



MECHANICAL CONSULTANT:
GWR Engineering, P.C.
 PO Box 157 - The Creamery Building
 Shelburne, VT 05482
 Tel (802) 985-8081 FAX (802) 985-8499

ARCHITECT:
 Jonson Design, Inc.
 1000 VAIL AVENUE
 BURLINGTON, VT 05401
 P.O. BOX 55 - BURLINGTON, VT 05401
 (802) 244-5800

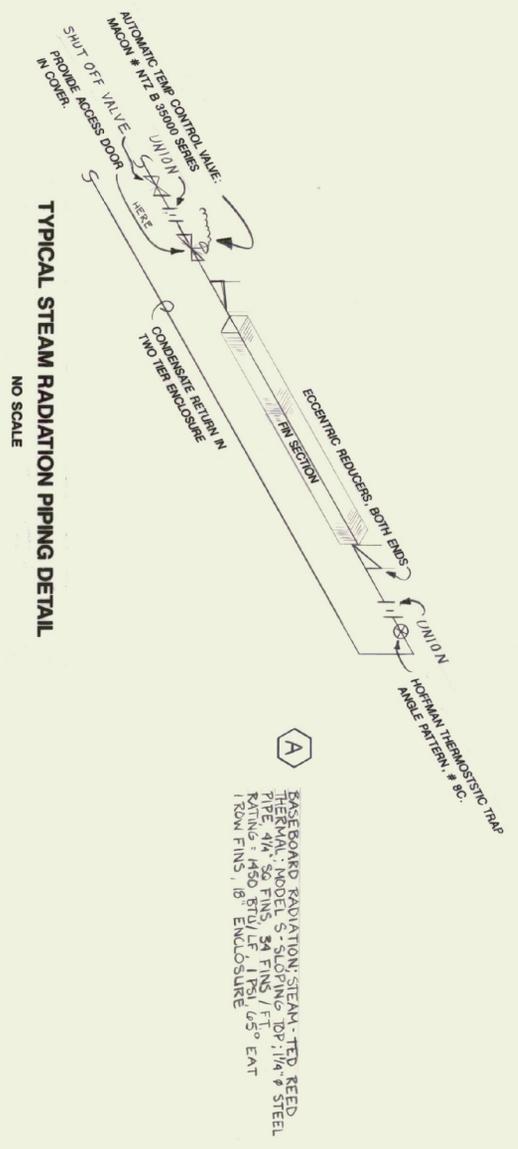
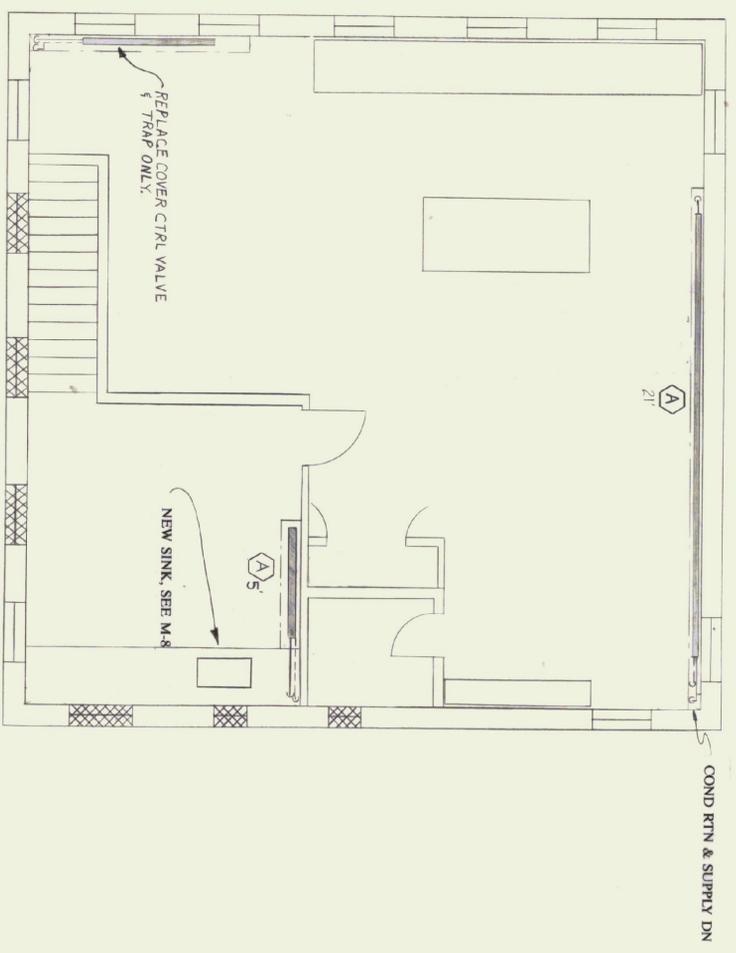
State of Vermont
 Department of State Buildings
 John Zampieri, Commissioner

MATERIALS & RESEARCH LABORATORY
 Berlin, VT
Phase 2

MECHANICAL SYSTEMS - HEATING
Second Floor Plan

DATE: 4-20-90
 DWG. NO. M-6

Second Floor Plan
 Scale 1/4" = 1'-0"



Minimum Insulation Thicknesses
 (per ASHRAE 90A-1980)

Heating System	Fluid Temperature Range	Minimum Pipe Insulation Thicknesses for Pipe Sizes*					
		1/2"	3/4"	1"	1 1/2"	2"	3"
High Pressure	150-230	1.5	2.5	3.0	3.5	4.0	4.5
Medium Pressure	120-150	1.5	2.0	2.5	3.0	3.5	4.0
Low Pressure	90-120	1.5	1.8	2.0	2.5	3.0	3.5
Steam	Avg	1.0	1.2	1.5	2.0	2.5	3.0
Chilled Water	4.5-13	0.5	0.5	0.75	1.0	1.0	1.0
Cooling Water	4.5-13	0.5	0.5	0.75	1.0	1.0	1.0
Refrigerant	Below 40	1.0	1.0	1.0	1.5	1.5	1.5
Refrigerant	Above 40	1.0	1.0	1.0	1.5	1.5	1.5

Heating System	Series Water Heating	Minimum Pipe Insulation Thicknesses for Pipe Sizes*					
		Up to 1"	1 1/2"	2"	3"	4"	6"
Steam	Up to 1"	1.0	1.0	1.0	1.5	1.5	1.5
Water	Up to 1"	0.5	0.5	0.75	1.0	1.0	1.0
Water	1 1/2"	0.5	0.5	0.75	1.0	1.0	1.0
Water	2"	0.5	0.5	0.75	1.0	1.0	1.0
Water	3"	0.5	0.5	0.75	1.0	1.0	1.0
Water	4"	0.5	0.5	0.75	1.0	1.0	1.0
Water	6"	0.5	0.5	0.75	1.0	1.0	1.0