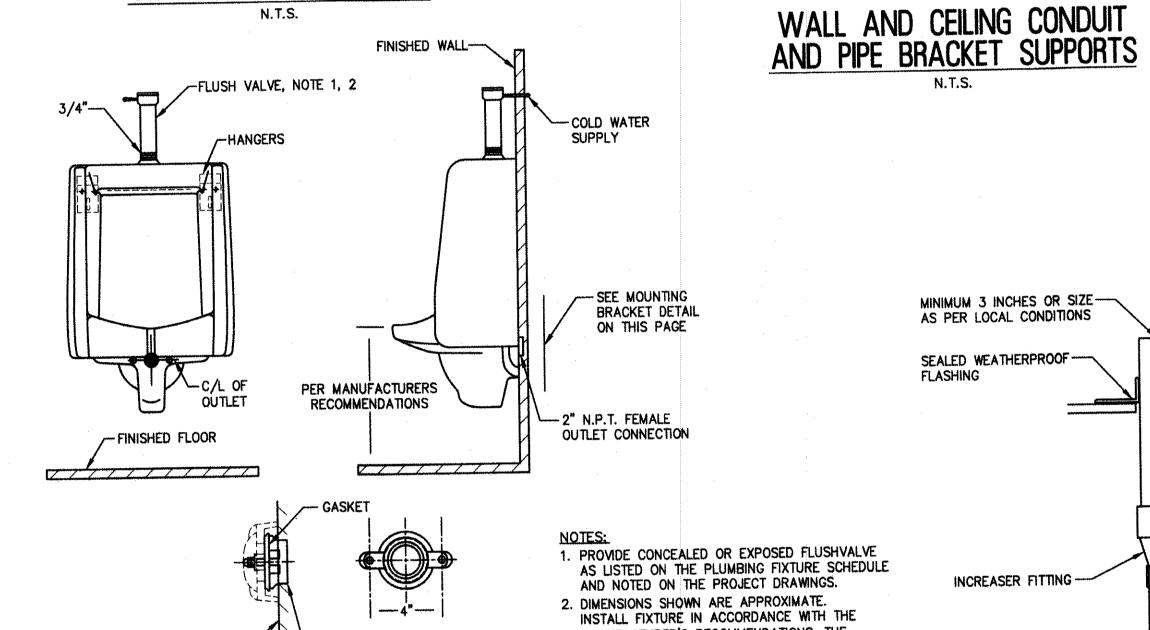
## PIPE PENETRATION THRU WALLS N.T.S.



FLOOR DRAIN DETAIL

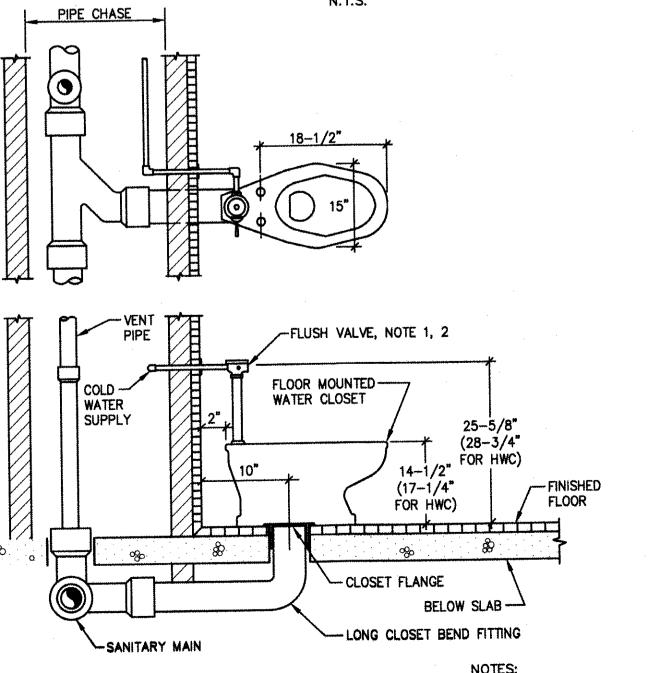


## WALL CLEANOUT DETAIL



DETAIL OF OUTLET CONNECTION WALL MOUNTED URINAL DETAIL

└─2" N.P.T. INSIDE THREADS



ON-THE-FLOOR WATER CLOSET

THE MANUFACTURER'S RECOMMENDATIONS, THE ARCHITECTURAL DRAWINGS, AND ALL APPLICABLE CODES AND STANDARDS.

NOTES:

1. DIMENSIONS SHOWN ARE APPROXIMATE.
INSTALL WATER CLOSET IN ACCORDANCE WITH

MANUFACTURER'S RECOMMENDATIONS, THE ARCHITECTURAL DRAWNGS, AND ALL APPLICABLE CODES AND STANDARDS.

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CHRISTOPHER A. SAPONARO

NJ PROFESSIONAL ENGINEER LIC. No. 40059

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ROOF VENT PENETRATION DETAIL

12" MINIMUM

-SEE DRAWING FOR SIZE

- TYP TO B-LINE

GA CHANNEL

TYP TO B-LINE SYSTEMS

B2080 PARALLEL PIPE CLAMP

SECURE W/APPROVED ---

NOTE:
PROVIDE MIN ANCHOR SUPPORT
SPACING EVERY 3' VERTICALLY

MINIMUM 3 INCHES OR SIZE-

INCREASER FITTING -

AS PER LOCAL CONDITIONS

SEALED WEATHERPROOF

FLASHING

WELD OR BOLTS

SYSTEMS B22 12

CONC OR MASONRY

--- 2 EA 4"x4"x3/8"

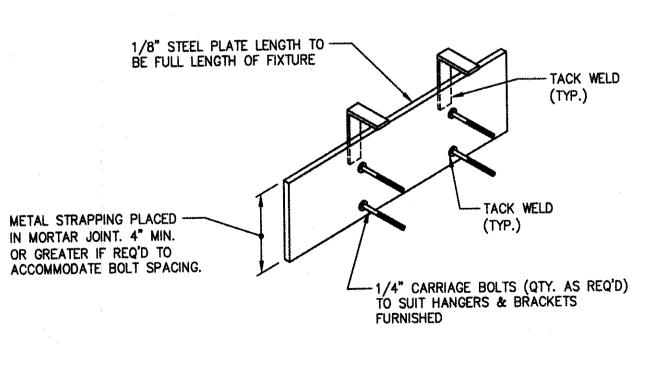
SECURE W/APPROVED ANCHOR TO MATCH

CEILING CONSTRUCTION

AND LOAD REQUIREMENTS

W/MIN OF 1"

OVERLAP



URINAL BACKUP PLATE N.T.S.

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BZ. T.K. AS NOTED

JOB No. :

05-10-U-072.1

ISSUED FOR BID

HARBOR POLICE ( **PLUMBING** 

PLUMBING	FIXTURE SCHEDULE											
TAB	POCTURE	DESCRIPTON	MAN.F.	MODE.	MANUF.	ACCESSORY	MINIMAM CON	NECTION SIZE IN		·	WATER SUPPLY	dranage fixture
							COLD	HOT	DRAIN	VENT	fixture units (WSFU:i)	UNITS (DRUM)
BFP-1	BACKFLOW PREVENTER	REDUCED PRESSURE ZONE ASSEMBLY	WATTS	LF909	WATTS	QT, S	2 1/2	N/A	N/A	N/A	N/A	N/A
COG-1	CLEANOUT	OUTDOOR, CLEANOUT ON GRADE	ZURN	Z1474	ZURN	G-VP	N/A	N/A	LINE	N/A	N/A	N/A
ET-1	EXPANSION TANK	DIAPHRAGM TYPE EXPANSION TANK	AMTROL	ST-12C	AMTROL	SERVICE CHECK VALVE	3/4	N/A	N/A	N/A	N/A	N/A
FC0-1	CLEANOUT	HEAVY DUTY ADJUSTABLE FLOOR CLEANOUT	ZURN	Z1400	ZURN	ZN, VP	N/A	N/A	LINE	N/A	N/A	N/A
FD-1	FLOOR DRAIN	SQUARE CAST IRON FLOOR DRAIN	WADE	1103G5	WADE	VANDAL PROOF SCREWS, DEEP SEAL TRAP	N/A	N/A	.3	2	N/A	0.0
FD-2	FLOOR DRAIN	PRISON CELL FLOOR DRAIN	WADE	1843PD	WADE	SECURITY SCREWS, GALVANIZED PARTS, DEEP SEAL TRAP	N/A	N/A	3	2	N/A	4.0
FD-3	FLOOR DRAIN	HEAVY DUTY SQUARE FLOOR DRAIN	WADE	2143	WADE	DEEP SEAL TRAP, NICKEL BRONZE ADJUSTABLE STRAINER, VANDAL PROOF GRATE, SECURITY SCREWS, SEDIMENT BUCKET	N/A	N/A	3	2	N/A	4.0
HB-1	HOSE BIBB	NO-KINK COPPER ALLOY BRONZE HOSE BIBB	NIBCO	HOSE BIBB	WATTS	SERIES 8 VACUUM BREAKER	3/4	N/A	N/A	N/A	2.5	N/A
HB2	HOSE BIBB	ENCASED ANTI SIPHON AUTO DRAINING CERAMIC DISC WALL HYDRANT	ZURN	Z1330	ZURN	POLISHED FACE, INLET ELBOW,	3/4	N/A	N/A	N/A	2.5	N/A
HWC1	ADA WATER CLOSET	ELONGATED 1.6 GPF FLOOR MOUNTED ADA COMPLIANT WATER CLOSET W/AUTO EXPOSED FLUSH VALVE	ZURN ONE SYSTEM	Z5665.194.02.03.00	ZURN	HARWIRED AUTOMATIC EXPOSED FLUSH VALVE, POWER INVERTER KIT, TOILET SEAT, CLOSET BOLT/WAX RING	1	N/A	3	2	8.0	6.0
LAV-1	LAVATORY SINK	WALL HUNG LAVATORY W/ MANUAL GOOSENECK FAUCET	ZURN ONE SYSTEM	Z5314.076.3.01.01.6	ZURN	FAUCET, THERMOSTATIC MIXING VALVE, TRAP W/ ADA WRAP, SUPPLY KIT	1/2	1/2	1 1/2	1 1/2	1.0	1.0
MSB-1	MOP SERVICE BASIN	PRECAST TERRAZZO W/6" DROP FRONT	FIAT	TSB-3000	FIAT	830-AA, 832-AA, & 889-CC	1/2	1/2	3	1 1/2	3.0	5.0
MV-1	MIXING VALVE	THERMOSTATIC POINT OF USE MIXING VALVE	LEONARD	MODEL 270-LF	N/A	N/A	1/2	1/2	N/A	N/A	N/A	N/A
MV-2	MIXING: VALVE	EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE	BRADLEY	\$19-2000	BRADLEY	N/A N/A	1/2	1/2	N/A	N/A	N/A	N/A
RD-1	ROOF DRAIN	CAST IRON ADJUSTABLE ROOF DRAIN	WADE	3000AE	WADE	ROUGH BRONZE DOME, VANDAL PROOF, SUMP RECIEVER, DECK CLAMP & MOUNTING ACCESSORIES	N/A	N/A	LINE	N/A	N/A	N/A
RD-2	ROOF DRAIN	CAST IRON ADJUSTABLE OVERFLOW ROOF DRAIN	WADE	3000AE-SD	WADE	ADJUSTABLE STANDPIPE, ROUGH BRONZE DOME, VANDAL PROOF, DECK CLAMP & MOUNTING ACCESSORIES	N/A	N/A	LINE	N/A	N/A	N/A
SD-1	SHOWER DRAIN	CAST IRON SHOWER DRAIN	ZURN	FD2254-R5	ZURN	PB	N/A	N/A	2	1 1/2	<u> </u>	2.0
S~1	SINK	STAINLESS STEEL TOP MOUNT SINK	ELKAY	LR2219	ELKAY	TYPE "4" DRILLING, LKD2443 FAUCET, DRAIN W/ STRAINER, MIXING VALVE	1/2	1/2	3	1 1/2	1,5	5.0
SH-1	SHOWER	INDIVIDUAL FLUSH MOUNTED WALL SHOWER	BRADLEY	WS-1F	BRADLEY	TMV, SF, RSD, ST, (SEE DWGS FOR DIMENSIONS, COORD. W/ ARCH.), FIAT MODEL WTR-5007 FLOOR, PROVIDE SD-1 SHOWER DRAIN.	1/2	1/2	2	1 1/2	2.0	2.0
SSH-1	SAFETY SHOWER	STAINLESS STEEL BARRIER FREE COMBINATION SAFETY SHOWER/FACEWASH	BRADLEY	S19314BFSS	BRADLEY	BARRIER FREE, STAINLESS STEEL CONSTRUCTION, ID SIGN, S19-2100EFX25 THERMOSTATIC MIXING VALVE	1	N/A	N/A	N/A	N/A	N/A
UR-1	URINAL	1.0 GPF WALL HUNG URINAL W/ AUTOMATIC FLUSH VALVE	ZURN ONE SYSTEM	Z5798.235.01	ZURN	HARD-WIRED FLUSH VALVE, POWER INVERTER KIT, FLANGE AND STRAINER, MOUNTING BRACKET/CARRIER	3/4	N/A	2	2	5.0	5.0
WCO1	WALL CLEAN OUT	WALL CLEAN OUT TEE AND COVER	ZURN	Z1441	ZURN	ZB-VP	N/A	N/A	LINE	N/A	N/A	N/A
WHY-1	WALL HYDRANT	BOX TYPE NON-FREEZE WALL HYDRANT W/VACUUM BREAKER	ZURN	Z1300	ZURN	CL, PB, RK, (SEE DWGS. FOR WALL THICKNESS), EXTRA OPERATING KEY	3/4	N/A	N/A	N/A	2.5	N/A
WHA-1	WATER HAMMER ARRESTOR	INLINE WATER HAMMER ARRESTOR	WLKINS/ZURN	1250XL-B	N/A	NOTE 3	3/4	N/A	N/A	N/A	N/A	N/A
WHA-2	WATER HAMMER ARRESTOR	INLINE WATER HAMMER ARRESTOR	WILKINS/ZURN	1250XL-A	N/A	NOTE 3	3/4	N/A	N/A	N/A	N/A	N/A

NOTES 1. COLOR/FINISH TO BE AS APPROVED BY THE ARCHITECT/OWNER.

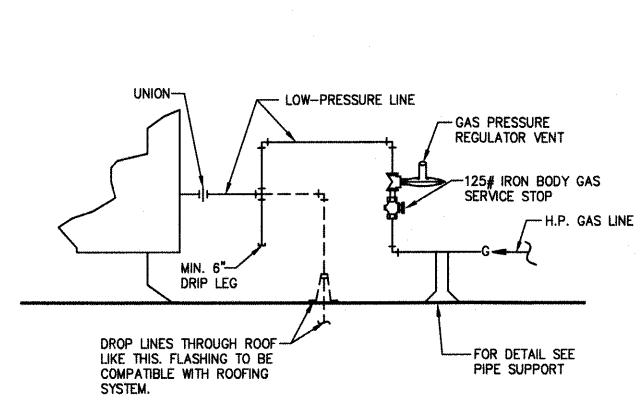
2. PROVIDE ALL ACCESSORIES REQUIRED TO OPERATE AND INSTALL FIXTURES. INSTALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS AND ALL APPLICABLE CODES. COORDINATE FIXTURE DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTORS AS RECOMMENDED BY MANUFACTURER.

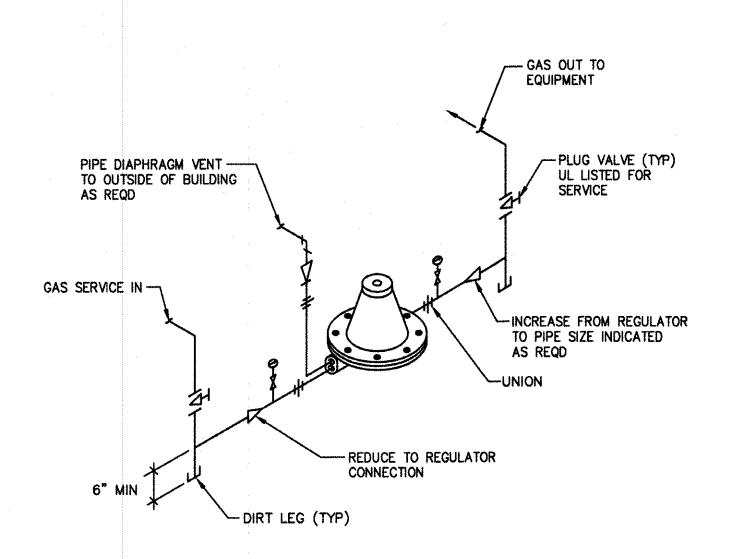
4. PROVIDE MIXING VALVES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, LOCATE IN ACCESSIBLE LOCATION, PROVIDE ACCESS PANEL AS REQUIRED.

HOT W	ATER RECIRCULATION PUMP SCHEDULE											
TAG	SERVICE	TYPE	FLUID	FLOW	TDH (ft)	MOTOR	MOTOR	ELECTRICAL	BASIS OF DESIGN	·		NOTES
			TYPE	(gpm)	, ,	WATTS	RPM	(V / Hz / ph)	MF'R.	MODEL	DESCRIPTION	
P-1	DOMESTIC HOT WATER RECIRCULATION SYSTEM	CIRCULATOR	WATER	5	15	125	2950 (speed 3)	115/60/1	BELL & GOSSETT	NBF-25	BRONZE BODY, LEAD FREE, MAINTENANCE FREE CIRCULATOR	1
NOTES:	1 PROVIDE WITH MANUFACTURER'S AQUASTAT & AUTOM	ATIC TIME CONTROLLE	R.									

GAS HO	T WATER HEATER S	CHEDULE									
TAG	MANUF.	MODEL.	STORAGE CAPACITY (gallons)	GAS INPUT (MBh)	THERMAL EFFICIENCY	RECOVERY <b>6</b> 100 <b>F</b> (gal/hr)	FIRST HOUR RATING	VENT SIZE (in)	COLD WATER INLET (in.)	HOT WATER OUTLET (in.)	NOTES
HWH-1	LOCHINVAR	SNA286-125	120	286	96%	332	428	4	2.0	2.0	1
•	1. PROVIDE WITH LOW-WATER CU CONDENSATE NEUTRALIZATION KI 2. PROVIDE ASME RATED TANK 3. PROVIDE WITH GLASS LINED I	WITH HANDHOLE.	*		and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s						



ROOF TOP GAS PIPING SUPPORT AT EQUIPMENT CONNECITON



GAS PRESSURE REDUCING STATION
N.T.S.

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