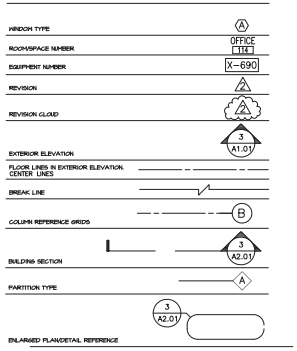
PORTSMOUTH CITY HALL
BOILER PLANT UPGRADES

1 JUNKINS AVE.
PORTSMOUTH, NEW HAMPSHIRE

ABBREVIATIONS

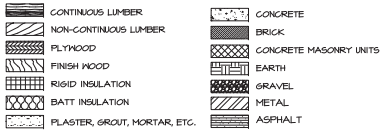
#	NUMBER	FFE	FINISH FLOOR ELEVATION	NO	NUMBER
&	AND	FIBGL	FIBERGLASS	NPS	NOMINAL PIPE SIZE
@	AT	FIN	FINISH	NIC	NOT IN CONTRACT
+/-	PLUS OR MINUS	FND	FOUNDATION		
		FT	FOOT/FEET	OC	ON CENTER
AB	ANCHOR BOLT			OPP	OPPOSITE
ACT	ACOUSTIC TILE	GALV	GALVANIZED	OH	OVERHEAD DOOR
AFF	ABOVE FINISH FLOOR	GWB	GYPSUM WALLBOARD		
ALUM	ALUMINUM			PLAS	PLASTIC
APPROX	APPROXIMATE	H	HIGH	PT	PRESSURE TREATED
		HD	HAND		
BD	BOARD	H.D.	HOT DIPPED	RO	ROUGH OPENING
BLDG	BUILDING	HDRM	HEADROOM	REQ'D	REQUIRED
BLKG	BLOCKING	HM	HOLLOW METAL	RM	ROOM
		HORIZ	HORIZONTAL		
CH	CEILING HEIGHT	HP	HIGH POINT	S	SILL
CJ	CONTROL JOINT	HT	HEIGHT	SCH	SCHEDULE
CLG	CEILING	HVAC	HEATING VENTILATING AND AIR CONDITIONING	SIM	SIMILAR
CMU	CONCRETE MASONRY UNIT			SP	SPACE
CONC	CONCRETE			SQ	SQUARE
CONST	CONSTRUCTION	IA	INTAKE AIR	SS	STAINLESS STEEL
CONT	CONTINUOUS	INSUL	INSULATION	SPECS	SPECIFICATIONS
				STL	STEEL
DBL	DOUBLE	J	JAMB		
DIA	DIAMETER	JAN	JANITOR	T B PL	TOP OF BEARING PLATE
DIM	DIMENSION			TO	TOP OF
DN	DOWN	LAM	LAMINATE	TOM	TOP OF MASONRY
DWGS	DRAWINGS	LAV	LAVATORY	TOS	TOP OF STEEL
		LOC	LOCATION	TYP	TYPICAL
EA	EACH	LP	LOW POINT		
ELEV(S)	ELEVATION(S)			UL	UNDERWRITERS LABORATORY
EL	ELEVATOR	MACH	MACHINE	UH	UNIT HEATER
ELECT	ELECTRICAL	MAS	MASONRY	UTIL	UTILITY
EQ	EQUAL	MAX	MAXIMUM		
ETC	ETCETERA	MECH	MECHANICAL	VB	VAPOR BARRIER
EXIST	EXISTING	MET	METAL	VIF	VERIFY IN FIELD
EXPAN	EXPANSION	MISC	MISCELLANEOUS		
EXT	EXTERIOR	MFR	MANUFACTURER	W	WITH
		MIN	MINIMUM	WH	WINDOW HEAD
		MTG	MOUNTING	WJ	WINDOW JAMB
				WP	WORK POINT
				WS	WINDOW SILL
				WWF	WELDED WIRE FABRIC

SYMBOLS



DRAWING LIST

MATERIALS



GENERAL NOTES

1. It is the responsibility of all Contractors to carefully examine all Drawings, Specifications and job conditions in order to coordinate their work with that of the other trades, through the General Contractor's Superintendent on the job, so as to avoid conflict in the placing of materials and equipment by the trades in the spaces shown.

2. Patch and match all existing materials that are damaged, disturbed, or left unfinished due to removal of existing structure, relocation of existing materials, or caused by any process of the new construction under this contract.

3. Contractors to verify all dimensions and conditions in the field prior to commencing work under this contract.

4. General Contractor to do all cutting and patching for trades that is required in the work scope.

5. Provide sealant at all joints of dissimilar materials.

6. All existing items that are removed and which are salvageable are the property of the Owner and are to be turned over to the Owner. Any items not wanted by the Owner are to be removed from the site by the General Contractor.

7. Furnish and install all temporary fences as required to protect the public, existing building, and new work.

8. All work is to be performed in accordance with all applicable State, Local, and National Codes, and OSHA requirements.

9. Wherever walls are to be painted it shall include all doors and frames, trim, piping, etc. that are part of, or attached to the walls. In areas of patched walls, walls shall be painted from floor to ceiling and to the nearest corner. There shall be no "patch painting".

10. All existing surfaces that are noted to be repainted are to receive three coats of new exterior acrylic paint. Wash and clean all surfaces prior to repainting. Remove any nails or other objects that serve no purpose prior to repainting.

MECHANICAL & PLUMBING ENGINEER:

PETERSEN ENGINEERING, INC
335 MAPLEWOOD AVE
PORTSMOUTH, NH 03802

ELECTRICAL & FIRE PROTECTION ENGINEER:

ENGINEERED BUILDING SYSTEMS
22 MANCHESTER ROAD
DERRY, NH 03038

ARCHITECT:

DAVIS GOUDREAU ARCHITECTS, INC
959 ISLINGTON STREET
PORTSMOUTH, NH 03801

DEMOLITION GENERAL NOTES:

1: THE DEMOLITION PLANS ILLUSTRATE THE CONCEPT OF ARCHITECTURAL DEMOLITION. THEY ARE NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL DEMOLITION WORK REQUIRED. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE INCLUDED WHEN DETERMINING THE SCOPE OF DEMOLITION REQUIRED FOR THIS PROJECT.

2: DASHED LINES GENERALLY REPRESENT ITEMS TO BE REMOVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LIMITS AND DETAILS OF DEMOLITION REQUIRED TO FACILITATE PROPOSED CONSTRUCTION.

3: EXISTING WALL MOUNTED EQUIPMENT AND HARDWARE SHALL BE REMOVED FROM EXISTING WALLS TO REMAIN, UNLESS NOTED OTHERWISE. PATCH OPENINGS TO MATCH ADJACENT SURFACE LEFT EXPOSED TO VIEW AFTER REMOVAL.

4: NO EXISTING WIRING, CONDUIT, ETC. (OR PORTIONS THEREOF) REMOVED DURING DEMOLITION, SHALL BE RE-USED ON THIS PROJECT UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER IN WRITING.

5: REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DEMOLITION DOCUMENTATION FOR ADDITIONAL INFORMATION ON SCOPE OF WORK REQUIRED BY THOSE TRADES.

6: MAINTAIN FIRE AND SMOKE RESISTANT QUALITIES OF EXISTING WALLS AND/OR FLOOR/CEILING ASSEMBLIES WHICH REMAIN.

7: ALL ITEMS DEMOLISHED OR REMOVED SHALL BE COORDINATED WITH THE OWNER FOR ARCHIVING, RELOCATION OR DISPOSAL. THIS WORK IS TO BE ACCOUNTED FOR IN THE CONTRACTOR'S BID. COORDINATE METHOD OF TRASH REMOVAL & CONSTRUCTION AREA PROTECTION WITH OWNER AHEAD OF WORK BEING DONE.

8: REMOVE ALL WINDOW SASHES THROUGHOUT UNLESS OTHERWISE NOTED. PREPARE FOR INSTALLATION OF NEW REPLACEMENT WINDOWS.

9: REMOVE ALL VEGETATION FROM BUILDING IN ITS ENTIRETY.

10: ALLOW FOR 25% REPLACEMENT OF ROTTED WINDOW TRIM, ROOF SHEATHING, FRAMING, ETC.

DEMOLITION KEYNOTES:

1 REMOVE OVERHEAD DOOR, TRACK, AND ASSOCIATED HARDWARE. PREPARE EXISTING FRAME TO RECEIVE REPLACEMENT DOOR ASSEMBLY.

2 REFER TO MECHANICAL DOCUMENTATION FOR REMOVAL OF EXISTING BOILERS AND ASSOCIATED PIPING AND EQUIPMENT.

3 REMOVE EXISTING GUARDRAILS.

4 REMOVE BUILT-OUT BLOCKING FROM SIDE OF FRAME AND HEADER ABOVE.

5 REMOVE SLATE TWO FEET ON EITHER SIDE OF ROOF HIPS. ARCHITECT TO MAKE VISUAL INSPECTION OF ROOF SUBSTRATE PRIOR TO RE-ROOFING.

6 REMOVE BROKEN OR DAMAGED SLATE SHINGLES ON ROOF AS REQUIRED AND PROVIDE UNIT COST PRICE FOR REPAIR AND REPLACEMENT.

7 REMOVE PLYWOOD AND ASSOCIATED BLOCKING.

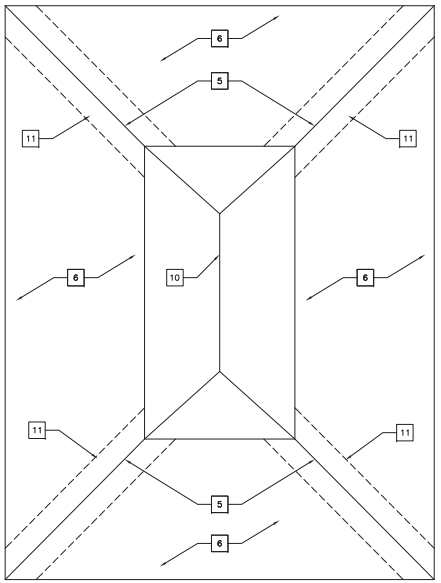
8 REMOVE EXISTING STEAM PIPE VENT PER MECHANICAL DRAWING HD1.01.

9 REMOVE MECHANICAL VENT EQUIPMENT AND ASSOCIATED FRAMEWORK.

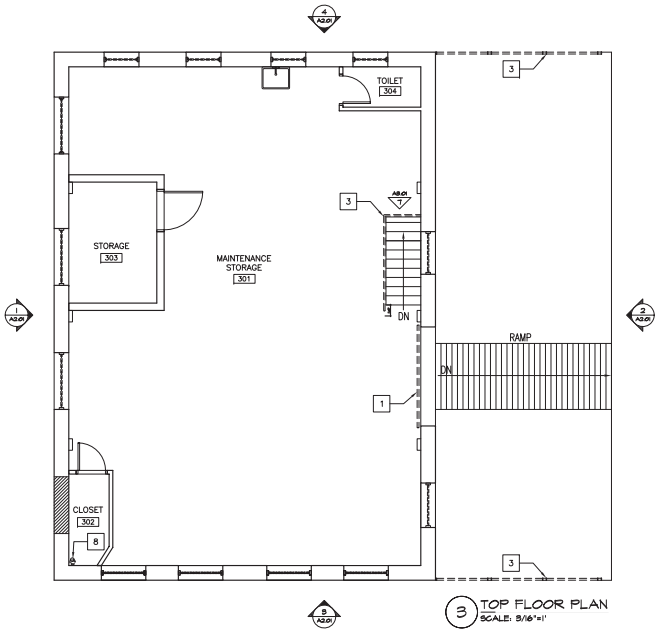
10 EXISTING CLERESTORY ROOF TO REMAIN

11 REMOVE AND REPLACE AND ALL AREAS OF ROTTED WOOD SHEATHING AND WOOD FRAMING.

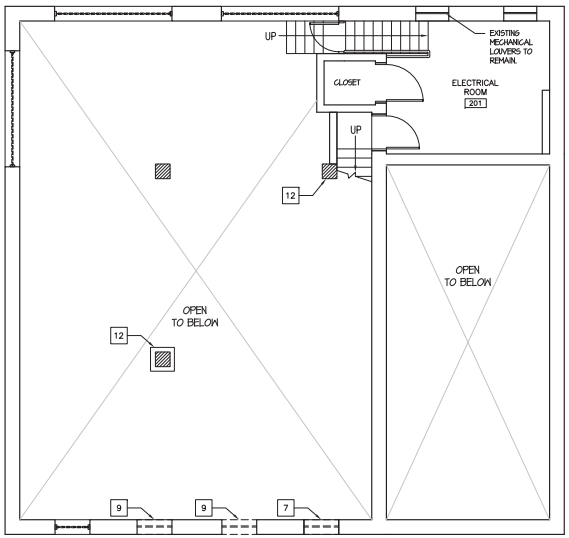
12 REMOVE LOOSE CONCRETE ON COLUMN



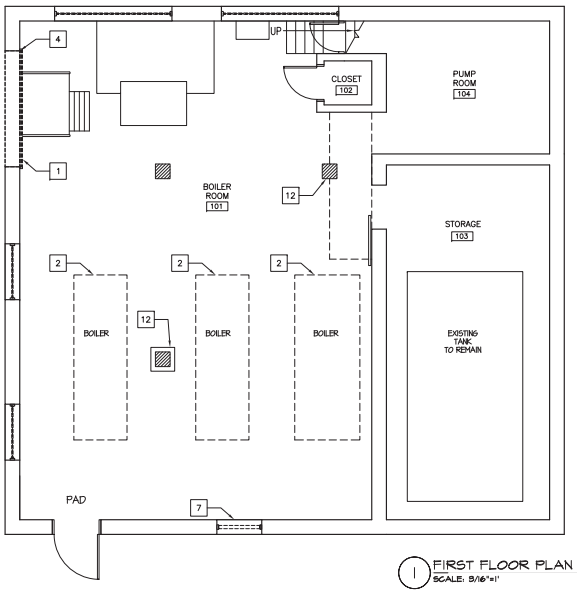
4 ROOF PLAN
SCALE: 1/4"=1'



3 TOP FLOOR PLAN
SCALE: 3/16"=1'



2 MIDDLE FLOOR PLAN
SCALE: 3/16"=1'



1 FIRST FLOOR PLAN
SCALE: 3/16"=1'

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CHECKED BY:	WKD
SCALE:	AS NOTED

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BOILER PLANT UPGRADES

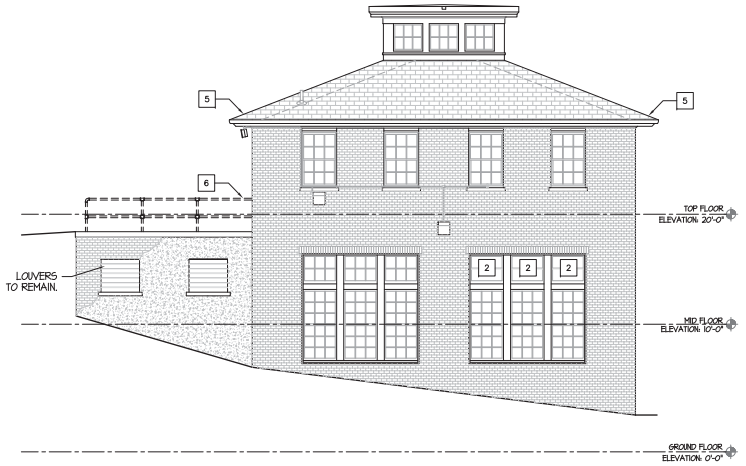
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

DEMOLITION PLANS

SHEET NUMBER:

D1.01



4 WEST ELEVATION
SCALE: 3/16"=1'

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5: REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, TEL/DATA AND SECURITY DEMOLITION DOCUMENTATION FOR ADDITIONAL INFORMATION ON SCOPE OF WORK REQUIRED BY THOSE TRADES.

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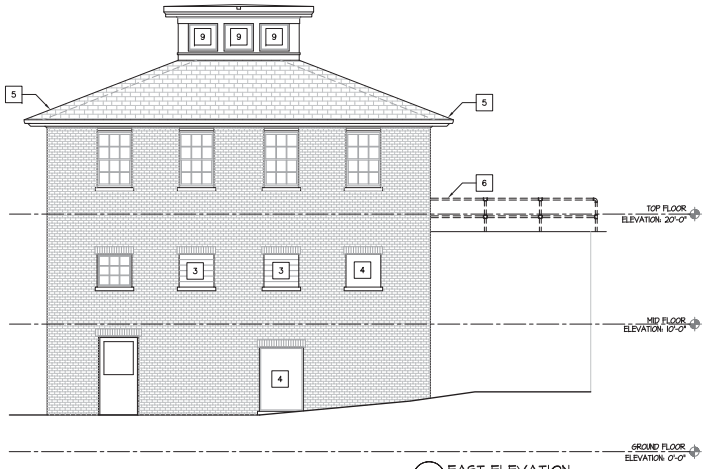
8: REMOVE ALL WINDOW SASHES THROUGHOUT UNLESS OTHERWISE NOTED. PREPARE FOR INSTALLATION OF NEW REPLACEMENT WINDOWS.

9: REMOVE ALL VEGETATION FROM BUILDING IN ITS ENTIRETY.

10: SCRAPE ALL EXTERIOR TRIM AND ALLOW FOR 25% REPLACEMENT OF ROTTED WINDOW TRIM, ROOF SHEATHING, FRAMING, FASCIA, AND SOFFITS.



3 EAST ELEVATION
SCALE: 3/16"=1'

2 NORTH ELEVATION
SCALE: 3/16"=1'

DEMOLITION KEY NOTES:

1 REMOVE RAIN LEADER, PATCH HOLE IN SLAB.

2 REMOVE LOUVERS.

3 SEE MECHANICAL DRAWINGS.

4 REMOVE PLYWOOD, BLOCKING, AND SIMILAR. EXISTING FRAME TO REMAIN.

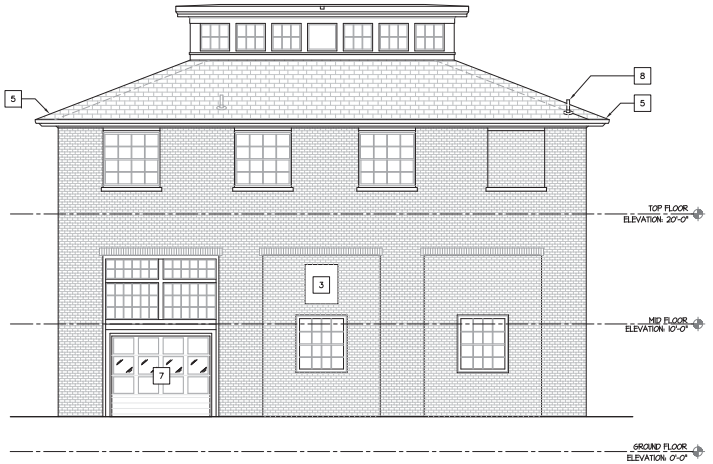
5 REMOVE EXISTING SLATE AND STORE FOR RE-USE. SEE DEMO ROOF PLAN ON D1.01

6 REMOVE EXISTING GUARDRAIL.

7 REMOVE EXTERIOR OVERHEAD DOORS.

8 REMOVE EXISTING THRU-ROOF VENT PIPE

9 REMOVE PLYWOOD AND ROTTED WOOD FROM OPENING



1 SOUTH ELEVATION
SCALE: 3/16"=1'

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1 JUNKINS AVENUE
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DEMOLITION ELEVATIONS

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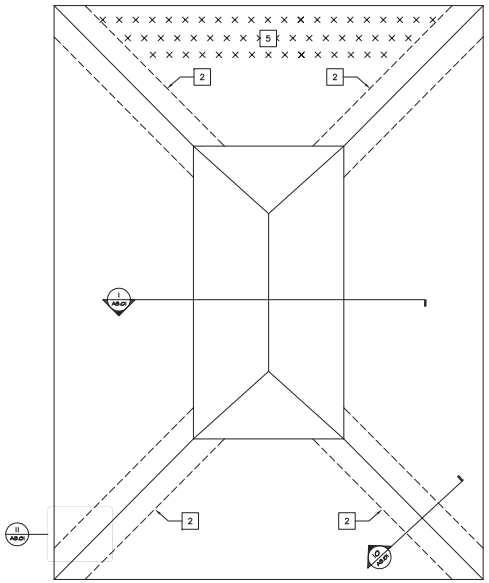
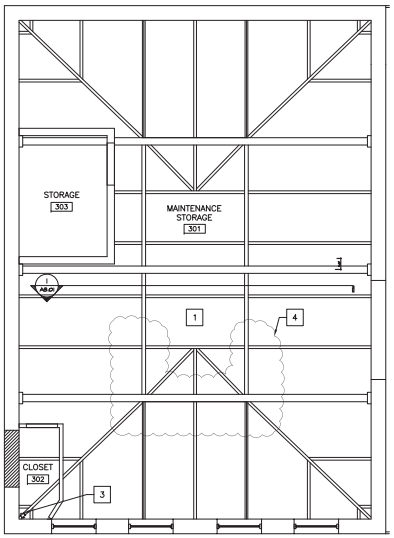
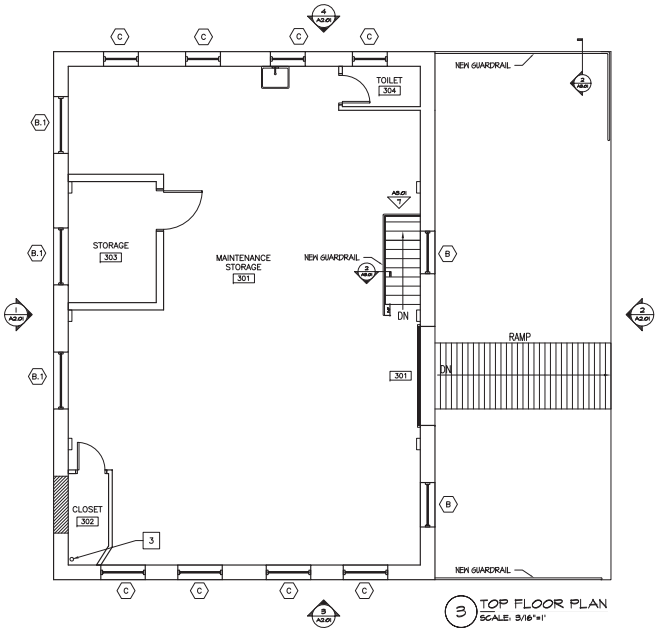


5 ROOF PLAN
SCALE: 1/4"=1'



4 TOP FLOOR REFLECTED CEILING PLAN
SCALE: 1/4"=1'



3 TOP FLOOR PLAN
SCALE: 3/16"=1'

CONSTRUCTION GENERAL NOTES:

1. ALL EXTERIOR DOORS, SOFFITS AND TRIM SURFACES TO BE SCRAPED, PREPARED AND PAINTED.
   PAINT PRIMER: MAD DOG PRIMER OR APPROVED EQUAL (1 COAT).

   PAINT: SHERWIN WILLIAMS "DURATION" EXTERIOR ACRYLIC LATEX (2 COATS).

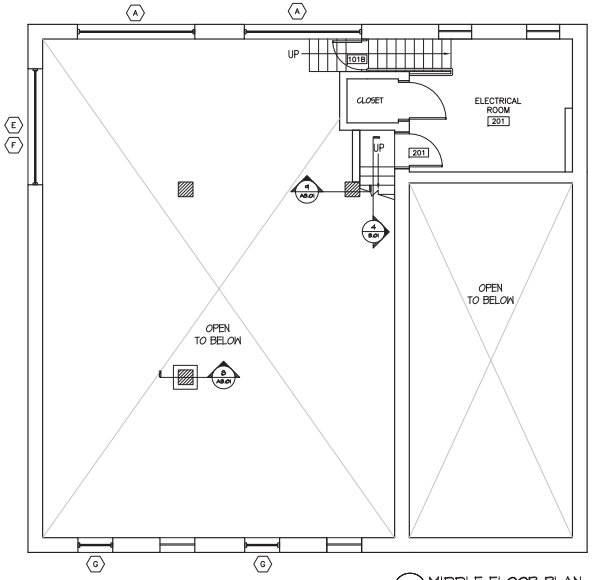
2. REPAIR OR REPLACE ROOF TILES WHERE NECESSARY

3. PROVIDE SUBMITTALS ON HARDWARE, WINDOW REPLACEMENTS, PRIMER/PAINTS AND CLEANERS.

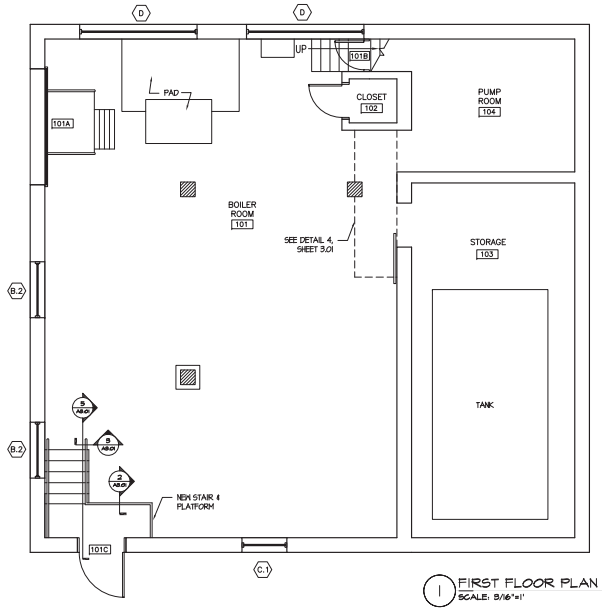
4. FIRE CAULK ALL PENETRATIONS THROUGH RATED ASSEMBLIES.

CONSTRUCTION KEYNOTES:

1. INFILL BETWEEN ROOF FRAMING MEMBERS WITH 3" RIGID INSULATION (TAPED SEAMS), STRAPPING AND 1/2" GWB BETWEEN ROOF JOISTS PER DETAIL 6 A3.01 (ADD ALT 2)
2. REPAIR AND REPLACE DAMAGED WOOD STRUCTURE AND SHEATHING. INSTALL NEW BITUTHANE WATERPROOFING. INSTALL NEW OR REUSED SLATE TILE AS ABLE (SEE ARCHITECT).
3. PATCH AND PAINT TO MATCH ADJACENT SURFACES, FINISHES, AND FIRE RATING.
4. AREA FOR REPAIR AND REPLACEMENT OF WOOD TRIM, WINDOW FRAMES, COTTAGE BOARD INTERIORS, AND ROOF FRAME.
5. PROVIDE RETRO-FIT STYLE SNOW GUARD MODEL SGSP100 BY BERGER BROTHERS (OR APPROVED EQUAL). INSTALL IN HORIZONTAL ROWS PARALLEL TO EAVES. NUMBERS AND LAYOUT FOR GUARDS TO BE PROVIDED PER MANUFACTURERS RECOMMENDATIONS.



2 MIDDLE FLOOR PLAN
SCALE: 3/16"=1'



1 FIRST FLOOR PLAN
SCALE: 3/16"=1'

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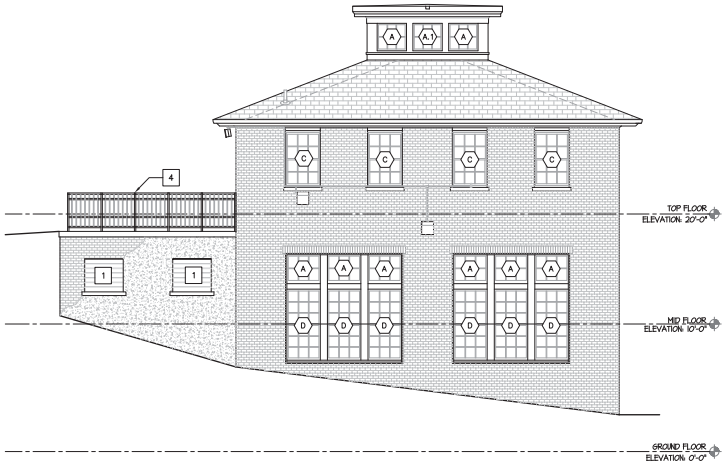
A1.01

SHEET 3 OF 6



4 WEST ELEVATION
SCALE: 3/16"=1'

CONSTRUCTION GENERAL NOTES:

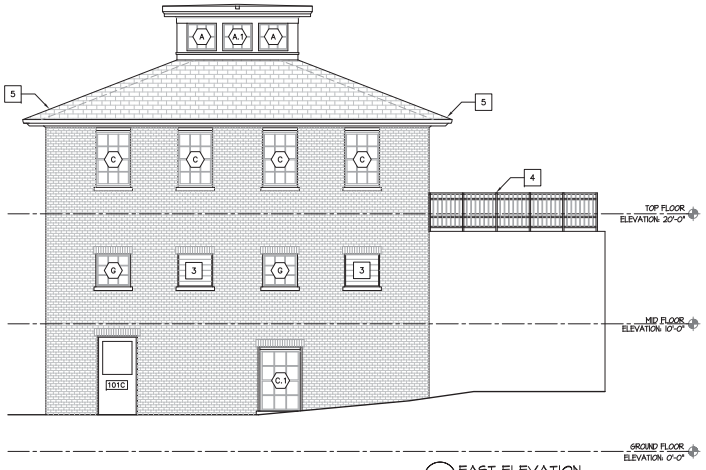
1. ALL EXTERIOR DOORS, SOFFITS AND TRIM SURFACES TO BE SCRAPED, PREPARED AND PAINTED.
   PAINT PRIMER: MAD DOG PRIMER OR APPROVED EQUAL (1 COAT).

   PAINT: SHERWIN WILLIAMS "DURATION" EXTERIOR ACRYLIC LATEX (2 COATS).

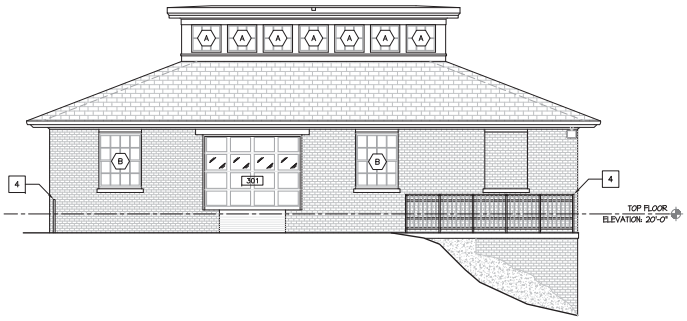
2. REPAIR OR REPLACE ROOF TILES WHERE NECESSARY

3. PROVIDE SUBMITTALS ON HARDWARE, WINDOW REPLACEMENTS, PRIMER/PAINTS AND CLEANERS.

4. FIRE CAULK ALL PENETRATIONS THROUGH RATED ASSEMBLIES.



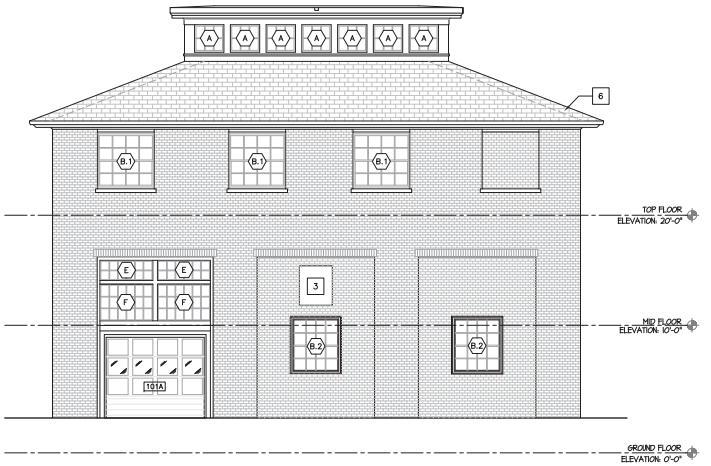
3 EAST ELEVATION
SCALE: 3/16"=1'



2 NORTH ELEVATION
SCALE: 3/16"=1'

CONSTRUCTION KEY NOTES:

1. CLEAN AND REPAIR EXISTING LOUVERS FOR PAINT.
2. CLEAN AND REPAIR EXISTING DOOR FOR PAINT.
3. SEE MECHANICAL DRAWINGS.
4. INSTALL NEW METAL GUARDRAIL, PAINT THREE (3) COATS.
5. REPAIR DAMAGED ROOF . (SEE ROOF DEMO PLAN) SAME, ALL ELEVATIONS.
6. PATCH THROUGH-ROOF PER DETAIL 10, SHEET A301



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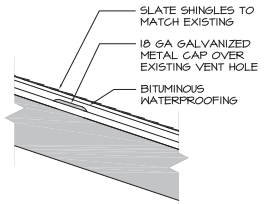
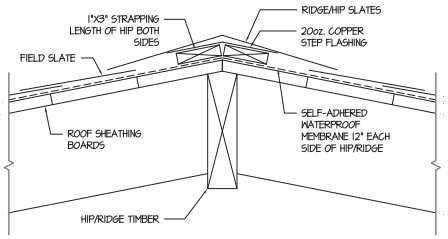
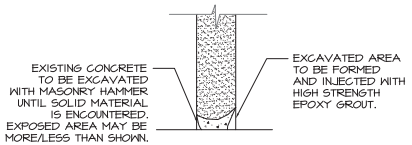


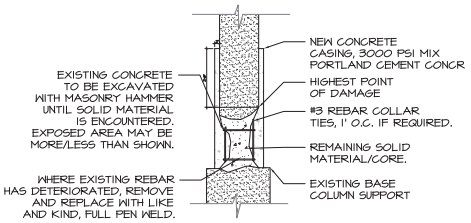
11 THROUGH-ROOF CAP DETAIL
SCALE: 1-1/2"=1'



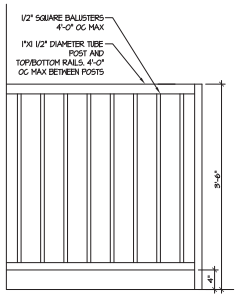
10 HIP/RIDGE SECTION DETAIL
SCALE: 3"=1'



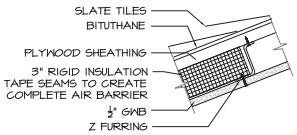
9 COLUMN C SECTION DETAIL
SCALE: 1/2"=1'



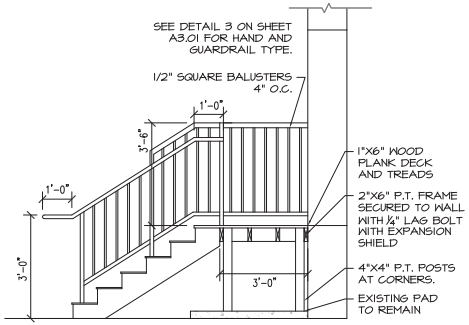
8 COLUMN B SECTION DETAIL
SCALE: 1/2"=1'



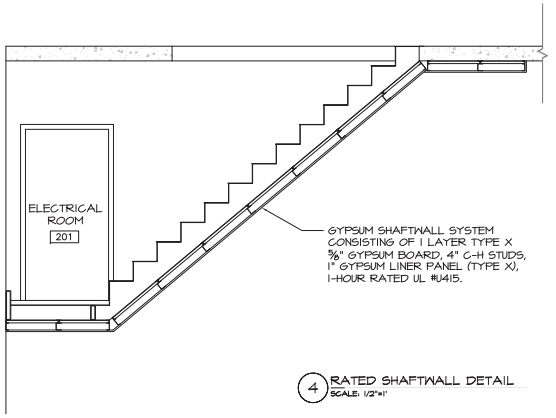
7 TYPICAL GUARDRAIL ELEVATION
SCALE: 1"=1'



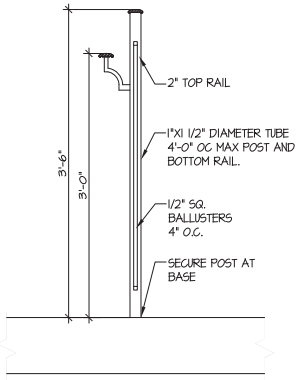
6 INSULATION DETAIL
SCALE: 1 1/2"=1'



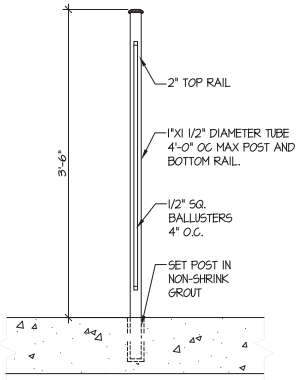
5 EGRESS DOOR STAIR DETAIL
SCALE: 1/2"=1'



4 RATED SHAFTWALL DETAIL
SCALE: 1/2"=1'



3 GUARDRAIL SECTION DETAIL
SCALE: 1-1/2"=1'



2 GUARDRAIL SECTION DETAIL
SCALE: 1-1/2"=1'

1 BUILDING SECTION
SCALE: 3/8"=1'

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PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

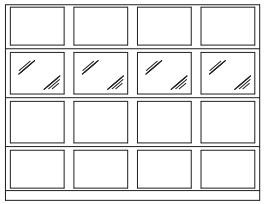
DETAILS

SHEET NUMBER:

A3.01

Door Schedule

NO.	DOOR TYPE	NOTES
101A	B	PROVIDE SUBMITTAL ON MAKE, MODEL, COLOR, HARDWARE
101B	C	LCN 4010 SERIES SURFACE MTD CLOSER OR EQUAL
101C	C	LCN 4010 SERIES SURFACE MTD CLOSER OR EQUAL
201	C	LCN 4010 SERIES SURFACE MTD CLOSER OR EQUAL
301	A	PROVIDE SUBMITTAL ON MAKE, MODEL, COLOR, HARDWARE



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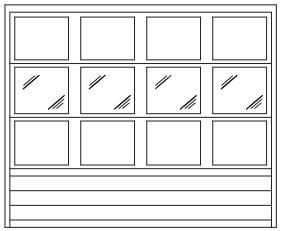
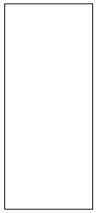


TYPE B

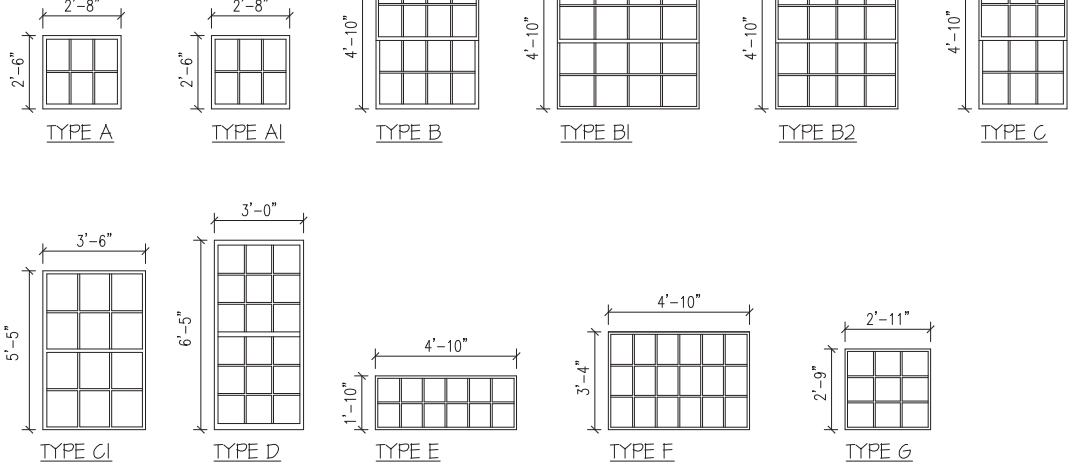


TYPE C

2 DOOR TYPES
SCALE: 3/16"=1'

Window Schedule

WINDOW TYPE	WINDOW SIZE	NOTES
A	2'-6"X2'-8"	FIXED. FEILD VERIFY DIMENSIONS
A1	2'-6"X2'-8"	AWNING. FEILD VERIFY DIMENSIONS
B	4'-10"X3'-6"	DOUBLE HUNG. FEILD VERIFY DIMENSIONS
B1	4'-10"X4'-10"	DOUBLE HUNG. FEILD VERIFY DIMENSIONS
B2	4'-9"X4'-2"	DOUBLE HUNG. FEILD VERIFY DIMENSIONS
C	4'-10"X3'-0"	DOUBLE HUNG. FEILD VERIFY DIMENSIONS
C1	5'-5"X3'-6"	DOUBLE HUNG. FEILD VERIFY DIMENSIONS
D	6'-5"X3'-0"	FIXED. FEILD VERIFY DIMENSIONS
E	1'-10"X4'-10"	FIXED. FEILD VERIFY DIMENSIONS
F	3'-4"X4'-10"	FIXED. FEILD VERIFY DIMENSIONS
G	2'-9"X2'-11"	FIXED. FEILD VERIFY DIMENSIONS



1 WINDOW TYPES
SCALE: 3/16"=1'

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PORTSMOUTH, NH 03801

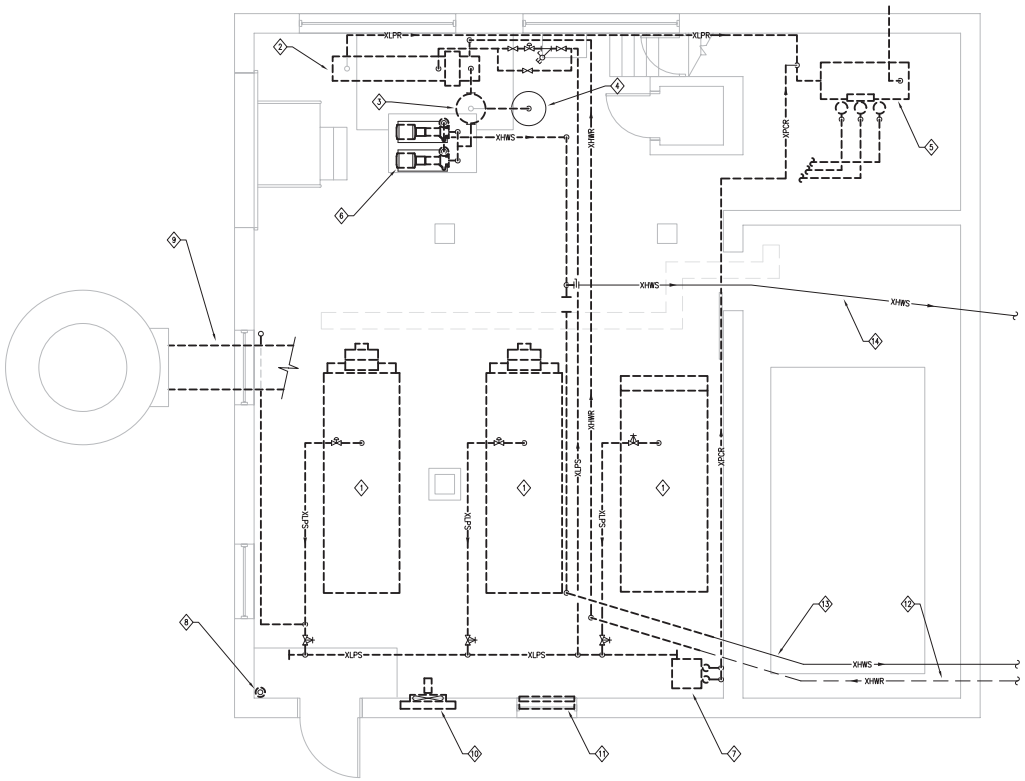
SHEET TITLE:

WINDOW & DOOR TYPES, SCHEDULES

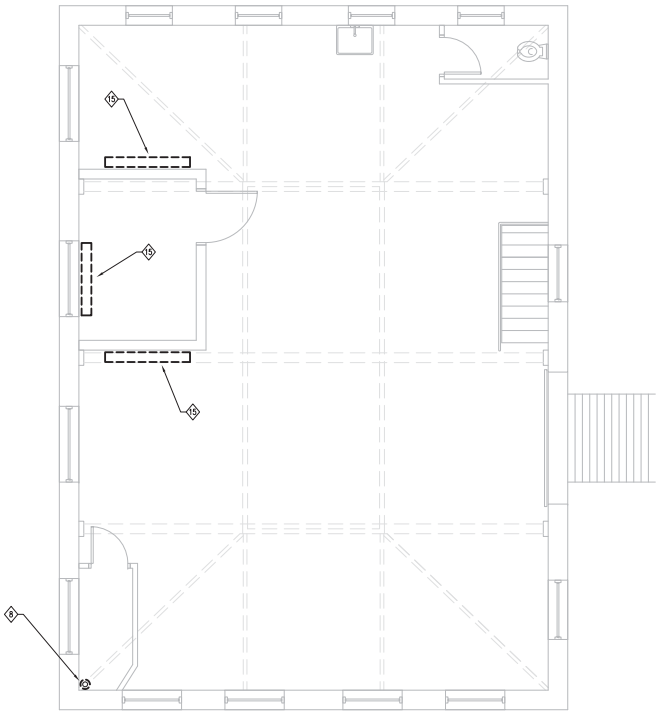
SHEET NUMBER:

A3.02

SHEET 6 OF 6



1 HD1.01 FIRST FLOOR PLAN – DEMOLITION
1/4" = 1'-0"



2 HD1.01 SECOND FLOOR PLAN – DEMOLITION
1/4" = 1'-0"

DEMOLITION KEYNOTES

1. REMOVE EXISTING STEAM BOILER COMPLETE INCLUDING ALL ASSOCIATED STEAM AND CONDENSATE PIPING, BREECHING AND CONTROLS.
2. REMOVE EXISTING STEAM TO HOT WATER SHELL AND TUBE HEAT EXCHANGER AND ALL ASSOCIATED PIPING COMPLETE.
3. REMOVE EXISTING AIR SEPARATOR.
4. RELOCATE AND REUSE EXISTING EXPANSION TANK AS SHOWN ON NEW WORK PLANS.
5. REMOVE EXISTING CONDENSATE RECEIVER TANK AND FEEDWATER PUMP SET COMPLETE INCLUDING ALL ASSOCIATED PIPING AND CONTROLS.
6. REMOVE EXISTING BASE-MOUNTED HOT WATER PUMPS AND ALL ASSOCIATED PIPING AND CONTROLS COMPLETE.
7. REMOVE EXISTING DUPLEX CONDENSATE PUMP AND RECEIVER TANK COMPLETE INCLUDING ALL ASSOCIATED PIPING AND CONTROLS.
8. REMOVE EXISTING STEAM RELIEF VENT PIPE AND BLOWDOWN SEPARATOR COMPLETE INCLUDING ALL ASSOCIATED PIPING. G.C. TO PATCH ROOF AT LOCATION OF ROOF PENETRATION.
9. REMOVE EXISTING BREECHING COMPLETE. G.C. TO PATCH, SEAL AND MAKE SAFE THE EXISTING CHIMNEY OPENING.
10. REMOVE EXISTING COMBUSTION AIR SUPPLY FAN AND ALL ASSOCIATED CONTROLS. PROVIDE NEW EXHAUST FAN IN EXISTING WALL OPENING AS SHOWN ON NEW WORK PLANS.
11. REMOVE EXISTING DAMPER ASSEMBLY AND PROVIDE NEW LOUVER/DAMPER ASSEMBLY IN EXISTING OPENING AS SHOWN ON NEW WORK PLANS.
12. EXISTING HWR MAIN TO REMAIN AS IS. REMOVE PORTIONS OF PIPING INDICATED AND RECONNECT AS SHOWN ON NEW WORK PLANS.
13. REMOVE PORTIONS OF OLD ABANDONED HWS PIPING AS INDICATED. CUT, CAP AND MAKE SAFE PORTION SHOWN TO REMAIN.
14. EXISTING HWS MAIN TO REMAIN AS IS. REMOVE PORTIONS OF PIPING AS INDICATED AND RECONNECT AS SHOWN ON NEW WORK PLANS.
15. REMOVE EXISTING CAST-IRON STEAM RADIATION AND ALL ASSOCIATED PIPING AND CONTROLS COMPLETE.

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CITY HALL

BOILER PLANT UPGRADES

1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

FIRST & SECOND FLOOR PLANS - DEMOLITION

SHEET NUMBER:

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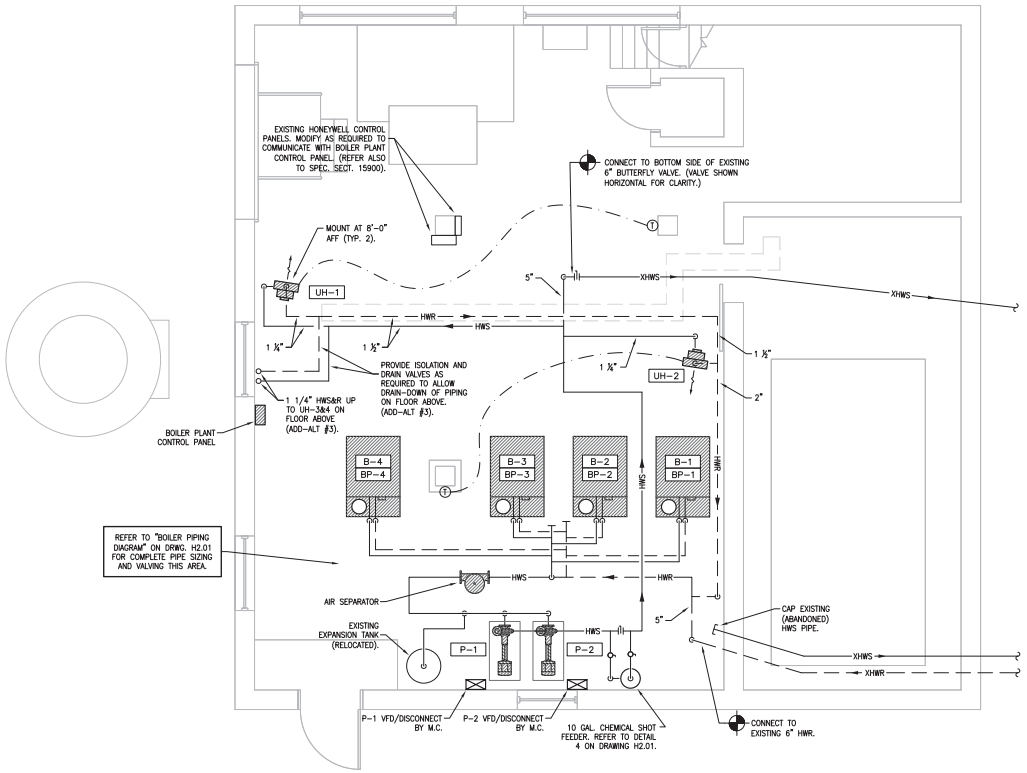
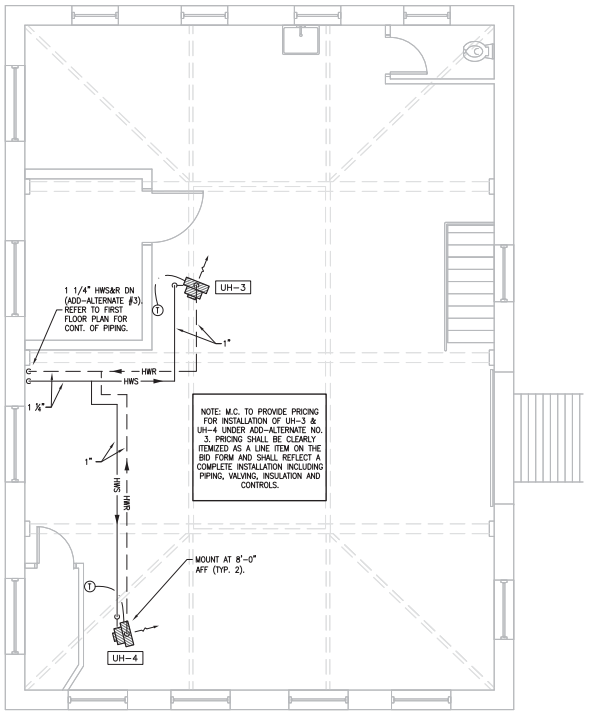


1 HD1.01 FIRST FLOOR PLAN – PIPING
1/4" = 1'-0"



2 HD1.01 SECOND FLOOR PLAN – PIPING
1/4" = 1'-0"

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PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

FIRST & SECOND FLOOR PLANS - PIPING

SHEET NUMBER:

H1.01

EXHAUST FAN SCHEDULE

TAG	MAKE	MODEL	CFM	ESP	BHP	MOTOR HP	FAN RPM	VOLTAGE/ϕ	FAN TYPE	WEIGHT (Lbs)	ZONE SERVED	FUNCTION	NOTES
EF-1	GREENHECK	SE2-18-423-B6	2500	0.125	0.19	1/6	1160	120/1	WALL PROP	45	BOILER ROOM	HEAT RELIEF	1

1. FURNISH UNIT WITH MOTOR WITH INTEGRAL OVERLOAD PROTECTION, SINGLE-POINT WIRING, UNIT-MOUNTED AND WIRED DISCONNECT SWITCH, MODEL VCD-23 MOTOR OPERATED DAMPER END SWITCH AND PERMATECTOR COATING (FACTORY WIRED TO OPEN WHEN FAN STARTS, CLOSE WHEN FAN STOPS), LONG WALL HOUSING WITH FLUSH EXTERIOR AND OSHA GUARD, CLOSURE ANGLES, ALUMINUM DAMPER GUARD, PERMATECTOR COATING ON ENTIRE FAN AND ATTACHED ACCESSORIES, AND ALL REQUIRED MOUNTING HARDWARE.

LOUVER SCHEDULE

TAG	MAKE	MODEL	SIZE (WxH)	CFM	FREE AREA (SQ. FT.)	CONSTRUCTION	LOCATION	FUNCTION	NOTES
L-1	GREENHECK	EDJ-401	36x42	–	5.25	ALUMINUM	EXTERIOR	INTAKE	1
L-2	GREENHECK	EDJ-401	36x36	2500	4.48	ALUMINUM	EXTERIOR	INTAKE	1

1. FURNISH WITH ALUMINUM BIRDSCREEN AND BAKED ENAMEL FINISH, COLOR SELECTION BY ARCHITECT. VERIFY EXACT OPENING DIMENSIONS IN FIELD PRIOR TO ORDERING.

HOT WATER UNIT HEATER SCHEDULE

TAG	MAKE	MODEL	ARRANGEMENT	HEAT OUTPUT (BTU/HR)	CFM	GPM	EWT (°F)	LWT (°F)	WPD (FT)	EAT (°F)	LAT (°F)	FAN HP	VOLT/PH/CY	AMPS	NOTES
UH-1 UH-2	VULCAN	HV-108	HORIZONTAL	67,188	1800	6.72	180	160	0.28	60	94.4	1/12	120/1/60	2.2	1
UH-3* UH-4*	VULCAN	HV-96	HORIZONTAL	59,733	1400	5.98	180	160	0.24	60	99.3	1/12	120/1/60	2.2	1

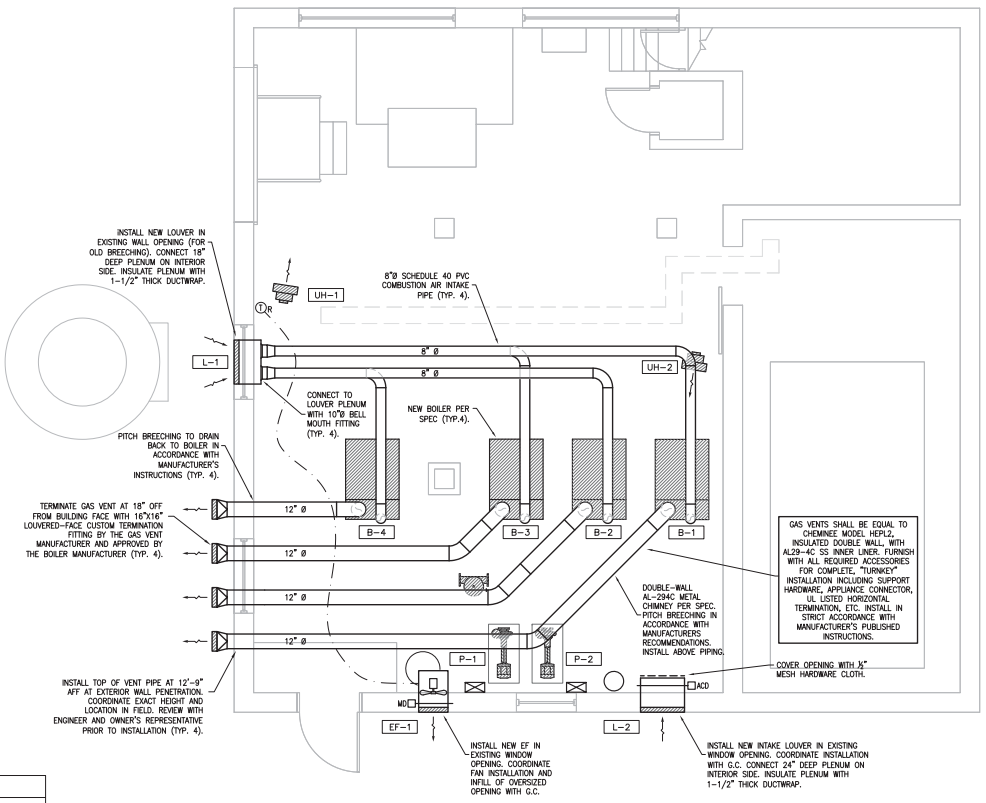
1. FURNISH UNIT WITH MOTOR WITH INTEGRAL OVERLOAD PROTECTION, ALL-ANGLE ADJUSTABLE HORIZONTAL LOUVERS, AND ALL REQUIRED MOUNTING HARDWARE. SUPPORT UNIT WITH ⅜" THREADED ROD VIBRATION ISOLATORS.

* TO BE FURNISHED UNDER ADD-ALTERNATE #3.

PUMP SCHEDULE

TAG	MAKE	MODEL	TYPE	SYSTEM	FLUID	FLOW (GPM)	HEAD (FT.)	EFF. (%)	MOTOR (HP)	BRAKE HP (HP)	RPM	VOLT-PH-CY	NOTES
P-1	WILO	NL 4x3x6	BASE-MOUNT END SUCTION	BUILDING DISTRIBUTION PUMP	WATER	400	40	81.4	7.5	5.0	1750	208-3-60	1
P-2	WILO	NL 4x3x6	BASE-MOUNT END SUCTION	BUILDING DISTRIBUTION PUMP	WATER	400	40	81.4	7.5	5.0	1750	208-3-60	1
BP-1	WILO	STRATOS 3X3-30	IN-LINE	B-1 BOILER PUMP	WATER	110	15	–	1.07	–	3300	208-3-60	2
BP-2	WILO	STRATOS 3X3-30	IN-LINE	B-2 BOILER PUMP	WATER	110	15	–	1.07	–	3300	208-3-60	2
BP-3	WILO	STRATOS 3X3-30	IN-LINE	B-3 BOILER PUMP	WATER	110	15	–	1.07	–	3300	208-3-60	2
BP-4	WILO	STRATOS 3X3-30	IN-LINE	B-4 BOILER PUMP	WATER	110	15	–	1.07	–	3300	208-3-60	2

1. FURNISH WITH PREMIUM EFFICIENCY MOTOR LABELED FOR USE WITH VFD. VFD/DISCONNECT FURNISHED BY M.C., INSTALLED AND WIRED BY E.C.
2. FURNISH WITH EC MOTOR WITH INTEGRAL OVERLOAD PROTECTION, INTEGRAL AUTOMATIC SPEED ADJUSTMENT CONTROL, EXTERNAL OFF/0-10 VDC INTERFACE (IF) MODULE, AND INTEGRAL CONTROLLER WITH GRAPHIC DISPLAY, AND SELECTABLE OPERATING MODES.



1 / HD1.01 FIRST FLOOR PLAN – DUCTWORK
1/4" = 1'-0"

BOILER SCHEDULE

TAG	MAKE	MODEL	TYPE	FLUID	FUEL	INPUT (MBH)	OUTPUT (MBH)	MAX FLOW (GPM)	MAX LWT (°F)	COMBUSTION EFFICIENCY	FLU GAS VENT (IN.)	AIR INLET VENT (IN.)	WATER CONTENT (GAL.)	VOLTAGE /PHASE	NOTES
B-1	CLEAVERBROOKS	CFC 1800	CONDENSING	WATER	NAT. GAS	1800	1566	125	194	87.0	12	6	105	120/1	1
B-2	CLEAVERBROOKS	CFC 1800	CONDENSING	WATER	NAT. GAS	1800	1566	125	194	87.0	12	6	105	120/1	1
B-3	CLEAVERBROOKS	CFC 1800	CONDENSING	WATER	NAT. GAS	1800	1566	125	194	87.0	12	6	105	120/1	1
B-4	CLEAVERBROOKS	CFC 1800	CONDENSING	WATER	NAT. GAS	1800	1566	125	194	87.0	12	6	105	120/1	1

1. BOILER CAPACITY AND COMBUSTION EFFICIENCY NOTED IN SCHEDULE IS FOR 176°F LWT / 140°F EWT. COMB. EFF. RANGES FROM 86% TO 99% DEPENDING ON THE RETURN WATER TEMPERATURE AND THE FIRING RATE. FURNISH BOILERS WITH STANDARD WATER TRIM INCLUDING LOW-WATER CUT-OFF, ASME 60 PSIG RELIEF VALVE, STANDARD GAS TRAIN, PRESSURE/TEMPERATURE GAUGE, PLUS SECOND STAGE STEP-DOWN REGULATOR (2PSI-11"w.c.) WITH RELIEF VALVE, AND CONDENSATE NEUTRALIZATION KIT FOR FOUR BOILERS. REFER TO SPECIFICATIONS FOR BOILER PLANT CONTROL PANEL REQUIREMENTS.

AIR SEPARATOR SCHEDULE

TAG	MAKE	MODEL	SYSTEM	FLOW (GPM)	SIZE (IN.)	WPD (FT.)	STRAINER	NOTES
AS-1	B&G ROLAIRTROL	R-5F	HEATING HOT WATER	400	5	2.5	YES	

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BOILER PLANT UPGRADES

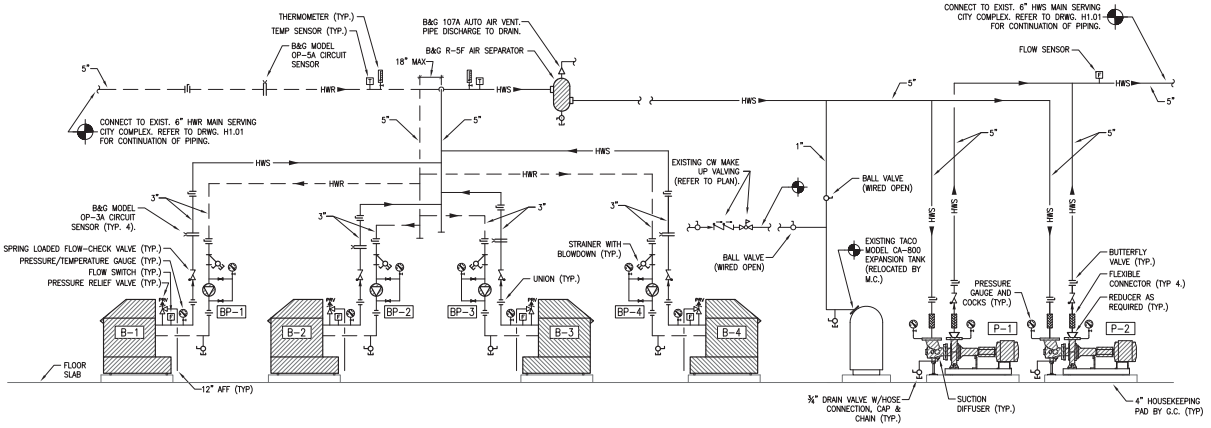
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

FIRST FLOOR PLAN - DUCTWORK & EQUIPMENT SCHEDULES

SHEET NUMBER:

H1.02



1 H2.01 BOILER PIPING DIAGRAM
N.T.S.

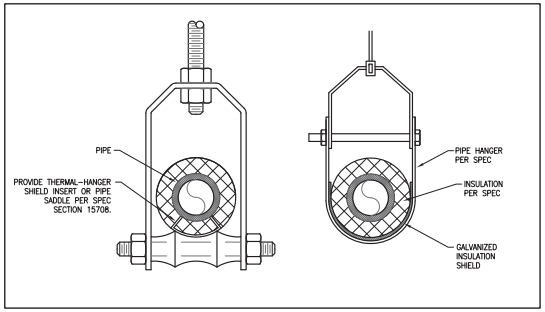
HVAC LEGEND

- CIRCULATOR PUMP
- PRESSURE GAUGE
- CIRCUIT SENSOR
- THERMOMETER
- THERMOSTAT PER SPEC
- TEMP SENSOR OR AQUASTAT
- FLOW SENSOR OR FLOW SWITCH
- SMOKE DETECTOR
- WALL SWITCH
- PIPE RISE & PIPE DROP
- PIPE OR DUCT REDUCER
- FIRE DAMPER
- AUTOMATIC CONTROL DAMPER (ACD)
- MOTOR OPERATED DAMPER
- MANUAL BALANCING DAMPER (MBD)
- SUPPLY DUCT
- RETURN OR EXHAUST DUCT
- SUPPLY & RETURN AIR TURN DOWN
- SUPPLY AIR FLOW
- RETURN/EXHAUST AIR FLOW
- CONNECT TO EXISTING
- FLEX CONNECTOR
- MECHANICAL EQUIPMENT

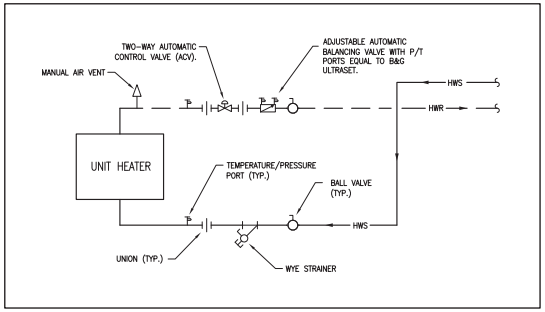
- STRAINER
- BALL VALVE
- CHECK VALVE
- SAFETY RELIEF VALVE
- MANUAL BALANCING VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- PRESSURE REDUCING VALVE
- AUTOMATIC BALANCING VALVE
- BUTTERFLY VALVE
- DRAIN VALVE, GATE VALVE
- BACKFLOW PREVENTION VALVE
- PIPE UNION
- PIPE TEE DOWN
- PIPE TEE UP
- PIPE CONTINUATION
- DIRECTION OF FLOW

LWT	LEAVING WATER TEMPERATURE
MCA	MINIMUM CIRCUIT AMPACITY
WPD	WATER PRESSURE DROP
AFF	ABOVE FINISHED FLOOR
ACV	AUTOMATIC CONTROL VALVE
SCV	SELF CONTAINED CONTROL VALVE
HWS/R	HOT WATER SUPPLY & RETURN
ACD	AUTOMATIC CONTROL DAMPER
MD	MOTOR OPERATED DAMPER
BHP	BRAKE HORSE POWER
FLA	FULL LOAD AMPS
MFS	MAXIMUM FUSE SIZE
VFD	VARIABLE FREQUENCY DRIVE
U.O.N.	UNLESS OTHERWISE NOTED
CD	CONDENSATE DRAIN
C	CONDENSATE
EWT	ENTERING WATER TEMPERATURE
CFF	CAPPED FOR FUTURE
HWS&R	HOT WATER SUPPLY & RETURN
AWT	AVERAGE WATER TEMPERATURE
AD	ACCESS DOOR
A.H.J.	AUTHORITY HAVING JURISDICTION
XHWS	EXISTING HOT WATER SUPPLY
XHWR	EXISTING HOT WATER RETURN
P.C.	PLUMBING CONTRACTOR
C.M.	CONSTRUCTION MANAGER
M.C.	MECHANICAL CONTRACTOR

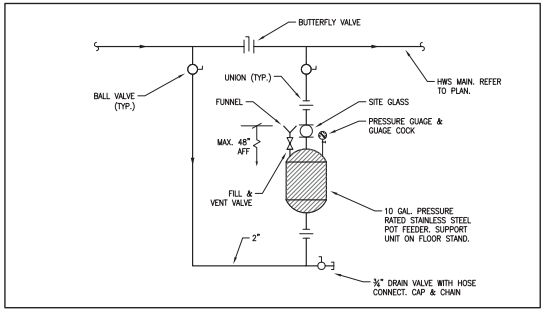
- HWS — HOT WATER SUPPLY PIPING
- HWR — HOT WATER RETURN PIPING
- XHWS — EXISTING HOT WATER SUPPLY PIPING
- XHWR — EXISTING HOT WATER RETURN PIPING



2 H2.01 PIPE HANGER DETAIL
N.T.S.



3 H2.01 TYPICAL UH PIPING DETAIL
N.T.S.



4 H2.01 CHEMICAL SHOT FEEDER PIPING DETAIL
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DRAWING INFORMATION:

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DATE:	APRIL 22, 2011
DRAWN BY:	SDH
CHECKED BY:	JP
SCALE:	AS NOTED

PROJECT NAME:

PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

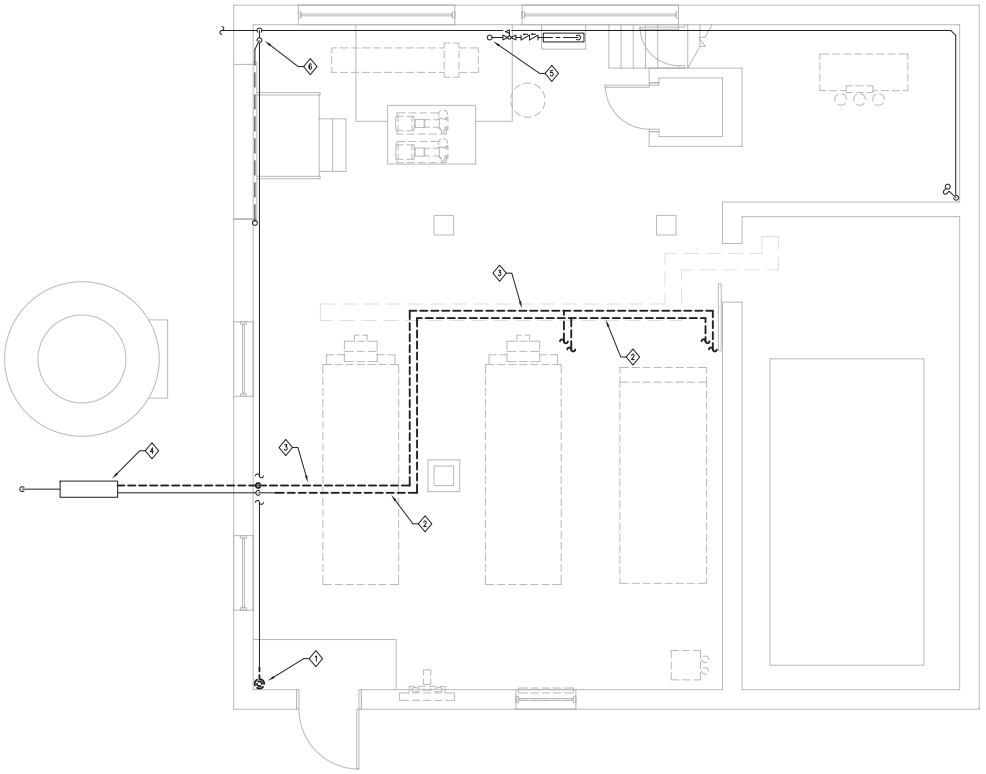
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

DETAILS & DIAGRAMS & HVAC LEGEND

SHEET NUMBER:

H2.01



1 HD1.01 FIRST FLOOR PLAN – PLUMBING DEMOLITION
1/4" = 1'-0"

PLUMBING DEMOLITION KEYNOTES

1. EXISTING CONDENSATE DRAIN/BOILER BLOWDOWN LINE TO REMAIN. CUT, CAP AND MAKE SAFE. BLOWDOWN SEPARATOR AND VERTICAL VENT THROUGH ROOF TO BE REMOVED BY M.C.
2. REMOVE EXISTING 2 PSIG NATURAL GAS PIPING AS INDICATED. RECONNECT AND REPIPE TO SERVE NEW BOILERS AS SHOWN ON NEW WORK PLANS.
3. REMOVE EXISTING ½ PSIG NATURAL GAS LINE COMPLETE. COORDINATE WITH GAS COMPANY CUTTING AND CAPPING AT GAS METER/REGULATOR.
4. EXISTING GAS ENTRANCE, METER AND REGULATOR BY GAS COMPANY TO REMAIN (GAS COMPANY TO DETERMINE NEED FOR MODIFICATIONS AND IMPLEMENT AS REQUIRED).
5. REUSE EXISTING DCW MAKE-UP ASSEMBLY (PIPING AND VALVING) TO FEED NEW BOILER PLANT AS SHOWN ON NEW WORK PLANS.
6. EXISTING SANITARY EXIT AND VENT PIPING TO REMAIN AS IS.

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CONSULTANTS:

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FIRST FLOOR PLAN - PLUMBING DEMOLITION

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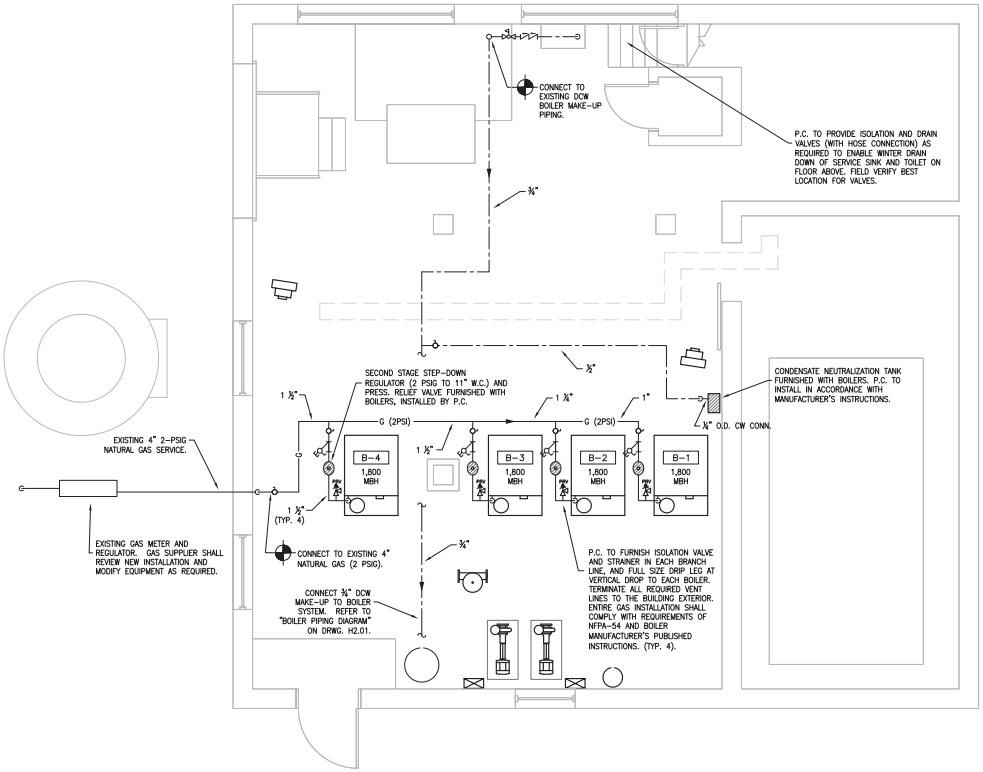
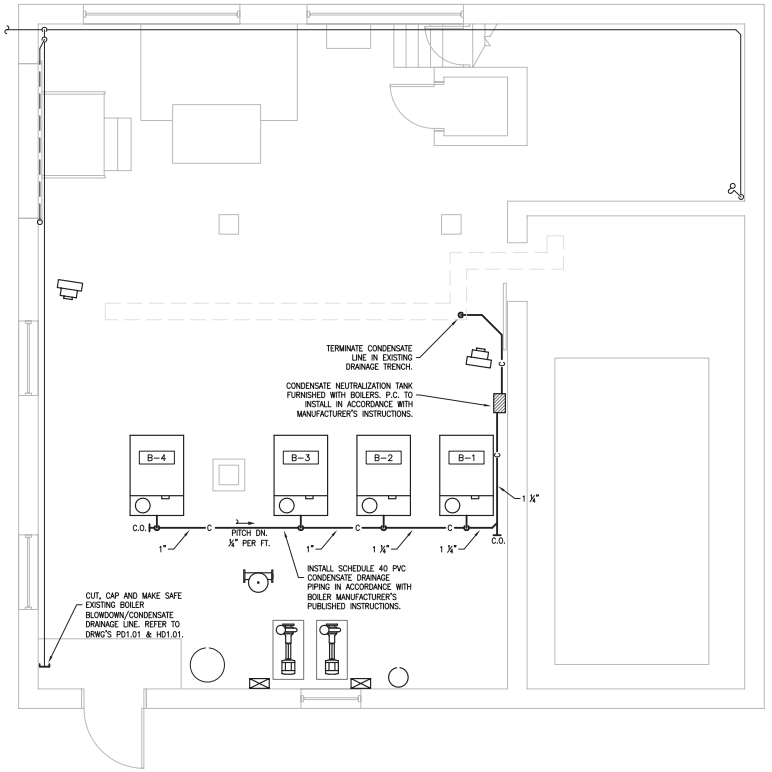


1 / P1.01 FIRST FLOOR PLAN – PLUMBING SUPPLY
1/4" = 1'-0"



2 / P1.01 FIRST FLOOR PLAN – PLUMBING DWV
1/4" = 1'-0"

PLUMBING LEGEND

S — ABOVE GROUND SANITARY DRAIN PIPING	FCO — FLOOR CLEANOUT	P — PIPE REDUCER
XS — EXISTING ABOVE GROUND SAN. DRAIN PIPING	CHECK VALVE	MECHANICAL EQUIPMENT
DHW — DOMESTIC HOT WATER SUPPLY PIPING	BALL VALVE/ ISOLATION VALVE	DIRECTION OF FLOW
DCW — DOMESTIC COLD WATER SUPPLY PIPING	BACKFLOW PREVENTION VALVE	DIRECTION OF PITCH
XDCW — EXISTING DOM. COLD WATER SUPPLY PIPING	PIPE UNION	WM — WATER METER
G — NATURAL GAS PIPING	DRAIN VALVE, GATE VALVE	CFF — PIPE CAP FOR FUTURE CONNECTION
XG — EXISTING NATURAL GAS PIPING	BUTTERFLY VALVE	PIPE CONNECTION TO FIXTURE
C — ABOVE GROUND CONDENSATE DRAIN PIPING	BALANCE VALVE	PRESSURE GUAGE
DROP IN PIPE	PRESSURE REDUCING VALVE	T — TEMPERATURE SENSOR / AQUASTAT
RISE IN PIPE	SAFETY RELIEF VALVE	CD — CONDENSATE DRAIN
PIPE TEE DOWN	THERMOMETER	S — SANITARY SEWER
PIPE TEE UP	STRAINER	BFP — BACKFLOW PREVENTER
PIPE CONTINUATION		I.E. — INVERT ELEVATION
WCO/ECO — WALL/END CLEANOUT	PUMP	U.O.N. — UNLESS OTHERWISE NOTED

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FIRST FLOOR PLANS - PLUMBING & PLUMBING LEGEND

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ELECTRICAL LEGEND

LIGHT OUTLET AND FIXTURE - LETTER REFERS TO FIXTURE SCHEDULE

- F, C, R OR N OR P — FLUORESCENT OR LINEAR INCANDESCENT FIXTURE; INCANDESCENT, FLUORESCENT, OR H.I.D. FIXTURE
- WALL MOUNTED FIXTURE
- DIRECTIONALLY ORIENTATED FIXTURE
- OR — FIXTURE EQUIPPED WITH INTEGRAL EMERGENCY BATTERY UNIT
- NL — FIXTURE WIRED TO NIGHT LIGHTING CIRCUIT
- EXIT SIGN - SINGLE FACE ⊕ DOUBLE FACE - DIRECTIONAL ARROWS AS INDICATED

WIRING DEVICES - SWITCHES 20A., 120/277V. M.H. 48" TO ℄ EXCEPT AS NOTED

- S — SINGLE POLE
- S2 — DOUBLE POLE
- S3 — THREE WAY
- S4 — FOUR WAY
- $ — SINGLE POLE SWITCH WITH THERMAL ELEMENT
- D — DIMMER SWITCH - 600W-120V. (UNLESS NOTED OTHERWISE) LINEAR SLIDE BAR TYPE
- FLD — DIMMER SWITCH - FLOURESCENT RATED - LINEAR SLIDE BAR TYPE
- SMC — MAINTAINED CONTACT-THREE POSITION-CENTER OFF-SINGLE POLE-DOUBLE THROW
- S — SPEED SWITCH - FURNISHED BY HVAC CONTRACTOR - INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR
- SD — DOOR OPERATED SWITCH

OCCUPANCY SENSORS / AUTOMATIC CONTROL DEVICES

- (S) — WALL MOUNTED - PIR AND ULTRASONIC, 120/277V RATED, MANUAL OVERIDE, WHITE FINISH - 15 MINUTE SETTING - WATTSTOPPER #DW-100-W
- (S)2 — DUAL CIRCUIT WALL MOUNTED - PIR AND ULTRASONIC, 120/277V RATED, MANUAL OVERIDE, WHITE FINISH - 15 MINUTE SETTING - WATTSTOPPER #DW-200-W
- (S)CLG — SURFACE CEILING MOUNTED - PASSIVE INFRARED, RATED, WHITE FINISH - WITH POWER PACK(S) AS REQUIRED - WATTSTOPPER #CI-300 - EXTENDED RANGE LENS, 24V DC
- WP(S)+ — WALL MOUNTED LOW TEMPERATURE PIR OCCUPANCY SENSOR - 24V DC, WIDE ANGLE LENS - WATTSTOPPER #CB100 WITH POWER PACK(S) AS REQUIRED - MOUNTED 6' BELOW CEILING
- ST — WALL MOUNTED - DIGITAL COUNT DOWN TIMER, 120/277V RATED, MANUAL OVERIDE (FIELD SET DIP SWITCHES AT 2 HOURS), WHITE FINISH - WATTSTOPPER #TS400N
- HD (S) CLG — SURFACE CEILING MOUNTED PASSIVE INFRARED - 24V DC RATED - WHITE FINISH - 15 MINUTE SETTING - HIGH DENSITY LENS. WATTSTOPPER #CI-300-I WITH POWER PACK(S) AS REQUIRED.
- HV/HD (S) CLG — SURFACE CEILING MOUNTED PASSIVE INFRARED - 24V DC RATED - WHITE FINISH - 15 MINUTE SETTING - HIGH DENSITY LENS. WATTSTOPPER #CI-24-I WITH INTERNAL ISOLATED RELAY
- HV (S) CLG — SURFACE CEILING MOUNTED PASSIVE INFRARED - 24V DC RATED - WHITE FINISH - 15 MINUTE SETTING - EXTENDED RANGE LENS. WATTSTOPPER #CI-24 WITH INTERNAL ISOLATED RELAY
- DT (S) CLG — SURFACE CEILING MOUNTED DUAL TECHNOLOGY - 24V DC RATED - WHITE FINISH - 15 MINUTE SETTING - HIGH DENSITY LENS. WATTSTOPPER #DT-300 WITH POWER PACK(S) AS REQUIRED.
- PP — POWER PACK AND ENCLOSURE - 120/277V, 20A INPUT RATED. WATTSTOPPER #BZ-100
- (S) DIM — WALL MOUNTED PIR DIMMABLE WALL SWITCH SENSOR - 120/277V RATED - WHITE FINISH - 15 MINUTE SETTING. WATTSTOPPER #WD-150-W

DAYLIGHTING SENSORS / AUTOMATIC CONTROL DEVICES

- SZ (DS) CLG — SURFACE CEILING MOUNTED DAYLIGHTING CONTROLLER - SINGLE ZONE - 24V DC RATED. WATTSTOPPER #LS-101 WITH POWER PACK(S) AS REQUIRED.
- MZ (DS) CLG — SURFACE CEILING MOUNTED DAYLIGHTING CONTROLLER - MULTI ZONE - 24V DC RATED. WATTSTOPPER WITH POWER PACK(S) AS REQUIRED.
- DS — SURFACE CEILING MOUNTED LINE VOLTAGE DAYLIGHT SENSOR. HUBBELL #DLC-PC-O
- DS DM — DAYLIGHT SENSOR DIMMING MODULE - 24V DC RATED WATT STOPPER LCD-203 WITH BT-203 POWER PACK AND LS-ES ENCLOSURE - MOUNT NIGH ON WALL ADJACENT TO LITE CONTROLS CONTROL SPLICE BOX (CSB)

CONDUIT AND WIRING (BRANCH AND FEEDER CIRCUITRY)

- CONDUIT AND WIRING - DIAGONAL LINES INDICATE # OF WIRES (GROUNDING WIRE NOT SHOWN) MINIMUM WIRE SIZE #12 AWG. MINIMUM CONDUIT SIZE 3/4" (TYPICAL U.N.O.)
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- HOMERUN TO PANELBOARD DESIGNATED - 2 #12 & #12G-3/4"C. TO 20A-1P CIRCUIT BREAKER (TYPICAL UNLESS NOTED OTHERWISE)
- FLEXIBLE CONDUIT AND EQUIPMENT CONNECTION

VOICE/DATA SYSTEMS

- D/V — DATA/VOICE CONNECTION TO PARTITION SYSTEM - REFER TO DETAIL ON DRAWING E-#
- VOICE/DATA OUTLET - WALL MOUNTED - REFER TO DETAIL ON DRAWING E-#
- TELEPHONE OUTLET - WALL MOUNTED - REFER TO DETAIL ON DRAWING E-#
- DATA OUTLET - WALL MOUNTED - REFER TO DETAIL ON DRAWING E-#
- —V— CABLE HOMERUN TO TERMINAL STRIP - REFER TO NOTES ON VOICE/DATA PLANS
- —D— CABLE HOMERUN TO PATCH PANEL - REFER TO NOTES ON VOICE/DATA PLANS

WIRING DEVICES - RECEPTACLES 20A., 125V. GROUNDING TYPE. M.H. 18" TO ℄ A.F.F. (EXCEPT AS NOTED)

- DUPLEX - WALL MOUNTED
- DOUBLE DUPLEX
- GFI — DUPLEX - GROUND FAULT INTERRUPTER TYPE
- IG — DUPLEX - ISOLATED GROUND TYPE
- WP — DUPLEX - WEATHERPROOF
- R — RANGE OUTLET - 50A 125/250V GROUNDING TYPE
- TP — TAMPERPROOF TYPE RECEPTACLE
- KP — DUPLEX - KICKPLATE MOUNTING
- C OR — DUPLEX - MOUNTED 42" A.F.F. OR ABOVE COUNTER BACKSPLASH
- SPECIAL PURPOSE RECEPTACLE - REFER TO FLOOR PLANS FOR TYPE
- CLOCK OUTLET - SINGLE OR DUPLEX - 15A., 120V., MTD. 8'-0" A.F.F. TO ℄
- WIREMOLD G4000 DUAL CHANNEL SURFACE MOUNTED (42" A.F.F.) RACEWAY SYSTEM WITH DUPLEX 20A-125V OUTLETS 24" O.C. ALTERNATELY WIRED AND DATA/VOICE OUTLETS AS REQUIRED BY THE TENANT
- DUPLEX OUTLET WIRED TO NORMAL/EMERGENCY DISTRIBUTION SYSTEM

FLOOR BOXES AND POKE THRU DEVICES

- FB P — FLUSH MOUNTED POWER FLOOR BOX WITH CONDUIT TAKE-OFF FOR FURNITURE POWER. WALKER #880MPP WITH 880MPA, 817P FLANGE AND 829CKI COVER PLATE
- FB T — FLUSH MOUNTED TELECOM FLOOR BOX WITH CONDUIT TAKE-OFF FOR VOICE/DATA CABLING. WALKER #880MTP WITH 880MPA, 817P FLANGE AND 829CKI COVER PLATE
- FB D/V — DUAL GANG FLUSH MOUNTED CAST IRON FLOOR BOX WITH 120V-20A DUPLEX RECEPTACLE, DATA/VOICE OUTLET AND BRASS COVER PLATE
- PT D/V — DUAL GANG FLUSH MOUNTED FIRE RATED POKE-THRU DEVICE WITH 20A-125V DUPLEX RECEPTACLE AND DATA/VOICE OUTLET AND BRASS COVER PLATE - REFER TO DETAIL ON DRAWING E-#
- PT D/V D/V — TRIPLE GANG FLUSH MOUNTED FIRE RATED POKE-THRU DEVICE WITH 20A-125V DUPLEX RECEPTACLE, DATA/VOICE OUTLET AND CATV OUTLET AND BRASS COVER PLATE - REFER TO DETAIL ON DRAWING E-#
- FB D/V D/V — TRIPLE GANG FLUSH MOUNTED FIRE RATED FLOOR BOX WITH 20A-125V DUPLEX RECEPTACLE, DATA/VOICE OUTLET AND CATV OUTLET AND BRASS COVER PLATE - REFER TO DETAIL ON DRAWING E-#
- PT — COMBINATION POWER AND VOICE/DATA FIRE RATED MONUMENT TYPE POKE THRU DEVICE FOR FURNITURE SYSTEM CONNECTION - REFER TO DETAIL ON DRAWING E-#
- PT P — POWER ONLY FIRE RATED MONUMENT TYPE POKE THRU DEVICE FOR FURNITURE SYSTEM CONNECTION - REFER TO DETAIL ON DRAWING E-#
- PT D/V — VOICE/DATA ONLY FIRE RATED MONUMENT TYPE POKE THRU DEVICE FOR FURNITURE SYSTEM CONNECTION - REFER TO DETAIL ON DRAWING E-#
- PT — MONUMENT TYPE FIRE RATED POKE THRU - REFER TO DETAIL ON DRAWING E-#
- BF — BASE FEED MODULE CONNECTION TO PARTITION SYSTEM - REFER TO DETAIL ON DRAWING E-#

MOTOR CONTROLS AND DISTRIBUTION EQUIPMENT

- NON-FUSIBLE DISCONNECT SWITCH - RATING AS INDICATED
- FUSIBLE DISCONNECT SWITCH - RATING AS INDICATED
- ENCLOSED CIRCUIT BREAKER - RATING AS INDICATED
- MAGNETIC MOTOR STARTER - NUMERAL INDICATES NEMA SIZE
- MOTOR - NUMERAL INDICATES HORSEPOWER
- CP — CONTROL PANEL
- TRANSFORMER - NUMERAL INDICATES KVA RATING
- LIGHTING AND/OR POWER PANELBOARD
- METER - CHECK METER EMON-DEMON WITH "PEAK DEMAND" READING - AMPERE AS INDICATED
- VFD — VARIABLE FREQUENCY DRIVE

EMERGENCY LIGHTING SYSTEMS - 12 VOLT

- BATTERY UNIT - DUAL-LITE #LZ30W (TYPICAL UNLESS NOTED OTHERWISE)
- REMOTE HEAD-WALL MOUNTED - DUAL-LITE #LZR6VSN
- REMOTE HEADS-WALL MOUNTED - DUAL-LITE #LZTR6VSW
- EMERGENCY WIRING - 2#12-1/2" CONDUIT (TYPICAL UNLESS NOTED OTHERWISE)
- DL — DAMP LOCATION EMERGENCY REMOTE HEAD - DUAL-LITE #LZR6VSN
- WP — WEATHERPROOF EMERGENCY REMOTE HEAD - DUAL-LITE #WA0607
- RECESSED REMOTE EMERGENCY LIGHT - DUAL-LITE #EXT-1226B-18W
- TR — EMERGENCY TRANSFER RELAY - REFER TO DETAIL ON DRAWING E-#

BUSWAY DISTRIBUTION SYSTEM

- FEEDER TYPE BUSWAY-AMPERAGE AS INDICATED
- PLUG-IN TYPE BUSWAY-AMPERAGE AS INDICATED
- END CABLE TAP BOX
- PLUG-IN CIRCUIT BREAKER UNIT - REFER TO SCHEDULE

FIRE ALARM SYSTEM - ADDRESSABLE

- FACP — FIRE ALARM CONTROL PANEL
- MANUAL PULL STATION - M.H. 48" TO ℄ A.F.F. - "S" INDICATES MANUAL STATION WITH STOPPER COVER
- HORN/STROBE UNIT - M.H. 80" AFF OR 6" BELOW CEILING - CANDELA RATING AS INDICATED
- M — FIRE ALARM MINI-HORN - M.H. 80" AFF OR 6" BELOW CEILING
- STROBE UNIT - M.H. 80" A.F.F. OR 6" BELOW CEILING - CANDELA RATINGS AS INDICATED
- KK — KEY KEEPER - LOCK BOX - 10 KEY CAPACITY
- HEAT DETECTOR - COMBINATION TYPE - "DC" INDICATES DUAL CONTACTS
- HEAT DETECTOR - FIXED TEMPERATURE TYPE
- SMOKE DETECTOR - "DC" INDICATES DUAL CONTACTS
- SINGLE OR MULTISTATION LOCAL 120V PHOTOELECTRIC TYPE SMOKE DETECTOR WITH INTERNAL AUDIBLE DEVICE AND BATTERY BACKUP
- SINGLE OR MULTISTATION LOCAL 120V CARBON MONOXIDE DETECTOR WITH INTERNAL AUDIBLE DEVICE AND BATTERY BACKUP
- TR BEAM TYPE SMOKE DETECTOR - TRANSMITTER
- REC BEAM TYPE SMOKE DETECTOR - RECEIVER
- SA — DUCT MOUNTED SMOKE DETECTOR - INSTALLED BY HVAC CONTR., FURNISHED & WIRED BY ELECT. CONTR.
- RTS — REMOTE INDICATING AND TESTING STATION WITH LED INDICATING LIGHT
- STANDBY BATTERY UNIT
- WATER FLOW SWITCH - FURNISHED AND INSTALLED BY SPRINKLER CONTR., WIRED BY ELECTRICAL CONTR.
- TAMPER (SUPERVISORY) SWITCH - FURN. & INSTALLED BY SPRINKLER CONTR., WIRED BY ELEC. CONTR.
- PIV — TAMPER SWITCH - POST INDICATOR VALVE - FURNISHED & INSTALLED BY SPRINKLER CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR
- PRESSURE SWITCH - FURNISHED AND INSTALLED BY SPRINKLER CONTR., WIRED BY ELECTRICAL CONTR.
- RAI — REMOTE ALARM INDICATOR
- RDD — REMOTE DIGITAL DISPLAY UNIT
- DH — MAGNETIC DOOR HOLDER
- RED EXTERIOR FLASHING BEACON
- FA — FIRE ALARM MONITORING RELAY
- FIRE ALARM BELL - FURNISHED AND INSTALLED BY SPRINKLER CONTR., WIRED BY ELECTRICAL CONTR.
- MM — MONITOR MODULE
- CM — CONTROL MODULE
- VOM — VENTILATION OVERIDE MODULE
- MASTER BOX (SEE SPECIFICATIONS)
- SMOKE DETECTOR WITH INTEGRAL THERMAL ELEMENT

EXISTING ELECTRICAL EQUIPMENT

- ETR — EXISTING EQUIPMENT TO REMAIN
- DOTTED DENOTES EXISTING EQUIPMENT
- XR — EXISTING EQUIPMENT TO BE RELOCATED
- RX — NEW LOCATION OF RELOCATED EXISTING ELECTRICAL EQUIPMENT
- X — EXISTING EQUIPMENT TO BE REMOVED

MISCELLANEOUS

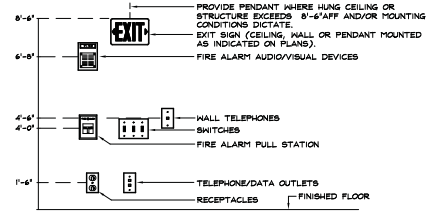
- INDEXING SYMBOL
- ELECTRIC RADIATION - FURNISHED AND INSTALLED BY HVAC CONTRACTOR, WIRED BY THE ELECTRICAL CONTRACTOR
- PA — PUBLIC ADDRESS FLUSH CEILING MOUNTED SPEAKER WITH VOLUME CONTROL
- CR — CARD READER - PROVIDED BY SECURITY SYSTEM VENDOR
- J or J — JUNCTION BOX
- TC — TIME CLOCK (SWITCH) 7 DAY ASTRONOMIC DIAL - 24 HOUR - DIGITAL CONTROL - BATTERY BACKUP
- LV T — LINE VOLTAGE THERMOSTAT
- DR — ELECTRIC DOOR RELEASE
- PP — POWER POLE - DUAL CHANNEL
- TV — COAXIAL OUTLET FOR C.A.T.V.

CABLE TRAY SYSTEMS

- 9 — 9" WIDE, 4" HIGH ALUMINUM LADDER TYPE CABLE TRAY STRAIGHT SECTION, 6" RUNG SPACING
- 18 — 18" WIDE, 4" HIGH ALUMINUM LADDER TYPE CABLE TRAY STRAIGHT SECTION, 6" RUNG SPACING
- 24 — 24" WIDE, 4" HIGH ALUMINUM LADDER TYPE CABLE TRAY STRAIGHT SECTION, 6" RUNG SPACING
- 90° HORIZONTAL BEND
- CABLE TRAY TEE-SIZE AS REQUIRED

NOTE: THIS SYMBOL LIST IS A MASTER SCHEDULE. SOME OF THE SYMBOLS LISTED ABOVE MAY NOT BE APPLICABLE TO THE SCOPE OF WORK FOR THIS PROJECT.

TYPICAL DEVICE MOUNTING HEIGHT DETAIL



NOTES:
1. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICES EXCEPT EXIT SIGNS.
2. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED.

GENERAL NOTES

1. ELECTRICAL CONDUIT SHALL BE RUN CONCEALED WHEREVER POSSIBLE. RUN EXPOSED CONDUIT PERPENDICULAR OR PARALLEL TO BUILDING WALLS OR COLUMNS.

2. WIRE AND CONDUIT SIZES INDICATED ON HOMERUNS SHALL RUN CONTINUOUS THROUGHOUT CIRCUIT.

3. A PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR SHALL BE RUN WITH ALL CIRCUITS INSTALLED IN PVC, EMT OR RIGID STEEL RACEWAYS AND IN ALL PREMANUFACTURED WIRING SYSTEMS.

4. CONDUITS AND CIRCUITRY INDICATED ON THE DRAWINGS ARE DIAGRAMMATIC ONLY. FINAL LOCATION OF CONDUIT SHALL BE FIELD COORDINATED SO AS TO AVOID CONFLICTS WITH OTHER TRADES.

5. ALL 120V BRANCH CIRCUITS WHEN 100 LINEAR FEET OR MORE FROM LAST OUTLET OR FIXTURE IN CIRCUIT TO RESPECTIVE PANELBOARDS SHALL BE A MINIMUM OF #10 AWG COPPER WIRE(S).

6. ALL 208V OR 277V BRANCH CIRCUITS WHEN 200 LINEAR FEET OR MORE FROM LAST OUTLET OR FIXTURE IN CIRCUIT TO RESPECTIVE PANELBOARDS SHALL BE A MINIMUM OF #10 AWG COPPER WIRE(S).

7. COORDINATE EXACT LOCATION OF MECHANICAL EQUIPMENT WITH H.V.A.C., PLUMBING, AND FIRE PROTECTION CONTRACTOR'S.

8. COORDINATE EXACT LOCATION OF TENANT EQUIPMENT WITH THE ARCHITECT'S FIELD SUPERVISOR.

9. RACEWAYS RUN THROUGH AREAS OF WIDELY DIFFERENT TEMPERATURES SHALL BE SEALED WITH A PLIABLE COMPOUND AT THE VARIANT TEMPERATURE AREA.

10. WHEN ROUGHING IN, OUTLET BOXES FOR DEVICES SHALL BE MEASURED OFF OF FINISHED FLOOR TO A SET HEIGHT, AND THEN ALIGNED HORIZONTALLY SO THAT ALL DEVICES WILL BE LEVEL WITHIN A GIVEN AREA.

11. PROVIDE ELECTRICAL OUTLET PLATE GASKETS IN ALL DEVICE BOXES INSTALLED IN WALLS SEPARATING CONDITIONED AND UNCONDITIONED SPACES.

12. ALL RACEWAY PENETRATIONS THROUGH FIRE RATED WALL, CEILING, OR FLOOR ASSEMBLIES SHALL BE PROPERLY FIRE SEALED.

13. PROVIDE SEISMIC RESTRAINTS FOR ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE, 2009 EDITION RECOMMENDATIONS. SEISMIC SYSTEM DESIGN AND CALCULATIONS SHALL BE PREPARED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.

14. OUTLETS OR DEVICES MOUNTED ON EXISTING CMU OR CONCRETE WALLS SHALL BE SURFACE MOUNTED IN APPROPRIATE BOXES.

15. ELECTRICAL RACEWAYS WHICH TRAVERSE THROUGH CMU WALLS SHALL BE PROPERLY WEATHERSEALED.

16. FEEDERS OR BRANCH CIRCUITS TO ALL ELECTRICALLY POWERED ROOFTOP MOUNTED EQUIPMENT SHALL BE RUN IN THE JOIST SPACE ON THE UNDERSIDE OF THE ROOF DECK. FOR ROOFTOP AIR CONDITIONING UNITS THE POWER CIRCUIT AND RACEWAY SHALL RISE UP TO THE TERMINALS OF THE UNIT CONTROL PANEL WITHIN THE CURB CUT OPENING. FOR ALL OTHER ELECTRICALLY POWERED ROOFTOP EQUIPMENT PROVIDE PITCH POCKETS AND RACEWAY SEALS AS REQUIRED.

17. BACK TO BACK RECEPTACLES, SWITCH, AND/OR VOICE/DATA DEVICES AND OUTLETS WILL NOT BE ALLOWED IN THE SAME STUD SPACE OF ACOUSTICALLY TREATED OR FIRE RATED WALL PARTITIONS.

18. CONFIRM THE VOLTAGE AND AMPERAGE CHARACTERISTICS OF ALL ELECTRICALLY POWERED HVAC, PLUMBING OR FIRE PROTECTION EQUIPMENT WITH THE MECHANICAL CONTRACTORS PRIOR TO COMMENCING WORK AND BEFORE ORDERING ELECTRICAL DISTRIBUTION EQUIPMENT.

19. THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL RIGID OR FLEXIBLE WIRING SYSTEM'S INSTALLED CONCEALED ABOVE SUSPENDED CEILINGS ARE NOT VISIBLE (FROM THE FINISHED SPACE) THROUGH PERFORATED OR BLADE TYPE SUPPLY OR RETURN AIR CEILING REGISTERS OR DIFFUSERS.

20. THE VOICE/DATA CONTRACTOR SHALL ENSURE THAT ALL RIGID OR FLEXIBLE WIRING SYSTEM'S INSTALLED CONCEALED ABOVE SUSPENDED CEILINGS ARE NOT VISIBLE (FROM THE FINISHED SPACE) THROUGH PERFORATED OR BLADE TYPE SUPPLY OR RETURN AIR CEILING REGISTERS OR DIFFUSERS.

21. ALL WALL MOUNTED LIGHTING CONTROL DEVICES (I.E. ELECTRONIC TIMER SWITCHES, OCCUPANCY SENSORS, ETC.) SHALL HAVE A NEUTRAL CONDUCTOR INCLUDED WITH THE SWITCH LEGS OR CIRCUIT CONDUCTORS RUN FROM THE WALL BOX TO THE AREA LIGHTING CONTROLLED.

22. STRUCTURAL METAL THAT IS INTERCONNECTED TO FORM A METAL BUILDING FRAME OR THAT IS NOT INTERCONNECTED, BUT IS LIKELY TO BECOME ENERGIZED, AND IS NOT INTENTIONALLY GROUNDED SHALL BE BONDED TO THE BUILDING GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH N.E.C. TABLE 250.66.

23. ALL WIRING DEVICES SHALL HAVE THEIR PANELBOARD ORIGIN AND CIRCUIT NUMBERS STAMPED OR TAPED ON THE BACKSIDE OF THEIR ASSOCIATED WALLPLATE.

24. WIRING DEVICE COLORS SHALL AS FOLLOWS, UNLESS NOTED OTHERWISE: NORMAL POWER DEVICES: WHITE WITH WHITE WALL PLATES. ISOLATED GROUND: ORANGE WITH WHITE WALLPLATES. NORMAL-STANDBY OR EMERGENCY POWER: RED WITH RED FACEPLATES. UPS POWER: GREEN WITH WHITE FACEPLATES. CONFIRM COLOR OF DEVICES AND WALLPLATES WITH ARCHITECT PRIOR TO ORDERING.

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REVISION SCHEDULE:

NO.	DATE	DESCRIPTION

DRAWING INFORMATION:

PEI PROJECT NO.:	210218
DATE:	APRIL 22, 2011
DRAWN BY:	BL
CHECKED BY:	RFG/JH
SCALE:	NTS

PROJECT NAME:

PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

LEGEND, SCHEDULES AND NOTES

SHEET NUMBER:

E-1

LIGHT FIXTURE SCHEDULE

MOUNTING	FLUORESCENT	INCANDESCENT/HID	EXIT	LANDSCAPE
RECESSED	FR	R	XR	LR
CEILING/SURFACE	FC	C	XC	LC
WALL	FW	W	XW	LW
PENDANT/SUSPENDED/POLE	FP	P	XP	LP
TRACK	FT	T		LT

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NO.	LAMPS NO.	LAMPS TYPE	INPUT VOLTS	INPUT WATTS	REMARKS
FP	4' 2/L SUSPENSION MOUNTED INDUSTRIAL REFLECTOR FLUORESCENT FIXTURE	COLUMBIA LIGHTING # CSR4232EUCSH6	2-32W	FO32T8 835 RS ALTO	120	60	SUSPENSION MOUNTED 6" BELOW DECK WITH INVERTED V-JACK CHAIN
FP1	8' 4/L SUSPENSION MOUNTED INDUSTRIAL REFLECTOR FLUORESCENT FIXTURE	COLUMBIA LIGHTING # CSR82324EUCSHC	4-32W	FO32T8 835 RS ALTO	120	120	SUSPENSION MOUNTED 6" BELOW DECK WITH INVERTED V-JACK CHAIN
XW XC XP	SINGLE FACE UNIVERSAL MOUNT ILLUMINATED LED EXIT SIGN WITH INTEGRAL EMERGENCY BATTERY	DUAL LITE # LXSRWE	LED	LED	120 / 277	2.9	PROVIDE DIRECTIONAL ARROWS AS INDICATED
XW1 XC1 XP1	DUAL FACE UNIVERSAL MOUNT ILLUMINATED LED EXIT SIGN WITH INTEGRAL EMERGENCY BATTERY	DUAL LITE # LXURWE	LED	LED	120 / 277	2.9	PROVIDE DIRECTIONAL ARROWS AS INDICATED
XW2	SINGLE FACE WALL MOUNTED LED EXIT SIGN WITH EMERGENCY BATTERY AND DUAL HEADS	DUAL LITE # LTSRWE	LED	LED	120 / 277	5.5	PROVIDE DIRECTIONAL ARROWS AS INDICATED

LIGHTING FIXTURE NOTES

1. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LIGHTING FIXTURES COMPLETE WITH MOUNTING ACCESSORIES TO MEET JOB CONDITIONS.

2. THE ELECTRICAL CONTRACTOR SHALL VERIFY FIXTURE MOUNTING AND EXACT LOCATIONS AGAINST ARCHITECTS REFLECTED CEILING PLANS, ELEVATIONS AND DETAIL DRAWINGS.

3. SERIES FIXTURES SHALL BE LENGTH AS SHOWN ON DRAWINGS.

4. FIXTURE LETTERS SHOWN ONCE ON A CONTINUOUS ROW OF FIXTURES SHALL BE TYPICAL FOR THAT ROW UNLESS OTHERWISE NOTED.

5. ALL FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE, INDEPENDENT OF HUNG CEILING.

6. EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL FIXTURES SHALL BE CONFIRMED WITH THE ARCHITECT PRIOR TO ROUGHING IN.

7. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH ENERGY SAVER LAMPS. ALL FLUORESCENT T8 SERIES LAMPS SHALL BE TRIPHOSPHOR LAMPS WITH NO SUBSTITUTIONS.

8. INFORMATION LISTED IN THE SECOND COLUMN OF THE FIXTURE SCHEDULE ABOVE SETS THE GENERAL DESCRIPTION OF EACH FIXTURE. INFORMATION LISTED IN THE THIRD COLUMN OF THE FIXTURE SCHEDULE SETS THE STANDARD OF QUALITY. IF DISCREPANCIES ARISE BETWEEN DESCRIPTION OF FIXTURE AND THE CATALOG NUMBER THEN NOTIFY THE ENGINEER BEFORE ORDERING SAID FIXTURE.

9. ONE LAMP OR THREE LAMP FLUORESCENT LUMINARES USED FOR GENERAL LIGHTING, AND MOUNTED WITHIN TEN FEET OF EACH OTHER AND WITHIN THE SAME ROOM SHALL BE TANDEM WIRED TO ELIMINATE UNNECESSARY USE OF SINGLE LAMP BALLASTS. USE ONE (3) LAMP BALLAST FOR THREE LAMP FIXTURES FOUR FOOT IN LENGTH. USE FOUR LAMP BALLASTS AND TANDEM WIRE ADJACENT TWO LAMP FIXTURES WHEREVER FEASIBLE.

10. ALL LIGHTING FIXTURES MOUNTED OVER OPEN FOOD DISPLAYS OR CASES SHALL BE EQUIPPED WITH LENSES OR THE LAMPS SHALL BE FITTED WITH PROTECTIVE TUBE GUARDS.

11. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR AIMING OR ADJUSTING ALL DIRECTIONALLY ORIENTED FIXTURES AT THE COMPLETION OF THE PROJECT AS PER THE ENGINEERS' DIRECTION.

12. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH SOLID STATE HIGH FREQUENCY ELECTRONIC BALLASTS IN ACCORDANCE WITH THE SPECIFICATION UNLESS NOTED OTHERWISE. ELECTRONIC BALLASTS MUST BE UTILITY COMPANY "ELIGIBLE" BALLASTS.

13. ALL INDIVIDUALLY MOUNTED AND GROUP OR PATTERN MOUNTED SUSPENDED FIXTURES SHALL BE DONE SO WITH AIRCRAFT CABLE SUSPENSION SYSTEMS, (LENGTHS OR MOUNTING HEIGHTS AS INDICATED). PROVIDE ROUND WHITE 1' DIAMETER CANOPY COVER PLATES FOR CEILING PENETRATIONS OF AIRCRAFT CABLE.

14. MANUFACTURERS AND CATALOG NUMBERS ARE LISTED IN THE FIXTURE SCHEDULE TO SET A STANDARD OF QUALITY FOR THE LIGHTING FIXTURES, SUBSTITUTION OF LIGHTING FIXTURES WILL BE ALLOWED WHEN THE SUBSTITUTED FIXTURE(S) EQUAL OR EXCEED THE AESTHETIC AND PERFORMANCE CHARACTERISTICS OF THE LIGHTING FIXTURE(S) SPECIFIED, AND ARE APPROVED BY THE ENGINEER.

15. FIXTURES WITH LAMPS SPECIFIED AS 8 FOOT IN LENGTH MUST BE PROVIDED AS SPECIFIED. SUBSTITUTION OF TWO TANDEM 4 FOOT LAMPS IN LIEU OF 8 FOOT LAMP WILL NOT BE ACCEPTABLE.

16. ALL POWER CABLE CORD DROPS TO SUSPENSION MOUNTED FIXTURES SHALL BE DONE SO WITH 600V, #12 AWG TYPE SO STRAIGHT CABLE WITH A WHITE COVERED OUTER INSULATING PVC JACKET WITH NO VISIBLE MARKINGS.

17. FOR ALL FIXTURES EQUIPPED WITH REFLECTORS; PROVIDE ALIGNER CLIPS AT ALL FIXTURE JOINTS.

18. ALL RECESSED FIXTURES INSTALLED IN AREAS SEPERATING CONDITIONED AND UNCONDITIONED SPACES SHALL BE IC LABELED.

19. ALL ELECTRONIC BALLASTS SHALL BE UL LISTED AND COMPLY WITH ALL FCC AND NEMA LIMITS. TOTAL HARMONIC DISTORTION LEVELS SHALL BE LESS THAN 20% AND GREATER THAN 10%. CREST FACTORS SHALL BE LESS THAN 1.6 AND POWER FACTOR SHALL BE GREATER THAN 90%.

20. STAGGERED STRIP FIXTURES MOUNTED IN COVES SHALL BE FIELD MEASURED AND THE MAXIMUM LENGTH OF UNITS SHALL BE PROVIDED TO CONTINUOUSLY ILLUMINATE COVES.

21. ALL RECESSED GRID CEILING MOUNTED LIGHTING FIXTURES SHALL BE EQUIPPED WITH EARTHQUAKE CLIPS.

22. ALL FLUORESCENT LAMPS SHALL BE LOW MERCURY T.C.L.P. COMPLIANT.

23. ALL FIXTURES EQUIPPED WITH INTEGRAL EMERGENCY BACKUP BATTERIES SHALL ALSO BE EQUIPPED WITH INTEGRAL TEST SWITCHES THAT ARE ACCESSABLE FROM THE ILLUMINATED SPACE WITHOUT THE REMOVAL OF SUSPENDED ACOUSTICAL CEILINGS OR PERMENANT CEILINGS.

24. FOR INDOOR FLUORESCENT FIXTURES UTILIZED ON NON-DWELLING UNIT PROJECTS THAT ARE EQUIPPED WITH DOUBLE ENDED LAMPS: THE FIXTURE MANUFACTURER SHALL PROVIDE A LINE VOLTAGE RATED DISCONNECTING MEANS LOCATED AS SUCH TO BE ACCESSIBLE WHILE SERVICING OR MAINTAINING THE BALLAST, BUT NOT TO BE VIEWABLE FROM THE SPACE THAT THE LUMINAIRE IS INTENDED TO ILLUMINATE.

25. IF THE ELECTRICAL CONTRACTOR CHOOSES TO PURCHASE INDOOR FLUORESCENT FIXTURES INSTALLED ON NON-DWELLING UNIT PROJECTS THAT ARE NOT EQUIPPED WITH A FACTORY INSTALLED BALLAST DISCONNECTING MEANS, THEN THE ELECTRICAL CONTRACTOR SHALL PROVIDE A BALLAST (OR BALLASTS) DISCONNECTING MEANS THAT SIMULTANEOUSLY BREAKS ALL THE SUPPLY CONDUCTORS TO SAID BALLAST(S) INCLUDING THE GROUNDING CONDUCTOR. THE DISCONNECTING MEANS SHALL BE LOCATED WITHIN SIGHT OF THE LUMINAIRE THAT THE "MULTI-WIRE BRANCH CIRCUIT FEEDS. THE DISCONNECTING MEANS SHALL ALSO ONLY BE ACCESSIBLE TO QUALIFIED PERSONNEL.

26. ALL FLUORESCENT FIXTURES REFERENCED TO THIS NOTE SHALL BE EQUIPPED WITH UTILITY REBATE ELIGIBLE SUPER T8 EXTENDED PERFORMANCE "XP" SERIES LAMPS OR EQUAL.

27. ALL FLUORESCENT FIXTURES REFERENCED TO THIS NOTE SHALL BE EQUIPPED WITH UTILITY REBATE ELIGIBLE HIGH EFFICIENCY, HIGH BALLAST FACTOR, INSTANT START ELECTRONIC BALLASTS "GHE" SERIES OR EQUAL.

28. ALL LED LUMINAIRES SHALL COMPLY WITH LM79 AND LM80 TESTING STANDARDS.

SCHEDULE OF MECHANICAL EQUIPMENT

ITEM	EQUIPMENT DESIGNATION	ELECTRICAL RATING HP	AMPS	KW	VOLTS	PHASE	ELECTRICAL WORK REQUIRED
UH 1	UNIT HEATER - HW	1/12	-	-	120	1	1 3 5
UH 2	- HW	1/12	-	-	120	1	1 3 5
UH 3	- HW	1/12	-	-	120	1	1 3 5
UH 4	- HW	1/12	-	-	120	1	1 3 5
B 1	BOILER - GAS FIRED	-	5.1	-	120	1	1 3 5 15
B 2	- GAS FIRED	-	5.1	-	120	1	1 3 5 15
B 3	- GAS FIRED	-	5.1	-	120	1	1 3 5 15
B 4	- GAS FIRED	-	5.1	-	120	1	1 3 5 15
P 1	HOT WATER PUMP - ACTIVE	7.5	-	-	208	3	1 3 17
P 2	- STANDBY	7.5	-	-	208	3	1 3 17
BP	BOILER PUMP	1.5	-	-	208	3	1 3 16
BP 2		1.5	-	-	208	3	1 3 16
BP 3		1.5	-	-	208	3	1 3 16
BP 4		1.5	-	-	208	3	1 3 16
EF	EXHAUST FAN - WALL	1/6	-	-	120	1	1 3 4'
MD	MOTORIZED DAMPER	1/40	-	-	120	1	1 3 5
BCP	BOILER CONTROL PANEL	-	5.0	-	120	1	1 3

ELECTRIC WORK NOTES
PERTAINING TO SCHEDULE OF MECHANICAL EQUIPMENT

1. REFER TO FLOOR PLANS FOR EXACT QUANTITIES OF ALL SCHEDULED EQUIPMENT. ALL SCHEDULED EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY OTHERS. UNLESS NOTED OTHERWISE.
2. INSERT PLUG OF EQUIPMENT INTO RECEPTACLE.
3. EXTEND INDICATED POWER CIRCUIT AND CONNECT SAME TO THE LINE TERMINALS OF THE EQUIPMENT. WHEN THE SCHEDULED EQUIPMENT IS SUBJECT TO VIBRATION OR MOVEMENT, THE FINAL PORTION OF THE POWER FEED (NOT TO EXCEED 48" IN LENGTH) SHALL BE WITH FLEXIBLE METALLIC CONDUIT.
4. LEAVE SUITABLE SLACK ON WIRES FOR POWER CIRCUIT CONNECTION BY OTHERS. PROVIDE SUITABLE PLATE ON OUTLET BOX.
5. PROVIDE DISCONNECT MEANS AND CONNECTIONS AS REQUIRED TO INTERPOSE SAME BETWEEN TERMINATION OF BUILDING WIRING AND LINE TERMINALS OF UNIT -- TYPE OF DISCONNECT MEANS AND MOUNTING LOCATION TO BE IN ACCORDANCE WITH INSTRUCTION ISSUED BY THE MANUFACTURER OF THE UNIT.
6. PROVIDE CONTROL CIRCUIT RUN FROM EQUIPMENT STARTER TO ACTUATING DEVICE -- RUN TO CONTAIN AN ADEQUATE NUMBER OF WIRES FOR PROPER OPERATION.
7. EQUIPMENT IS PROVIDED WITH INTEGRAL DISCONNECT SWITCH WITHIN EQUIPMENT HOUSING.
8. EQUIPMENT IS PROVIDED WITH INTEGRAL STARTER AND ACTUATING DEVICE WITH OFF POSITION. PROVIDE NECESSARY POWER AND CONTROL WIRING FOR EQUIPMENT OPERATION.
9. INSTALL CONTROLLER FURNISHED SEPARATE FROM ELECTRIC WORK AS DIRECTED.
10. MOTOR IS PART OF FACTORY WIRED MULTIPLE MOTOR "SINGLE LINE CONNECTION" PACKAGE EQUIPMENT FURNISHED AND INSTALLED SEPARATE FROM ELECTRIC WORK COMPLETE WITH INTEGRAL MOTOR STARTERS. EXTEND INDICATED POWER CIRCUIT TO ONE SET OF LINE TERMINALS AS SHOWN ON THE DRAWINGS.
11. PROVIDE "HAND-OFF-AUTO" CONTROL IN STARTER COVER.
12. PROVIDE WHERE INDICATED ON DRAWINGS A REMOTE "START-STOP" STATION WITH PILOT LIGHT.
13. HVAC CONTRACTOR FURNISHES AND INSTALLS A TIME CLOCK FOR CONTROL OF MOTOR. ELECTRICAL CONTRACTOR WIRES THE CLOCK.
14. MAGNETIC MOTOR STARTER WITH "HAND" "OFF" "AUTO" CONTROL MOUNTED IN STARTER COVER. IS FURNISHED BY ELECTRICAL CONTRACTORS, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
15. EQUIPMENT IS PROVIDED WITH A CONTROL PANEL WITH INTEGRAL MOTOR STARTER AND OVERCURRENT DEVICE.
16. ELECTRICAL CONTRACTOR PROVIDES A DUPLEX MOTOR CONTROLLER WITH (2) NEMA ONE STARTERS, CIRCUIT BREAKERS, OVERLOAD RELAYS, H-O-A CONTROLLER, PILOT LIGHTS, AUTOMATIC ALTERNATION CONTROLS IN A COMMON NEMA ONE ENCLOSURE.
17. MECHANICAL CONTRACTOR PROVIDES A VARIABLE FREQUENCY DRIVE FOR MOTOR COMPLETE WITH INTERNAL OVERCURRENT DEVICE.
18. EACH ITEM REFERRED TO THIS NOTE IS AN EXISTING UNIT OF MECHANICAL EQUIPMENT TO BE RELOCATED. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.
19. UNIT IS FURNISHED WITH INTEGRAL DISCONNECT AND 120/240V CONTROL TRANSFORMER. WIRING TO COMPONENTS PROVIDED BY THE ELECTRICAL CONTRACTOR.

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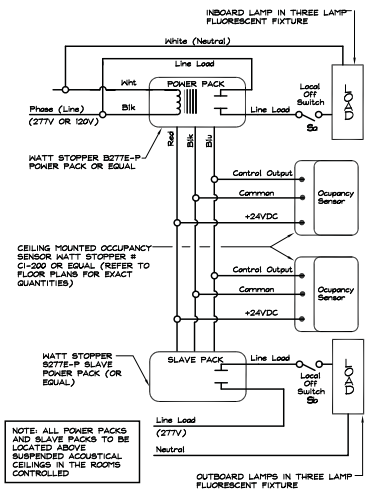
TYPICAL MULTIPLE OCCUPANCY SENSOR CONTROL WIRING DIAGRAM



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PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

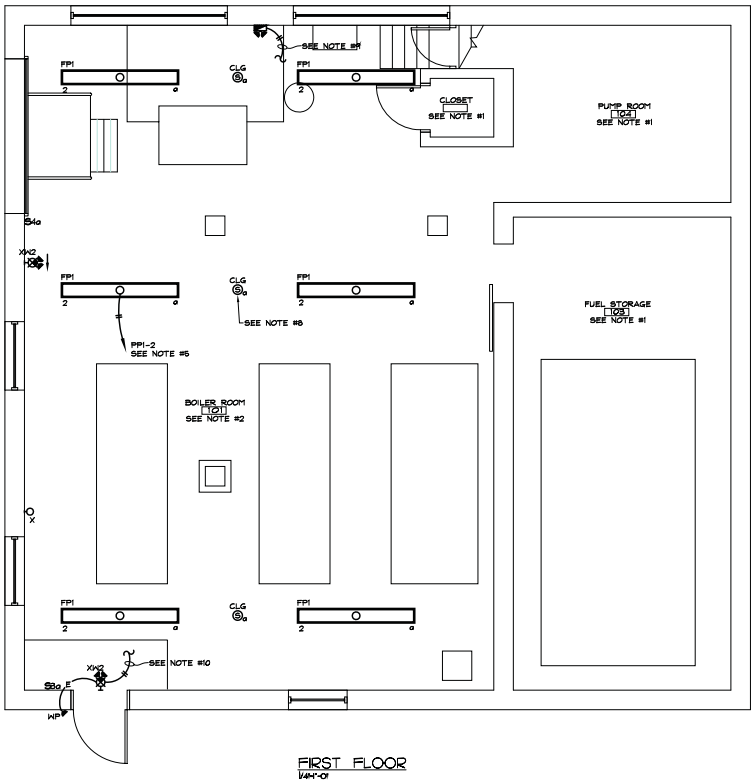
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

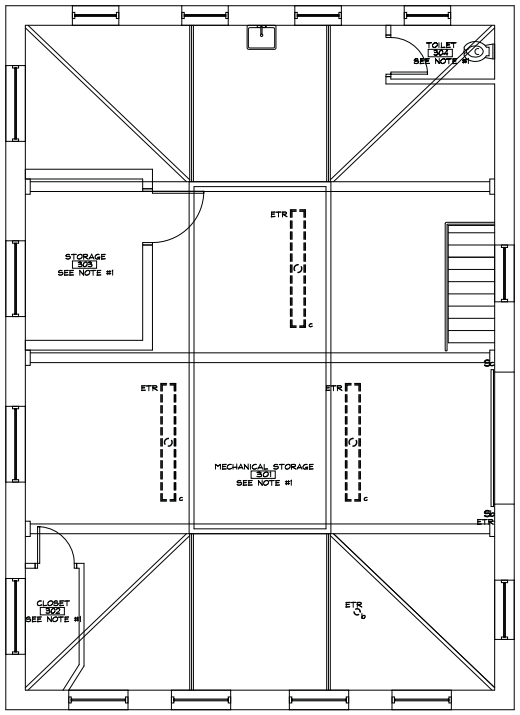
SCHEDULES AND NOTES

SHEET NUMBER:

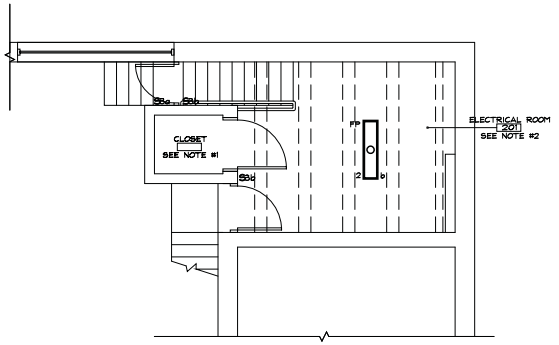
E-2



FIRST FLOOR
1/4"=1'-0"



UPPER FLOOR
1/4"=1'-0"

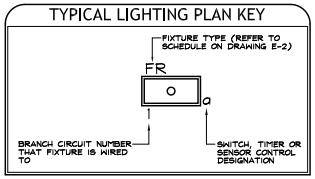


MIDDLE FLOOR
1/4"=1'-0"

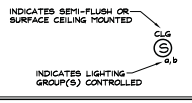
LIGHTING PLAN NOTES

1. ALL EXISTING LIGHTING, SWITCHING AND ASSOCIATED BRANCH CIRCUITRY, IN THIS ROOM OR AREA, SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL EXISTING LIGHTING SWITCHING AND ASSOCIATED BRANCH CIRCUITRY, IN THIS ROOM OR AREA, SHALL BE REMOVED UNLESS SPECIFICALLY NOTED OTHERWISE.
3. COORDINATE LOCATION AND AIMING OF FIXTURES WITH DRAWINGS AND DETAILS BEFORE INSTALLING.
4. REFER TO NOTES ON BRANCH CIRCUIT SIZING ON DRAWING E-1.
5. PROVIDE HOMERUN TO NEW 20A-1P CIRCUIT BREAKER IN PANELBOARD DESIGNATED.
6. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL LIGHTING FIXTURES AND SWITCHING AS PER CIRCUIT NUMBER'S AND SWITCH GROUPS INDICATED.
7. ALTHOUGH NOT ALL BRANCH CIRCUIT WIRING IS SHOWN ON THESE PLANS, IT IS THE INTENT OF THESE DRAWINGS, THAT A COMPLETE BRANCH WIRING SYSTEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATION.
8. REFER TO TYPICAL MULTIPLE OCCUPANCY SENSOR WIRING DIAGRAM ON DRAWING E-2.
9. EMERGENCY BATTERY UNITS SHALL BE CIRCUITED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY LOCAL SWITCHING, RELAYS, OR CONTROLS.
10. ALL EXIT SIGNS SHALL BE WIRED TO THE AREA 120V EMERGENCY LIGHTING CIRCUIT AHEAD OF ANY LOCAL SWITCHING, RELAYS, OR CONTROLS.
11. CONNECT TO EXISTING AREA NORMAL 120V HOUSE LIGHTING CIRCUIT.
12. ALL LIGHT FIXTURES WITH MISSING OR BURNED OUT LAMPS TO BE REPLACED WITH NEW LAMPS.
13. CLEAN AND RELAMP ALL EXISTING FIXTURES TO REMAIN (ETR) IN THIS AREA.

TYPICAL LIGHTING PLAN KEY



TYPICAL SENSOR KEY



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PORTSMOUTH
CITY HALL

BOILER PLANT UPGRADES

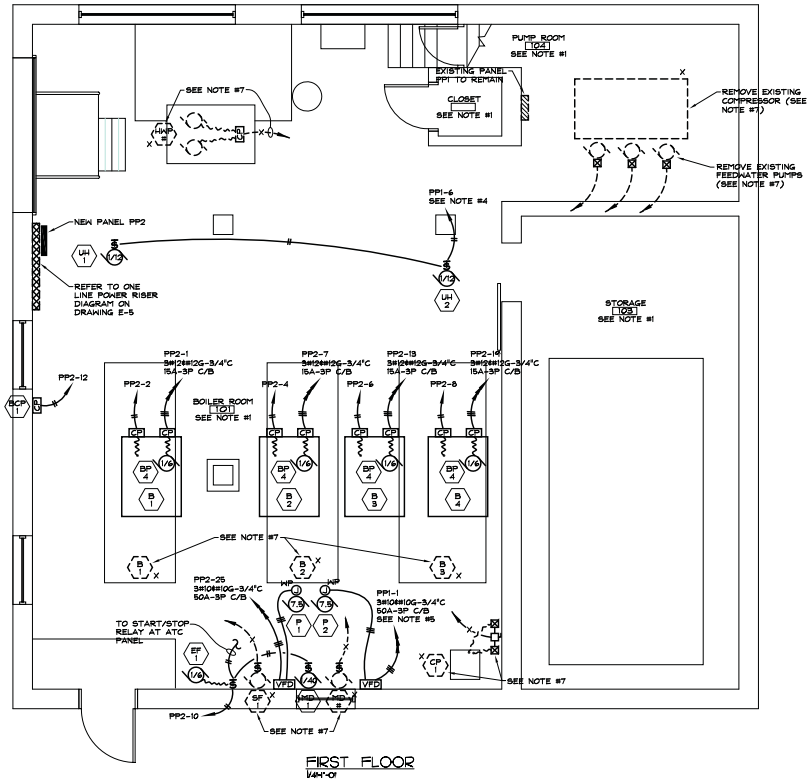
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

LIGHTING PLANS

SHEET NUMBER:

E-3



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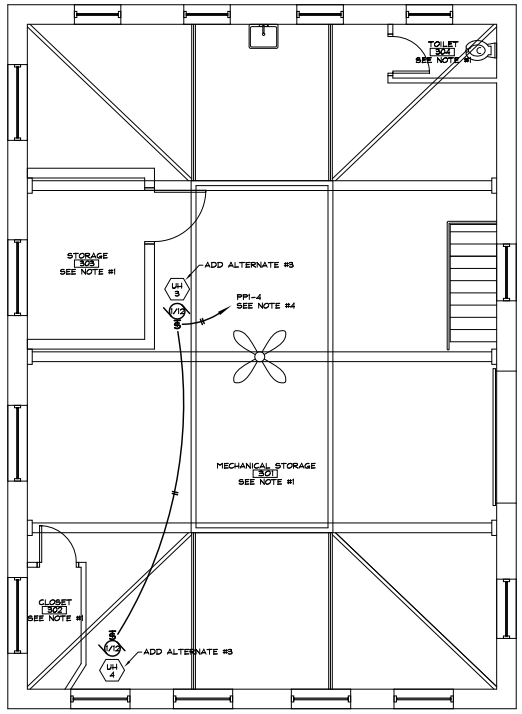

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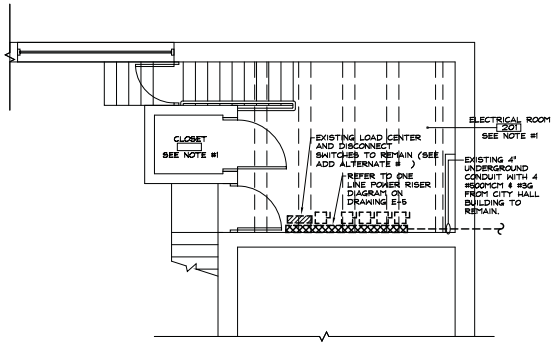

MIDDLE FLOOR
1/4"=1'-0"

POWER PLAN NOTES

1. ALL EXISTING WIRING DEVICES, ELECTRICAL EQUIPMENT, ETC. AND ASSOCIATED CIRCUITRY IN THIS ROOM OR AREA SHALL REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL EXISTING WIRING DEVICES, ELECTRICAL EQUIPMENT, ETC. AND ASSOCIATED CIRCUITRY IN THIS ROOM OR AREA SHALL BE REMOVED UNLESS SPECIFICALLY NOTED OTHERWISE.
3. PROVIDE INDIVIDUAL NEUTRAL CONDUCTORS WITH EACH 120V RECEPTACLE CIRCUIT.
4. PROVIDE HOMERUN TO NEW 20A-1P C/B INSTALLED IN AVAILABLE SPACE IN PANELBOARD DESIGNATED.
5. PROVIDE HOMERUN TO NEW CIRCUIT BREAKER IN AVAILABLE SPACE IN PANELBOARD DESIGNATED.
6. MAINTAIN EXISTING BRANCH CIRCUITS OUTSIDE OF RENOVATED AREAS.
7. EACH ITEM REFERRED TO THIS NOTE IS AN EXISTING UNIT OF MECHANICAL EQUIPMENT TO BE ELECTRICALLY DISCONNECTED BY THE ELECTRICAL CONTRACTOR, AND REMOVED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL REMOVE THE MECHANICAL EQUIPMENT BRANCH CIRCUITRY OR FEEDER BACK TO ITS POINT OF SUPPLY, AND SHALL REMOVE AND DISCARD ALL UNIT CONTROLLERS AND/OR SAFETY SWITCHES.

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BOILER PLANT UPGRADES

1 JUNKINS AVENUE
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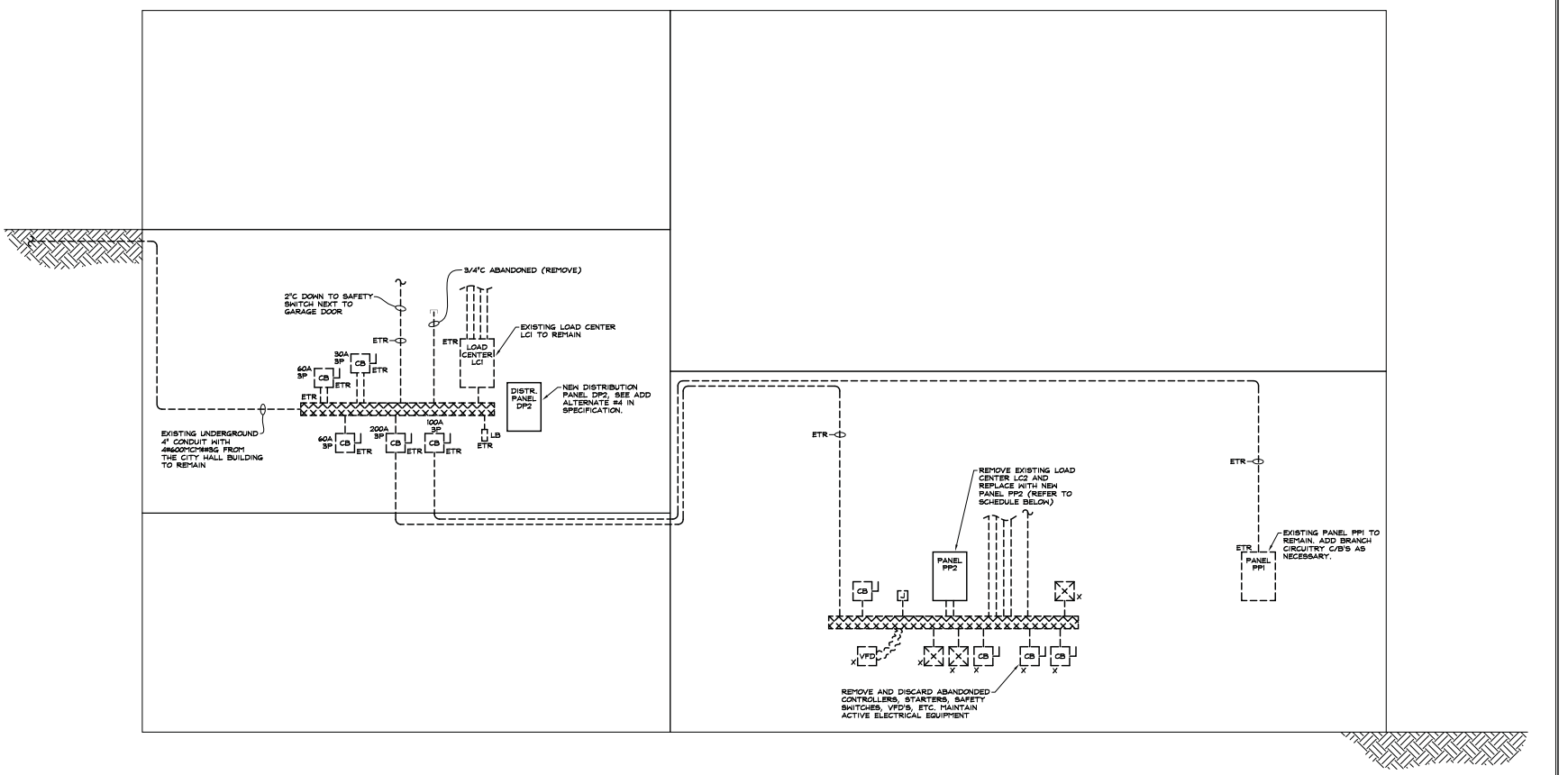
SHEET TITLE:

POWER PLANS

SHEET NUMBER:

E-4

ONE LINE POWER DISTRIBUTION RISER DIAGRAM



ONE LINE POWER RISER NOTES

1. ALL CIRCUIT BREAKERS THROUGHOUT THE DISTRIBUTION SYSTEM SHALL BE SERIES RATED.
2. ALL CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTOR AMPACITIES. NO ALUMINUM CABLES ALLOWED.
3. EACH ITEM REFERRED TO THIS NOTE IS A 100% RATED MOLDED CASE CIRCUIT BREAKER 225A FRAME 200A-3P TRIP, 30K A.I.C. SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT IN A NEMA ONE ENCLOSURE.
4. ALL PANELBOARDS, CONDUCTOR CONNECTORS, ETC. SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS.

PANEL: PP2 — MOUNTING: SURFACE — TOTAL POLES: 42
PHASE: 3 — WIRES: 4 — A.I.C. 22 K — VOLTAGE: 120/208 — MAINS: 225A M.L.O.

DESCRIPTION OF LOADS	KVA LOAD A	KVA LOAD B	KVA LOAD C	BREAKER FRAME	BREAKER TRIP	BREAKER POLES	CKT	ABC	CKT	BREAKER POLES	BREAKER TRIP	BREAKER FRAME	KVA LOAD A	KVA LOAD B	KVA LOAD C	DESCRIPTION OF LOADS
BOILER PUMP	.5			100	15	3	1		2	1	20	100	.6			BOILER B-1
BP-1		.5		-	-	-	3		4					.6		BOILER B-2
-			.5	-	-	-	5		6						.6	BOILER B-3
BOILER PUMP	.5			100	15	3	7		8				.6			BOILER B-4
BP-2		.5		-	-	-	9		10					.6		EXH FAN E-1
-			.5	-	-	-	11		12						.6	BCP-1
BOILER PUMP	.5			100	15	3	13		14							
BP-3		.5		-	-	-	15		16							
-			.5	-	-	-	17		18							
BOILER PUMP	.5			100	15	3	19		20							
BP-4		.5		-	-	-	21		22							
-			.5	-	-	-	23		24							
HW PUMP P-1	2.5			100	50	3	25		26							
-		2.5		-	-	-	27		28							
-			2.5	-	-	-	29		30							
SPARE				100	20	3	31		32							
-				-	-	-	33		34							
-				-	-	-	35		36							
SPARE				100	30	3	37		38							
-				-	-	-	39		40							
-				-	-	-	41		42							

PHASE A: 5.7 — PHASE B: 5.7 — PHASE C: 5.7 — TOTAL: 17.1

PANEL: DP2 — MOUNTING: SURFACE — TOTAL POLES: 42
PHASE: 3 — WIRES: 4 — A.I.C. 22 K — VOLTAGE: 120/208 — MAINS: 400A-3P M.C.B.

DESCRIPTION OF LOADS	KVA LOAD A	KVA LOAD B	KVA LOAD C	BREAKER FRAME	BREAKER TRIP	BREAKER POLES	CKT	ABC	CKT	BREAKER POLES	BREAKER TRIP	BREAKER FRAME	KVA LOAD A	KVA LOAD B	KVA LOAD C	DESCRIPTION OF LOADS
PANEL PP1				100	100	3	1		2	3	30	100				UNKNOWN
-				-	-	-	3		4	-	-	-				LOAD
-				-	-	-	5		6	-	-	-				-
PANEL PP2				225	200	3	7		8	3	30	100				SPARE
-				-	-	-	9		10	-	-	-				-
-				-	-	-	11		12	-	-	-				-
UNKNOWN				100	60	3	13		14	3	20	100				SPARE
LOAD				-	-	-	15		16	-	-	-				-
-				-	-	-	17		18	-	-	-				-
UNKNOWN				100	60	3	19		20							
LOAD				-	-	-	21		22							
-				-	-	-	23		24							
SPARE				100	100	3	25		26							
-				-	-	-	27		28							
-				-	-	-	29		30							
							31		32							
							33		34							
							35		36							
							37		38							
							39		40							
							41		42							

PHASE A: 0 — PHASE B: 0 — PHASE C: 0 — TOTAL: 0

PANELBOARD / CIRCUIT BREAKER DESIGNATION SCHEDULE

1. INDICATES GFCI RATED CIRCUIT BREAKER
2. INDICATES LOCKABLE CIRCUIT BREAKER
3. INDICATES HACR TYPE CIRCUIT BREAKER
4. INDICATES PANEL IS EQUIPPED WITH ISOLATED/INSULATED GROUND BUS
5. INDICATES PANEL IS EQUIPPED WITH SUBFEED LUGS
6. INDICATES AFCI RATED CIRCUIT BREAKER
7. INDICATES SHUNT TRIP TYPE CIRCUIT BREAKER
8. CONTROLLED VIA RELAY CABINET ® "a"
9. CONTROLLED VIA RELAY CABINET ® "b"
10. CONTROLLED VIA RELAY CABINET ® "c"
11. CONTROLLED VIA CONTACTOR LC-1
12. CONTROLLED VIA CONTACTOR LC-2
13. CONTROLLED VIA CONTACTOR LC-3
14. CONTROLLED VIA CONTACTOR LC-4
15. INDICATES CIRCUIT BREAKER WITH HANDLE TIE
16. INDICATES PANEL IS EQUIPPED WITH 200% RATED NEUTRAL BUS
17. CONTROLLED VIA TIME CLOCK

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EMail ebs@ebsnh.net

REVISION SCHEDULE:

NO.	DATE	DESCRIPTION

DRAWING INFORMATION:

PEI PROJECT NO.:	210218
DATE:	APRIL 22, 2011
DRAWN BY:	BL
CHECKED BY:	RFG/JH
SCALE:	NTS

PROJECT NAME:

PORTSMOUTH CITY HALL

BOILER PLANT UPGRADES

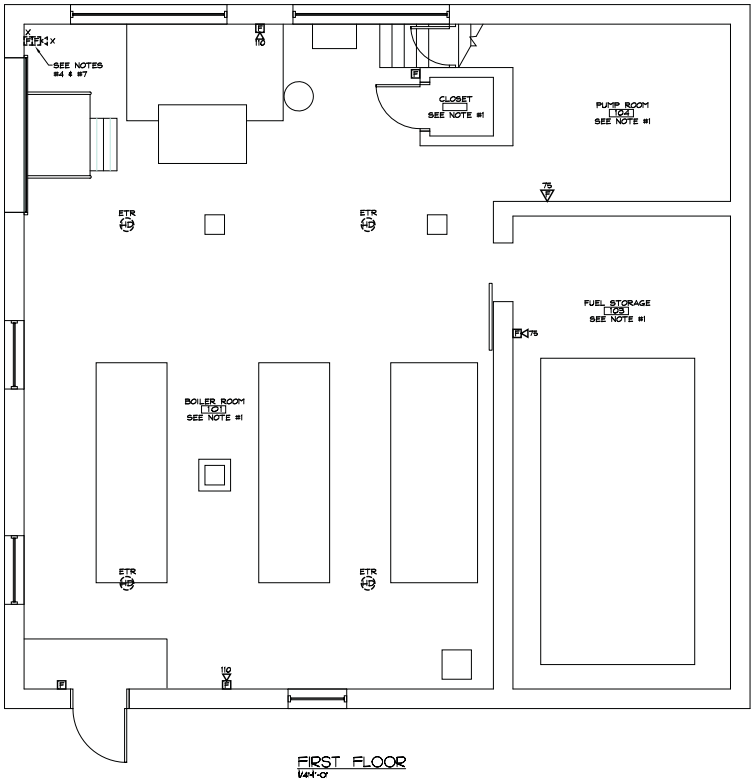
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

ONE LINE POWER RISER DIAGRAM AND SCHEDULES

SHEET NUMBER:

E-5



FIRST FLOOR
1/4"=1'-0"

FIRE ALARM PLAN NOTES

1. ALL EXISTING FIRE ALARM DEVICES, COMPONENTS, WIRING, ETC. SHALL REMAIN IN THIS ROOM OR AREA UNLESS SPECIFICALLY NOTED OTHERWISE.

2. ALL EXISTING FIRE ALARM DEVICES, COMPONENTS, WIRING, ETC. TO BE REMOVED IN THIS ROOM OR AREA UNLESS SPECIFICALLY NOTED OTHERWISE.

3. RELOCATE EXISTING INDICATING DEVICE AND ASSOCIATED ZONE CIRCUITRY TO LOCATION INDICATED.

4. REMOVE EXISTING INDICATING DEVICE AND ASSOCIATED ZONE CIRCUITRY. MAINTAIN CONTINUITY OF EXISTING FIRE ALARM CIRCUIT.

5. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A FIRE ALARM PERMIT FROM THE PORTSMOUTH FIRE DEPARTMENT PRIOR TO COMMENCING WORK.

6. AT THE COMPLETION OF THE PROJECT, THE FIRE ALARM SYSTEM SHALL BE TESTED TO THE SATISFACTION OF THE PORTSMOUTH FIRE DEPARTMENT.

7. REMOVE EXISTING INITIATING DEVICE AND ASSOCIATED ZONE CIRCUITRY. MAINTAIN CONTINUITY OF EXISTING FIRE ALARM.

8. ALL INDICATING DEVICES SHALL BE SYNCHRONIZED TO COMPLY WITH INTERNATIONAL BUILDING CODE 2009 EDITION REQUIREMENTS. REPLACE EXISTING NON-SYNCHRONIZED MODULES AS REQUIRED OR UTILIZE SYNCHRONIZED HORN/STROBES THROUGHOUT THE RENOVATED SPACE. PROVIDE A/V POWER SUPPLY BOOSTER IN NEMA RED ENCLOSURE IF REQUIRED BY CURRENT DRAW OF A/V CIRCUIT.

9. ALL NEW DEVICES SHALL BE AS MANUFACTURED BY THE BASE BUILDING SYSTEMS MANUFACTURER. ONLY AUTHORIZED DEVICES SHALL BE TIED INTO THE BUILDING'S FIRE ALARM SYSTEM.

10. THE FINAL TIE-IN TO THE BUILDINGS FIRE ALARM SYSTEM SHALL BE DONE BY THE BUILDINGS DESIGNATED FIRE ALARM CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL CARRY A $600.00 ALLOWANCE AS A SEPERATE LINE ITEM IN HIS/HER BID FOR THIS WORK.

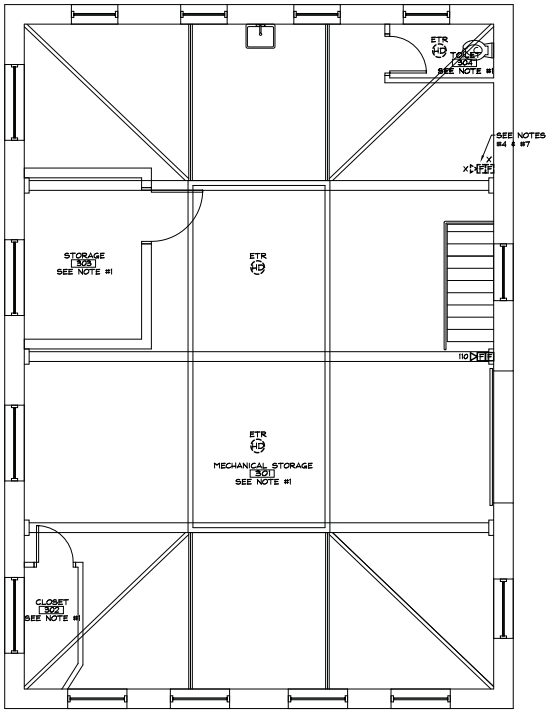
11. THE BUILDING ENGINEER MUST BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY WORK TO BE PERFORMED ON THE FIRE ALARM SYSTEM. THE FIRE ALARM SERVICE CONTRACTOR MUST BE PRESENT TO DISABLE AND RESTORE THE SYSTEM AT THE ELECTRICAL CONTRACTORS EXPENSE.

12. NO PORTION OF THE FIRE ALARM SYSTEM SHALL BE PERMITTED TO REMAIN OUT OF SERVICE OVERNIGHT.

13. ALL CHARGES INCURRED IN TAKING THE FIRE ALARM SYSTEM OFF LINE AND RETURNING IT TO SERVICE WILL BE BORNE BY THE ELECTRICAL CONTRACTOR.

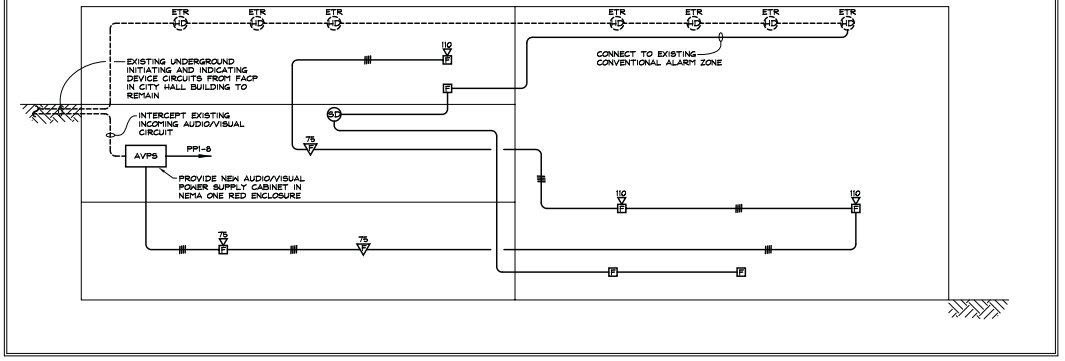
14. IF ANY DEVICES ARE ADDED OR CHANGED IN ANY WAY, THEN THE CHANGES MUST BE REFLECTED AT THE FIRE ALARM CONTROL PANEL VIA LABELLING, PROGRAMMING, ETC. COST OF THE CHANGES ARE TO BE INCLUDED IN THE ELECTRICAL CONTRACTORS BID.

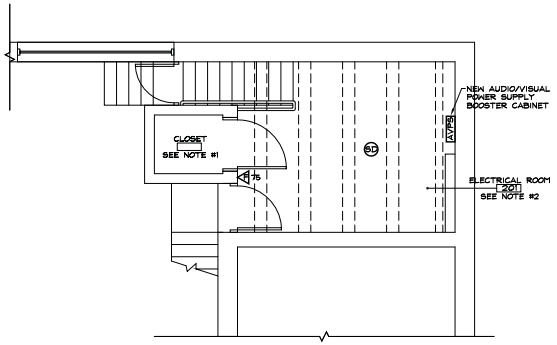
15. FIRE ALARM TESTING MUST COMPLY WITH BUILDING MANAGEMENTS REQUIREMENTS (SEE BUILDING STANDARDS).



UPPER FLOOR
1/4"=1'-0"

ONE LINE DIAGRAM OF MODIFICATIONS TO THE FIRE ALARM SYSTEM





MIDDLE FLOOR
1/4"=1'-0"

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REVISION SCHEDULE:

NO.	DATE	DESCRIPTION

DRAWING INFORMATION:

PEI PROJECT NO.:	210218
DATE:	APRIL 22, 2011
DRAWN BY:	BL
CHECKED BY:	RFG/JH
SCALE:	1/4"=1'-0"

PROJECT NAME:

PORTSMOUTH
CITY HALL

BOILER PLANT UPGRADES

1 JUNKINS AVENUE
PORTSMOUTH, NH 03801

SHEET TITLE:

FIRE ALARM PLANS

SHEET NUMBER:

FA-1