

LIST OF DRAWINGS

COVER

S 1.1	STRUCTURAL- EQUIPMENT SUPPORT PLANS AND DETAILS
M 1.1	MECHANICAL- ROOF PLANS, DETAILS AND SCHEDULE
E 1.1	ELECTRICAL- ROOF PLANS, SPECIFICATIONS, DRAWING LEGEND AND SCHEDULES

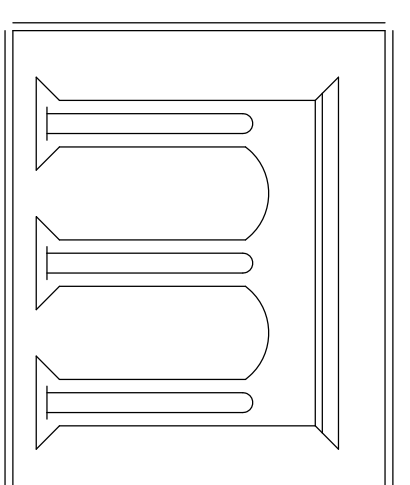
# SMITH MIDDLE SCHOOL

## GLASTONBURY, CONNECTICUT

### CHILLER REPLACEMENT

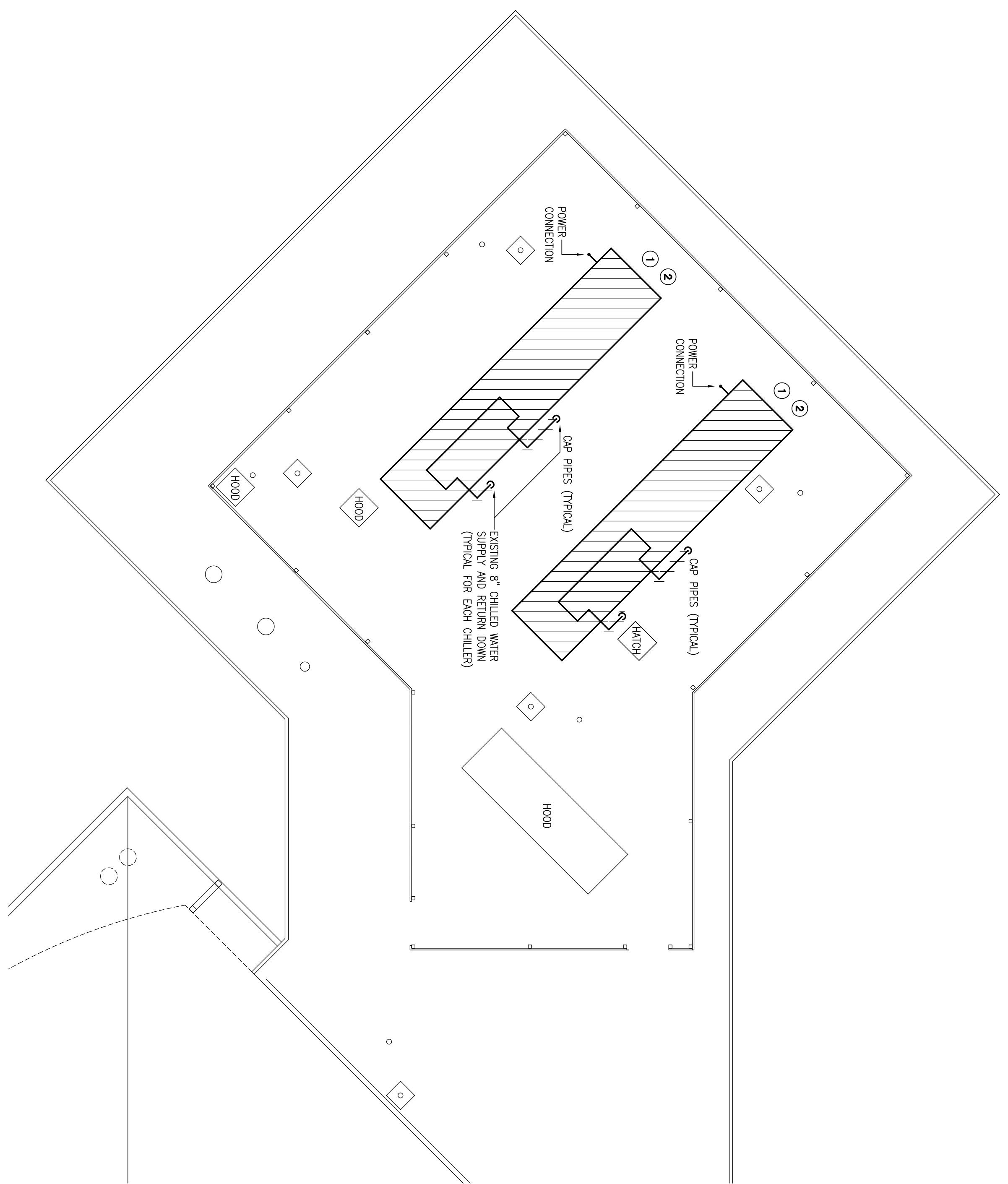
JANUARY 17, 2014

M/E/P ENGINEER  
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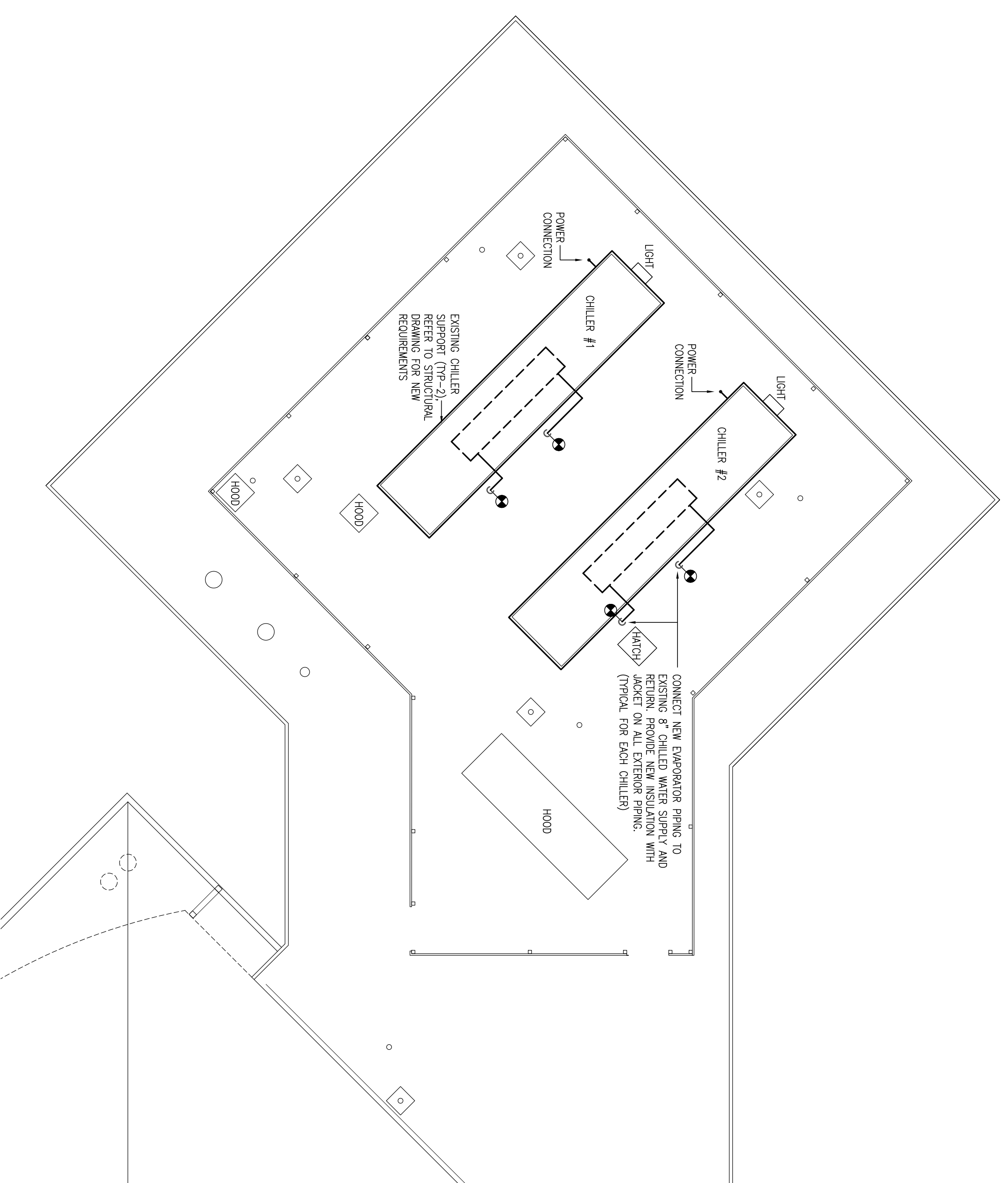


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ROOF PART PLAN – MECHANICAL DEMOLITION  
SCALE: 1/8"=1'-0"



ROOF PART PLAN – MECHANICAL NEW  
SCALE: 1/8"=1'-0"

**GENERAL DEMOLITION NOTES :**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL, SEWER, WATER, GAS, TELEPHONE, ETC. INFORMATION IS AVAILABLE, BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL CONSTRUCTION OPERATIONS TO PROTECT EXISTING UTILITIES. ALL EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT, ANY EQUIPMENT REMOVED DURING DEMOLITION WORK MAY BE RETAINED BY THE OWNER AT HIS OPTION. ANY SUCH MATERIAL SHALL BE STORED IN THE BUILDING AT A LOCATION DESIGNATED BY THE OWNER. REMOVAL OF SUCH MATERIAL FROM THE JOB SITE SHALL BE THE OWNER'S RESPONSIBILITY.

**CONTRACTOR SHALL VERIFY AND RECORD ALL FLOW AND HEAD PRIOR TO DEMOLITION.**

**DEMOLITION NOTES**

**KEY NOTES DESCRIBE IN GENERAL, THE SCOPE OF EQUIPMENT REMOVED, DEMOLITION SPECIAL REQUIREMENTS, AND ALL DEMOLITION WORK WITH NEW WORK.**

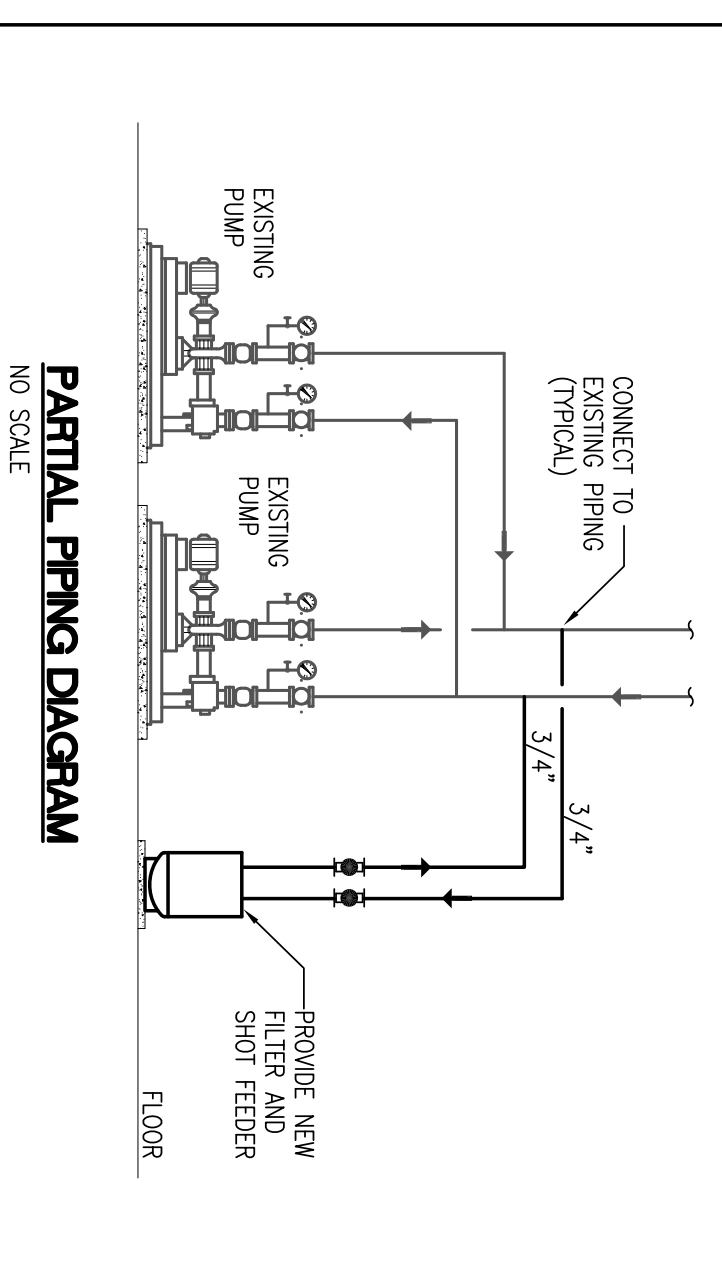
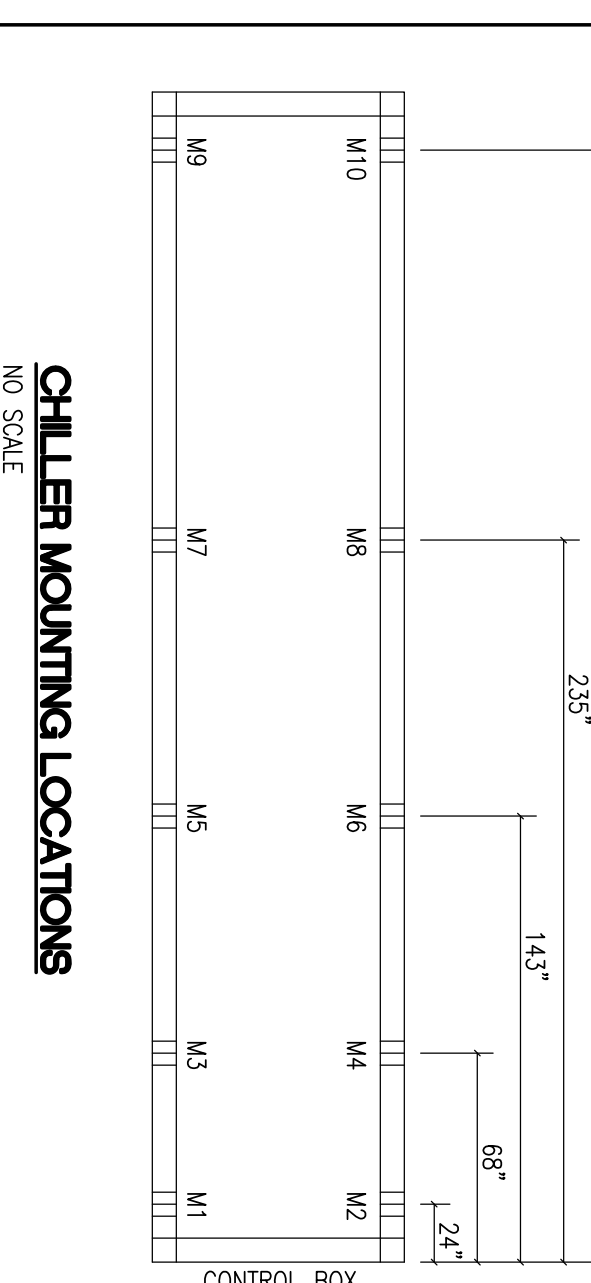
- EXISTING CHILLERS AND EXISTING PIPING AS INDICATED, SHALL BE REMOVED.
- DISCONNECT EXISTING CONTROLS, CAP FOR FUTURE CONNECTION.

**SPRING MOUNT VIBRATION ISOLATORS**

ITEM #	MANUFACTURER	MODEL	SIZE
M1	MASON INDUSTRIES	SRS50	2-C2-3180
M2			2-C2-3180
M3			2-C2-2420
M4			2-C2-3180
M5			2-C2-2420
M6			2-C2-2420
M7			2-C2-2420
M8			2-C2-2420
M9			2-C2-2420
M10			2-C2-2420

**NOTE:**  
TYPICAL FOR TWO CHILLERS.  
REFER TO CHILLER MOUNTING LOCATIONS.

DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL DESIGN FOR CHILLER SUPPORT. DESIGN AND APPROVAL OF STEEL THAT MUST BE REQUIRED FOR REMOVING ONE OF THE ACCEPTABLE ALTERNATES. CONTRACTOR SHALL SUBMIT DETAILED STRUCTURAL SUPPORT DESIGN.



**CHILLER - 300 TONS**

SELECTION BASED ON:

Fluid Type	Model MS100CP
Leaving Exp. Temp.	Water
Entering Exp. Temp.	44 deg F
Refrigerant Temperature	54 deg F
Unit Power	30.0 kW
Unit Performance	317.0 kW
Evaporator Flow Rate	11.5 ERW
Pressure Drop	728.1 GPM
Service Voltage	198.8 ft H2O
Compressor	480V, 3PH, 60Hz
Refrigerant	R-134A
Decompress Switch	Yes (with circuit breaker)
Single Point Connection	588.6A WCA
Starters	R-134A

CHILLER CONTROLS: SILENT COMMUNICATION BUS  
CHILLER CONTROLS: 24VDC 500mA 100%<sup>1</sup>

**PART LOAD PERFORMANCE**

IPV = 15.4 EER

LOAD (TONS)	UNIT EER	FLOW (GPM)	WPD	AMBIENT (°F)	WV	EFFICIENCY
100	303.8	44	54.0	729.1	19.8	317.0
75	227.8	44	51.5	729.1	19.8	157.3
50	151.9	44	49.0	729.1	19.8	89.3
25	75.9	44	46.5	729.1	19.8	39.4

**CHILLER SOUND PRESSURE LEVELS & DATA**

NOTE: VALUES ARE LISTED IN ACCORDANCE WITH ARI STANDARD 370. SOUND PRESSURE RATINGS ARE VALUES AT 30 FT. FROM SIDES OF UNIT.

OCME BAND CENTER FREQUENCY	1000	2000	4000	8000	DBA				
Hc	63	125	250	500	1000	2000	4000	8000	16000
LB	107	98	97	96	95	93	87	83	78

**CHILLER SOUND POWER LEVELS & DATA**

NOTE: VALUES ARE LISTED IN ACCORDANCE WITH ARI STANDARD 370.

OCME BAND CENTER FREQUENCY	1000	2000	4000	8000	DBA				
Hc	63	125	250	500	1000	2000	4000	8000	16000
LB	107	98	97	96	95	93	87	83	78

**CHILLER ACCEPTABLE SUBSTITUTIONS**

SELECTION	TRADE	MODEL	RISE	300T
SELECTION	TRUCK	MODEL	WVA0259H46	

**GENERAL NOTES :**

- DRAWINGS ARE DIAGNOSTIC AND SHOW GENERAL INTENT OF WORK, BEFORE PROCEEDING WITH ANY WORK.
- THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND INSTALLATION OF PIPING SYSTEMS TO HOOD CONNECTIONS.
- THE CONTRACTOR SHALL VERIFY THE SITE AND DIMENSIONS. HANGERS FOR PIPING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. (TYPICAL FOR CHILLED WATER SUPPLY & RETURN).
- INSULATE ALL EXTERIOR CHILLED WATER SUPPLY AND RETURN PIPING. PROVIDE ALUMINUM JACKET.
- BALANCE THE EXISTING PIPING TO MEET THE NEW CHILLER FLOW REQUIREMENTS. PROVIDE FLOW METERING DEVICES (METER), COORDINATE WITH MECHANICAL ENGINEER FOR FLOW CONTROL. PROVIDE METER INTERFACE.
- CHILLER CONTROL POINTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING THE CONSTRUCTION.

**MECHANICAL SYMBOL LIST**

SYMBOL	ABBREVIATION	DESCRIPTION
---	ECHMS	EXISTING CHILLED WATER SUPPLY
---	ECHR	EXISTING CHILLED WATER RETURN
---	CHMS	CHILLED WATER SUPPLY
---	CHMR	CHILLED WATER RETURN
---	---	SHUTOFF BALL VALVE
---	---	SHUTOFF BUTTERFLY VALVE
---	---	RISE DOWN
---	---	RISE UP
---	---	RISE OR DROP
---	---	BRANCH-TYPE CONNECTION
---	POC	POINT OF CONNECTION

