TOWN OF HARWICH

COMMUNITY CENTER BOILER REPLACEMENT
HEIGH EFFICIENCY BOILERS AND INDIRECT DHW TANK

ADDENDUM NO. 1
September 16, 2022

The attention of bidders submitting bids for the subject project:

HIGH EFFICIENCY BOILERS AND INDIRECT DHW TANK AT THE HARWICH COMMUNITY CENTER INVITATION FOR BIDS (IFB)

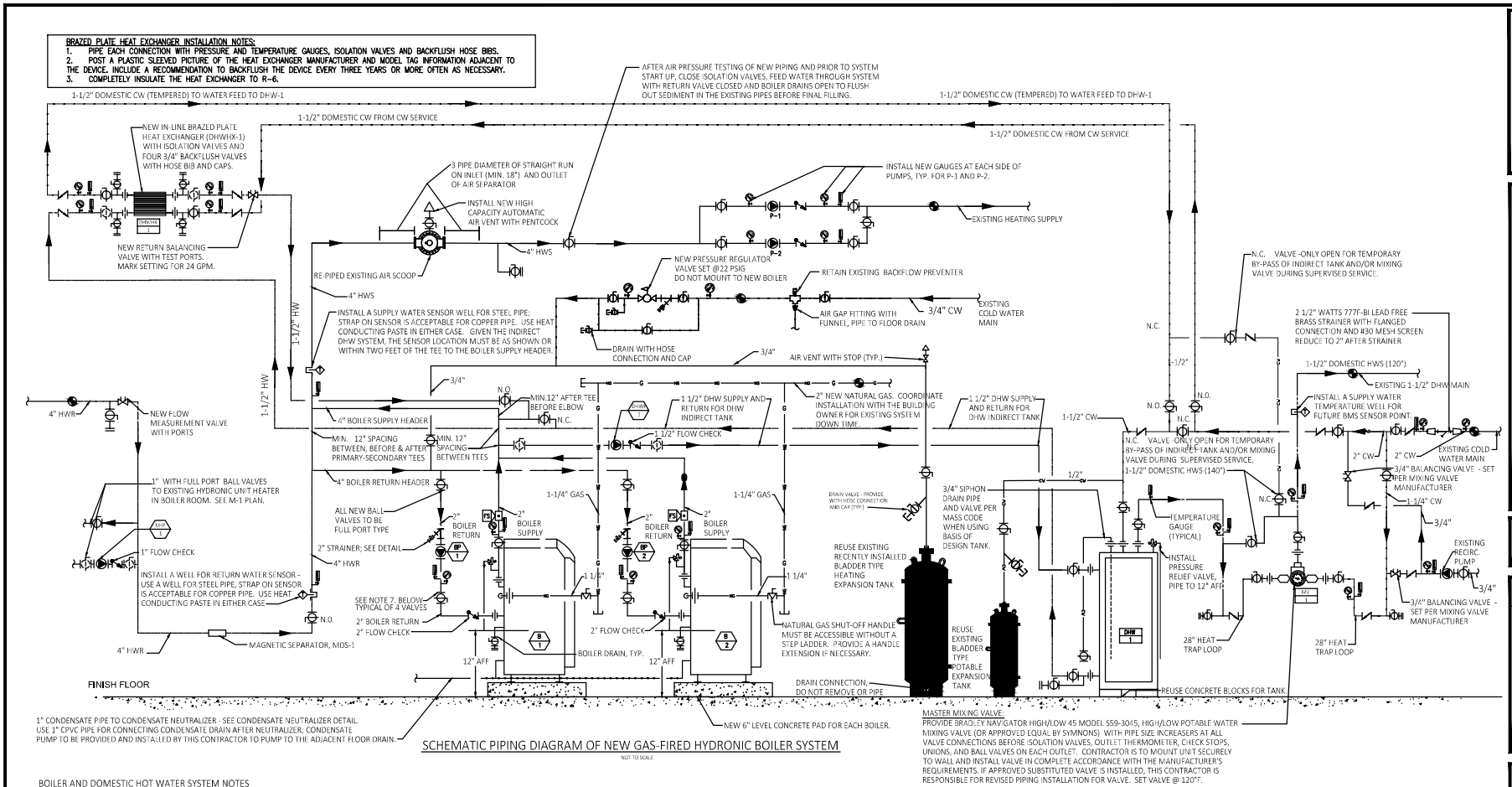
are called to the following addendum. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

Bidders shall confirm receipt of Addendum 1 in their submittal.

1. It has come to our attention that three plans were omitted from the IFB specifications. Plans M-2.0, M-3.0 and ME-4.0 are attached to this addendum.

2. There will be an optional walk-through/site conference scheduled for Wednesday, September 28, 2022 at 1:00 pm at 100 Oak Street.

All additional questions (if any) shall be submitted in writing and sent by email to gryder@town.harwich.ma.us by close of business (4:00pm) on Friday, October 16, 2020.



SCHEMATIC PIPING DIAGRAM OF NEW GAS-FIRED HYDRONIC BOILER SYSTEM

NOT TO SCALE

BOILER AND DOMESTIC HOT WATER SYSTEM NOTES

1. COMBUSTION AIR INTAKE PIPE, EXHAUST VENT, AND PORTIONS OF THE CONDENSATE DRAIN ARE NOT SHOWN ON THIS PIPING DIAGRAM. SEE APPLICABLE PLAN SHEETS, AND/OR THE SPECIFICATIONS FOR MORE DETAIL.
2. BOILERS MUST BE PIPED PRIMARY - SECONDARY; BOILER PUMPS MUST BE PROVIDED BY THE MECHANICAL CONTRACTOR.
3. ALL BALL VALVES MUST BE FULL PORT VALVES RATED FOR A MINIMUM OF 125 PSI.
4. CONTRACTOR SHALL CONFIRM GAS PRESSURE IN BOILER ROOM AND CONFIRM THAT NEW BOILERS ARE SET UP FOR NATURAL GAS MODELS BEFORE STARTING.
5. SIZING OF THE COMMON BOILER SUPPLY AND RETURN HEADER PIPES SHALL BE PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, BUT NOT SMALLER THAN SHOWN IN THIS DIAGRAM.
6. MAINTAIN AT LEAST 12" AFTER FLOW CHECK VALVES OR PUMPS WITH INTERNAL FLOW CHECKS.
7. INSTALL AN ASME RATED OS&Y VALVE AT EACH SUPPLY AND RETURN CONNECTION TO EACH BOILER WHEN REQUIRED BY THE AHJ.
8. PRIMARY, SECONDARY AND TERTIARY TEES MUST HAVE AT LEAST A FOOT OF STRAIGHT PIPE AFTER AND BEFORE THEM. ADDITIONALLY THE DISTANCE BETWEEN THE TWO TEES SHALL BE FOUR TIMES THE BOILER HEADER LOOP PIPE DIAMETER.
9. SEE FLOOR PLANS AND DETAIL PLANS FOR THE COMPLETE PIPING LAYOUT.
10. BOILERS ARE INTENDED TO OPERATE AS LEAD-LAG AND ALTERNATING START. BOILERS SHALL OPERATE INDIVIDUALLY OR TOGETHER TO MEET THE LOAD.
11. PIPE POTABLE WATER TO THE INDIRECT DOMESTIC HOT WATER TANK PER THE INSTRUCTIONS IN THE MANUFACTURER'S INSTALLATION MANUAL AND AS REQUIRED FOR COMMONWEALTH OF MASSACHUSETTS.
12. SPECIFIC INDIRECT TANK PIPING IS SHOWN TO MAXIMIZE THE TEMPERATURE DROP OF THE HEAT EXCHANGER LOOP. FAILURE TO PIPE IN THIS MANNER WILL RESULT IN HIGHER NATURAL GAS OPERATING COSTS AND INCREASED LONG TERM MAINTENANCE ON THE BOILERS.
13. CONDENSATE NEUTRALIZER SHALL HAVE A LABEL WITH 26 SIZE FONT INDICATING THAT IT NEEDS TO BE CHECKED EACH YEAR AND NEUTRALIZING MEDIUM REPLENISHED AS NECESSARY.
14. EACH CONDENSING BOILER SHALL HAVE A SERVICE AND LOCKOUT INCIDENT SHEET IN A PLASTIC SLEEVE ATTACHED VIA A MAGNET STRIP TO THE BOILER CABINET. EACH CONDENSING BOILER SHALL HAVE A NOTICE IN 26 SIZE FONT INDICATING THAT THE HEAT EXCHANGER NEEDS CLEANING AFTER EVERY TWO YEARS OF OPERATION.
15. THE COMBUSTION AIR INTAKE PIPES SHALL BE LABELED IN ACCORDANCE WITH THE NFPA GAS CODE WITH MASS. CODE AMENDMENTS.
16. RETAIN EXISTING CHEMICAL FEED TANK AND ASSOCIATED PIPING AS FUNCTIONAL TO MODIFIED BOILER PIPING.

IMPORTANT NOTE:

THESE PLANS MUST BE SUPPLEMENTED BY THE WRITTEN SPECIFICATIONS FOR A FULL UNDERSTANDING OF THE SCOPE OF WORK FOR THIS PROJECT. PLEASE MAKE SURE THE ON SITE TECHNICIANS HAVE THE FULL PLAN SET INCLUSIVE OF THE SPECIFICATION SHEETS ON SITE DURING THE HEATING SYSTEM INSTALLATION.

RISE ENGINEERING

RISE ENGINEERING,
1341 ELMWOOD AVE.,
CRANSTON, RI 02910

Project:
HIGH EFFICIENCY BOILER & DHW SYSTEMS
HARWICH COMMUNITY CENTER
100 OAK STREET, HARWICH, MA

Status:
CONSTRUCTION DOCUMENTS

No.	Revision/Issue	Date

Sheet Title:
PROPOSED WORK EQUIPMENT SCHEMATIC PIPING

Project No: RIS-87-22-0430
Drawn By: RSH
Checked By: ADN
Scale: N/A
Date: 08/30/22

Drawing No:
M-2.0

4.2 Positioning

Always install the pump with horizontal motor shaft.

- Pump installed correctly in a vertical pipe. See fig. 7, pos. A.
- Pump installed correctly in a horizontal pipe. See fig. 7, pos. B.
- Do not install the pump with vertical motor shaft. See fig. 7, pos. C and D.

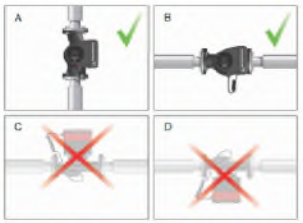
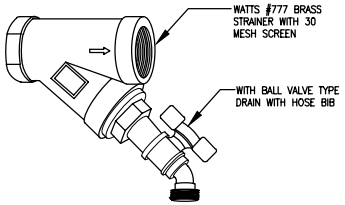
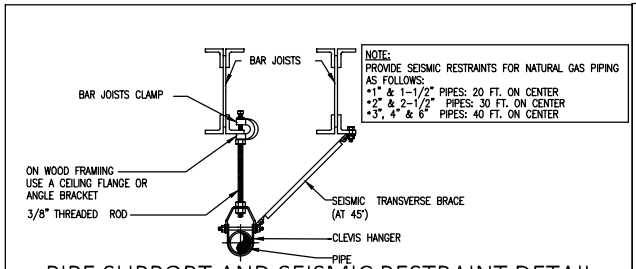


Fig. 7 Pump installed with horizontal motor shaft

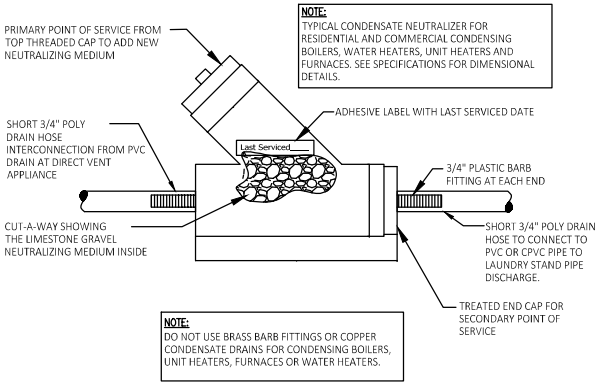
IN LINE PUMP PIPING INSTALLATION POSITION DIAGRAM NTS



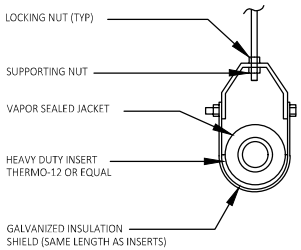
DETAIL OF STRAINER FOR BOILER RETURN NTS



PIPE SUPPORT AND SEISMIC RESTRAINT DETAIL - HORIZONTAL PIPING NTS



CONDENSATE NEUTRALIZER DETAIL NTS



INSULATION INSERTS

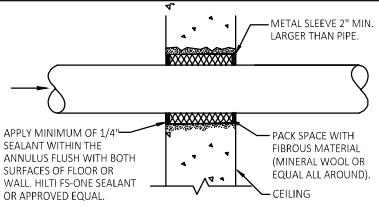
PIPE SIZE	LENGTH
1 1/2" TO 2 1/2"	10"
3" TO 6"	12"
8" TO 10"	16"
12" AND OVER	22"

PIPE HANGER DETAIL NTS

IMPORTANT NOTE:

THESE PLANS MUST BE SUPPLEMENTED BY THE WRITTEN SPECIFICATIONS FOR A FULL UNDERSTANDING OF THE SCOPE OF WORK FOR THIS PROJECT. PLEASE MAKE SURE THE ON SITE TECHNICIANS HAVE THE FULL PLAN SET INCLUSIVE OF THE SPECIFICATION SHEETS ON SITE DURING THE HEATING SYSTEM INSTALLATION.

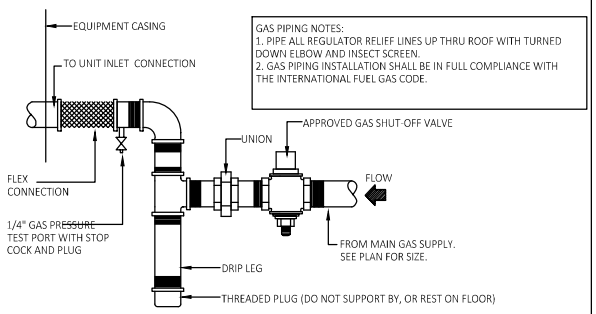
RISE ENGINEERING



PIPE THROUGH WALL DETAIL

PIPING INSTALLATION NOTES:

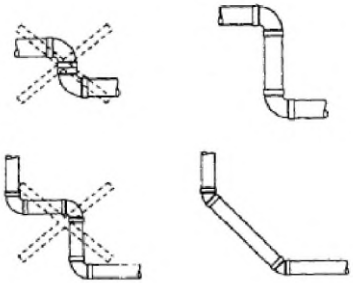
1. FIRESTOP SYSTEMS ARE NOT REQUIRED FOR PENETRATIONS THROUGH WALLS WHICH DO NOT HAVE A FIRE RESISTANCE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF WALLS WHICH HAVE A FIRE-RESISTANCE RATING. ALL VOIDS IN AND AROUND PIPE SLEEVES IN NON-RATED WALLS SHALL BE FILLED WITH MINERAL WOOL TO PREVENT THE MOVEMENT OF SMOKE.
2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CLEARANCE AROUND ALL PIPING FOR SEISMIC PROTECTION AND PIPE SLEEVES WITH FIRESTOP MATERIALS.
3. PIPE SLEEVES SHALL HAVE A NOMINAL DIAMETER 2" LARGER THAN THE NOMINAL DIAMETER OF THE PIPE FOR PIPE SIZES 1" THROUGH 3".
4. PIPE SLEEVES SHALL HAVE A NOMINAL DIAMETER 4" LARGER THAN THE NOMINAL DIAMETER OF THE PIPE FOR PIPE SIZES 4" AND LARGER.
5. FLEXIBLE COUPLINGS ARE ACCEPTABLE ON EACH SIDE OF WALL. THE NOMINAL DIAMETER OF THE SLEEVE SHALL BE ONE PIPE SIZE LARGER THAN THE DIAMETER OF THE PIPE WHEN FLEXIBLE COUPLINGS ARE USED.
6. REFER TO SPECIFICATIONS FOR FIRESTOP MATERIALS TO BE USED. ALL SYSTEMS SHALL BE U.L. LISTED.
7. SLEEVES THROUGH LOAD BEARING WALLS SHALL BE SCHEDULE 40 BLACK STEEL PIPE. OTHER PIPE SLEEVE MATERIALS ARE ACCEPTABLE PROVIDED THEY HAVE BEEN TESTED AS PART OF THE FIRE RATED ASSEMBLY. ALL PIPE SLEEVES THROUGH EXTERIOR WALLS SHALL BE GALVANIZED STEEL.
8. INSTALL AIR RELEASE VENTS AT ALL HIGH POINTS IN PIPING SYSTEM AND DRAIN VALVES AT ALL LOW POINTS.
9. CONTRACTOR SHALL CONSIDER THE ELECTRICAL, MECHANICAL, PLUMBING, STRUCTURAL, ARCHITECTURAL AND CIVIL DRAWINGS AS AN INTEGRAL PART OF HIS BID PACKAGE AND SHALL REVIEW ALL ASSOCIATED DRAWINGS AND DETAILS DURING THE BID PROCESS.



GAS CONNECTION DETAIL NTS

Recommended Venting Practice

CONDENSING BOILER AND FURNACE EXHAUST VENT PIPE DETAIL



When installing a venting system the following recommended venting practices apply:

- Keep length and number of 90° elbows to a minimum.
- Try not to use back-to-back 90° elbows.
- Use 45° elbows where possible to minimize the number of 90° elbows in case redirection of flue gas is required.
- The special vent system shall not be routed into, through, or within any other vent such as an existing masonry or factory-built chimney.

Exception:

A masonry chimney flue may be used to route the venting system only if no other appliance is vented in the same flue.

RISE ENGINEERING,
1341 ELMWOOD AVE.,
CRANSTON, RI 02910

Project:
HIGH EFFICIENCY BOILER & DHW SYSTEMS
HARWICH COMMUNITY CENTER
100 OAK STREET, HARWICH, MA

Status:
CONSTRUCTION DOCUMENTS

No.	Revision/Issue	Date

Sheet Title:
PROPOSED WORK EQUIPMENT DETAILS

Project No.: RIS-87-22-0173
Drawn By: RSH
Checked By: ADN
Scale: N/A
Date: 08/30/22

Drawing No.:
M-3.0

BOILER SCHEDULE - HARWICH COMMUNITY CENTER

TAG NO.	LOCATION	OUTPUT CAPACITY		INPUT	FUEL INLET PRESSURE		OPERATING WATER PRESSURE (PSIG)	WATER				COMB. AIR INCHES	FLUE EXH. INCHES	ELECTRICAL DATA						WEIGHT (LBS)	MANUFACTURER MODEL NUMBER	REMARKS
		MBH	MIN. MBH	N. GAS (MBH)	GAS IN WC	GAS CONN.		EWT (°F)	LWT (°F)	GPM	WPD (FT)			AMPS	V	PH	HZ	PANEL/ LOCATION	CIR. #			
B-1	BOILER ROOM	776	77.6	800	4-14	1 1/4"	30	160	180	76	17	6	6	<4.3	120	1	60	SQ. D/ E. ROOM	21	484	LOCHINVAR KBX0800N OR APPROVED EQUAL BRAND	1, 2, 3, 4, 5, 6, 7, 8. AND MODEL.
B-1	BOILER ROOM	776	77.6	800	4-14	1 1/4"	30	160	180	76	17	6	6	<4.3	120	1	60	SQ. D/ E. ROOM	23	484	LOCHINVAR KBX0800N OR APPROVED EQUAL BRAND	1, 2, 3, 4, 5, 6, 7, 8. AND MODEL.

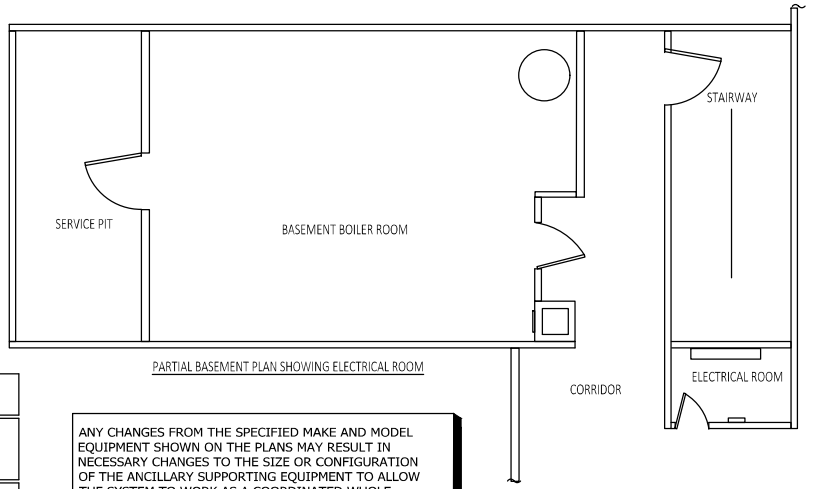
REMARKS: 1: LOW WATER CUT OFF; 2: 30 PSI PRESSURE RELIEF VALVE; 3: LOW PRESSURE GAS SWITCH; 4: HIGH LIMIT RESETABLE SAFETY CONTROL, OPERATING TEMPERATURE UP TO 200 DEG. F.; 5: TEN TO ONE TURNDOWN ON BOILER MODULATION; 6: INTEGRAL BOILER RESET CONTROL; 7: MASS. PLUMBING AND GAS FITTER BOARD APPROVED; 8: BACNET CONTROL OPTION.

PUMP SCHEDULE

TAG NO.	LOCATION	SYSTEM SERVED	TYPE	MAX. GPM	HEAD (FT.)	MAX. FLUID TEMP °F	PUMP EFFIC.	ELECTRICAL DATA					MANUFACTURER MODEL NUMBER	REMARKS
								MAX. AMP.	MOTOR WATT/H.P.	V	PH	HZ		
BP-1	BOILER ROOM	B-1	IN-LINE	76	23	180	0.19 EEI	4.45	1014 WT.	230	1	60	GRUNDFOS MAGNA3 80-100 F	1, 2, 3
BP-2	BOILER ROOM	B-2	IN-LINE	76	23	180	0.19 EEI	4.45	1014 WT.	230	1	60	GRUNDFOS MAGNA3 80-100 F	1, 2, 3
DHWP-1	BOILER ROOM	DHW-1	IN-LINE	24	19	160	33%	3.5	0.35 H.P.	120	1	60	GRUNDFOS UPS-43-100 F	2, 3, 4
UHP-1	BOILER ROOM	UH-1	IN-LINE	3	15	160	-	0.75	87 WT.	120	1	60	GRUNDFOS UPS-35-58 FC	2, 3, 4

OR APPROVED EQUAL BRAND AND MODEL.

REMARKS: 1. INTEGRAL VARIABLE SPEED; 2. CAST IRON VOLUTE HOUSING; 3. OR APPROVED EQUAL OTHERS WITH ACCEPTABLE VOLTAGE OPERATING RANGE. 4. THREE SPEED. POWER NEW PUMPS FROM A SINGLE PHASE CIRCUIT; SPARE LBA PANEL BREAKERS LOCATED IN ELECTRICAL ROOM..



PARTIAL BASEMENT PLAN SHOWING ELECTRICAL ROOM

MAGNETIC DIRT SEPERATOR

TAG NO.	LOCATION	SERVICE	SYS TEMP (°F)		CONSTRUCTION		CONNECTIONS	PRESSURE RATING (PSIG)	MANUFACTURER MODEL NUMBER	REMARKS
			MIN	MAX	BODY	MAGNETS				
MDS-1	BOILER ROOM	HEAT	32	200	STEEL	NEODYMIUM	FLANGED	150	CALEFFI 546550A,M DIRTMAG	2", REMOV. MAGNETS

OR APPROVED EQUAL BY BOILER MAG OR OTHER BRAND AND MODEL.

ANY CHANGES FROM THE SPECIFIED MAKE AND MODEL EQUIPMENT SHOWN ON THE PLANS MAY RESULT IN NECESSARY CHANGES TO THE SIZE OR CONFIGURATION OF THE ANCILLARY SUPPORTING EQUIPMENT TO ALLOW THE SYSTEM TO WORK AS A COORDINATED WHOLE.

DOMESTIC HOT WATER INDIRECT TANK SCHEDULE

TAG NO.	LOCATION	SERVICE	DIMENSIONS		POTABLE TANK		TANK VOLUME (GAL)	BOILER SUPPLY FLUID TEMP °F	CONFIGUR-ATION	MANUFACTURER MODEL NUMBER	REMARKS
			DIAM.	HT.	MATERIAL	MAX. PSIG.					
DHW-1	MECHANICAL ROOM	DHW	26"	78"	316L STAINLESS	125	95	160	VERTICAL	TRIANGLE TUBE SMART 100 OR APPROVED EQUAL	AQUASTAT AND WELL; STATE OF MASS. APPROVAL 2" POLYURETHANE FOAM INSULATION; 316L STAINLESS STEEL POTABLE WATER TANK, 36 SQ.FT. OF HEAT EXCHANGER SURFACE AREA, MIN. 6 YEAR LIMITED TANK WARRANTY, FIELD SUPPLY TANK SENSOR IN WELL.

BRAZED PLATE DOMESTIC HOT WATER HEAT EXCHANGER SCEDHULE

DHWHX

TAG NO.	LOCATION	SYSTEM SERVED	MBH	HEAT /DHW GPM	MAX. PSIG.	POTABLE WATER			HEATING WATER			EQUIPMENT DATA				MANUFACTURER MODEL NUMBER	REMARKS
						EWT (°F)	LWT (°F)	WPD (PSI)	EWT (°F)	LWT (°F)	WPD (PSI)	NO. OF PLATES	PLATE DIMENS.	CONN. SIZE	HEATING SURFACE (SQ.FT)		
DHWHX-1	MECH. ROOM	DHW	238	24/8	435	50	110	0.10	120	100	0.72	30	7.5"X24.3"	2"	30	BELL & GOSSETT BPN423-30* *OR APPROVED EQUAL	316L STAINLESS STEEL, MA PLUMBING BOARD APPROVAL

RISE ENGINEERING

RISE ENGINEERING,
1341 ELMWOOD AVE.,
CRANSTON, RI 02910

Project:
HIGH EFFICIENCY BOILER & DHW SYSTEMS
HARWICH COMMUNITY CENTER
100 OAK STREET, HARWICH, MA

Status:
CONSTRUCTION DOCUMENTS

No.	Revision/Issue	Date

Sheet Title:
PROPOSED WORK EQUIPMENT SCHEDULE

Project No: RIS-87-22-0430
Drawn By: RSH
Checked By: ADN
Plan Scale: 1/8"= ~1'
Date: 08/30/22

Drawing No:
ME-4.0