









2 MD100.00

9' - 5 1/8" AFF AXIOM GLYCOL PUMP / TANK (EXIST) 1" HWS 7' - 9 3/16" AFF DECON LNDRY 125 MECHANICAL 124 2" HWR 11' - 2 1/4" AFF P-3 (existing to remain)_ D Grundfos 2" HWS 11' - 2 1/2" AFF LOWER JAN CORRIDOR 123 4 MD100.0 122

FIRST FLOOR MECHANICAL Existing -Callout 1 1/2" = 1'-0"

EXISTING NATURAL GAS METER CAPABLE OF 425 C.F.H. @ 1/2" DIFF. INSUFFICIENT FOR FIRING A SINGLE BOILER ADDED TO THE HEATING SYSTEM

1ST FLOOR C<u>E</u>IL<u>ING</u> 8' - 0"









EASTERN MECHANICAL SERVICES

		3 Starr Street, D 0681 Ph. 203.79 www.ems	0anbury, CT 0 2.7668 inc.us
	NOTES:		
	1) INSTALLING MOTORIZED VALVES ON EACH BOILER WILL VOID THE LOCHINVAR WARRANTY. EMS WILL NOT INSTALL SAID VALVES. THE CHECK VALVE PROVIDED WILL STOP UNECESSARY STANDBY FLOWS CAUSED BY THE OTHER BOILER IN OPERATION DURING A CALL.		
	2) A FLOW SWITCH WAS ERRONEOUSLY SUBMITTED IT WILL NOT BE USED IN THIS INSTALLATION, THE MANUFACTURER'S REP. HAS INDICATED IT BECOMES AN OPERATIONAL PROBLEM AND IS NOT NECESSARY FOR STAGING BOILERS.		
	3) BOILERS ARE ARE ALTERNATING, NOT LEAD/LAG ONE BOILER WILL CARRY THE BUILDING LOAD BASED ON THE EXISTING PRIMARY PUMP GPM DELIVERY. EACH BOILER WILL MODULATE THE FIRING RATE BASED ON OUTDOOR TEMPERATURE AND SYSTEM WATER TEMPERATURE ALGORITHM		
	4) THE PRIMA BELL AND GO EACH IS 46 GF MAGNA3 50-1 CARRY THE E SEE SCHEDUI	RY PUMP(S) IN THE POLICE S SSETT MODEL 80. RATED CA PM AT 28 FT. THE EXISTING G 50 F PUMPS ARE SUFFICIENT MT BUILDING LOAD WITHOUT LE ON DRAWING M100.02	TATION ARE PACITY FOR RUNDFOS IN SIZE TO CHANGE.
	5) THE MAXIM 30 DEGREE DI NEEDED. A 3" TO THE EXIST WHICH IS CUF SUFFICIENT V REMOVAL AT GPM IS ONLY	UM FLOW PER BOILER IS 40 (ELTA T. THIS WILL PRODUCE ' MAIN AND AIR SEPARATOR I ING HYDRONIC DISTRIBUTIO RRENTLY 2". A 3" MAIN WILL N 'ELOCITY TO MOVE ENTRAINE THE SEPARATOR THE FLOW 1.6 FT/MIN. PROPER AIR REI	GPM AT A 600 MBH AS S A MISMATCH N SYSTEM NOT ALLOW ED AIR FOR RATE AT 40 MOVAL
	VELOCITY SHO HAVE MODELI ARRANGEMEI SUFFICIENT F	OULD BE 3 - 4 FT/MIN. THERE ED A 2" HYDRONIC MAIN AS T NT, AT 40 GPM, HAS A FLOW (OR GOOD SYSTEM AIR REMO	Fore, We His DF 3.8 FT/Min. DVAL.
OOF AVE 3' - 8"	6) SINCE BID AMBIGUOUS V THE AIR SEPA EMS CONCLU THEREFORE, ITEM AS SCHE	DOCUMENTS M-001 AND M-00 WITH RESPECT TO THE MANU RATOR INDICATING SPIRO VI DES AN EQUAL IS AN ACCEP EMS IS SUBMITTING THE BEL EDULED ON M100.02.	D2 ARE JFACTURER OF ENT AND TACO, TABLE OPTION. L & GOSSETT
	7) NOTHING F CONDENSATE RECOMMEND MOP SINK VIA MARCHETTI C APPLICATION	HAS BEEN INDICATED WITH R E REMOVAL DISCHARGE. EM S THE DISCHARGE BE PIPED A CONDENSATE PUMP SELE CONSULTING ENGINEERS FOF	ESPECT TO S TO THE LOCAL CTED BY R THIS
	8) EMS RESEF FITTINGS ON AS SOLDEREI SYSTEM FEAT	RVES THE RIGHT TO USE PRO THE HYDRONIC COPPER PIPI D FITTINGS. THE EXISTING HY)-PRESS NG AS WELL YDRONIC READY
	9) EMS IS INST OR EQUAL MA WITH GALVAN	TALLING GALVANIZED SCH 40 NUFACTURER'S ERW A53 PII IIZED MEGA-PRESS FITTINGS	WHEATLAND PING OUTSIDE
	10) THE GAS N BOILER LOAD GAS SUPPLY. ADDED LOAD	METER IS INSUFFICIENTLY SIZ ADDED TO THE BUILDING'S (METER TO BE UPSIZED TO H FOR THE BOILERS AND FOR	ZED FOR THE CURRENT IANDLE THE THE FUTURE
	GENERATOR. CAPPED CON THE EMT GAR	EMS IS PROVIDING A 2" VAL' NECTION NEAR THE PENETR AGE UNLESS DIRECTED OTH	VED AND ATION INTO IERWISE.
evel 2 4' - 6"	11) THE COME PIPING HAS B ACCORDANCI DURING WALI	BUSTION AIR AND COMBUSTION EEN ROUTED TO THE ROOF I E WITH OWNER REQUEST / C {-THROUGH.	ON EXHAUST N OMMENTS
	No.	Description	Date
	1	SHOP DRAWING FOR REVIEW	5/24/2022
PER ROOF			
23 - 0			
Level 2 14' - 6"			
ST FLOOR CEILING 8' - 0"	TO\4		ΝΔΔΝ
		TA OT INEVV OA	אורע אי
	EMS BUILDING BOILER PLAN		

182 SOUTH AVE NEW CANAAN, CT 06840

GAS PLAN

Project Number	5257
Date	5/12/2022
Drawn By	Т.Н.
Checked By	Т.Н.



MECHANICAL 124

FIRST FLOOR MECHANICAL BOILER

 1
 PLAN

 1" = 1'-0"



EASTERN MECHANICAL SERVICES

3 Starr Street, Danbury, CT 06810 Ph. 203.792.7668 www.emsinc.us

NOTES:

1) INSTALLING MOTORIZED VALVES ON EACH BOILER WILL VOID THE LOCHINVAR WARRANTY. EMS WILL NOT INSTALL SAID VALVES. THE CHECK VALVE PROVIDED WILL STOP UNECESSARY STANDBY FLOWS CAUSED BY THE OTHER BOILER IN OPERATION DURING A CALL.

2) A FLOW SWITCH WAS ERRONEOUSLY SUBMITTED IT WILL NOT BE USED IN THIS INSTALLATION, THE MANUFACTURER'S REP. HAS INDICATED IT BECOMES AN OPERATIONAL PROBLEM AND IS NOT NECESSARY FOR STAGING BOILERS.

3) BOILERS ARE ARE ALTERNATING, NOT LEAD/LAG ONE BOILER WILL CARRY THE BUILDING LOAD BASED ON THE EXISTING PRIMARY PUMP GPM DELIVERY. EACH BOILER WILL MODULATE THE FIRING RATE BASED ON OUTDOOR TEMPERATURE AND SYSTEM WATER TEMPERATURE ALGORITHM.

4) THE PRIMARY PUMP(S) IN THE POLICE STATION ARE BELL AND GOSSETT MODEL 80. RATED CAPACITY FOR EACH IS 46 GPM AT 28 FT. THE EXISTING GRUNDFOS MAGNA3 50-150 F PUMPS ARE SUFFICIENT IN SIZE TO CARRY THE EMT BUILDING LOAD WITHOUT CHANGE. SEE SCHEDULE ON DRAWING M100.02

5) THE MAXIMUM FLOW PER BOILER IS 40 GPM AT A 30 DEGREE DELTA T. THIS WILL PRODUCE 600 MBH AS NEEDED. A 3" MAIN AND AIR SEPARATOR IS A MISMATCH TO THE EXISTING HYDRONIC DISTRIBUTION SYSTEM WHICH IS CURRENTLY 2". A 3" MAIN WILL NOT ALLOW SUFFICIENT VELOCITY TO MOVE ENTRAINED AIR FOR REMOVAL AT THE SEPARATOR THE FLOW RATE AT 40 GPM IS ONLY 1.6 FT/MIN. PROPER AIR REMOVAL VELOCITY SHOULD BE 3 - 4 FT/MIN. THEREFORE, WE HAVE MODELED A 2" HYDRONIC MAIN AS THIS ARRANGEMENT, AT 40 GPM, HAS A FLOW OF 3.8 FT/MIN. SUFFICIENT FOR GOOD SYSTEM AIR REMOVAL.

6) SINCE BID DOCUMENTS M-001 AND M-002 ARE AMBIGUOUS WITH RESPECT TO THE MANUFACTURER OF THE AIR SEPARATOR INDICATING SPIRO VENT AND TACO, EMS CONCLUDES AN EQUAL IS AN ACCEPTABLE OPTION. THEREFORE, EMS IS SUBMITTING THE BELL & GOSSETT ITEM AS SCHEDULED ON M100.02.

7) NOTHING HAS BEEN INDICATED WITH RESPECT TO CONDENSATE REMOVAL DISCHARGE. EMS RECOMMENDS THE DISCHARGE BE PIPED TO THE LOCAL MOP SINK VIA A CONDENSATE PUMP SELECTED BY MARCHETTI CONSULTING ENGINEERS FOR THIS APPLICATION.

8) EMS RESERVES THE RIGHT TO USE PRO-PRESS FITTINGS ON THE HYDRONIC COPPER PIPING AS WELL AS SOLDERED FITTINGS. THE EXISTING HYDRONIC SYSTEM FEATURES PRO-PRESS JOINTS ALREADY. 9) EMS IS INSTALLING GALVANIZED SCH 40 WHEATLAND

OR EQUAL MANUFACTURER'S ERW A53 PIPING OUTSIDE WITH GALVANIZED MEGA-PRESS FITTINGS. 10) THE GAS METER IS INSUFFICIENTLY SIZED FOR THE BOILER LOAD ADDED TO THE BUILDING'S CURRENT GAS SUPPLY. METER TO BE UPSIZED TO HANDLE THE

ADDED LOAD FOR THE BOILERS AND FOR THE FUTURE GENERATOR. EMS IS PROVIDING A 2" VALVED AND CAPPED CONNECTION NEAR THE PENETRATION INTO THE EMT GARAGE UNLESS DIRECTED OTHERWISE.

11) THE COMBUSTION AIR AND COMBUSTION EXHAUST PIPING HAS BEEN ROUTED TO THE ROOF IN ACCORDANCE WITH OWNER REQUEST / COMMENTS DURING WALK-THROUGH.

Description Date No. SHOP DRAWING 5/24/2022

FOR REVIEW

TOWN OF NEW CANAAN

EMS BUILDING BOILER PLAN

182 SOUTH AVE NEW CANAAN, CT 06840

BOILER PLAN

Project Number	5257
Date	5/12/2022
Drawn By	Т.Н.
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					MECHANICA	AL EQUIPMEN ⁻	T SCHEDULE
		Mark	Manuf	acturer	Fa	amily and Type	
	B1		Lochinvar		FTXL Boiler FTX400-850: FTX	X600	
	P1 CIRC		BELL & GOSSET BRAND	T A XYLEM	B&G PL-75 BL 035LF CIRC: I	B&G PL-75 BL	035LF CIRC
	D60V EXP	TANK	BELL & GOSSET BRAND	T A XYLEM	BELL AND GOSSETT D-60V PRESS	EXP TANK: AS	SME D60V EXP TANK
	B2		Lochinvar FTXL Boiler FTX400-850: FTX6		X600		
BUILDING HWS	P2 CIRC		BELL & GOSSET BRAND	T A XYLEM	B&G PL-75 BL 035LF CIRC: I	B&G PL-75 BL	035LF CIRC
	P-3 (existing to remain)		Grundfos		GRUNDFOS MAGNA3: Grundfos Magna3 Pump		
	P-4 (Existin	g to remain)	Grundfos		GRUNDFOS MAGNA3: Grun	dfos Magna3 P	ump
	PLATE ANI	D FRAME HX			Brazed_Plate_Heat_Exchang Brazed_Plate_Heat_Exchang	er_20309: er_20309	
	TACO CIRO RADIANT	CULATOR	Тасо		Pump-Circulator-Taco-LoadM	latch-Flanged: I	_0205 - 1_0.025 HP_325
	AGF				EMS AGF PARA: WATTS BF	P AGF	
Α Τ	AXIOM GL TANK (EXI	YCOL PUMP / ST)			AXIOM SF100 GYLCOL FEE	D TANK: AXIOI	M SF100
	AS-1	·	Bell & Gossett		BG_Rolairtrol Air Separator N GPM_2in_R-2N	PT With Straine	er_R-N: 140
	NATURAL GAS PIPE SCHEDU			LE		NATUR	
	Size	System Abbreviation	Length		Family and Type	Count	Size
	1 1/2"ø	G	39' - 8 5/8"	Pipe Types: VI		2	1 1/2"ø
	1 1/4"ø	G	0' - 4 1/4" Pipe Types: VIEGA MEGA PRESS CS GALV		7	1 1/2"ø-1 1/2"ø	
	1"ø	G	0' - 2 15/16"	Pipe Types: VI	EGA MEGA PRESS CS GALV	2	1 1/2"ø-1 1/2"ø-1 1/2"ø
	2"ø	G	156' - 10 5/16"	Pipe Types: VI	EGA MEGA PRESS CS GALV		1 1/4"ø-1"ø



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