	HEATING/AIR CONDITIONING/VENTILATING (HVAC) SCHEDULE															
MARK	WATERFURNACE OR APPROVED EQUAL	WATERFURNACE OR APPROVED FAN COIL EQUAL	COOLING BTUH	HEATING BTUH	COMP. SPEEDS		FAN HP	EXT SP IN WG	WATER GPM	WPD FT	DESUPER- HEATER	EMERGENCY HEAT*	ELECTRICAL (V/Ø/HZ)	MCA AMPS	MOCP AMPS	ZONING SEE NOTES
AHU-1	NDV049A131C	PKG-REAR DISCH.	50,000**	37,400**	2	1500	1	0.75"	12.0	8.9	N/A	N/A	208-230/1/60	39.2	60	
AHU-2	NDV064A131C	PKG-REAR DISCH.	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-3	NDH064A131C	PKG UNIT	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-4	NDH064A131C	PKG UNIT	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-5	A NDV064A131C	PKG-REAR DISCH.	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-5	B NDV064A131C	PKG-REAR DISCH.	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-6	NDV064A131C	PKG-REAR DISCH.	67,600**	45,800**	2	1800	1	0.75"	16.0	14.7	N/A	N/A	208-230/1/60	44.8	70	
AHU-7	DGY036	RTU PKG UNIT	35,800**	24,100**	1	1050	3/4	0.80"	8.6	10.9	N/A	N/A	208-230/3/60	13.7	20	

COMPRESSOR SHALL BE DUAL SPEED. RATINGS OF UNIT MUST MEET ARI STDS.

*MINIMUM ELECTRIC HEATER RATING @ 230/1/60. |**HEATING OUTPUT BASED ON EWT = 32 F. COOLING BASED ON COIL EWT = 77 F.

ALL UNITS SHALL HAVE ACTIVTEK INDUCT 2000 DUCT MOUNTED AIR PURIFIER OR EQUAL. INSTALL PER MFR'S INSTRUCTIONS. COORDINATE W/ ELECTRICAL CONTRACTOR. ALL SYSTEMS SHALL HAVE ZONE TEMPERATURE SENSORS WITH PROGRAMMABLE FAN CYCLE AND TEMPERATURE AND HUMIDITY CONTROL.

PROVIDE CONDENSATE PUMP FOR HEAT PUMP AND PIPE CONDENSATE W/ INSULATION TO EXTERIOR/DRAIN

COORDINATE WITH GENERAL CONTRACTOR, PLUMBER, AND ELECTRICIAN AND ADJUST DUCTWORK ACCORDINGLY TO AVOID INTERFERENCES.

DUCTWORK SHALL BE CONSTRUCTED TO SMACNA STANDARDS AND ALL SEAMS AND JOINTS SHALL BE MASTIC SEALED.

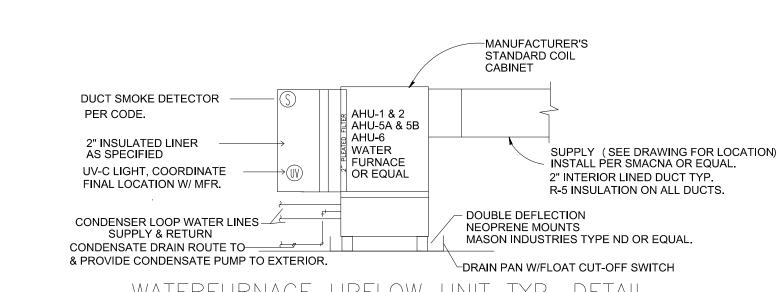
	GRILLE/DIFFUSER/REGISTER SCHEDULE													
MARK	MFR	LOCATION	DIFFUSER SIZE (IN)	NECK SIZE (IN)	OPPOSED BLADE DAMPER	MODEL	REMARKS							
S-1	T&B*	FLOOR	6 X 60	10"(2)	YES	4000 BRONZE FINISH	FLOOR REGISTER BRONZE FINISH W/ INSUL. BOOT							
S-2	T&B*	FLOOR	6 X 14	8	YES	4000 BRONZE FINISH	FLOOR REGISTER BRONZE FINISH W/ INSUL. BOOT							
S-3	T&B*	CEILING	44 X 4	10	YES	6000-S-100-2-B-ECP-MP	CEILING LINEAR 2 SLOT 1" DIFFUSER W/PLENUM							
S-4	T&B*	WALL	12 X 10	10	YES	4000	SIDEWALL REGISTER							
S-5	T&B*	CEILING	72 X 4	10	YES	6000-S-100-2-B-ECP-MP	CEILING LINEAR 2 SLOT 1" DIFFUSER W/PLENUM							
S-6	T&B*	CEILING	12 X 8	10	YES	4000-SF-03-SOBD-FB	CEILING REGISTER							
S-7	T&B*	CEILING	12 X 6	D.O.	YES	T54	CEILING/SIDEWALL REGISTER							
S-8	T&B*	CEILING	6 X 6	D.O.	YES	4000-SF-03-SOBD-OW	CEILING/SIDEWALL REGISTER							
S-9	T&B*	CEILING	10	10	YES	T1100SW	CEILING REGISTER-COORD. W/ CEILING FINISH							
S-10	T&B*	WALL	10 X 6	D.O.	YES	4000	CEILING/SIDEWALL REGISTER							
S-11	T&B*	CEILING	6 X 6	D.O.	YES	4000 (SURFACE BEVELED)	CEILING REGISTER-COORD. W/ CEILING FINISH							
S-12	T&B*	CEILING	12 X 12	8	YES	4000	CEILING REGISTER-COORD. W/ CEILING FINISH							
R-1		CAB. GRILLE	SEE REMARKS	D.O.	N/A	PERF. GRILLE PER ARCH.	2-15 X 36 & 2-15 X 28: SEE DWG.A9.3, COORD.							
R-2	T&B*	WALL	30 X 14	D.O.	N/A	T70D	WALL RETURN GRILLE—TOP OF CABINET BLACK							
R-3	REGGIO	WALL/CL'G	16 X 30	D.O.	N/A	G1733-SGH	CEILING/WALL RETURN GRILLE-GRAY							
R-4	REGGIO	WALL/CL'G	18 X 30	D.O.	N/A	2032-ARBH	WALL RETURN GRILLE—BRONZE							
R-5	REGGIO	WALL	18 X 30	D.O.	N/A	2032-AH	WALL RETURN GRILLE — PAINTABLE							
R-6	T&B*	WALL	12 X 18	D.O.	N/A	T70D	RETURN GRILLE-TOP OF CABINET BLACK							
T-1	T&B*	DOOR	24 X 24	N/A	N/A	A990VF	DOOR TRANSFER GRILLE							
T-2	T&B*	WALL	8 X 18	N/A	N/A	A990VF OW	TRANSFER GRILLE—FUSIBLE LINK FIRE DAMPER							
E-1	T&B*	CEILING	12 X 12	8	N/A	T70D	CEILING EXHAUST GRILLE							
L-1	GREENHECK	AS SHOWN	20.5	8	N/A	GRSR-8	ROOF CAP W/ 12"CURB FOR EXHAUST							

*TUTTLE & BAILEY MFR. OR EQUAL.

	EXHAUST FAN SCHEDULE													
М	ARK	DESCRIPTION	MFR OR EQUAL	MODEL	CFM	SP	MOTOR	VOLTAGE	REMARKS					
EF	-1	ROOF EXHAUST FAN	GREENHECK	SP-B110	90	0.25"		115/1/60	TOUCH TO WALL/ROOF W/ CAF.					
EF	-2	CEILING EXHAUST FAN	GREENHECK	SP-B150	150	0.375"	350 W	115/1/60	W/ HANGERS/BACKDRAFT DAMPERS/ DUCT TO WALL/ROOF W/ CAP.					
EF	-3	CEILING EXHAUST FAN	GREENHECK	GB-091-4	400	0.375"	1/6 HP	115/1/60	W/ 12"ROOF CURB, SCREEN, AND BACKDRAFT DAMPERS					

EF-3 FAN SHALL RUN DURING OCCUPIED PERIOD & BE OFF DURING UNOCCUPIED PERIOD. MOUNT EXHAUST FAN TIMER ON WALL IN ELECTRICAL/MECHANICAL ROOM. ALL EXHAUST FANS EF-1 & EF-2 IN BATHROOM SHALL SWITCH ON WITH LIGHT. COORDINATE W/ ELECTRICAL CONTRACTOR.

MAIN DUCT -—1" MIN. ON TOP 1" MIN. ON TOP AND BOTTOM AND BOTTOM · ADJUSTARI F — 1/4 BRANCH DUCT MAIN DUCT ELBOW RINGS WIDTH, BUT MIN. 4" EQUAL TO REQ'D AIRFLOW BRANCH DUCT DIMENSIONS BRANCH DUCT DIA. MASTIC SEAL -MASTIC SEAL -ALL AROUND ALL AROUND DETAIL - TYPICAL BRANCH TAKE-OFF FITTING



HANGER ROD TO ROOF TRUSS SUPPORTS
TYPE HSN ISOLATOR
3/8" NC THREADED RODS TO SPOTWELD NUTS IN UNIT. PROVIDE MOTORIZED DAMPER ON OUTSIDE AIR DUCT & INTERLOCK W/ ASSOCIATED FLEX COLLAR (TYP) THERMOSTAT TO OPEN DURING OCCUPIED — PLENUM BOX W/ & CLOSE DURING UNOCCUPIED PROGRAMMED UV-C LIGHT PERIODS - TYP. ALL UNITS SEE DRAWINGS, FOR DUCT SIZES & LOCATIONS. DUCT SMOKE DETECTOR IN RETURN DUCT - INTERLOCK W/ HORIZONTAL AIR HANDLER FAN CONTROLS TO SHUTDOWN W/ DX COIL & ELEC HEAT PER CODE & SIGNAL FIRE ALARM SYSTEM. COORDINATE W/ FIRE ALARM CONTRACTOR. TYPICAL ALL 3/4" SCH 40 PVC PRIMARY INSULATED CONDENSATE TO EXTERIOR oxedge OR PROVIDE CONDENSATE PUMP & PIPE (INSULATED) TO EXTERIOR. SECONDARY DRAIN PAN

OR PIPE TO DRAIN PER LOCAL CODE TYP.

PROVIDE FLOAT CUT-OFF SWITCH IN SECONDARY DRAIN PAN

TYPICAL AIR HANDLER SUSPENSION DETAIL

NOTE: PROVIDE SMOKE DETECTOR IN RETURN DUCT

MECHANICAL HVAC SCOPE OF WORK:

1. PROVIDE COMPLETE WATER SOURCE HEAT PUMP HEATING, COOLING WITH INTELLIZONE CONTROL SYSTEMS, AS SPECIFIED, DUCT SMOKE DETECTORS, INSULATED AND INTERIOR LINED METAL DUCTWORK PER SMACNA STANDARDS, DIFFUSERS, REGISTERS, INSULATED BOOTS FLEXIBLE COLLARS, INSULATED BRANCH DUCTS, MASTER PROGRAMMABLE THERMOSTATS WITH PROGRAMMABLE FAN CYCLE AND DEHUMIDIFICATION, CAPABILITY AND CONTROL WIRING PER WATERFURNACE OR APPROVED EQUAL. PROVIDE ALL

AS SPECIFIED, WATER SOURCE HEAT PUMP LOOP PUMPS, & PIPING PER ASTM STANDARDS OR APPROVED EQUAL. 2. CONTRACTOR SHALL AT LEAST 5 YEARS EXPERIENCE WITH WATER SOURCE HEAT PUMP OR GEOTHERMAL SYSTEMS AND PROVIDE AT LEAST 3 REFERENCES. PIPING SHALL BE INSTALLED WITH INSULATION, PIPE HANGERS AND INSULATION SLEEVES. 3. UNITS SHALL HAVE 30% EFFICIENCY PLEATED FILTERS, VIBRATION ISOLATION — DOUBLE DEFLECTION NEOPRENE MOUNTS (MASON IND. TYPE ND OR EQUAL).

AND FLEXIBLE COLLARS & PIPING. EVAPORATOR CONDENSATE DRAIN SHALL BE PROVIDED AND CONDENSATE PIPED TO DRAINS OR PUMPED TO EXTERIOR. 4. COMMERCIAL GRADE SUPPLY DIFFUSERS AND RETURN GRILLES SHALL BE PROVIDED AS SHOWN WITH OPPOSED BLADE DAMPERS. ALL BRANCH LINES SHALL HAVE ADJUSTABLE LOCKING DAMPERS AND ALL DUCTWORK MASTIC SEALED

5. ALL MAIN SUPPLY & RETURN DUCT TRUNKS SHALL BE METAL WITH INTERIOR LINER OR EXTERIOR INSULATION (R-4 OR R-5), AS SPECIFIED W/ MASTIC SEALED JOINTS/SEAMS. INSULATION MINIMUM PER 2012 IECC SECTION 803, DESIGN BY ACCEPTABLE PRACTICE FOR COMMERCIAL BLDGS. RÚN METAL SUPPLY & RETURN DUCTS ABOVE CEILINGS OR EXPOSED, AS INDICATED ON DRAWINGS, INSULATE DUCTS IN CEILING. BRANCH AIR DUCTS SHALL BE METAL TO DIFFUSERS AND SHALL BE A MINIMUM OF R-5 INSULATION.

CONTRACTOR HAS OPTION OF USING ASTRO-FOIL REFLECTIVE INSULATION OR EQUAL, PROVIDED R-VALUES ARE MAINTAINED. 6. PROVIDE ALL WATER PIPING, VALVES, FITTINGS AND CONTROLS PER MANUFACTURER. PROVIDE & INSTALL 20% ANTIFREEZE ENVIRONMENTAL SAFE SOLUTION PER MANUFACTURER AND LOCAL CODES.

7. ALL WORK SHALL COMPLY WITH 2012 INTERNATIONAL MECHANICAL CODE (IMC), NATIONAL ELECTRICAL CODE (NEC), 2012 INTERNATIONAL PLUMBING CODE (IPC), 2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AND LOCAL GOVERNING CODES. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY DRAWINGS.

PROVIDE AND SUBMIT CATALOG CUTS FOR APPROVAL OF WATER SOURCE HEAT PUMP UNITS, INSULATION, PUMPS, CONTROLS & DIFFUSERS/LOUVERS. 8. REFRIGERANT SYSTEM SHALL BE FACTORY CHARGED AND FIELD CHECKED. AIR BALANCE SYSTEMS TO

DESIGN FLOWS AND PROVIDE THE ARCHITECT/ENGINEER 3 SETS OF NEBB OR EQUAL CERTIFIED AIR BALANCE REPORT FOR APPROVAL. 9. PROVIDE THE OWNER WITH TWO SETS OF MANUFACTURER'S O&M LITERATURE ON ALL EQUIPMENT. 10. RUN SUPPLY & RETURN DUCTS AS INDICATED ON DRAWINGS. PROVIDE OFFSETS AND TRANSITIONS AS REQUIRED

TO AVOID STRUCTURAL, ELECTRICAL AND PLUMBING INTERFERENCES. 11. COORDINATE FINAL WATER SOURCE HEAT PUMP UNITS & DUCTWORK LOCATION W/ JOISTS AND TRUSSES.

PROVIDE MINIMUM 30 INCHES MAINTENANCE CLEARANCE FOR UNIT ACCESS AND CLEARANCES AND PER MANUFACTURER/CODE. PIPE CONDENSATE TO DRAIN OR EXTERIOR. PROVIDE CONDENSATE PUMP(S), PIPING & INSULATED AS REQUIRED.

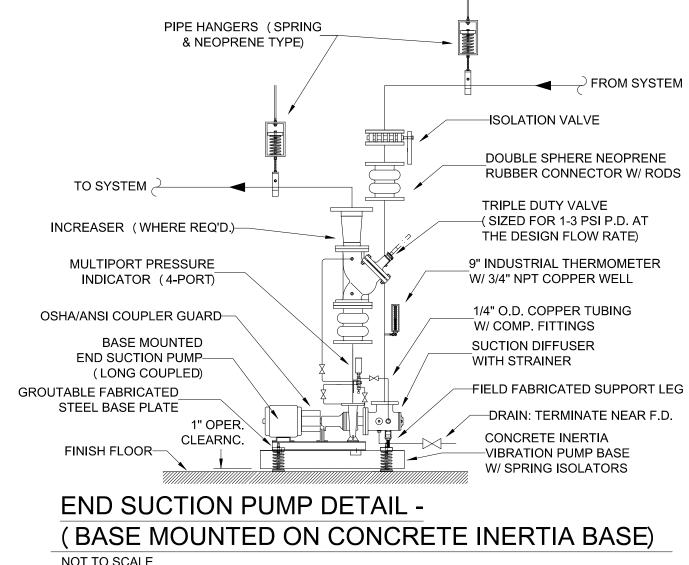
12. PROVIDE ENGRAVED PLASTIC EQUIPMENT I.D. PLATES 3/4" X 3 1/4" WIDE WITH 0.125 HELVETICA LETTERING ON ALL PIECES OF MAJOR EQUIPMENT. (MINIMUM WATER SOURCE HEAT PUMP UNITS, PUMPS, HEAT EXCHANGERS & HOT WATER TANKS)

13. PROVIDE 30% EFFICIENT AIR FILTER AND 1" MESURFLO HOSE KIT FOR ALL WATER SOURCE HEAT PUMP AIR HANDLER UNITS. 14. PROVIDE HIGH OUTPUT UV-C GERMICIDAL LAMP IN AIR HANDLER FAN COIL SUPPLY OR RETURN PLENUM PER LAMP

MANUFACTURER (TOTALINE, LENNOX OR EQUAL) INSTALLATION INSTRUCTIONS WITH MOUNTING HARDWARE AND ACCESSORIES. COORDINATE WITH ELECTRICAL ON POWER TO LAMP AND PROVIDE DISCONNECT FOR INSTALLATION BY ELECTRICAL CONTRACTOR.

15. PROVIDE RETURN DUCT SMOKE DETECTORS ON ALL WATER SOURCE HEAT PUMP AIR HANDLERS PER CODE AND COORDINATE CONNECTION W/ OWNERS.

COORDINATE W/ FIRE ALARAM AND ELECTRICAL CONTRACTORS AS REQUIRED, FOR POWER AND ALARM TO ALL MECHANICAL EQUIPMENT.



NOT TO SCALE

FLOOR MOUNTED PUMP DETAIL N.T.S.

MECHANICAL LEGEND

PROGRAMMABLE THERMOSTAT W/PROGRAMMABLE FAN CYCLE

SUPPLY/RETURN METAL DUCT W/ INTERIOR LINER AS SPECIFIED OR 2" EXTERIOR FOIL FACED INSULATION R-5 VALUE IN THE INTERIOR LOCATIONS.

METAL DUCT ELBOW W/ TURNING VANES & INTERIOR LINER OREXTERIOR INSULATION AS SPECIFIED.

METAL TRANSITION W/ INSULATION AS NOTED ABOVE.

BRANCH ROUND SOLID METAL DUCT TAKE-OFF W/ ADJUSTABLE LOCKING BALANCING DAMPER AND INSULATED.

TOP TAKE-OFF W/ BRANCH ROUND PIPE BALANCING DAMPER

SUPPLY DUCT CHANGE OF DIRECTION. RETURN/EXHAUST AIR DUCT CHANGE OF DIRECTION.

S PIPE UP. S PIPE DOWN.

— DIFFUSER/REGISTER MARK - SEE SCHEDULE.

——— CFM SETTING FOR DIFFUSER/REGISTER.

WATER SOURCE HEAT PUMP FAN COIL, FITTINGS, SECONDARY DRAIN PAN.

FLAT PLATE HEAT EXCHANGER HTX-#

NEW CEILING OR SUPPLY REGISTER, ADJUSTABLE DAMPER & INSULATED ROUND BOOT.

DUCT FIRE DAMPER RATED PER WALL ASSEMBLY (UL-P265) WITH ACCESS DOOR - TYP.

A.F.F. ABOVE FINISHED FLOOR

OUTSIDE WALL LOUVER W/ FRAME OR ROOF VENTILATOR AND ROOF CURB.

CIRCULATOR PUMP, FLOOR MOUNTED, IN-LINE, ETC. WITH FITTINGS PER CODE & DRAWINGS. P-#

EF-# CEILING EXHAUST FAN OR ROOF MOUNTED EXHAUST FAN WITH CURB & FITTINGS. CT-# COOLING TOWER WITH STRUCTURAL SUPPORTS AND ALL FITTINGS.

B-# HIGH EFFICIENCY LP GAS BOILER WITH ALL FITTINGS, VENTING AND CONTROLS.

BALTIMORE AIRCOIL OR EQUAL COOLING TOWER SCHEDULE MARK | QTY. | GPM | PRESS. | 78 F WB | FAN | BALTIMORE AIRCOIL OR EQUAL DROP NOM. TONS H.P. | CFM ELECTRICAI SUMP HTR 208/3/60 CT-1 | 1 | 111 | 3.2 PSI | 41 7.5 | 13,435 VTO-41-J 2 KW

COORDINATE WITH GENERAL CONTRACTOR ON INSTALLATION OF COOLING TOWER EQUIPMENT STRUCTURAL SUPPORTS & PIPING. 2. INSTALL NEW COOLING TOWER WITH PIPING, VALVES, STRUCTURAL SUPPORTS AND CONTROLS PER MANUFACTURER. SHIPPING WEIGHT OF COOLING TOWER IS SPECIFIED AT OPERATING WEIGHT 1650 LBS WITH OVERALL LENGTH 6' AND WIDTH

3' 11 1/2" AND HEIGHT 6' 7 7/8". LINES (SUPPLY/RETURN) ABOVÉ GRADE WITH EXTERIOR INSULATION (WITH METAL WEATHER-PROOF COVERING) TO PREVENT FREEZING. 3. PROVIDE HEAT TAPE AND EXTERIOR INSULATION ON COOLING TOWER WATER EXPOSED PIPING TO PREVENT FREEZING. 4. COOLING TOWER CONTROLS SHALL BE SELF CONTAINED.

5. PROVIDE MAKE—UP WATER LINE TO COOLING TOWER. PROVIDE HEAT TAPE ON MAKE—UP WATER LINE, CONDENSER WATER

6. PROVIDE A SINGLE POINT COOLING TOWER CONTROL PANEL AND INTEGRATE INTO THE WATER SOUCE HEAT PUMP CONTROL SYSTEM. PROVIDE THE ELECTRICAL CONTRACTOR THE MANUFACTURER'S CONTROL PANEL ELECTRICAL REQUIREMENTS FOR FINAL WIRING. 7. PROVIDE SCHEDULE 80 PVC FOR COOLING TOWER WATER SUPPLY (CTWS) AND RETURN (CTWR) & INSULATE ABOVE GRADE

8. PROVIDE PLASTIC PB SDR-11 PIPE FOR ALL INTERIOR CONDENSER WATER SUPPLY (CWS) AND RETURN (CWR) LOOP PIPING. PB SDR 11 PIPE SUPPORT SPACING SHALL NOT EXCEED 32 INCHES ON CENTER (PER IMC) PB = POLYBUTYLENE.

	HOT WATER BOILER SCHEDULE													
MARK	WEIL MCLAIN MODEL	LP GAS	OPERATING TEMP. (°F)	BTUH CAPACITY INPUT OUTPUT		AFUE EFFICIENCY	DOE HEATING CAPACITY	FUEL	EXH. SIZE	COMB SIZE				
B-1	ULTRA 310	YES	200	310 MBH	289 MBH	93.3%	289 MBH	LP GAS	4"	4"				

EXTERIOR PIPING AS SPECIFIED WITH HEAT TAPE.

1. PROVIDE LP GAS PIPING FROM LP TANK REGULATOR TO NEW BOILER. 2. PROVIDE ALL BOILER CONTROLS, INCLUDE OPTIONAL BOILER CIRCULATOR PUMP P-5, PIPING, AND SAFETY DEVICES IN ACCORDANCE WITH ASME, MANUFACTURER AND CODE REQUIREMENTS. PROVIDE WATER TRIM, RELIEF VALVE (50 PSI) AND CHEMICAL SHOT FEEDER 5 GALLON.

4. INTERLOCK BURNER CIRCUIT WITH BOILER CONTROL PANEL, HOT WATER FLOW SWITCHES, AND SAFETY CONTROLS, 5. PROVIDE ALL HOT WATER PIPING SHALL BE COPPER TYPE "L" AND INSULATED WITH 1 1/2" FIBERGLASS INSULATION W/VAPOR BARRIER AS SHOWN. 6. PROVIDE BOILER CONTROLS PER WEIL MCLAIN MANUFACTURER OR EQUAL. WITH OUTDOOR T'STAT TO ENERGIZE BOILER & CIRCULATOR PUMP(S)

WHEN OUTDOOR TEMPERATURE FALLS BELOW 65 F. COORDINATE WITH OWNER ON FINAL SETPOINT. 7. ALL WORK SHALL COMPLY WITH FEDERAL, 2009 INTERNATIONAL MECHANICAL AND PLUMBING CODES, LOCAL CODES AND PERMITS.

CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS.

3. PROVIDE COMBUSTION AIR AND EXHAUST PIPING PER MANUFACTURER WITH CONDENSATE PUMP & PIPING TO DRAIN.

	PUMP SCHEDULE														
		PUMP DATA						MOTOR DATA							
MARK	DESCRIPTION	B&G MODEL OR EQUAL	SIZE	RPM	GPM	HEAD (FT)	MIN. H.P.	VOLT	PHASE	TRIPLE DUTY VALVE	SUCTION DIFFUSER	NOTES			
P-1	CONDENSER WATER	1510	2BC	1750	120	60	5.0	208	1	YES	YES	1 THRU 7			
P-2	CONDENSER WATER	1510	2BC	1750	120	60	5.0	208	1	YES	YES	1 THRU 7			
P-3	HOT WATER	B&G SERIES 60	1 1/2 X 7	1750	77	45	2	208	1	YES	YES	1 THRU 5			
P-4	HOT WATER	B&G SERIES 60	1 1/2 X 7	1750	77	45	2	208	1	YES	YES	1 THRU 5			
P-5	BOILER CIRCULATOR	TACO 1911	1911 SERIES	1760	32	11	1/3	115	1	NO	NO	BOILER MFR			
P-6	COOLING TOWER	1510	2BC	1750	117	60	5.0	208	1	YES	YES	1 THRU 7			
P-7	COOLING TOWER	1510	2BC	1750	117	60	5.0	208	1	YES	YES	1 THRU 7			

1. PUMPS SHALL NOT EXCEED 1800 RPM & PROVIDE SUCTION DIFFUSER & AUTO RE-START ON ALL PUMPS. PROVIDE VARIABLE FREQUENCY DRIVE MOTORS FOR ALL PUMPS WITH CONTROL ON RETURN WATER TEMPERATURE AND PHASE PROTECTION PER MANUFACTURER.

2. SEE DRAWINGS FOR PIPING DIAGRAMS & SPECIFICATIONS TO PROVIDE AUTOMATIC RE-START MOTOR STARTERS, VIBRATION ISOLATORS, ETC.

3. PUMP P-1 NORMALLY "ON" & P-2 "STAND-BY, TYPICAL FOR DUAL PUMP SETS.

4. SEE DRAWINGS FOR PIPING REQUIREMENTS, AIR SEPARATORS, MAKE-UP ASSY, AIR VENTS, EXPANSION TANKS, FLEXIBLE FITTINGS, ETC. 5. PIPING 2" OR LESS WILL BE RAUPEX O2 BARRIER PIPE AND LARGER 2" PIPING IN MECHANICAL ROOMS SHALL BE INSULATED COPPER TYPE "L". PROVIDE 1" JACKETED INSULATED PIPING FOR ALL ABOVE GRADE PIPING TYP.

6. PUMPS SHALL BASED ON 18.3% PROPYLENE MIX FOR CONDENSERWATER SYSTEM. PROVIDE VIBRATION ISOLATION SPRINGS ON ALL PUMPS. 7. ALL CONDENSER AND HOT WATER PIPING SHALL BE CLEARLY LABELED PER ANSI A13.1 STANDARD WITH DIRECTION OF FLOW.

	PLATE HEAT EXCHANGER (HTX) SCHEDULE													
	CAPACITY (BTUH)	LOAD SIDE BOILER/COOLING TOWER SIDE												
UNIT		GPM	EWT (°F)	LWT (°F)	MAX PD (PSI)	FLUID	GPM	EWT (°F)	LWT (°F)	MAX PD (PSI)	FLUID	GEA ECOFLEX MODEL OR EQUAL		
HTX-1	540,000	120	97	87	3.41	WATER	111	85	95	3.33	WATER	NT50X CYFL-150		
HTX-2	540,000	120	60	65	3.41	WATER	32	160	140	1.5	WATER	NT50X CYFL-150		

CONDENSER WATER FROM HEAT PUMP LOOP. - SEE PIPING DIAGRAMS. MECHANICAL CONTRACTOR TO PROVIDE & INSTALL W/ ALL CONTROLS, FITTINGS & INSULATION.

NORTH (magnetic)



Washington Hall RENOVATIONS Corner of George & **Washington Streets** Charles Town, W.Va.

For the City of Charles Town City of Ranson

Planning & Engineering (prime) Hall Planning & Engineering, Inc. 316 Williams Street

Tallahassee, FL 32303

Landscape Architecture

Stromberg/Garrigan & Assoc.,Inc. 102 E. Main Street-The Penn Bldg

Somerset, PA 15501

Historic Preservation & Architecture Landmarks SGA, LLC 102 E. Main Street-The Penn Bldg

Somerset, PA 15501

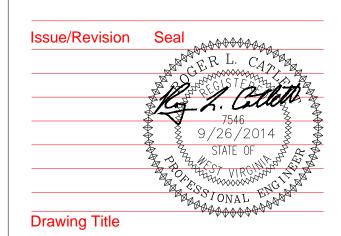
Structural Engineer

R.L. Silman Associates 1053 31st Street NW Washington D.C. 20007

Mech/Elect Engineer

Comfort Design, Inc. 620 Pennsylvania Avenue Winchester, VA 2260⁻





Mechanical Schedules & Details

Date: 9/26/14 Scale: As Shown Project Number 11105 Drawing Number