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ENERGY & ENVIRONMENT DIVISION

**AFFORDABLE HOUSING THROUGH ENERGY CONSERVATION
A GUIDE TO DESIGNING AND CONSTRUCTING
ENERGY EFFICIENT HOMES**

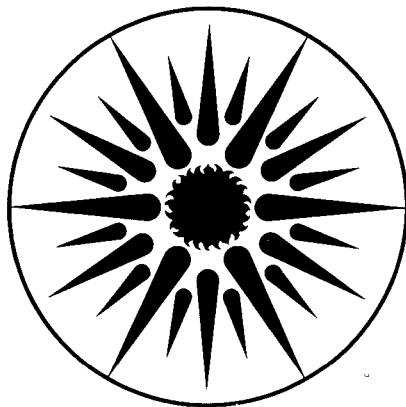
DATA BASE FOR SIMPLIFIED ENERGY ANALYSIS

Energy Analysis Program Group

June 1983

For Reference

Not to be taken from this room



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AFFORDABLE HOUSING THROUGH ENERGY CONSERVATION
A GUIDE TO DESIGNING AND CONSTRUCTING
ENERGY EFFICIENT HOMES

DATA BASE FOR SIMPLIFIED ENERGY ANALYSIS

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In Cooperation with:

American Institute of Architects/Foundation

and

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June 1983

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The DOE-2.1a data base for the five residential prototypes has been analyzed by means of a computer program and reduced to a set of matrices that cover 45 locations. The matrix method for calculating the heating and cooling loads for residential buildings was developed by analyzing the data base load results and running test models to determine the effect of each building component independently of the rest of the building. All of the residential data that we have produced by doing DOE-2.1a computer simulations, including the window sensitivity data, was processed through the matrix program and was broken down into six basic components for each prototype: 1). ceiling insulation, 2). wall insulation, 3). foundation insulation, 4). infiltration (in air changes per hour), 5). window pane, sash type, gap, and area, and 6). the floor area of the house. These six components were manipulated separately for heating and cooling.

In the matrix program, it was assumed that there was no interaction between the six components, and that the effect of the components on load was linear. Applying this assumption to the data base, the program goes through a series of subtractions to arrive at deltas for individual levels for each component. The deltas represent the difference in the load for that component between the given level and the base case level. The base case was selected for the sake of simplicity, so that the energy impact of all conservation measures would be in the negative direction. The deltas provided by the matrix data base are the basis for, and intermediate stage of the slide rule.

The program produced a base heating load and a base cooling load for each prototype in a given location. This load represented the load for a building with no insulation, 1 ach infiltration, and 20 percent window area (20% of the floor area) with single pane glass, 0.5 inch air gap, and aluminum sash. From this base load, the user subtracts values corresponding to the insulation levels for the proposed building for ceiling, wall, foundation, infiltration, and window. The resulting number is multiplied by an area multiplier representing the floor area of the house. The end result is the total heating or cooling load for the building in mBtus per year.

The Data Base for Simplified Energy Analysis is printed on the following pages in matrix format.

Summary of Steps for Calculating Building
Loads Using the Data Base Matrix

1. Pick the prototype that most closely corresponds to your proposed building.
2. Turn to the page with the city and foundation type corresponding to your building needs.
3. Read the base load number for heating.
4. Subtract from the base load the number corresponding to the R-Value of your ceiling insulation.
5. Subtract the number corresponding to the R-Value of your wall insulation.
6. Subtract the number corresponding to your foundation insulation.
7. Subtract the number corresponding to the infiltration rate (in air changes per hour) of your building.
8. Subtract the number corresponding to the correct window area (percent of floor area), number of panes, sash type, and gap size for your building.
9. Multiply the resulting value by the area multiplier that most closely corresponds to the floor area of your building.

The result is the total load for the the building in mBtus per year.
The same process is repeated for cooling loads.

Example of Steps for Calculating the Heating and
Cooling Loads for a Ranch House
in Kansas City

The following examples assume a house with R-19 ceiling insulation, R-19 wall insulation, R-5 insulation 4 feet deep (basement foundation), medium infiltration (0.7 ach), double pane glass with 0.5 inch air gap on windows that have area equal to 15% of the floor area with wood sash,

and a floor area of 2000 square feet.

Kansas City, with a basement foundation, is on page 25 of the Ranch section of the matrix. The base load for heating is 131.94 mBtu/yr. The base load for cooling is 41.11 mBtu/yr. From these loads, the savings from insulation are subtracted as follows:

<u>HEATING</u>	<u>COOLING</u>	
131.94	41.11	- base load
- 34.27	- 8.21	- savings from ceiling insulation
<hr/>	<hr/>	
97.67	32.90	
- 19.65	- 3.07	- savings from wall insulation
<hr/>	<hr/>	
78.02	29.83	
- 4.46	- 0.73	- savings from floor insulation
<hr/>	<hr/>	
73.56	29.10	
- 8.44	- 1.05	- saving from reduced infiltration (ach)
<hr/>	<hr/>	
65.12	28.05	
- 20.46	- 6.09	- savings from window construction
<hr/>	<hr/>	
44.66	21.96	- SUBTOTAL

The subtotal is then multiplied by a floor area multiplier to match the size of the house:

44.66	21.96	
x 1.257	x 1.171	
<hr/>	<hr/>	
56.138	25.715	- Total load for the building in mBtu per year.

RANCH

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-25.87	R-11	-12.81	R-5 2FT	-10.38
R-19	-29.08	R-19	-15.73	R-5 4FT	-11.89
R-30	-31.36	R-27	-17.29		
R-38	-32.19				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.33	R-11	-2.61	R-5 2FT	-2.14
R-19	-12.81	R-19	-3.19	R-5 4FT	-2.43
R-30	-13.75	R-27	-3.41		
R-38	-14.12				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.22
LOW (.4 ACH)	-12.45

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.17
LOW (.4 ACH)	-.34

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.85	-4.21	-1.42
	WOOD	-8.26	-6.33	-4.25
	ALUM	-6.14	-3.14	0.
	ALUM+TB	-7.56	-5.27	-2.85
2 PANE 1/4IN.	PLAIN	-12.60	-12.74	-12.66
	WOOD	-12.98	-13.31	-13.42
	ALUM	-10.74	-9.94	-8.93
	ALUM+TB	-12.24	-12.19	-11.93
2 PANE 1/2IN.	PLAIN	-13.77	-14.49	-14.99
	WOOD	-14.08	-14.96	-15.63
	ALUM	-12.10	-11.99	-11.66
	ALUM+TB	-13.45	-14.01	-14.35
3 PANE 1/4IN.	PLAIN	-14.70	-15.58	-16.22
	WOOD	-14.82	-15.77	-16.47
	ALUM	-12.69	-12.57	-12.20
	ALUM+TB	-13.29	-13.48	-13.40
3 PANE 1/2IN.	PLAIN	-15.73	-17.13	-18.27
	WOOD	-15.83	-17.28	-18.48
	ALUM	-14.13	-14.73	-15.08
	ALUM+TB	-15.22	-16.38	-17.27

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.53	-4.43	-.04
-8.58	-4.50	-.11
-8.50	-4.40	0.
-8.55	-4.47	-.08
-9.60	-6.08	-2.20
-9.61	-6.09	-2.22
-9.53	-5.99	-2.10
-9.58	-6.06	-2.18
-9.64	-6.13	-2.26
-9.65	-6.14	-2.28
-9.58	-6.05	-2.17
-9.62	-6.11	-2.24
-10.18	-6.92	-3.39
-10.19	-6.93	-3.40
-10.11	-6.83	-3.28
-10.13	-6.85	-3.31
-10.22	-6.97	-3.45
-10.22	-6.97	-3.45
-10.16	-6.90	-3.36
-10.20	-6.95	-3.42

BASE LOAD = 101.17 MBTU-YR

BASE LOAD = 39.86 MBTU-YR

AREA	MULTIPLIERS
1000	.674
1100	.736
1200	.798
1300	.859
1400	.919
1500	.978
1600	1.037
1700	1.095
1800	1.152
1900	1.208
2000	1.263
2100	1.321
2200	1.379
2300	1.436
2400	1.492
2500	1.549
2600	1.604
2700	1.659
2800	1.714
2900	1.768
3000	1.822

AREA	MULTIPLIERS
1000	.799
1100	.848
1200	.891
1300	.929
1400	.961
1500	.987
1600	1.027
1700	1.064
1800	1.097
1900	1.127
2000	1.154
2100	1.188
2200	1.220
2300	1.250
2400	1.277
2500	1.303
2600	1.336
2700	1.368
2800	1.399
2900	1.429
3000	1.457

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.43	R-11	-9.61	R-5 2FT	-7.06
R-19	-21.81	R-19	-11.82	R-5 4FT	-8.05
R-30	-23.51	R-27	-12.99		
R-38	-24.13				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.42	R-11	-1.25	R-5 2FT	-3.12
R-19	-7.91	R-19	-1.62	R-5 4FT	-3.82
R-30	-8.38	R-27	-1.79		
R-38	-8.53				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.49
LOW (.4 ACH)	-10.97

INFILTRATION

HI (1 ACH)	-0.87
MED (.7 ACH)	-0.43
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.74	-3.45	-1.07
	WOOD	-6.80	-5.05	-3.19
	ALUM	-5.21	-2.65	0.
	ALUM+TB	-6.27	-4.25	-2.14
2 PANE 1/4IN.	PLAIN	-10.22	-10.08	-9.79
	WOOD	-10.50	-10.50	-10.35
	ALUM	-8.82	-7.98	-6.99
	ALUM+TB	-9.94	-9.66	-9.23
2 PANE 1/2IN.	PLAIN	-11.09	-11.39	-11.53
	WOOD	-11.33	-11.74	-12.01
	ALUM	-9.84	-9.51	-9.03
	ALUM+TB	-10.85	-11.03	-11.06
3 PANE 1/4IN.	PLAIN	-11.82	-12.23	-12.48
	WOOD	-11.91	-12.38	-12.67
	ALUM	-10.31	-9.97	-9.47
	ALUM+TB	-10.76	-10.65	-10.37
3 PANE 1/2IN.	PLAIN	-12.59	-13.39	-14.03
	WOOD	-12.67	-13.51	-14.18
	ALUM	-11.39	-11.59	-11.63
	ALUM+TB	-12.21	-12.83	-13.27

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.97	-4.52	-0.02
-8.99	-4.54	-0.04
-8.96	-4.51	0.
-8.98	-4.53	-0.03
-9.25	-4.99	-0.78
-9.25	-5.00	-0.79
-9.22	-4.96	-0.74
-9.24	-4.99	-0.77
-9.26	-5.01	-0.80
-9.27	-5.02	-0.81
-9.24	-4.98	-0.77
-9.26	-5.01	-0.80
-9.37	-5.21	-1.15
-9.38	-5.21	-1.15
-9.35	-5.17	-1.11
-9.35	-5.18	-1.12
-9.39	-5.22	-1.17
-9.39	-5.22	-1.17
-9.37	-5.20	-1.14
-9.38	-5.21	-1.16

BASE LOAD = 77.58 MBTU-YR

BASE LOAD = 40.07 MBTU-YR

AREA	MULTIPLIERS
1000	.667
1100	.731
1200	.793
1300	.856
1400	.917
1500	.978
1600	1.037
1700	1.096
1800	1.154
1900	1.212
2000	1.269
2100	1.328
2200	1.386
2300	1.445
2400	1.503
2500	1.560
2600	1.617
2700	1.673
2800	1.729
2900	1.784
3000	1.839

AREA	MULTIPLIERS
1000	.780
1100	.831
1200	.877
1300	.918
1400	.954
1500	.986
1600	1.028
1700	1.068
1800	1.105
1900	1.138
2000	1.169
2100	1.207
2200	1.243
2300	1.277
2400	1.309
2500	1.339
2600	1.376
2700	1.412
2800	1.447
2900	1.480
3000	1.512

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.42	R-11	-9.63	R-5 4FT	-2.46
R-19	-21.81	R-19	-11.85	R-5 8FT	-3.76
R-30	-23.52	R-27	-13.03	R-10 8FT	-5.31
R-38	-24.14			R-19 FLR	-5.76
R-49	-24.67				
R-60	-25.01				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.53	R-11	-1.42	R-5 4FT	-1.10
R-19	-8.08	R-19	-1.32	R-5 8FT	-2.00
R-30	-8.57	R-27	-1.49	R-10 8FT	-2.98
R-38	-8.75			R-19 FLR	-2.40
R-49	-8.97				
R-60	-8.72				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.41
LOW (.4 ACH)	-10.81

INFILTRATION

HI (1 ACH)	-2.04
MED (.7 ACH)	-1.02
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.74	-3.46	-1.07
	WOOD	-6.81	-5.05	-3.20
	ALUM	-5.21	-2.65	0.
	ALUM+TB	-6.28	-4.26	-2.14
2 PANE 1/4IN.	PLAIN	-10.22	-10.08	-9.78
	WOOD	-10.50	-10.50	-10.35
	ALUM	-8.81	-7.96	-6.96
	ALUM+TB	-9.94	-9.66	-9.23
2 PANE 1/2IN.	PLAIN	-11.10	-11.39	-11.54
	WOOD	-11.34	-11.76	-12.02
	ALUM	-9.84	-9.51	-9.03
	ALUM+TB	-10.86	-11.03	-11.06
3 PANE 1/4IN.	PLAIN	-11.83	-12.24	-12.49
	WOOD	-11.92	-12.38	-12.68
	ALUM	-10.31	-9.97	-9.45
	ALUM+TB	-10.77	-10.65	-10.36
3 PANE 1/2IN.	PLAIN	-12.61	-13.41	-14.04
	WOOD	-12.68	-13.52	-14.19
	ALUM	-11.40	-11.63	-11.63
	ALUM+TB	-12.23	-12.84	-13.28

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.97	-4.52	-0.02
-9.00	-4.55	-0.05
-8.96	-4.51	0.
-8.99	-4.53	-0.03
-9.18	-4.93	-0.73
-9.18	-4.93	-0.72
-9.19	-4.95	-0.74
-9.18	-4.94	-0.73
-9.18	-4.93	-0.72
-9.17	-4.93	-0.71
-9.18	-4.94	-0.73
-9.18	-4.93	-0.72
-9.25	-5.09	-1.04
-9.25	-5.09	-1.04
-9.26	-5.10	-1.05
-9.26	-5.10	-1.05
-9.25	-5.08	-1.03
-9.25	-5.08	-1.03
-9.26	-5.09	-1.04
-9.25	-5.09	-1.03

BASE LOAD = 75.80 MBTU-YR

BASE LOAD = 39.70 MBTU-YR

AREA	MULTIPLIERS
1000 .667	1700 1.096
1100 .731	1800 1.155
1200 .793	1900 1.212
1300 .855	2000 1.269
1400 .917	2100 1.328
1500 .978	2200 1.387
1600 1.037	2300 1.445
	2400 1.503
	2500 1.560
	2600 1.617
	2700 1.673
	2800 1.729
	2900 1.785
	3000 1.840

AREA	MULTIPLIERS
1000 .781	1700 1.067
1100 .832	1800 1.104
1200 .878	1900 1.137
1300 .919	2000 1.168
1400 .955	2100 1.205
1500 .986	2200 1.241
1600 1.028	2300 1.274
	2400 1.306
	2500 1.335
	2600 1.372
	2700 1.408
	2800 1.442
	2900 1.475
	3000 1.506

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.17	R-11	-9.61	R-11 FLR	-16.58
R-19	-21.64	R-19	-11.84	R-19 FLR	-18.92
R-30	-23.35	R-27	-13.01		
R-38	-23.97				
R-49	-24.50				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.46
LOW (.4 ACH)	-10.91

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.74	-3.45	-1.07
	WOOD	-6.80	-5.05	-3.19
	ALUM	-5.21	-2.65	0.
	ALUM+TB	-6.27	-4.25	-2.13
2 PANE 1/4IN.	PLAIN	-10.24	-10.10	-9.81
	WOOD	-10.53	-10.53	-10.38
	ALUM	-8.84	-8.00	-7.01
	ALUM+TB	-9.97	-9.69	-9.26
2 PANE 1/2IN.	PLAIN	-11.12	-11.41	-11.56
	WOOD	-11.35	-11.77	-12.04
	ALUM	-9.87	-9.54	-9.06
	ALUM+TB	-10.88	-11.05	-11.08
3 PANE 1/4IN.	PLAIN	-11.86	-12.27	-12.52
	WOOD	-11.95	-12.42	-12.71
	ALUM	-10.35	-10.01	-9.51
	ALUM+TB	-10.80	-10.69	-10.41
3 PANE 1/2IN.	PLAIN	-12.63	-13.43	-14.07
	WOOD	-12.71	-13.55	-14.22
	ALUM	-11.43	-11.63	-11.67
	ALUM+TB	-12.25	-12.87	-13.31

BASE LOAD = 90.52 MBTU-YR

AREA	MULTIPLIERS				
1000	.671	1700	1.095	2400	1.496
1100	.734	1800	1.153	2500	1.553
1200	.796	1900	1.209	2600	1.609
1300	.858	2000	1.265	2700	1.665
1400	.918	2100	1.324	2800	1.720
1500	.978	2200	1.382	2900	1.774
1600	1.037	2300	1.439	3000	1.828

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.08	R-11	-2.06	R-11 FLR	-7.47
R-19	-8.15	R-19	-2.53	R-19 FLR	-8.35
R-30	-8.86	R-27	-2.79		
R-38	-9.11				
R-49	-9.11				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.32
LOW (.4 ACH)	-16.65

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.98	-4.53	-0.02
-9.01	-4.57	-0.07
-8.97	-4.51	0.
-9.00	-4.55	-0.05
-9.72	-5.46	-1.25
-9.73	-5.47	-1.26
-9.68	-5.41	-1.18
-9.71	-5.45	-1.23
-9.75	-5.50	-1.29
-9.75	-5.51	-1.30
-9.71	-5.45	-1.23
-9.74	-5.49	-1.28
-10.31	-6.14	-2.08
-10.31	-6.14	-2.08
-10.26	-6.08	-2.01
-10.27	-6.09	-2.03
-10.33	-6.16	-2.11
-10.33	-6.17	-2.12
-10.29	-6.12	-2.06
-10.32	-6.15	-2.10

BASE LOAD = 46.66 MBTU-YR

AREA	MULTIPLIERS				
1000	.777	1700	1.068	2400	1.313
1100	.828	1800	1.106	2500	1.344
1200	.875	1900	1.140	2600	1.381
1300	.917	2000	1.171	2700	1.418
1400	.953	2100	1.210	2800	1.453
1500	.985	2200	1.246	2900	1.486
1600	1.028	2300	1.281	3000	1.519

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -17.94	R-11 -8.55	R-5 2FT -6.53	R-11 -9.02	R-11 -1.87	R-5 2FT -3.87
R-19 -20.18	R-19 -10.53	R-5 4FT -7.45	R-19 -9.79	R-19 -2.24	R-5 4FT -4.54
R-30 -21.76	R-27 -11.57		R-30 -10.38	R-27 -2.43	
R-38 -22.33			R-38 -10.66		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-52
LOW (.4 ACH)	-1.04

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -17.94	R-11 -8.55	R-5 2FT -6.53	R-11 -9.02	R-11 -1.87	R-5 2FT -3.87
R-19 -20.18	R-19 -10.53	R-5 4FT -7.45	R-19 -9.79	R-19 -2.24	R-5 4FT -4.54
R-30 -21.76	R-27 -11.57		R-30 -10.38	R-27 -2.43	
R-38 -22.33			R-38 -10.66		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.18
LOW (.4 ACH)	-10.37

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.36	-2.70	-9.95	-10.45	-5.19	-9.03
	WOOD	-5.30	-4.12	-2.84	-10.49	-5.24	-1.10
	ALUM	-3.88	0.	0.	-10.43	-5.17	0.
2 PANE 1/4IN.	ALUM+TB	-4.83	-3.41	-1.90	-10.47	-5.22	-0.06
	PLAIN	-7.88	-7.92	-7.83	-10.96	-6.15	-1.23
	WOOD	-8.13	-8.29	-8.33	-10.97	-6.17	-1.24
	ALUM	-6.63	-6.05	-5.34	-10.90	-6.08	-1.14
2 PANE 1/2IN.	ALUM+TB	-7.63	-7.55	-7.34	-10.95	-6.14	-1.21
	PLAIN	-8.55	-9.08	-9.38	-10.99	-6.19	-1.28
	WOOD	-8.87	-9.40	-9.80	-11.00	-6.21	-1.29
	ALUM	-7.54	-7.42	-7.16	-10.94	-6.13	-1.20
	ALUM+TB	-8.44	-8.76	-8.95	-10.98	-6.18	-1.26
3 PANE 1/4IN.	PLAIN	-9.23	-9.74	-10.10	-11.30	-6.76	-1.99
	WOOD	-9.32	-9.86	-10.27	-11.30	-6.77	-1.99
	ALUM	-7.69	-7.73	-7.42	-11.24	-6.69	-1.90
	ALUM+TB	-8.29	-8.33	-8.23	-11.26	-6.71	-1.92
3 PANE 1/2IN.	PLAIN	-9.92	-10.77	-11.48	-11.33	-6.80	-2.03
	WOOD	-9.99	-10.87	-11.61	-11.33	-6.80	-2.04
	ALUM	-8.85	-9.17	-9.34	-11.28	-6.74	-1.96
	ALUM+TB	-9.58	-10.27	-10.81	-11.32	-6.78	-2.01

BASE LOAD = 50.40 MBTU-YR

BASE LOAD = 69.56 MBTU-YR

AREA MULTIPLIERS

AREA MULTIPLIERS

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000 .664	1.097	1700	1.071
1100 .728	1.156	1800	1.110
1200 .791	1.214	1900	1.147
1300 .854	1.271	2000	1.181
1400 .916	1.331	2100	1.221
1500 .978	1.390	2200	1.260
1600 1.038	1.449	2300	1.297
		2400	1.332
		2500	1.366
		2600	1.405
		2700	1.444
		2800	1.481
		2900	1.517
		3000	1.552

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-43.54	R-11	-27.45	R-5 4FT	-8.53
R-19	-50.86	R-19	-34.54	R-5 8FT	-13.19
R-30	-56.39	R-27	-38.42	R-10 8FT	-18.79
R-38	-58.42			R-19 FLR	-20.63
R-49	-60.16				
R-60	-61.28				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	K-0	-0.28
R-11	-4.70	R-11	-1.26	K-5 4FT	-0.41
R-19	-5.29	R-19	-1.50	K-5 8FT	-0.53
R-30	-5.57	R-27	-1.59	K-10 8FT	-0.59
R-38	-5.71			K-19 FLR	0.
R-49	-5.86				
R-60	-5.93				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-14.81
LOW (1.4 ACH)	-29.61

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-0.07
LOW (1.4 ACH)	-0.15

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-23.39	-13.04	-3.05
	WOOD	-26.42	-17.59	-9.11
	ALUM	-21.87	-10.76	0.
2 PANE 1/4IN.	ALUM+TB	-24.92	-15.33	-6.10
	PLAIN	-36.92	-32.91	-28.82
	WOOD	-37.83	-34.28	-30.64
2 PANE 1/2IN.	ALUM	-32.40	-26.13	-19.77
	ALUM+TB	-36.02	-31.57	-27.03
	PLAIN	-39.73	-37.14	-34.45
3 PANE 1/4IN.	WOOD	-40.51	-38.29	-35.99
	ALUM	-35.70	-31.08	-26.38
	ALUM+TB	-38.96	-35.98	-32.91
3 PANE 1/2IN.	PLAIN	-42.29	-40.34	-38.26
	WOOD	-42.59	-40.79	-38.86
	ALUM	-37.42	-33.04	-28.52
3 PANE 1/2IN.	ALUM+TB	-38.88	-35.23	-31.44
	PLAIN	-44.78	-44.08	-43.24
	WOOD	-45.03	-44.44	-43.73
	ALUM	-40.91	-38.27	-35.50
	ALUM+TB	-43.57	-42.25	-40.81

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.06	-2.61	-0.01
-5.07	-2.62	-0.02
-5.05	-2.60	0.
-5.06	-2.61	-0.01
-5.72	-3.62	-1.34
-5.72	-3.62	-1.34
-5.71	-3.61	-1.33
-5.72	-3.62	-1.34
-5.73	-3.63	-1.35
-5.73	-3.63	-1.35
-5.72	-3.62	-1.34
-5.73	-3.63	-1.35
-5.73	-3.63	-1.35
-6.08	-4.13	-2.02
-6.08	-4.13	-2.02
-6.07	-4.12	-2.00
-6.07	-4.12	-2.00
-6.09	-4.14	-2.02
-6.09	-4.14	-2.02
-6.08	-4.13	-2.01
-6.09	-4.13	-2.02

BASE LOAD = 237.90 MBTU-YR

BASE LOAD = 18.52 MBTU-YR

AREA	MULTIPLIERS				
1000	.689	1700	1.090	2400	1.469
1100	.750	1800	1.145	2500	1.522
1200	.809	1900	1.198	2600	1.575
1300	.867	2000	1.251	2700	1.627
1400	.923	2100	1.306	2800	1.679
1500	.978	2200	1.361	2900	1.731
1600	1.035	2300	1.415	3000	1.781

AREA	MULTIPLIERS				
1000	.871	1700	1.048	2400	1.157
1100	.912	1800	1.068	2500	1.165
1200	.945	1900	1.083	2600	1.186
1300	.969	2000	1.094	2700	1.204
1400	.986	2100	1.115	2800	1.221
1500	.993	2200	1.132	2900	1.235
1600	1.023	2300	1.146	3000	1.248

BOISE RANCH CRAWLV HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL			FOUNDATION		
	R-0	R-11	R-19	R-0	R-11	R-19
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -34.15	R-11 -17.71	R-11 FLR -30.71	R-11 -1.72	R-11 FLR -6.33	R-11 FLR -6.33	R-11 FLR -6.33
R-19 -38.74	R-19 -21.86	R-19 FLR -35.12	R-19 -2.17	R-19 FLR -2.17	R-19 FLR -2.17	R-19 FLR -2.17
R-30 -41.95	R-27 -24.07		R-27 -2.28			
R-38 -43.13						
R-49 -44.14						

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.19
LOW (.4 ACH)	-.37

WINDOW	SASH	10 PCT AREA			15 PCT AREA			20 PCT AREA		
		PLAIN	WOOD	ALUM	PLAIN	WOOD	ALUM	PLAIN	WOOD	ALUM
1 PANE	PLAIN	-13.06	-7.54	-1.97	-6.26	-3.23	-0.02	-6.26	-3.23	-0.02
	WOOD	-15.01	-10.47	-5.88	-6.26	-3.23	-0.06	-6.26	-3.23	-0.06
	ALUM	-12.07	-6.06	0.	-6.26	-3.23	0.	-6.26	-3.23	0.
2 PANE 1/4IN.	ALUM+TB	-14.04	-9.01	-3.93	-6.27	-3.25	-0.04	-6.27	-3.25	-0.04
	PLAIN	-20.95	-19.27	-17.46	-7.09	-4.49	-1.70	-7.09	-4.49	-1.70
	WOOD	-21.47	-20.06	-18.50	-7.10	-4.49	-1.71	-7.10	-4.49	-1.71
	ALUM	-18.37	-15.41	-12.30	-7.06	-4.44	-1.62	-7.06	-4.44	-1.62
2 PANE 1/2IN.	ALUM+TB	-20.44	-18.51	-16.44	-7.08	-4.48	-1.69	-7.08	-4.48	-1.69
	PLAIN	-22.55	-21.69	-20.68	-7.11	-4.51	-1.73	-7.11	-4.51	-1.73
	WOOD	-22.99	-22.35	-21.56	-7.12	-4.52	-1.74	-7.12	-4.52	-1.74
	ALUM	-20.25	-18.23	-16.07	-7.08	-4.47	-1.69	-7.08	-4.47	-1.69
3 PANE 1/4IN.	ALUM+TB	-22.11	-21.03	-19.80	-7.10	-4.51	-1.72	-7.10	-4.51	-1.72
	PLAIN	-24.02	-23.51	-22.85	-7.53	-5.11	-2.55	-7.53	-5.11	-2.55
	WOOD	-24.19	-23.77	-23.20	-7.54	-5.11	-2.55	-7.54	-5.11	-2.55
	ALUM	-21.24	-19.34	-17.30	-7.50	-5.06	-2.50	-7.50	-5.06	-2.50
3 PANE 1/2IN.	ALUM+TB	-22.07	-20.59	-18.96	-7.51	-5.08	-2.51	-7.51	-5.08	-2.51
	PLAIN	-25.44	-25.64	-25.70	-7.55	-5.13	-2.58	-7.55	-5.13	-2.58
	WOOD	-25.58	-25.85	-25.97	-7.55	-5.13	-2.58	-7.55	-5.13	-2.58
	ALUM	-23.23	-22.33	-21.28	-7.52	-5.10	-2.54	-7.52	-5.10	-2.54
	ALUM+TB	-24.75	-24.60	-24.31	-7.54	-5.12	-2.57	-7.54	-5.12	-2.57

BASE LOAD = 32.50 MBTU-YR

AREA	MULTIPLIERS			AREA	MULTIPLIERS		
	1000	1500	2000		1000	1500	2000
1000	.812	1700	1.061	1700	1.061	2400	1.255
1100	.859	1800	1.092	1800	1.092	2500	1.278
1200	.901	1900	1.119	1900	1.119	2600	1.309
1300	.936	2000	1.143	2000	1.143	2700	1.339
1400	.965	2100	1.175	2100	1.175	2800	1.367
1500	.988	2200	1.204	2200	1.204	2900	1.393
1600	1.026	2300	1.231	2300	1.231	3000	1.419

BASE LOAD = 169.29 MBTU-YR

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 K-0	R-0 0.	R-0 0.	R-0 K-0
K-11 -35.52	R-11 -17.76	R-5 4FT -4.77	R-11 -6.95	R-11 -1.87	R-5 4FT -0.30
K-19 -39.96	R-19 -21.86	R-5 8FT -7.33	R-19 -7.83	K-19 -2.29	R-5 8FT -0.41
K-30 -43.13	R-27 -24.06	R-10 8FT -10.42	R-30 -8.34	K-27 -2.42	R-10 8FT -0.55
K-38 -44.28		R-19 FLR -11.43	R-38 -8.55		R-19 FLR 0.
K-49 -45.27			R-49 -8.76		
R-60 -45.91			R-60 -8.91		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -8.52
LOW (.4 ACH) -17.04

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.20
LOW (.4 ACH) -0.41

COOLING (IN MBTU-YR)

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.06	-7.55	-1.97	-6.26	-3.23	-0.02
	WOOD	-15.02	-10.49	-5.89	-6.24	-3.27	-0.06
	ALUM	-12.08	-6.07	0.	-6.24	-3.22	0.
	ALUM+TB	-14.05	-9.02	-3.94	-6.27	-3.25	-0.04
2 PANE 1/4IN.	PLAIN	-20.82	-19.14	-17.31	-7.10	-4.49	-1.71
	WOOD	-21.35	-19.93	-18.37	-7.11	-4.50	-1.72
	ALUM	-18.21	-15.22	-12.09	-7.06	-4.45	-1.66
	ALUM+TB	-20.31	-18.37	-16.28	-7.09	-4.49	-1.70
2 PANE 1/2IN.	PLAIN	-22.45	-21.58	-20.57	-7.12	-4.52	-1.74
	WOOD	-22.90	-22.25	-20.57	-7.13	-4.53	-1.75
	ALUM	-20.12	-18.08	-15.91	-7.09	-4.48	-1.70
	ALUM+TB	-22.01	-20.91	-19.68	-7.11	-4.52	-1.73
3 PANE 1/4IN.	PLAIN	-23.84	-23.32	-22.66	-7.54	-5.11	-2.56
	WOOD	-24.02	-23.59	-23.01	-7.54	-5.12	-2.56
	ALUM	-21.03	-19.10	-17.03	-7.50	-5.07	-2.50
	ALUM+TB	-21.87	-20.37	-18.72	-7.51	-5.08	-2.52
3 PANE 1/2IN.	PLAIN	-25.28	-25.49	-25.54	-7.56	-5.14	-2.54
	WOOD	-25.42	-25.70	-25.82	-7.56	-5.14	-2.54
	ALUM	-23.04	-22.13	-21.06	-7.53	-5.10	-2.54
	ALUM+TB	-24.58	-24.43	-24.13	-7.55	-5.13	-2.57

BASE LOAD = 143.75 MBTU-YR

BASE LOAD = 24.56 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1000	.682
1100	.744
1200	.804
1300	.863
1400	.921
1500	.978
1600	1.036
1700	1.092
1800	1.148
1900	1.203
2000	1.257
2100	1.313
2200	1.369
2300	1.425
2400	1.480
2500	1.534
2600	1.589
2700	1.642
2800	1.696
2900	1.748
3000	1.801

AREA MULTIPLIERS

AREA	MULTIPLIERS
1000	.849
1100	.893
1200	.929
1300	.957
1400	.978
1500	.992
1600	1.024
1700	1.052
1800	1.077
1900	1.097
2000	1.112
2100	1.137
2200	1.159
2300	1.178
2400	1.194
2500	1.207
2600	1.231
2700	1.254
2800	1.275
2900	1.294
3000	1.311

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 K-0
K-11 -38.00	R-11 -19.49	R-5 4FT -5.39	R-11 -2.73	R-11 -0.84	R-5 4FT -0.42
K-19 -42.74	R-19 -23.90	R-5 8FT -8.29	R-19 -3.00	R-19 -0.99	R-5 8FT -0.47
K-30 -46.12	R-27 -26.27	R-10 8FT -11.70	R-30 -3.20	R-27 -1.07	K-10 8FT -0.50
K-38 -47.36		R-19 FLR -12.90	R-38 -3.26		R-19 FLR 0.
K-49 -48.40			R-49 -3.33		
K-60 -49.07			R-60 -3.35		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -9.56
 LOW (.4 ACH) -19.13

INFILTRATION

HI (1 ACH) -0.29
 MED (.7 ACH) -0.14
 LOW (.4 ACH) 0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-14.33	-8.26	-2.16	-4.13	-2.01	-0.00
	WOOD	-16.48	-11.49	-6.47	-4.13	-2.01	-0.01
	ALUM	-13.25	-6.64	0.	-4.12	-2.00	0.
2 PANE 1/4IN.	ALUM+TB	-15.41	-9.89	-4.33	-4.13	-2.01	-0.01
	PLAIN	-23.93	-22.51	-20.95	-4.51	-2.56	-0.71
	WOOD	-24.50	-23.36	-22.08	-4.51	-2.56	-0.71
	ALUM	-21.12	-18.29	-15.32	-4.50	-2.55	-0.70
2 PANE 1/2IN.	ALUM+TB	-23.38	-21.68	-19.84	-4.50	-2.56	-0.71
	PLAIN	-25.68	-25.14	-24.45	-4.51	-2.56	-0.72
	WOOD	-26.16	-25.86	-25.41	-4.51	-2.56	-0.72
	ALUM	-23.17	-21.38	-19.43	-4.50	-2.56	-0.71
3 PANE 1/4IN.	ALUM+TB	-25.21	-24.42	-23.49	-4.51	-2.56	-0.71
	PLAIN	-27.30	-27.09	-26.70	-4.75	-2.97	-1.13
	WOOD	-27.49	-27.37	-27.08	-4.75	-2.97	-1.13
	ALUM	-24.27	-22.55	-20.64	-4.74	-2.96	-1.12
3 PANE 1/2IN.	ALUM+TB	-25.18	-23.91	-22.46	-4.74	-2.96	-1.12
	PLAIN	-28.85	-29.42	-29.80	-4.75	-2.97	-1.13
	WOOD	-29.01	-29.64	-30.11	-4.75	-2.97	-1.13
	ALUM	-26.44	-25.80	-24.99	-4.74	-2.97	-1.12
	ALUM+TB	-28.10	-28.28	-28.29	-4.75	-2.97	-1.13

BASE LOAD = 159.07 MBTU-YR

BASE LOAD = 14.47 MBTU-YR

AREA	MULTIPLIERS
1000	0.683
1100	0.745
1200	0.805
1300	0.864
1400	0.922
1500	0.978
1600	1.035

AREA	MULTIPLIERS
1000	0.877
1100	0.918
1200	0.950
1300	0.973
1400	0.988
1500	0.994
1600	1.022

AREA	MULTIPLIERS
1700	1.046
1800	1.065
1900	1.080
2000	1.089
2100	1.108
2200	1.125
2300	1.137
2400	1.147
2500	1.153
2600	1.172
2700	1.189
2800	1.205
2900	1.218
3000	1.229

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.29	R-11	-1.95	R-5 2FT	-0.46
R-19	-4.78	R-19	-2.36	R-5 4FT	-0.52
R-30	-5.07	R-27	-2.53		
R-38	-5.17				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.00
LOW (.4 ACH)	-1.99

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.94	R-11	-5.03	R-5 2FT	-4.59
R-19	-13.52	R-19	-6.18	R-5 4FT	-5.23
R-30	-14.64	R-27	-6.80		
R-38	-15.02				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.76
LOW (.4 ACH)	-11.53

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-0.92	-0.59	-0.22
	WOOD	-1.13	-0.91	-0.65
	ALUM	-0.81	-0.43	0.
	ALUM+TB	-1.03	-0.75	-0.43
2 PANE 1/4IN.	PLAIN	-1.75	-1.80	-1.79
	WOOD	-1.81	-1.89	-1.90
	ALUM	-1.47	-1.37	-1.22
	ALUM+TB	-1.69	-1.72	-1.68
2 PANE 1/2IN.	PLAIN	-1.93	-2.07	-2.14
	WOOD	-1.98	-2.14	-2.24
	ALUM	-1.67	-1.69	-1.64
	ALUM+TB	-1.88	-1.99	-2.05
3 PANE 1/4IN.	PLAIN	-2.01	-2.11	-2.15
	WOOD	-2.03	-2.14	-2.19
	ALUM	-1.71	-1.66	-1.54
	ALUM+TB	-1.80	-1.79	-1.72
3 PANE 1/2IN.	PLAIN	-2.17	-2.35	-2.46
	WOOD	-2.18	-2.37	-2.49
	ALUM	-1.93	-1.98	-1.97
	ALUM+TB	-2.09	-2.23	-2.31

BASE LOAD = 12.72 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-20.23	-10.11	-0.19
-20.49	-10.44	-0.58
-20.10	-9.95	0.
-20.36	-10.28	-0.39
-23.12	-14.38	-5.71
-23.19	-14.47	-5.82
-22.79	-13.96	-5.20
-23.00	-14.30	-5.61
-23.33	-14.65	-6.03
-23.39	-14.72	-6.12
-23.03	-14.27	-5.58
-23.27	-14.58	-5.95
-24.74	-16.50	-8.35
-24.77	-16.53	-8.39
-24.38	-16.04	-7.80
-24.49	-16.18	-7.97
-24.93	-16.73	-8.63
-24.95	-16.75	-8.66
-24.64	-16.37	-8.20
-24.84	-16.62	-8.50

BASE LOAD = 108.76 MBTU-YR

AREA	MULTIPLIERS
1000	.540
1100	.618
1200	.701
1300	.789
1400	.881
1500	.977
1600	1.054
1700	1.132
1800	1.212
1900	1.293
2000	1.376
2100	1.456
2200	1.537
2300	1.619
2400	1.702
2500	1.786
2600	1.864
2700	1.943
2800	2.021
2900	2.101
3000	2.181

AREA	MULTIPLIERS
1000	.735
1100	.791
1200	.844
1300	.893
1400	.939
1500	.982
1600	1.031
1700	1.078
1800	1.122
1900	1.165
2000	1.206
2100	1.252
2200	1.297
2300	1.340
2400	1.382
2500	1.423
2600	1.468
2700	1.512
2800	1.556
2900	1.598
3000	1.639

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-42.03	R-11	-22.60	R-5 4FT	-6.22
R-19	-47.52	R-19	-27.80	R-5 8FT	-9.55
R-30	-51.47	R-27	-30.62	R-10 8FT	-13.53
R-38	-52.91			R-19 FLR	-14.91
R-49	-54.15				
R-60	-54.94				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.34
R-11	-2.39	R-11	-0.52	R-5 4FT	-0.37
R-19	-2.66	R-19	-0.61	R-5 8FT	-0.40
R-30	-2.82	R-27	-0.64	R-10 8FT	-0.41
R-38	-2.88			R-19 FLR	0.
R-49	-2.94				
R-60	-2.99				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.11
LOW (.4 ACH)	-22.22

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.00
LOW (.4 ACH)	-0.00

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-17.95	-10.22	-2.51
	WOOD	-20.44	-13.96	-7.50
	ALUM	-16.70	-8.34	0.
	ALUM+TB	-19.20	-12.10	-5.02
2 PANE 1/4IN.	PLAIN	-28.64	-26.15	-23.58
	WOOD	-29.30	-27.15	-24.92
	ALUM	-25.32	-21.18	-16.96
	ALUM+TB	-27.98	-25.17	-22.28
2 PANE 1/2IN.	PLAIN	-30.70	-29.25	-27.72
	WOOD	-31.27	-30.10	-28.84
	ALUM	-27.74	-24.81	-21.80
	ALUM+TB	-30.14	-28.40	-26.59
3 PANE 1/4IN.	PLAIN	-32.61	-31.65	-30.59
	WOOD	-32.83	-31.99	-31.03
	ALUM	-29.04	-26.30	-23.45
	ALUM+TB	-30.11	-27.91	-25.59
3 PANE 1/2IN.	PLAIN	-34.44	-34.39	-34.24
	WOOD	-34.61	-34.66	-34.60
	ALUM	-31.60	-30.14	-28.56
	ALUM+TB	-33.54	-33.06	-32.46

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.56	-1.95	-0.00
-3.57	-1.95	-0.01
-3.56	-1.95	0.
-3.57	-1.95	-0.00
-3.85	-2.38	-0.59
-3.85	-2.38	-0.59
-3.85	-2.37	-0.59
-3.85	-2.38	-0.59
-3.85	-2.38	-0.59
-3.85	-2.38	-0.59
-3.85	-2.38	-0.59
-4.05	-2.61	-1.13
-4.05	-2.61	-1.13
-4.05	-2.60	-1.12
-4.05	-2.61	-1.13
-4.05	-2.61	-1.13
-4.05	-2.61	-1.13
-4.05	-2.61	-1.13

BASE LOAD = 185.48 MBTU-YR

BASE LOAD = 10.40 MBTU-YR

AREA	MULTIPLIERS				
1000	.686	1700	1.091	2400	1.474
1100	.747	1800	1.146	2500	1.528
1200	.807	1900	1.200	2600	1.581
1300	.865	2000	1.253	2700	1.634
1400	.922	2100	1.309	2800	1.687
1500	.978	2200	1.365	2900	1.739
1600	1.035	2300	1.420	3000	1.790

AREA	MULTIPLIERS				
1000	.877	1700	1.046	2400	1.147
1100	.918	1800	1.065	2500	1.153
1200	.950	1900	1.080	2600	1.172
1300	.973	2000	1.089	2700	1.189
1400	.988	2100	1.108	2800	1.205
1500	.994	2200	1.125	2900	1.218
1600	1.022	2300	1.137	3000	1.229

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL			FOUNDATION		
	R-0	R-11	R-19	R-0	R-11	R-19
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -43.18	R-11 -24.95	R-11 -30.08	R-11 -2.76	R-11 -0.68	R-11 -0.68	R-11 -0.41
R-19 -49.47	R-19 -30.08	R-19 -34.12	R-19 -3.08	R-19 -0.87	R-19 -0.87	R-19 -0.47
R-30 -54.03	R-27 -34.12	R-10 8FT -15.33	R-30 -3.30	R-27 -0.91	R-10 8FT -0.50	R-30 -0.47
R-38 -55.70	R-19 FLR -16.89	R-19 FLR -16.89	R-38 -3.38		R-19 FLR 0.	R-38 -0.50
R-49 -57.12			R-49 -3.46			
R-60 -58.04			R-60 -3.52			

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-13.08
LOW (0.4 ACH)	-26.16

WINDOW	SASH	10 PCT AREA			15 PCT AREA			20 PCT AREA		
		PLAIN	WOOD	ALUM	PLAIN	WOOD	ALUM	PLAIN	WOOD	ALUM
1 PANE	PLAIN	-19.78	-22.53	-18.39	-11.23	-15.37	-9.16	-2.77	-8.28	0.
2 PANE 1/4IN.	ALUM+TB	-21.16	-31.23	-31.99	-13.31	-28.29	-29.43	-5.54	-25.27	-26.79
	WOOD	-27.45	-31.99	-27.45	-22.62	-28.29	-29.43	-17.71	-26.79	-26.79
	ALUM+TB	-30.48	-31.99	-30.48	-27.17	-28.29	-29.43	-23.78	-26.79	-26.79
2 PANE 1/2IN.	PLAIN	-33.58	-34.23	-30.21	-31.82	-32.79	-30.21	-29.98	-31.27	-31.27
	WOOD	-34.23	-34.23	-30.21	-32.79	-32.79	-30.21	-31.27	-31.27	-31.27
	ALUM+TB	-32.94	-34.23	-32.94	-26.76	-32.79	-30.21	-23.24	-31.27	-31.27
3 PANE 1/4IN.	PLAIN	-35.71	-35.96	-31.64	-34.48	-34.86	-34.48	-33.17	-33.17	-33.17
	WOOD	-35.96	-35.96	-31.64	-34.86	-34.86	-34.48	-33.68	-33.68	-33.68
	ALUM	-31.64	-35.96	-31.64	-28.38	-34.86	-34.48	-25.04	-33.68	-33.68
3 PANE 1/2IN.	ALUM+TB	-32.86	-37.79	-37.79	-30.21	-37.60	-37.91	-27.48	-37.34	-37.34
	PLAIN	-37.79	-37.79	-37.79	-37.60	-37.60	-37.91	-37.34	-37.34	-37.34
	WOOD	-38.00	-37.79	-38.00	-37.91	-37.91	-37.75	-37.75	-37.75	-37.75
3 PANE 1/4IN.	ALUM	-34.56	-36.78	-36.78	-32.75	-32.75	-30.87	-30.87	-30.87	-30.87
	WOOD	-36.78	-36.78	-36.78	-36.08	-36.08	-35.31	-35.31	-35.31	-35.31
	ALUM+TB	-36.08	-36.78	-36.08	-36.08	-36.08	-35.31	-35.31	-35.31	-35.31

BASE LOAD = 11.20 MBTU-YR

BASE LOAD = 207.04 MBTU-YR

AREA	MULTIPLIERS			AREA	MULTIPLIERS		
	10 PCT	15 PCT	20 PCT		10 PCT	15 PCT	20 PCT
1000	0.877	1700	1.046	1000	0.877	1700	1.046
1100	0.918	1800	1.065	1100	0.918	1800	1.065
1200	0.950	1900	1.080	1200	0.950	1900	1.080
1300	0.988	2000	1.108	1300	0.988	2000	1.108
1400	0.994	2100	1.125	1400	0.988	2100	1.108
1500	1.022	2200	1.137	1500	0.994	2200	1.125
1600	1.047	2300	1.147	1600	1.022	2300	1.137

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-15.24	R-11	-7.33	R-11 FLR	-12.88
R-19	-17.18	R-19	-9.01	R-19 FLR	-14.67
R-30	-18.49	R-27	-9.87		
R-38	-18.96				
R-49	-19.37				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.44	R-11	-2.43	R-11 FLR	-7.52
R-19	-8.51	R-19	-2.87	R-19 FLR	-8.28
R-30	-9.17	R-27	-3.11		
R-38	-9.41				
R-49	-9.53				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.12
LOW (.4 ACH)	-8.24

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.10
LOW (.4 ACH)	-2.20

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.92	-2.42	-0.81
	WOOD	-4.73	-3.63	-2.43
	ALUM	-3.51	-1.81	0.
	ALUM+TB	-4.32	-3.03	-1.63
2 PANE 1/4IN.	PLAIN	-7.21	-7.29	-7.21
	WOOD	-7.43	-7.61	-7.64
	ALUM	-6.14	-5.69	-5.07
	ALUM+TB	-7.00	-6.97	-6.79
2 PANE 1/2IN.	PLAIN	-7.88	-8.29	-8.54
	WOOD	-8.06	-8.56	-8.91
	ALUM	-6.93	-6.86	-6.64
	ALUM+TB	-7.70	-8.02	-8.18
3 PANE 1/4IN.	PLAIN	-8.39	-8.87	-9.20
	WOOD	-8.46	-8.98	-9.35
	ALUM	-7.24	-7.15	-6.90
	ALUM+TB	-7.58	-7.67	-7.59
3 PANE 1/2IN.	PLAIN	-8.98	-9.76	-10.38
	WOOD	-9.03	-9.84	-10.50
	ALUM	-8.06	-8.38	-8.55
	ALUM+TB	-8.69	-9.33	-9.81

10 PCT AREA	15 PCT AREA	20 PCT AREA
-12.54	-6.30	-0.04
-12.59	-6.37	-0.12
-12.51	-6.27	0.
-12.57	-6.33	-0.08
-13.81	-8.09	-2.28
-13.83	-8.11	-2.30
-13.74	-8.00	-2.17
-13.80	-8.07	-2.26
-13.86	-8.14	-2.34
-13.87	-8.16	-2.36
-13.79	-8.06	-2.25
-13.85	-8.13	-2.33
-14.51	-9.02	-3.57
-14.51	-9.03	-3.58
-14.43	-8.92	-3.46
-14.45	-8.95	-3.49
-14.55	-9.07	-3.63
-14.55	-9.08	-3.64
-14.48	-8.99	-3.54
-14.53	-9.05	-3.60

BASE LOAD = 68.06 MBTU-YR

BASE LOAD = 61.68 MBTU-YR

AREA	MULTIPLIERS				
1000	.661	1700	1.098	2400	1.512
1100	.725	1800	1.157	2500	1.571
1200	.789	1900	1.216	2600	1.628
1300	.852	2000	1.274	2700	1.686
1400	.915	2100	1.334	2800	1.743
1500	.978	2200	1.394	2900	1.799
1600	1.038	2300	1.453	3000	1.855

AREA	MULTIPLIERS				
1000	.758	1700	1.073	2400	1.346
1100	.811	1800	1.113	2500	1.381
1200	.860	1900	1.152	2600	1.422
1300	.906	2000	1.187	2700	1.462
1400	.947	2100	1.229	2800	1.501
1500	.984	2200	1.270	2900	1.539
1600	1.030	2300	1.308	3000	1.575

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -43.11	R-11 -22.85	R-5 4FT -6.32
R-19 -48.77	R-19 -28.11	R-5 8FT -9.71
K-30 -52.82	R-27 -30.94	R-10 8FT -13.74
R-38 -54.29		R-19 FLR -15.08
K-49 -55.56		
K-60 -56.37		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -9.26
LOW (.4 ACH) -18.52

COOLING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -3.37	R-11 -0.69	R-5 4FT -0.35
R-19 -3.78	R-19 -0.83	R-5 8FT -0.36
K-30 -3.99	R-27 -0.85	R-10 8FT -0.38
R-38 -4.10		R-19 FLK 0.
R-49 -4.19		
K-60 -4.26		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.04
LOW (.4 ACH) -0.08

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-16.11	-9.35	-2.54
	WOOD	-18.63	-13.14	-7.58
	ALUM	-14.84	-7.45	0.
2 PANE 1/4IN.	ALUM+TB	-17.38	-11.26	-5.07
	PLAIN	-27.07	-25.64	-24.02
	WOOD	-27.75	-26.65	-25.37
	ALUM	-23.72	-20.61	-17.31
	ALUM+TB	-26.41	-24.64	-22.69
2 PANE 1/2IN.	PLAIN	-29.16	-28.77	-28.20
	WOOD	-29.74	-29.63	-29.34
	ALUM	-26.17	-24.21	-22.21
	ALUM+TB	-28.59	-27.91	-27.05
3 PANE 1/4IN.	PLAIN	-31.01	-30.97	-30.76
	WOOD	-31.23	-31.21	-31.21
	ALUM	-27.40	-25.56	-23.54
	ALUM+TB	-28.48	-27.18	-25.70
3 PANE 1/2IN.	PLAIN	-32.86	-33.74	-34.45
	WOOD	-33.04	-34.02	-34.82
	ALUM	-29.99	-29.44	-28.71
	ALUM+TB	-31.96	-32.39	-32.65

BASE LOAD = 177.84 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.63	-1.91	-0.00
-3.63	-1.92	-0.01
-3.63	-1.91	0.
-3.98	-2.46	-0.01
-3.98	-2.46	-0.74
-3.97	-2.46	-0.75
-3.98	-2.46	-0.74
-3.98	-2.47	-0.75
-3.98	-2.46	-0.74
-3.98	-2.47	-0.75
-4.19	-2.83	-1.26
-4.19	-2.83	-1.26
-4.19	-2.82	-1.26
-4.19	-2.82	-1.26
-4.20	-2.83	-1.27
-4.19	-2.83	-1.26
-4.19	-2.83	-1.27

BASE LOAD = 11.32 MBTU-YR

AREA	MULTIPLIERS
1000 .684	1700 1.092
1100 .746	1800 1.147
1200 .806	1900 1.201
1300 .865	2000 1.254
1400 .922	2100 1.311
1500 .978	2200 1.366
1600 1.035	2300 1.421
	2400 1.476
	2500 1.530
	2600 1.584
	2700 1.637
	2800 1.690
	2900 1.742
	3000 1.794

AREA	MULTIPLIERS
1000 .877	1700 1.046
1100 .918	1800 1.065
1200 .950	1900 1.080
1300 .973	2000 1.089
1400 .988	2100 1.108
1500 .994	2200 1.125
1600 1.022	2300 1.137
	2400 1.147
	2500 1.153
	2600 1.172
	2700 1.189
	2800 1.205
	2900 1.216
	3000 1.229

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-37.08	R-11	-19.64	R-5 4FT	-5.54
R-19	-41.94	R-19	-24.17	R-5 8FT	-8.50
R-30	-45.43	R-27	-26.64	R-10 8FT	-12.04
R-38	-46.70			R-19 FLR	-13.21
R-49	-47.79				
R-60	-48.49				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-10.09
LOW (1.4 ACH)	-20.18

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-14.38	-8.30	-2.18
	WOOD	-16.55	-11.55	-6.52
	ALUM	-13.29	-6.67	0.
2 PANE 1/4IN.	ALUM+TB	-15.47	-9.94	-4.36
	PLAIN	-23.28	-21.55	-19.70
	WOOD	-23.87	-22.42	-20.86
2 PANE 1/2IN.	ALUM	-20.40	-17.22	-13.93
	ALUM+TB	-22.72	-20.70	-18.56
	PLAIN	-25.08	-24.25	-23.30
3 PANE 1/4IN.	WOOD	-25.57	-24.99	-24.28
	ALUM	-22.51	-20.39	-18.15
	ALUM+TB	-24.59	-23.51	-22.31
3 PANE 1/2IN.	PLAIN	-26.67	-26.20	-25.57
	WOOD	-26.86	-26.49	-25.96
	ALUM	-23.56	-21.54	-19.36
	ALUM+TB	-24.49	-22.94	-21.22
	PLAIN	-28.26	-28.58	-28.75
	WOOD	-28.41	-28.82	-29.06
	ALUM	-25.79	-24.88	-23.81
	ALUM+TB	-27.48	-27.42	-27.20

BASE LOAD = 161.10 MBTU-YR

AREA	MULTIPLIERS
1000	.684
1100	.745
1200	.806
1300	.864
1400	.922
1500	.978
1600	1.035
1700	1.092
1800	1.147
1900	1.201
2000	1.255
2100	1.311
2200	1.367
2300	1.422
2400	1.477
2500	1.530
2600	1.584
2700	1.638
2800	1.691
2900	1.743
3000	1.795

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.39	R-11	-1.22	R-5 4FT	-.25
R-19	-4.92	R-19	-1.46	R-5 8FT	-.41
R-30	-5.23	R-27	-1.57	R-10 8FT	-.62
R-38	-5.35			R-19 FLR	-.14
R-49	-5.44				
R-60	-5.53				

INFILTRATION

HI (1 ACH)	-.13
MED (1.7 ACH)	-.07
LOW (1.4 ACH)	0.

10 PCT AREA	15 PCT AREA	20 PCT AREA
-4.90	-2.38	-.01
-4.91	-2.40	-.03
-4.89	-2.37	0.
-4.91	-2.39	-.02
-5.39	-3.26	-.93
-5.40	-3.26	-.93
-5.38	-3.24	-.90
-5.39	-3.26	-.92
-5.40	-3.27	-.94
-5.41	-3.28	-.94
-5.39	-3.26	-.92
-5.40	-3.27	-.94
-5.67	-3.58	-1.54
-5.67	-3.58	-1.54
-5.65	-3.56	-1.51
-5.66	-3.57	-1.52
-5.68	-3.59	-1.55
-5.68	-3.59	-1.55
-5.67	-3.57	-1.53
-5.68	-3.59	-1.54

BASE LOAD = 18.60 MBTU-YR

AREA	MULTIPLIERS
1000	.861
1100	.904
1200	.938
1300	.964
1400	.982
1500	.993
1600	1.023
1700	1.050
1800	1.072
1900	1.089
2000	1.102
2100	1.125
2200	1.144
2300	1.160
2400	1.173
2500	1.183
2600	1.206
2700	1.226
2800	1.245
2900	1.261
3000	1.276

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION	CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 4FT	R-0 0.	R-0 0.	R-0 4FT
K-11 -31.01	R-11 -16.04	R-5 8FT	R-11 -6.17	K-11 -1.51	R-5 8FT
R-19 -34.97	R-19 -19.76	R-10 8FT	R-19 -6.94	R-19 -1.90	R-5 8FT
K-30 -37.83	R-27 -21.79	R-19 FLR	R-30 -7.46	R-27 -2.09	R-10 8FT
K-38 -38.88			R-38 -7.05		K-19 FLR
R-49 -39.77			R-49 -7.81		
R-60 -40.35			R-60 -7.95		

INFILTRATION

HI (1 ACH)	MED (.7 ACH)	LOM (.4 ACH)
0.	-8.48	-16.96
0.	-0.05	-0.09

COOLING (IN MBTU-YR)

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.52	-6.66	-1.78	-7.57	-3.83	-0.01
	WOOD	-13.29	-9.32	-5.32	-7.58	-3.85	-0.04
	ALUM	-10.63	-5.33	0.	-7.56	-3.82	0.
2 PANE 1/4IN.	ALUM+TB	-12.41	-8.00	-3.56	-7.57	-3.84	-0.03
	PLAIN	-18.91	-17.69	-16.40	-8.37	-4.97	-1.45
	WOOD	-19.39	-18.40	-17.36	-8.37	-4.97	-1.45
	ALUM	-16.54	-14.13	-11.66	-8.34	-4.94	-1.41
2 PANE 1/2IN.	ALUM+TB	-18.44	-16.99	-15.47	-8.36	-4.96	-1.44
	PLAIN	-20.39	-19.90	-19.36	-8.38	-4.99	-1.47
	WOOD	-20.79	-20.51	-20.16	-8.38	-4.99	-1.48
	ALUM	-18.27	-16.73	-15.13	-8.36	-4.96	-1.44
3 PANE 1/4IN.	ALUM+TB	-19.98	-19.30	-18.55	-8.38	-4.98	-1.46
	PLAIN	-21.69	-21.54	-21.28	-8.87	-5.57	-2.29
	WOOD	-21.85	-21.78	-21.60	-8.87	-5.57	-2.29
	ALUM	-19.14	-17.72	-16.18	-8.84	-5.54	-2.25
3 PANE 1/2IN.	ALUM+TB	-19.91	-18.86	-17.71	-8.85	-5.55	-2.26
	PLAIN	-23.00	-23.50	-23.90	-8.88	-5.59	-2.31
	WOOD	-23.13	-23.69	-24.15	-8.88	-5.59	-2.31
	ALUM	-20.97	-20.46	-19.84	-8.86	-5.56	-2.28
	ALUM+TB	-22.36	-22.55	-22.62	-8.87	-5.58	-2.30

BASE LOAD = 29.82 MBTU-YR

BASE LOAD = 131.79 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000 .681	1700 1.093	1000 .806	1700 1.062
1100 .743	1800 1.148	1100 .855	1800 1.094
1200 .803	1900 1.203	1200 .897	1900 1.122
1300 .863	2000 1.257	1300 .933	2000 1.147
1400 .921	2100 1.314	1400 .963	2100 1.180
1500 .978	2200 1.370	1500 .988	2200 1.211
1600 1.036	2300 1.426	1600 1.027	2300 1.239
			2400 1.264
			2500 1.288
			2600 1.320
			2700 1.351
			2800 1.380
			2900 1.408
			3000 1.434

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-36.21	R-11	-18.47	R-5 4FT	-5.18
R-19	-40.81	R-19	-22.72	R-5 8FT	-7.95
R-30	-44.11	R-27	-25.02	R-10 8FT	-11.29
R-38	-45.32			R-19 FLR	-12.39
R-49	-46.35				
R-60	-47.02				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.41
LOW (.4 ACH)	-16.82

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.63	-6.89	-2.05
	WOOD	-13.67	-9.94	-6.13
	ALUM	-10.60	-5.35	0.
	ALUM+TB	-12.65	-8.42	-4.10
2 PANE 1/4IN.	PLAIN	-20.10	-19.49	-18.67
	WOOD	-20.64	-20.31	-19.77
	ALUM	-17.39	-15.42	-13.25
	ALUM+TB	-19.56	-18.68	-17.60
2 PANE 1/2IN.	PLAIN	-21.79	-22.02	-22.05
	WOOD	-22.25	-22.71	-22.98
	ALUM	-19.37	-18.39	-17.21
	ALUM+TB	-21.32	-21.33	-21.13
3 PANE 1/4IN.	PLAIN	-23.22	-23.72	-23.98
	WOOD	-23.40	-23.99	-24.34
	ALUM	-20.30	-19.34	-18.14
	ALUM+TB	-21.18	-20.65	-19.89
3 PANE 1/2IN.	PLAIN	-24.71	-25.96	-26.97
	WOOD	-24.86	-26.18	-27.26
	ALUM	-22.39	-22.48	-22.33
	ALUM+TB	-23.98	-24.87	-25.51

BASE LOAD = 144.61 MBTU-YR

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.00
R-11	-5.51	R-11	-1.26	R-5 4FT	-0.18
R-19	-6.20	R-19	-1.52	R-5 8FT	-0.32
R-30	-6.56	R-27	-1.58	R-10 8FT	-0.45
R-38	-6.73			R-19 FLR	0.
R-49	-6.89				
R-60	-7.02				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.10
LOW (.4 ACH)	-0.21

10 PCT AREA	15 PCT AREA	20 PCT AREA
-4.49	-2.35	-0.01
-4.50	-2.36	-0.03
-4.48	-2.34	0.
-4.50	-2.35	-0.02
-5.04	-3.17	-1.13
-5.04	-3.17	-1.13
-5.02	-3.15	-1.11
-5.03	-3.16	-1.13
-5.04	-3.18	-1.14
-5.05	-3.18	-1.15
-5.03	-3.16	-1.12
-5.04	-3.17	-1.14
-5.33	-3.64	-1.75
-5.33	-3.64	-1.75
-5.32	-3.63	-1.73
-5.32	-3.63	-1.73
-5.34	-3.65	-1.76
-5.34	-3.65	-1.76
-5.33	-3.64	-1.74
-5.33	-3.65	-1.76

BASE LOAD = 17.21 MBTU-YR

AREA	MULTIPLIERS
1000	.682
1100	.743
1200	.804
1300	.863
1400	.921
1500	.978
1600	1.036
1700	1.092
1800	1.148
1900	1.203
2000	1.257
2100	1.314
2200	1.370
2300	1.425
2400	1.480
2500	1.535
2600	1.589
2700	1.643
2800	1.696
2900	1.749
3000	1.801

AREA	MULTIPLIERS
1000	.877
1100	.918
1200	.950
1300	.973
1400	.988
1500	.994
1600	1.022
1700	1.046
1800	1.065
1900	1.080
2000	1.089
2100	1.108
2200	1.125
2300	1.137
2400	1.147
2500	1.153
2600	1.172
2700	1.189
2800	1.205
2900	1.218
3000	1.229

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-16.38	R-11	-7.67	R-5 2FT	-5.80
R-19	-18.36	R-19	-9.41	R-5 4FT	-6.63
R-30	-19.75	R-27	-10.31		
R-38	-20.25				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.95	R-11	-3.72	R-5 2FT	-3.17
R-19	-14.64	R-19	-4.59	R-5 4FT	-3.60
R-30	-15.77	R-27	-4.91		
R-38	-16.19				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-4.12
LOW (1.4 ACH)	-8.24

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-2.21
LOW (1.4 ACH)	-4.43

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.70	-2.34	-0.85
	WOOD	-4.55	-3.61	-2.54
	ALUM	-3.28	-1.70	0.
	ALUM+TB	-4.13	-2.98	-1.70
2 PANE 1/4IN.	PLAIN	-7.05	-7.29	-7.35
	WOOD	-7.28	-7.63	-7.80
	ALUM	-5.93	-5.61	-5.12
	ALUM+TB	-6.83	-6.96	-6.91
2 PANE 1/2IN.	PLAIN	-7.75	-8.33	-8.74
	WOOD	-7.94	-8.62	-9.12
	ALUM	-6.75	-6.84	-6.75
	ALUM+TB	-7.56	-8.05	-8.36
3 PANE 1/4IN.	PLAIN	-8.26	-8.91	-9.36
	WOOD	-8.33	-9.02	-9.51
	ALUM	-7.06	-7.10	-6.95
	ALUM+TB	-7.42	-7.64	-7.68
3 PANE 1/2IN.	PLAIN	-8.87	-9.83	-10.59
	WOOD	-8.93	-9.92	-10.71
	ALUM	-7.92	-8.39	-8.68
	ALUM+TB	-8.57	-9.38	-9.99

10 PCT AREA	15 PCT AREA	20 PCT AREA
-12.48	-6.33	-0.11
-12.62	-6.51	-0.32
-12.41	-6.25	0.
-12.55	-6.42	-0.21
-14.21	-8.98	-3.54
-14.25	-9.03	-3.60
-14.03	-8.75	-3.26
-14.17	-8.94	-3.49
-14.32	-9.12	-3.71
-14.36	-9.16	-3.76
-14.16	-8.92	-3.47
-14.29	-9.08	-3.67
-15.14	-10.22	-5.22
-15.16	-10.23	-5.24
-14.95	-9.97	-4.93
-15.01	-10.05	-5.02
-15.24	-10.35	-5.38
-15.25	-10.36	-5.39
-15.09	-10.15	-5.14
-15.19	-10.28	-5.30

BASE LOAD = 60.27 MBTU-YR

BASE LOAD = 58.38 MBTU-YR

AREA	MULTIPLIERS
1000	.657
1100	.721
1200	.786
1300	.850
1400	.914
1500	.978
1600	1.039

AREA	MULTIPLIERS
1000	.766
1100	.818
1200	.866
1300	.910
1400	.949
1500	.984
1600	1.029

AREA	MULTIPLIERS
1700	1.099
1800	1.159
1900	1.219
2000	1.278
2100	1.338
2200	1.399
2300	1.459

AREA	MULTIPLIERS
1700	1.071
1800	1.110
1900	1.147
2000	1.181
2100	1.221
2200	1.260
2300	1.297

FORT WORTH RANCH SLAB

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -16.02	R-11 -7.61	R-5 2FT -5.59
R-19 -17.94	R-19 -9.34	R-5 4FT -6.39
R-30 -19.29	R-27 -10.25	
R-38 -19.78		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -4.36
LOW (.4 ACH) -8.72

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -11.05	R-11 -4.39	R-5 2FT -4.51
R-19 -12.66	R-19 -5.36	R-5 4FT -5.25
R-30 -13.88	R-27 -5.91	
R-38 -14.22		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -2.30
LOW (.4 ACH) -4.61

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE			
PLAIN	-3.90	-2.43	-1.85
WOOD	-4.74	-3.69	-2.53
ALUM	-3.48	-1.79	0.
ALUM+TB	-4.32	-3.06	-1.69
2 PANE 1/4IN.			
PLAIN	-7.54	-7.54	-7.56
WOOD	-7.57	-7.87	-8.01
ALUM	-6.23	-5.88	-5.34
ALUM+TB	-7.12	-7.21	-7.12
3 PANE 1/2IN.			
PLAIN	-8.03	-8.58	-8.94
WOOD	-8.22	-8.86	-9.32
ALUM	-7.04	-7.09	-6.96
ALUM+TB	-7.84	-8.29	-8.56
4 PANE 1/4IN.			
PLAIN	-8.55	-9.15	-9.56
WOOD	-8.63	-9.26	-9.71
ALUM	-7.36	-7.36	-7.17
ALUM+TB	-7.72	-7.90	-7.89
5 PANE 1/2IN.			
PLAIN	-9.16	-10.07	-10.78
WOOD	-9.22	-10.16	-10.90
ALUM	-8.21	-8.64	-8.88
ALUM+TB	-8.86	-9.62	-10.18

BASE LOAD = 60.53 MBTU-YR

10 PCT AREA 15 PCT AREA 20 PCT AREA

-13.56	-6.81	-1.13
-13.73	-7.03	-1.39
-13.47	-6.71	0.
-13.62	-6.92	-1.26
-15.62	-9.84	-4.12
-15.67	-9.89	-4.19
-15.40	-9.55	-3.78
-15.58	-9.78	-4.06
-15.76	-10.01	-4.34
-15.80	-10.06	-4.40
-15.56	-9.76	-4.03
-15.73	-9.97	-4.28
-16.64	-11.33	-5.98
-16.66	-11.35	-6.01
-16.40	-11.03	-5.62
-16.47	-11.12	-5.73
-16.77	-11.49	-6.17
-16.78	-11.50	-6.19
-16.57	-11.25	-5.88
-16.71	-11.41	-6.08

BASE LOAD = 74.12 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.099
1700	1.154
1800	1.218
1900	1.277
2000	1.337
2100	1.398
2200	1.458
2300	1.517
2400	1.577
2500	1.635
2600	1.693
2700	1.751
2800	1.808
2900	1.865
3000	1.922

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.075
1700	1.117
1800	1.157
1900	1.195
2000	1.238
2100	1.280
2200	1.321
2300	1.360
2400	1.398
2500	1.440
2600	1.482
2700	1.523
2800	1.562
2900	1.601
3000	1.640

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-18.03	R-11	-15.91	R-5 2FT	-6.37
R-19	-20.19	R-19	-18.44	R-5 4FT	-7.33
R-30	-21.69	R-27	-18.44		
R-38	-22.25				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.11	R-11	-7.13	R-5 2FT	-2.30
R-19	-13.99	R-19	-8.36	R-5 4FT	-2.62
R-30	-15.09	R-27	-8.36		
R-38	-15.54				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.90
LOW (.4 ACH)	-9.80

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-92
LOW (.4 ACH)	-1.84

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.37	-2.70	-0.91
	WOOD	-5.28	-4.07	-2.73
	ALUM	-3.91	-2.02	0.
	ALUM+TB	-4.83	-3.39	-1.83
2 PANE 1/4IN.	PLAIN	-7.94	-7.97	-7.83
	WOOD	-8.19	-8.33	-8.31
	ALUM	-6.74	-6.17	-5.43
	ALUM+TB	-7.71	-7.62	-7.36
2 PANE 1/2IN.	PLAIN	-8.69	-9.09	-9.32
	WOOD	-8.90	-9.40	-9.73
	ALUM	-7.62	-7.49	-7.18
	ALUM+TB	-8.49	-8.79	-8.92
3 PANE 1/4IN.	PLAIN	-9.28	-9.72	-9.97
	WOOD	-9.36	-9.85	-10.14
	ALUM	-7.99	-7.79	-7.39
	ALUM+TB	-8.38	-8.37	-8.17
3 PANE 1/2IN.	PLAIN	-9.94	-10.72	-11.30
	WOOD	-10.01	-10.81	-11.43
	ALUM	-8.91	-9.18	-9.24
	ALUM+TB	-9.62	-10.23	-10.65

10 PCT AREA	15 PCT AREA	20 PCT AREA
-10.46	-5.35	-0.10
-10.59	-5.51	-0.30
-10.39	-5.26	0.
-10.53	-5.43	-0.20
-12.08	-7.73	-3.25
-12.12	-7.78	-3.30
-11.91	-7.51	-2.98
-12.05	-7.69	-3.19
-12.19	-7.87	-3.41
-12.22	-7.91	-3.46
-12.04	-7.67	-3.17
-12.16	-7.83	-3.37
-12.91	-8.93	-4.73
-12.92	-8.94	-4.75
-12.72	-8.69	-4.45
-12.78	-8.76	-4.53
-13.01	-9.05	-4.88
-13.02	-9.06	-4.90
-12.86	-8.86	-4.65
-12.96	-8.99	-4.81

BASE LOAD = 76.21 MBTU-YR

BASE LOAD = 54.71 MBTU-YR

AREA	MULTIPLIERS
1000	.664
1100	.728
1200	.791
1300	.854
1400	.916
1500	.978
1600	1.038

AREA	MULTIPLIERS
1000	.775
1100	.826
1200	.873
1300	.915
1400	.953
1500	.985
1600	1.028

1700	1.097
1800	1.156
1900	1.214
2000	1.272
2100	1.331
2200	1.391
2300	1.449

1700	1.069
1800	1.106
1900	1.141
2000	1.173
2100	1.212
2200	1.249
2300	1.284

2400	1.508
2500	1.566
2600	1.623
2700	1.680
2800	1.737
2900	1.793
3000	1.848

2400	1.317
2500	1.348
2600	1.386
2700	1.423
2800	1.458
2900	1.492
3000	1.525

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
K-11	-42.54	R-11	-24.28	R-5 4FT	-6.81
R-19	-48.64	R-19	-29.99	R-5 8FT	-10.48
K-30	-53.01	R-27	-33.07	R-10 8FT	-14.86
R-38	-54.60			R-19 FLR	-16.38
R-49	-55.96				
R-60	-56.84				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-10.40
LOW (.4 ACH)	-20.79

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.33
R-11	-3.10	R-11	-.73	K-5 4FT	-.34
R-19	-3.47	K-19	-.89	K-5 8FT	-.34
R-30	-3.67	K-27	-.92	K-10 8FT	-.34
R-38	-3.76			K-19 FLR	0.
R-49	-3.84				
R-60	-3.90				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.05
LOW (.4 ACH)	-.11

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-19.97	-11.28	-2.70
	WOOD	-22.65	-15.30	-8.06
	ALUM	-18.62	-9.25	0.
2 PANE 1/4IN.	ALUM+TB	-21.32	-13.30	-5.39
	PLAIN	-32.32	-29.60	-26.79
	WOOD	-33.05	-30.70	-28.26
2 PANE 1/2IN.	ALUM	-28.68	-24.15	-19.52
	ALUM+TB	-31.60	-28.53	-25.36
	PLAIN	-34.58	-33.00	-31.33
3 PANE 1/4IN.	WOOD	-35.20	-33.93	-32.57
	ALUM	-31.34	-28.14	-24.83
	ALUM+TB	-33.97	-32.08	-30.09
3 PANE 1/2IN.	PLAIN	-36.74	-35.71	-34.56
	WOOD	-36.99	-36.08	-35.05
	ALUM	-32.83	-29.84	-26.73
3 PANE 1/2IN.	ALUM+TB	-34.00	-31.60	-29.08
	PLAIN	-38.75	-38.72	-38.58
	WOOD	-38.94	-39.01	-38.97
	ALUM	-35.63	-34.05	-32.34
	ALUM+TB	-37.77	-37.25	-36.62

BASE LOAD = 195.30 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.23	-1.67	-0.00
-3.24	-1.67	-0.01
-3.23	-1.66	0.
-3.23	-1.67	-0.01
-3.60	-2.26	-0.81
-3.60	-2.27	-0.81
-3.59	-2.26	-0.80
-3.60	-2.26	-0.81
-3.60	-2.27	-0.82
-3.60	-2.27	-0.81
-3.60	-2.27	-0.81
-3.79	-2.64	-1.25
-3.79	-2.64	-1.26
-3.79	-2.63	-1.25
-3.79	-2.63	-1.25
-3.80	-2.64	-1.26
-3.80	-2.64	-1.26
-3.79	-2.64	-1.25
-3.80	-2.64	-1.26

BASE LOAD = 10.63 MBTU-YR

AREA	MULTIPLIERS				
1000	.686	1700	1.091	2400	1.473
1100	.747	1800	1.146	2500	1.527
1200	.807	1900	1.200	2600	1.580
1300	.865	2000	1.253	2700	1.633
1400	.922	2100	1.309	2800	1.686
1500	.978	2200	1.364	2900	1.738
1600	1.035	2300	1.419	3000	1.789

AREA	MULTIPLIERS				
1000	.877	1700	1.046	2400	1.147
1100	.918	1800	1.065	2500	1.153
1200	.950	1900	1.080	2600	1.172
1300	.973	2000	1.089	2700	1.189
1400	.988	2100	1.108	2800	1.205
1500	.994	2200	1.125	2900	1.218
1600	1.022	2300	1.137	3000	1.229

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.02	R-11	0.	R-5 2FT	0.
R-19	-.02	R-19	0.	R-5 4FT	0.
R-30	-.02	R-27	0.		
R-38	-.02				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.31	R-11	-2.60	R-5 2FT	-4.50
R-19	-12.63	R-19	-3.18	R-5 4FT	-5.13
R-30	-13.60	R-27	-3.52		
R-38	-14.00				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

INFILTRATION

HI (1 ACH)	-.42
MED (.7 ACH)	-.21
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.

10 PCT AREA	15 PCT AREA	20 PCT AREA
-22.98	-11.43	-.05
-23.05	-11.52	-.16
-22.94	-11.39	0.
-23.01	-11.47	-.10
-24.54	-13.75	-3.01
-24.55	-13.78	-3.04
-24.44	-13.64	-2.87
-24.52	-13.73	-2.98
-24.59	-13.82	-3.10
-24.61	-13.84	-3.12
-24.51	-13.72	-2.97
-24.58	-13.80	-3.07
-25.79	-15.57	-5.35
-25.80	-15.58	-5.36
-25.70	-15.45	-5.21
-25.73	-15.48	-5.25
-25.84	-15.63	-5.43
-25.85	-15.64	-5.44
-25.77	-15.54	-5.31
-25.82	-15.60	-5.39

BASE LOAD = .02 MBTU-YR

BASE LOAD = 93.70 MBTU-YR

AREA	MULTIPLIERS
1000	.540
1100	.618
1200	.701
1300	.789
1400	.881
1500	.977
1600	1.054

AREA	MULTIPLIERS
1000	.740
1100	.795
1200	.847
1300	.896
1400	.941
1500	.982
1600	1.031

1700	1.132	2400	1.702
1800	1.212	2500	1.786
1900	1.293	2600	1.864
2000	1.376	2700	1.943
2100	1.456	2800	2.021
2200	1.537	2900	2.101
2300	1.619	3000	2.181

1700	1.077	2400	1.375
1800	1.121	2500	1.415
1900	1.162	2600	1.459
2000	1.202	2700	1.502
2100	1.247	2800	1.545
2200	1.291	2900	1.586
2300	1.334	3000	1.626

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.75	R-11	-4.07	R-5 2FT	-2.47
R-19	-9.81	R-19	-5.00	R-5 4FT	-2.78
R-30	-10.54	R-27	-5.47		
R-38	-10.80				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.55
LOW (.4 ACH)	-5.11

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.30	R-11	-3.40	R-5 2FT	-4.57
R-19	-11.69	R-19	-4.22	R-5 4FT	-5.33
R-30	-12.72	R-27	-4.53		
R-38	-13.12				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.55
LOW (.4 ACH)	-5.11

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.59	-1.07	-0.45
	WOOD	-2.04	-1.74	-1.35
	ALUM	-1.36	-0.73	0.
	ALUM+TB	-1.81	-1.41	-0.90
2 PANE 1/4IN.	PLAIN	-3.39	-3.69	-3.85
	WOOD	-3.51	-3.87	-4.09
	ALUM	-2.80	-2.80	-2.66
	ALUM+TB	-3.27	-3.52	-3.61
2 PANE 1/2IN.	PLAIN	-3.76	-4.25	-4.59
	WOOD	-3.86	-4.40	-4.79
	ALUM	-3.23	-3.45	-3.53
	ALUM+TB	-3.66	-4.09	-4.38
3 PANE 1/4IN.	PLAIN	-4.02	-4.48	-4.79
	WOOD	-4.06	-4.54	-4.87
	ALUM	-3.38	-3.52	-3.51
	ALUM+TB	-3.57	-3.81	-3.89
3 PANE 1/2IN.	PLAIN	-4.35	-4.97	-5.44
	WOOD	-4.38	-5.02	-5.51
	ALUM	-3.84	-4.21	-4.43
	ALUM+TB	-4.19	-4.73	-5.12

BASE LOAD = 30.25 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-14.49	-7.26	-0.08
-14.59	-7.38	-0.23
-14.44	-7.20	0.
-14.54	-7.32	-0.15
-16.18	-9.73	-3.19
-16.21	-9.76	-3.23
-16.05	-9.56	-3.00
-16.15	-9.69	-3.16
-16.26	-9.83	-3.32
-16.28	-9.86	-3.35
-16.15	-9.68	-3.14
-16.24	-9.80	-3.28
-17.10	-10.96	-4.76
-17.11	-10.97	-4.77
-16.96	-10.78	-4.54
-17.00	-10.84	-4.61
-17.17	-11.05	-4.87
-17.18	-11.06	-4.88
-17.06	-10.91	-4.70
-17.14	-11.01	-4.81

BASE LOAD = 77.07 MBTU-YR

AREA	MULTIPLIERS
1000	.610
1100	.680
1200	.752
1300	.825
1400	.901
1500	.977
1600	1.045
1700	1.112
1800	1.180
1900	1.249
2000	1.317
2100	1.386
2200	1.454
2300	1.523
2400	1.593
2500	1.662
2600	1.729
2700	1.795
2800	1.861
2900	1.927
3000	1.993

AREA	MULTIPLIERS
1000	.746
1100	.801
1200	.852
1300	.899
1400	.943
1500	.983
1600	1.030
1700	1.075
1800	1.118
1900	1.159
2000	1.197
2100	1.241
2200	1.284
2300	1.325
2400	1.365
2500	1.403
2600	1.446
2700	1.489
2800	1.530
2900	1.570
3000	1.609

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-30.23	R-11	-15.98	R-5 4FT	-4.46
R-19	-34.27	R-19	-19.65	R-5 8FT	-6.86
R-30	-37.14	R-27	-21.63	R-10 8FT	-9.70
R-38	-38.18			R-19 FLR	-10.62
R-49	-39.07				
R-60	-39.65				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.44
LOW (.4 ACH)	-16.87

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.27	R-11	-2.47	R-5 4FT	-0.73
R-19	-8.21	R-19	-3.07	R-5 8FT	-1.07
R-30	-8.90	R-27	-3.36	R-10 8FT	-1.51
R-38	-9.15			R-19 FLR	-1.13
R-49	-9.39				
R-60	-9.54				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.05
LOW (.4 ACH)	-2.09

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.68	-6.73	-1.77
	WOOD	-13.44	-9.38	-5.30
	ALUM	-10.79	-5.40	0.
	ALUM+TB	-12.56	-8.06	-3.55
2 PANE 1/4IN.	PLAIN	-19.03	-17.67	-16.21
	WOOD	-19.50	-18.38	-17.15
	ALUM	-16.69	-14.16	-11.53
	ALUM+TB	-18.56	-16.98	-15.29
2 PANE 1/2IN.	PLAIN	-20.49	-19.86	-19.13
	WOOD	-20.89	-20.46	-19.93
	ALUM	-18.40	-16.73	-14.95
	ALUM+TB	-20.09	-19.26	-18.33
3 PANE 1/4IN.	PLAIN	-21.77	-21.42	-20.96
	WOOD	-21.93	-21.66	-21.27
	ALUM	-19.25	-17.64	-15.92
	ALUM+TB	-20.01	-18.78	-17.43
3 PANE 1/2IN.	PLAIN	-23.07	-23.36	-23.54
	WOOD	-23.19	-23.55	-23.79
	ALUM	-21.06	-20.35	-19.53
	ALUM+TB	-22.44	-22.42	-22.28

BASE LOAD = 131.94 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.46	-4.19	-0.03
-8.51	-4.25	-0.10
-8.44	-4.16	0.
-8.49	-4.22	-0.07
-9.66	-6.02	-2.42
-9.67	-6.04	-2.43
-9.60	-5.95	-2.32
-9.64	-6.01	-2.40
-9.70	-6.07	-2.47
-9.71	-6.09	-2.49
-9.64	-6.00	-2.39
-9.68	-6.06	-2.46
-10.33	-6.96	-3.45
-10.33	-6.96	-3.46
-10.26	-6.88	-3.35
-10.28	-6.90	-3.38
-10.36	-7.00	-3.51
-10.37	-7.01	-3.51
-10.31	-6.93	-3.43
-10.35	-6.98	-3.48

BASE LOAD = 41.11 MBTU-YR

AREA	MULTIPLIERS
1000	.681
1100	.743
1200	.804
1300	.863
1400	.921
1500	.978
1600	1.036
1700	1.092
1800	1.148
1900	1.203
2000	1.257
2100	1.314
2200	1.370
2300	1.426
2400	1.481
2500	1.535
2600	1.590
2700	1.644
2800	1.697
2900	1.750
3000	1.802

AREA	MULTIPLIERS
1000	.778
1100	.829
1200	.876
1300	.917
1400	.954
1500	.986
1600	1.028
1700	1.068
1800	1.105
1900	1.139
2000	1.171
2100	1.209
2200	1.245
2300	1.279
2400	1.312
2500	1.342
2600	1.380
2700	1.416
2800	1.451
2900	1.484
3000	1.517

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.83	R-11	-5.63	R-5 2FT	-3.60
R-19	-13.24	R-19	-6.91	R-5 4FT	-4.10
R-30	-14.23	R-27	-7.58		
R-38	-14.59				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.20	R-11	-3.72	R-5 2FT	-4.92
R-19	-11.58	R-19	-4.41	R-5 4FT	-5.63
R-30	-12.67	R-27	-4.90		
R-38	-13.03				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.44
LOW (.4 ACH)	-6.89

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.90
LOW (.4 ACH)	-5.79

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.13	-1.91	-0.63
	WOOD	-3.75	-2.84	-1.87
	ALUM	-2.81	-1.44	0.
	ALUM+TB	-3.44	-2.38	-1.25
2 PANE 1/4IN.	PLAIN	-5.63	-5.61	-5.49
	WOOD	-5.80	-5.86	-5.82
	ALUM	-4.81	-4.38	-3.85
	ALUM+TB	-5.47	-5.37	-5.16
2 PANE 1/2IN.	PLAIN	-6.14	-6.38	-6.51
	WOOD	-6.28	-6.59	-6.79
	ALUM	-5.41	-5.28	-5.05
	ALUM+TB	-6.00	-6.17	-6.23
3 PANE 1/4IN.	PLAIN	-6.54	-6.81	-6.97
	WOOD	-6.59	-6.90	-7.08
	ALUM	-5.65	-5.49	-5.21
	ALUM+TB	-5.92	-5.89	-5.74
3 PANE 1/2IN.	PLAIN	-6.99	-7.49	-7.88
	WOOD	-7.03	-7.56	-7.97
	ALUM	-6.29	-6.44	-6.47
	ALUM+TB	-6.77	-7.16	-7.44

10 PCT AREA	15 PCT AREA	20 PCT AREA
-13.95	-7.00	-0.08
-14.06	-7.14	-0.24
-13.90	-6.93	0.
-14.01	-7.07	-0.16
-15.42	-9.29	-3.07
-15.45	-9.33	-3.11
-15.28	-9.12	-2.86
-15.39	-9.26	-3.03
-15.51	-9.40	-3.20
-15.53	-9.44	-3.24
-15.38	-9.25	-3.01
-15.48	-9.37	-3.17
-16.38	-10.48	-4.60
-16.39	-10.49	-4.61
-16.22	-10.29	-4.37
-16.27	-10.35	-4.44
-16.45	-10.58	-4.72
-16.46	-10.59	-4.73
-16.33	-10.43	-4.53
-16.42	-10.53	-4.66

BASE LOAD = 44.57 MBTU-YR

BASE LOAD = 76.47 MBTU-YR

AREA	MULTIPLIERS
1000	.644
1100	.710
1200	.777
1300	.843
1400	.910
1500	.978
1600	1.040
1700	1.103
1800	1.165
1900	1.227
2000	1.288
2100	1.351
2200	1.414
2300	1.477
2400	1.539
2500	1.602
2600	1.662
2700	1.723
2800	1.783
2900	1.842
3000	1.902

AREA	MULTIPLIERS
1000	.746
1100	.801
1200	.852
1300	.899
1400	.943
1500	.983
1600	1.030
1700	1.075
1800	1.118
1900	1.158
2000	1.197
2100	1.241
2200	1.283
2300	1.324
2400	1.364
2500	1.402
2600	1.445
2700	1.487
2800	1.529
2900	1.569
3000	1.608

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.43	R-11	-8.75	R-5 2FT	-7.75
R-19	-21.81	R-19	-10.79	R-5 4FT	-8.90
R-30	-23.54	R-27	-11.89		
R-38	-24.17				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.71
LOW (.4 ACH)	-9.42

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.77	R-11	-5.62	R-5 2FT	-4.66
R-19	-12.44	R-19	-6.98	R-5 4FT	-5.31
R-30	-13.60	R-27	-7.68		
R-38	-14.02				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.33
LOW (.4 ACH)	-4.67

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.34	-3.66	-.97
	WOOD	-7.30	-5.11	-2.90
	ALUM	-5.85	-2.93	0.
	ALUM+TB	-6.82	-4.39	-1.94
2 PANE 1/4IN.	PLAIN	-10.18	-9.35	-8.47
	WOOD	-10.44	-9.74	-8.98
	ALUM	-8.91	-7.44	-5.92
	ALUM+TB	-9.93	-8.97	-7.96
2 PANE 1/2IN.	PLAIN	-10.98	-10.54	-10.06
	WOOD	-11.19	-10.87	-10.49
	ALUM	-9.84	-8.84	-7.78
	ALUM+TB	-10.76	-10.22	-9.62
3 PANE 1/4IN.	PLAIN	-11.68	-11.39	-11.04
	WOOD	-11.76	-11.52	-11.21
	ALUM	-10.31	-9.33	-8.30
	ALUM+TB	-10.72	-9.95	-9.12
3 PANE 1/2IN.	PLAIN	-12.38	-12.44	-12.45
	WOOD	-12.45	-12.55	-12.58
	ALUM	-11.29	-10.81	-10.26
	ALUM+TB	-12.04	-11.93	-11.76

BASE LOAD = 75.97 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-11.68	-5.98	-.28
-12.05	-6.44	-.85
-11.50	-5.74	0.
-11.87	-6.21	-.57
-14.38	-10.05	-5.51
-14.48	-10.17	-5.66
-13.89	-9.43	-4.77
-14.29	-9.93	-5.36
-14.69	-10.43	-5.97
-14.77	-10.54	-6.10
-14.25	-9.88	-5.31
-14.60	-10.33	-5.84
-15.62	-11.79	-7.73
-15.65	-11.83	-7.78
-15.10	-11.12	-6.93
-15.25	-11.32	-7.17
-15.89	-12.13	-8.14
-15.92	-12.16	-8.18
-15.47	-11.60	-7.50
-15.76	-11.96	-7.94

BASE LOAD = 69.80 MBTU-YR

AREA	MULTIPLIERS				
1000	.667	1700	1.097	2400	1.504
1100	.730	1800	1.155	2500	1.561
1200	.793	1900	1.212	2600	1.618
1300	.855	2000	1.269	2700	1.675
1400	.917	2100	1.329	2800	1.731
1500	.978	2200	1.387	2900	1.786
1600	1.038	2300	1.446	3000	1.841

AREA	MULTIPLIERS				
1000	.751	1700	1.074	2400	1.356
1100	.805	1800	1.116	2500	1.393
1200	.855	1900	1.156	2600	1.436
1300	.902	2000	1.193	2700	1.477
1400	.944	2100	1.236	2800	1.517
1500	.983	2200	1.278	2900	1.556
1600	1.030	2300	1.318	3000	1.594

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.65	R-11	-9.47	R-5 2FT	-3.05
R-19	-11.90	R-19	-10.82	R-5 4FT	-3.43
R-30	-12.66	R-27	-10.82		
R-38	-12.92				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.35
LOW (.4 ACH)	-4.70

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.19
R-11	-1.96	R-11	-0.58	R-5 2FT	-0.03
R-19	-2.18	R-19	-0.67	R-5 4FT	0.
R-30	-2.27	R-27	-0.67		
R-38	-2.31				

INFILTRATION

HI (1 ACH)	-0.13
MED (.7 ACH)	-0.07
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.00	-0.88	-0.54
	WOOD	-1.54	-1.69	-1.63
	ALUM	-0.73	-0.47	0.
2 PANE 1/4IN.	ALUM+TB	-1.27	-1.29	-1.09
	PLAIN	-3.05	-3.70	-4.07
	WOOD	-3.19	-3.91	-4.35
2 PANE 1/2IN.	ALUM	-2.33	-2.63	-2.64
	ALUM+TB	-2.90	-3.49	-3.78
	PLAIN	-3.49	-4.36	-4.96
3 PANE 1/4IN.	WOOD	-3.61	-4.55	-5.20
	ALUM	-2.85	-3.41	-3.68
	ALUM+TB	-3.37	-4.18	-4.71
3 PANE 1/2IN.	PLAIN	-3.68	-4.32	-4.66
	WOOD	-3.73	-4.39	-4.76
	ALUM	-2.91	-3.16	-3.12
3 PANE 1/2IN.	ALUM+TB	-3.15	-3.51	-3.58
	PLAIN	-4.08	-4.91	-5.45
	WOOD	-4.12	-4.97	-5.52
	ALUM	-3.47	-3.99	-4.22
	ALUM+TB	-3.89	-4.62	-5.06

BASE LOAD = 36.64 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-1.84	-0.96	-0.00
-1.84	-0.96	-0.00
-1.84	-0.96	0.
-1.84	-0.96	-0.00
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-1.95	-1.17	-0.21
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40
-2.02	-1.29	-0.40

BASE LOAD = 5.95 MBTU-YR

AREA	MULTIPLIERS
1000	.593
1100	.666
1200	.740
1300	.817
1400	.896
1500	.977
1600	1.047
1700	1.117
1800	1.188
1900	1.259
2000	1.331
2100	1.402
2200	1.474
2300	1.546
2400	1.618
2500	1.691
2600	1.760
2700	1.829
2800	1.898
2900	1.968
3000	2.037

AREA	MULTIPLIERS
1000	.877
1100	.918
1200	.950
1300	.973
1400	.988
1500	.994
1600	1.022
1700	1.046
1800	1.065
1900	1.080
2000	1.089
2100	1.108
2200	1.125
2300	1.137
2400	1.147
2500	1.153
2600	1.172
2700	1.189
2800	1.205
2900	1.218
3000	1.229

MEDFORD OR RANCH CRAWL

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -29.71	R-11 -14.94	R-11 FLR -24.93
R-19 -33.63	R-19 -18.47	R-19 FLR -28.54
R-30 -36.29	R-27 -20.34	
R-38 -37.28		
R-49 -38.13		

COOLING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -6.59	R-11 -1.51	R-11 FLR -6.92
R-19 -7.66	R-19 -1.85	R-19 FLR -7.89
R-30 -8.19	R-27 -1.91	
R-38 -8.42		
R-49 -8.65		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -8.41
LOW (.4 ACH) -16.82

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -.20
LOW (.4 ACH) -.39

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.15	-5.44	-1.06
	WOOD	-10.80	-7.92	-4.96
	ALUM	-8.32	-4.20	0.
2 PANE 1/4IN.	ALUM+TB	-9.98	-6.69	-3.32
	PLAIN	-14.75	-13.75	-12.60
	WOOD	-15.19	-14.41	-13.48
	ALUM	-12.57	-10.48	-8.25
	ALUM+TB	-14.32	-13.10	-11.74
2 PANE 1/2IN.	PLAIN	-16.11	-15.78	-15.32
	WOOD	-16.48	-16.34	-16.06
	ALUM	-14.16	-12.87	-11.43
	ALUM+TB	-15.73	-15.23	-14.57
3 PANE 1/4IN.	PLAIN	-17.17	-17.08	-16.81
	WOOD	-17.32	-17.30	-17.10
	ALUM	-14.83	-13.56	-12.12
	ALUM+TB	-15.53	-14.62	-13.51
3 PANE 1/2IN.	PLAIN	-18.37	-18.88	-19.21
	WOOD	-18.49	-19.05	-19.44
	ALUM	-16.51	-16.08	-15.48
	ALUM+TB	-17.79	-18.00	-18.04

BASE LOAD = 140.38 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.58	-2.82	-0.02
-5.60	-2.85	-0.05
-5.57	-2.81	0.
-5.59	-2.84	-0.03
-6.30	-3.88	-1.42
-6.30	-3.89	-1.43
-6.27	-3.85	-1.38
-6.29	-3.88	-1.41
-6.31	-3.91	-1.44
-6.32	-3.91	-1.45
-6.29	-3.88	-1.41
-6.31	-3.90	-1.44
-6.69	-4.43	-2.15
-6.69	-4.44	-2.16
-6.66	-4.40	-2.11
-6.67	-4.41	-2.12
-6.71	-4.45	-2.18
-6.71	-4.45	-2.18
-6.68	-4.42	-2.14
-6.70	-4.44	-2.17

BASE LOAD = 31.43 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.092
1700	1.092
1800	1.148
1900	1.203
2000	1.257
2100	1.314
2200	1.370
2300	1.426
2400	1.481
2500	1.536
2600	1.590
2700	1.644
2800	1.697
2900	1.750
3000	1.803

MULTIPLIERS

AREA	MULTIPLIERS
1000	0.824
1700	1.058
1800	1.087
1900	1.112
2000	1.133
2100	1.162
2200	1.189
2300	1.213
2400	1.235
2500	1.254
2600	1.283
2700	1.311
2800	1.336
2900	1.361
3000	1.383

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.96	R-11	-9.84	R-11 FLR	-17.41
R-19	-22.57	R-19	-12.14	R-19 FLR	-19.89
R-30	-24.40	R-27	-13.36		
R-38	-25.06				
R-49	-25.63				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.73
LOW (.4 ACH)	-11.45

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.71	-3.43	-1.09
	WOOD	-6.79	-5.06	-3.27
	ALUM	-5.16	-2.61	0.
	ALUM+TB	-6.25	-4.25	-2.19
2 PANE 1/4IN.	PLAIN	-10.11	-9.94	-9.65
	WOOD	-10.40	-10.38	-10.23
	ALUM	-8.67	-7.79	-6.78
	ALUM+TB	-9.82	-9.52	-9.08
2 PANE 1/2IN.	PLAIN	-11.00	-11.28	-11.44
	WOOD	-11.25	-11.65	-11.93
	ALUM	-9.72	-9.36	-8.88
	ALUM+TB	-10.76	-10.92	-10.95
3 PANE 1/4IN.	PLAIN	-11.73	-12.16	-12.44
	WOOD	-11.83	-12.30	-12.63
	ALUM	-10.19	-9.84	-9.35
	ALUM+TB	-10.65	-10.54	-10.28
3 PANE 1/2IN.	PLAIN	-12.52	-13.34	-14.02
	WOOD	-12.60	-13.46	-14.17
	ALUM	-11.30	-11.50	-11.56
	ALUM+TB	-12.14	-12.77	-13.25

BASE LOAD = 94.30 MBTU-YR

AREA	MULTIPLIERS				
1000	.673	1700	1.095	2400	1.494
1100	.736	1800	1.152	2500	1.550
1200	.797	1900	1.208	2600	1.606
1300	.858	2000	1.264	2700	1.661
1400	.919	2100	1.322	2800	1.716
1500	.978	2200	1.380	2900	1.771
1600	1.037	2300	1.437	3000	1.825

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.73	R-11	-2.82	R-11 FLR	-9.00
R-19	-8.93	R-19	-3.55	R-19 FLR	-10.22
R-30	-9.84	R-27	-3.96		
R-38	-10.20				
R-49	-10.44				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.96
LOW (.4 ACH)	-3.91

10 PCT AREA	15 PCT AREA	20 PCT AREA
-10.74	-5.41	-0.06
-10.82	-5.50	-0.17
-10.71	-5.36	0.
-10.78	-5.46	-0.11
-12.25	-7.54	-2.79
-12.27	-7.56	-2.82
-12.16	-7.41	-2.64
-12.23	-7.51	-2.76
-12.31	-7.61	-2.88
-12.33	-7.64	-2.90
-12.23	-7.50	-2.75
-12.30	-7.59	-2.85
-13.05	-8.69	-4.19
-13.06	-8.70	-4.20
-12.94	-8.56	-4.03
-12.98	-8.60	-4.08
-13.10	-8.76	-4.27
-13.11	-8.77	-4.28
-13.02	-8.65	-4.15
-13.08	-8.73	-4.23

BASE LOAD = 64.27 MBTU-YR

AREA	MULTIPLIERS				
1000	.755	1700	1.073	2400	1.349
1100	.809	1800	1.114	2500	1.385
1200	.859	1900	1.153	2600	1.427
1300	.904	2000	1.189	2700	1.467
1400	.946	2100	1.232	2800	1.507
1500	.984	2200	1.273	2900	1.545
1600	1.030	2300	1.312	3000	1.582

MEMPHIS IN RANCH SLAB HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

MEMPHIS IN	HEATING (IN MBTU-YR)			COOLING (IN MBTU-YR)		
	CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0	0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11	-20.41	R-11 -9.83	R-5 2FT -7.84	R-11 -9.09	R-11 3.06	K-5 2FT -3.94
R-19	-22.93	R-19 -12.09	R-5 4FT -8.96	R-19 -10.23	K-19 -3.61	K-5 4FT -4.51
R-30	-24.71	R-27 -13.30		R-30 -11.09	K-27 -4.01	
R-38	-25.36			R-38 -11.37		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.91
LOW (.4 ACH)	-3.81

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.71	-3.43	-1.09	-10.75	-5.42	-0.06
	WOOD	-6.79	-5.05	-3.26	-10.83	-5.52	-0.18
	ALUM	-5.16	-2.61	0.	-10.71	-5.36	0.
2 PANE 1/4IN.	ALUM+TB	-6.25	-4.24	-2.18	-10.79	-5.47	-0.12
	PLAIN	-10.06	-9.89	-9.60	-12.15	-7.43	-2.67
	WOOD	-10.35	-10.33	-10.18	-12.17	-7.46	-2.71
2 PANE 1/2IN.	ALUM	-8.62	-7.74	-6.74	-12.04	-7.30	-2.51
	ALUM+TB	-9.77	-9.47	-9.03	-12.13	-7.40	-2.64
	PLAIN	-10.95	-11.23	-11.38	-12.21	-7.51	-2.78
3 PANE 1/4IN.	WOOD	-11.19	-11.60	-11.87	-12.23	-7.54	-2.80
	ALUM	-9.67	-9.31	-8.83	-12.12	-7.39	-2.63
	ALUM+TB	-10.70	-10.86	-10.90	-12.19	-7.49	-2.75
3 PANE 1/2IN.	PLAIN	-11.65	-12.08	-12.36	-12.92	-8.56	-4.06
	WOOD	-11.75	-12.22	-12.55	-12.93	-8.57	-4.07
	ALUM	-10.11	-9.77	-9.28	-12.81	-8.42	-3.89
3 PANE 1/2IN.	ALUM+TB	-10.57	-10.46	-10.20	-12.84	-8.46	-3.94
	PLAIN	-12.44	-13.26	-13.94	-12.98	-8.64	-4.15
	WOOD	-12.52	-13.38	-14.09	-12.99	-8.64	-4.16
ALUM+TB	ALUM	-11.22	-11.42	-11.48	-12.89	-8.52	-4.01
	ALUM+TB	-12.06	-12.69	-13.17	-12.95	-8.60	-4.11

BASE LOAD = 58.98 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000	.669	1700	1.096
1100	.732	1800	1.154
1200	.795	1900	1.211
1300	.857	2000	1.267
1400	.918	2100	1.326
1500	.978	2200	1.384
1600	1.037	2300	1.442
1700	1.096	2400	1.500
1800	1.154	2500	1.557
1900	1.211	2600	1.613
2000	1.267	2700	1.669
2100	1.326	2800	1.724
2200	1.384	2900	1.780
2300	1.442	3000	1.834
1000	.758	1700	1.073
1100	.811	1800	1.113
1200	.860	1900	1.152
1300	.905	2000	1.187
1400	.947	2100	1.230
1500	.984	2200	1.270
1600	1.030	2300	1.309
1700	1.073	2400	1.346
1800	1.113	2500	1.381
1900	1.152	2600	1.422
2000	1.187	2700	1.462
2100	1.230	2800	1.501
2200	1.270	2900	1.539
2300	1.309	3000	1.576

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.11	R-11	-.46	R-5 2FT	-.02
R-19	-1.22	R-19	-.55	R-5 4FT	-.03
R-30	-1.28	R-27	-.59		
R-38	-1.30				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.38	R-11	-5.75	R-5 2FT	-6.23
R-19	-16.30	R-19	-7.18	R-5 4FT	-7.23
R-30	-17.76	R-27	-7.94		
R-38	-18.30				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.25
LOW (.4 ACH)	-4.49

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.10
LOW (.4 ACH)	-11.10

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.20	-.13	-.05
	WOOD	-.25	-.21	-.15
	ALUM	-.18	-.10	0.
	ALUM+TB	-.23	-.17	-.10
2 PANE 1/4IN.	PLAIN	-.37	-.38	-.38
	WOOD	-.39	-.40	-.40
	ALUM	-.31	-.28	-.24
	ALUM+TB	-.36	-.36	-.35
2 PANE 1/2IN.	PLAIN	-.41	-.45	-.46
	WOOD	-.43	-.46	-.48
	ALUM	-.35	-.36	-.34
	ALUM+TB	-.40	-.43	-.44
3 PANE 1/4IN.	PLAIN	-.43	-.45	-.46
	WOOD	-.43	-.46	-.47
	ALUM	-.36	-.35	-.31
	ALUM+TB	-.38	-.38	-.35
3 PANE 1/2IN.	PLAIN	-.47	-.51	-.53
	WOOD	-.47	-.52	-.54
	ALUM	-.41	-.42	-.42
	ALUM+TB	-.45	-.48	-.49

10 PCT AREA	15 PCT AREA	20 PCT AREA
-21.53	-10.79	-.19
-21.79	-11.11	-.57
-21.41	-10.63	0.
-21.66	-10.95	-.38
-24.32	-14.86	-5.38
-24.39	-14.94	-5.48
-23.99	-14.44	-4.88
-24.25	-14.78	-5.28
-24.52	-15.12	-5.70
-24.58	-15.19	-5.78
-24.23	-14.75	-5.25
-24.47	-15.05	-5.61
-25.96	-16.85	-7.92
-25.98	-16.88	-7.95
-25.60	-16.40	-7.38
-25.71	-16.54	-7.54
-26.14	-17.08	-8.19
-26.16	-17.10	-8.22
-25.86	-16.73	-7.76
-26.05	-16.97	-8.06

BASE LOAD = 2.88 MBTU-YR

BASE LOAD = 121.85 MBTU-YR

AREA	MULTIPLIERS
1000	.540
1100	.618
1200	.701
1300	.789
1400	.881
1500	.977
1600	1.054
1700	1.132
1800	1.212
1900	1.293
2000	1.376
2100	1.456
2200	1.537
2300	1.619
2400	1.702
2500	1.786
2600	1.864
2700	1.943
2800	2.021
2900	2.101
3000	2.181

AREA	MULTIPLIERS
1000	.733
1100	.789
1200	.842
1300	.892
1400	.938
1500	.982
1600	1.031
1700	1.078
1800	1.123
1900	1.166
2000	1.207
2100	1.254
2200	1.299
2300	1.343
2400	1.386
2500	1.427
2600	1.473
2700	1.517
2800	1.561
2900	1.604
3000	1.646

MINNEAPOLIS RANCH BSMT

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -39.45	R-11 -24.52	R-5 4FT -7.42
R-19 -45.88	R-19 -30.78	R-5 8FT -11.44
R-30 -50.74	R-27 -34.21	R-10 8FT -16.30
R-38 -52.51		R-19 FLR -17.90
R-49 -54.02		
R-60 -55.00		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -4.90	R-11 -1.36	R-5 4FT -0.31
R-19 -5.47	R-19 -1.60	R-5 8FT -0.54
R-30 -5.76	R-27 -1.74	R-10 8FT -0.75
R-38 -5.88		R-19 FLR -0.20
R-49 -6.02		
R-60 -6.09		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -13.55
LOM (.4 ACH) -27.10

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.22
LOM (.4 ACH) -0.45

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-20.61	-11.50	-2.72
	WOOD	-23.32	-15.56	-8.14
	ALUM	-19.25	-9.45	0.
2 PANE 1/4IN.	ALUM+TB	-21.97	-13.54	-5.45
	PLAIN	-32.89	-29.56	-26.15
	WOOD	-33.69	-30.76	-27.76
	ALUM	-28.90	-23.57	-18.17
2 PANE 1/2IN.	ALUM+TB	-32.10	-28.38	-24.58
	PLAIN	-35.37	-33.29	-31.12
	WOOD	-36.05	-34.31	-32.48
	ALUM	-31.81	-27.95	-24.01
3 PANE 1/4IN.	ALUM+TB	-34.69	-32.27	-29.77
	PLAIN	-37.67	-36.16	-34.54
	WOOD	-37.93	-36.56	-35.07
	ALUM	-33.37	-29.72	-25.95
3 PANE 1/2IN.	ALUM+TB	-34.66	-31.65	-28.53
	PLAIN	-39.87	-39.46	-38.94
	WOOD	-40.08	-39.78	-39.37
	ALUM	-36.45	-34.33	-32.10
	ALUM+TB	-38.79	-37.85	-36.79

BASE LOAD = 211.88 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.96	-2.92	-0.01
-5.97	-2.93	-0.03
-5.96	-2.91	0.
-5.97	-2.93	-0.02
-6.69	-4.02	-1.31
-6.69	-4.02	-1.32
-6.67	-4.00	-1.30
-6.68	-4.01	-1.31
-6.69	-4.03	-1.33
-6.70	-4.03	-1.33
-6.68	-4.01	-1.31
-6.69	-4.02	-1.32
-7.11	-4.63	-2.05
-7.11	-4.63	-2.06
-7.10	-4.62	-2.03
-7.10	-4.62	-2.04
-7.12	-4.64	-2.06
-7.12	-4.64	-2.07
-7.11	-4.63	-2.05
-7.11	-4.64	-2.06

BASE LOAD = 23.40 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1000 .688	1700 1.091
1100 .749	1800 1.145
1200 .808	1900 1.199
1300 .866	2000 1.251
1400 .923	2100 1.307
1500 .978	2200 1.362
1600 1.035	2300 1.417
	2400 1.470
	2500 1.523
	2600 1.577
	2700 1.629
	2800 1.682
	2900 1.733
	3000 1.784

AREA MULTIPLIERS

AREA	MULTIPLIERS
1000 .828	1700 1.057
1100 .874	1800 1.085
1200 .913	1900 1.109
1300 .945	2000 1.130
1400 .978	2100 1.158
1500 .990	2200 1.184
1600 1.025	2300 1.208
	2400 1.229
	2500 1.247
	2600 1.275
	2700 1.302
	2800 1.327
	2900 1.350
	3000 1.372

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING	FOUNDATION	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -21.84	R-11 FLR -19.40	R-11 -2.23	R-11 FLR -7.58
R-19 -24.71	R-19 FLR -22.18	R-19 -2.77	R-19 FLR -8.51
R-30 -26.76		R-27 -3.04	
R-38 -27.49			
R-49 -28.13			

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.58
LOW (.4 ACH)	-1.16

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.31
LOW (.4 ACH)	-12.62

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.63	-4.45	-1.25
	WOOD	-8.87	-6.31	-3.73
	ALUM	-7.00	-3.52	0.
2 PANE 1/4IN.	ALUM+TB	-8.25	-5.39	-2.49
	PLAIN	-12.87	-12.25	-11.53
	WOOD	-13.20	-12.74	-12.19
	ALUM	-11.23	-9.79	-8.26
2 PANE 1/2IN.	ALUM+TB	-12.55	-11.76	-10.88
	PLAIN	-13.89	-13.78	-13.57
	WOOD	-14.17	-14.20	-14.13
	ALUM	-12.43	-11.59	-10.65
3 PANE 1/4IN.	ALUM+TB	-13.61	-13.36	-13.01
	PLAIN	-14.81	-14.90	-14.89
	WOOD	-14.92	-15.07	-15.11
	ALUM	-13.05	-12.26	-11.37
3 PANE 1/2IN.	ALUM+TB	-13.58	-13.06	-12.43
	PLAIN	-15.71	-16.26	-16.70
	WOOD	-15.80	-16.39	-16.87
	ALUM	-14.31	-14.16	-13.89
	ALUM+TB	-15.27	-15.60	-15.82

BASE LOAD = 107.72 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-9.69	-4.89	-0.03
-9.73	-4.91	-0.10
-9.67	-4.82	0.
-9.71	-4.88	-0.07
-10.70	-6.33	-1.86
-10.71	-6.34	-1.88
-10.64	-6.25	-1.78
-10.69	-6.31	-1.85
-10.73	-6.37	-1.92
-10.74	-6.38	-1.93
-10.68	-6.31	-1.84
-10.72	-6.36	-1.90
-11.32	-7.21	-2.89
-11.32	-7.21	-2.89
-11.26	-7.13	-2.79
-11.28	-7.15	-2.82
-11.35	-7.25	-2.94
-11.35	-7.25	-2.94
-11.30	-7.18	-2.86
-11.34	-7.23	-2.91

BASE LOAD = 49.78 MBTU-YR

AREA	MULTIPLIERS
1000	1.094
1100	1.151
1200	1.206
1300	1.261
1400	1.319
1500	1.376
1600	1.433

AREA	MULTIPLIERS
1000	1.069
1100	1.107
1200	1.142
1300	1.175
1400	1.214
1500	1.251
1600	1.287

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-22.60	R-11	-11.36	R-5 2FT	-8.80
R-19	-25.40	R-19	-13.98	R-5 4FT	-10.08
R-30	-27.41	R-27	-15.40		
R-38	-28.13				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.77	R-11	-1.86	R-5 2FT	-2.97
R-19	-8.37	R-19	-2.15	R-5 4FT	-3.48
R-30	-8.76	R-27	-2.28		
R-38	-8.91				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.29
LOW (.4 ACH)	-12.57

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.08
LOW (.4 ACH)	-.16

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.64	-4.47	-1.26
	WOOD	-8.90	-6.35	-3.77
	ALUM	-7.01	-3.52	0.
	ALUM+TB	-8.27	-5.41	-2.52
2 PANE 1/4IN.	PLAIN	-12.82	-12.19	-11.47
	WOOD	-13.15	-12.69	-12.14
	ALUM	-11.17	-9.71	-8.16
	ALUM+TB	-12.49	-11.70	-10.81
2 PANE 1/2IN.	PLAIN	-13.85	-13.74	-13.53
	WOOD	-14.13	-14.16	-14.09
	ALUM	-12.38	-11.52	-10.58
	ALUM+TB	-13.57	-13.32	-12.97
3 PANE 1/4IN.	PLAIN	-14.74	-14.83	-14.81
	WOOD	-14.85	-15.00	-15.03
	ALUM	-12.96	-12.16	-11.25
	ALUM+TB	-13.49	-12.96	-12.32
3 PANE 1/2IN.	PLAIN	-15.65	-16.20	-16.64
	WOOD	-15.74	-16.33	-16.81
	ALUM	-14.24	-14.07	-13.80
	ALUM+TB	-15.21	-15.53	-15.75

10 PCT AREA	15 PCT AREA	20 PCT AREA
-9.68	-4.84	-.03
-9.72	-4.89	-.08
-9.68	-4.82	0.
-9.70	-4.87	-.06
-10.16	-5.79	-1.33
-10.17	-5.81	-1.35
-10.11	-5.73	-1.26
-10.15	-5.78	-1.32
-10.19	-5.83	-1.38
-10.20	-5.84	-1.39
-10.15	-5.78	-1.31
-10.18	-5.82	-1.37
-10.68	-6.57	-2.25
-10.68	-6.57	-2.26
-10.63	-6.50	-2.17
-10.65	-6.52	-2.20
-10.71	-6.60	-2.29
-10.71	-6.61	-2.30
-10.67	-6.55	-2.23
-10.69	-6.59	-2.27

BASE LOAD = 93.91 MBTU-YR

BASE LOAD = 42.32 MBTU-YR

AREA	MULTIPLIERS				
1000	.673	1700	1.095	2400	1.493
1100	.736	1800	1.152	2500	1.550
1200	.798	1900	1.208	2600	1.605
1300	.859	2000	1.264	2700	1.661
1400	.919	2100	1.322	2800	1.715
1500	.978	2200	1.380	2900	1.770
1600	1.037	2300	1.437	3000	1.823

AREA	MULTIPLIERS				
1000	.776	1700	1.069	2400	1.315
1100	.828	1800	1.106	2500	1.345
1200	.874	1900	1.140	2600	1.383
1300	.916	2000	1.172	2700	1.419
1400	.953	2100	1.211	2800	1.455
1500	.985	2200	1.247	2900	1.489
1600	1.028	2300	1.282	3000	1.521

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -30.36	R-11 -15.38	R-5 4FT -4.26
R-19 -34.13	R-19 -18.87	R-5 8FT -6.56
R-30 -36.83	R-27 -20.75	R-10 8FT -9.31
R-38 -37.81		R-19 FLR -10.29
R-49 -38.65		
R-60 -39.19		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -7.98
LOW (.4 ACH) -15.96

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -4.56	R-11 -0.99	R-5 4FT -0.32
R-19 -5.09	R-19 -1.16	R-5 8FT -0.54
R-30 -5.37	R-27 -1.22	R-10 8FT -0.88
R-38 -5.44		R-19 FLR -0.39
R-49 -5.47		
R-60 -5.55		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.12
LOW (.4 ACH) -0.23

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.55	-6.14	-1.71
	WOOD	-12.25	-8.69	-5.10
	ALUM	-9.70	-4.86	0.
2 PANE 1/4IN.	ALUM+TB	-11.41	-7.42	-3.41
	PLAIN	-18.08	-17.32	-16.43
	WOOD	-18.53	-17.99	-17.33
	ALUM	-15.86	-13.98	-11.99
2 PANE 1/2IN.	ALUM+TB	-17.64	-16.66	-15.56
	PLAIN	-19.47	-19.40	-19.21
	WOOD	-19.85	-19.97	-19.97
	ALUM	-17.48	-16.42	-15.24
3 PANE 1/4IN.	ALUM+TB	-19.09	-18.83	-18.45
	PLAIN	-20.72	-20.89	-20.92
	WOOD	-20.87	-21.11	-21.22
	ALUM	-18.32	-17.30	-16.13
3 PANE 1/2IN.	ALUM+TB	-19.04	-18.37	-17.57
	PLAIN	-21.94	-22.73	-23.38
	WOOD	-22.06	-22.91	-23.62
	ALUM	-20.04	-19.87	-19.57
	ALUM+TB	-21.34	-21.83	-22.18

BASE LOAD = 124.99 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-6.11	-3.02	-0.1
-6.11	-3.03	-0.02
-6.10	-3.02	0.
-6.11	-3.03	-0.01
-6.46	-3.64	-0.84
-6.46	-3.65	-0.82
-6.45	-3.63	-0.83
-6.46	-3.64	-0.84
-6.46	-3.65	-0.85
-6.45	-3.64	-0.84
-6.46	-3.65	-0.85
-6.70	-4.09	-1.36
-6.71	-4.10	-1.36
-6.70	-4.08	-1.34
-6.70	-4.09	-1.35
-6.71	-4.10	-1.36
-6.71	-4.10	-1.36
-6.70	-4.09	-1.35
-6.71	-4.10	-1.36

BASE LOAD = 22.31 MBTU-YR

AREA	MULTIPLIERS
1000 .680	1700 1.093
1100 .742	1800 1.149
1200 .602	1900 1.204
1300 .862	2000 1.258
1400 .921	2100 1.316
1500 .978	2200 1.372
1600 1.036	2300 1.428

AREA	MULTIPLIERS
1000 .831	1700 1.056
1100 .877	1800 1.084
1200 .915	1900 1.107
1300 .947	2000 1.127
1400 .972	2100 1.155
1500 .990	2200 1.181
1600 1.025	2300 1.204

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-26.48	R-11	-13.75	R-5 2FT	-10.72
R-19	-29.87	R-19	-16.90	R-5 4FT	-12.27
R-30	-32.32	R-27	-18.59		
R-38	-33.20				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.15
LOW (.4 ACH)	-14.29

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.11	R-11	-2.76	R-5 2FT	-2.54
R-19	-8.19	R-19	-3.48	R-5 4FT	-2.89
R-30	-8.92	R-27	-3.83		
R-38	-9.21				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.49
LOW (.4 ACH)	-2.99

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.47	-5.53	-1.53
	WOOD	-10.98	-7.81	-4.56
	ALUM	-8.70	-4.38	0.
	ALUM+TB	-10.23	-6.67	-3.05
2 PANE 1/4IN.	PLAIN	-16.30	-15.70	-14.97
	WOOD	-16.70	-16.31	-15.78
	ALUM	-14.29	-12.70	-10.97
	ALUM+TB	-15.90	-15.11	-14.18
2 PANE 1/2IN.	PLAIN	-17.54	-17.57	-17.47
	WOOD	-17.89	-18.08	-18.15
	ALUM	-15.76	-14.89	-13.90
	ALUM+TB	-17.20	-17.06	-16.79
3 PANE 1/4IN.	PLAIN	-18.65	-18.94	-19.05
	WOOD	-18.78	-19.14	-19.32
	ALUM	-16.49	-15.70	-14.74
	ALUM+TB	-17.14	-16.67	-16.03
3 PANE 1/2IN.	PLAIN	-19.75	-20.59	-21.26
	WOOD	-19.86	-20.76	-21.48
	ALUM	-18.04	-18.02	-17.83
	ALUM+TB	-19.21	-19.79	-20.18

BASE LOAD = 112.69 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-9.88	-5.03	-0.06
-9.96	-5.13	-0.19
-9.83	-4.98	0.
-9.92	-5.08	-0.13
-11.36	-7.15	-2.82
-11.39	-7.18	-2.86
-11.25	-7.02	-2.66
-11.34	-7.13	-2.79
-11.43	-7.24	-2.93
-11.45	-7.26	-2.96
-11.33	-7.12	-2.78
-11.41	-7.22	-2.90
-12.15	-8.19	-4.14
-12.16	-8.20	-4.15
-12.03	-8.04	-3.97
-12.07	-8.08	-4.02
-12.21	-8.26	-4.24
-12.22	-8.27	-4.24
-12.12	-8.15	-4.09
-12.18	-8.23	-4.19

BASE LOAD = 49.78 MBTU-YR

AREA	MULTIPLIERS
1000	.677
1100	.739
1200	.800
1300	.861
1400	.920
1500	.978
1600	1.036

AREA	MULTIPLIERS
1000	.764
1100	.817
1200	.865
1300	.909
1400	.949
1500	.984
1600	1.029

BSMT

RANCH

OMAHA

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-35.81	R-11	-19.38	R-5	4FT
R-19	-40.79	R-19	-24.02	R-5	8FT
R-30	-44.43	R-27	-26.53	R-10	8FT
R-38	-45.75			R-19	FLR
R-49	-46.89				
R-60	-47.62				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-10.55
LOW (.4 ACH)	-21.09

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.38
LOW (.4 ACH)	-0.76

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.97	-8.05	-2.15
	WOOD	-16.11	-11.26	-6.43
	ALUM	-12.89	-6.43	0.
	ALUM+TB	-15.04	-9.66	-4.30
2 PANE 1/4IN.	PLAIN	-22.90	-21.32	-19.60
	WOOD	-23.50	-22.21	-20.79
	ALUM	-19.95	-16.89	-13.69
	ALUM+TB	-22.32	-20.45	-18.43
2 PANE 1/2IN.	PLAIN	-24.74	-24.08	-23.28
	WOOD	-25.25	-24.84	-24.29
	ALUM	-22.11	-20.13	-18.01
	ALUM+TB	-24.24	-23.33	-22.27
3 PANE 1/4IN.	PLAIN	-26.33	-26.01	-25.52
	WOOD	-26.53	-26.31	-25.92
	ALUM	-23.15	-21.24	-19.16
	ALUM+TB	-24.11	-22.67	-21.07
3 PANE 1/2IN.	PLAIN	-27.96	-28.45	-28.78
	WOOD	-28.12	-28.69	-29.10
	ALUM	-25.43	-24.66	-23.72
	ALUM+TB	-27.17	-27.26	-27.19

BASE LOAD = 161.09 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-7.31	-3.72	-0.2
-7.34	-3.75	-0.05
-7.30	-3.71	0.
-7.32	-3.74	-0.04
-8.23	-5.07	-1.70
-8.24	-5.08	-1.71
-8.20	-5.03	-1.65
-8.22	-5.06	-1.69
-8.25	-5.09	-1.73
-8.26	-5.10	-1.74
-8.22	-5.06	-1.68
-8.24	-5.09	-1.72
-8.75	-5.71	-2.61
-8.75	-5.71	-2.61
-8.71	-5.67	-2.56
-8.72	-5.68	-2.57
-8.76	-5.73	-2.64
-8.76	-5.74	-2.64
-8.74	-5.70	-2.59
-8.75	-5.72	-2.62

BASE LOAD = 30.38 MBTU-YR

AREA	MULTIPLIERS
1000	.684
1100	.746
1200	.806
1300	.864
1400	.922
1500	.978
1600	1.035
1700	1.092
1800	1.147
1900	1.201
2000	1.254
2100	1.311
2200	1.366
2300	1.422
2400	1.476
2500	1.530
2600	1.584
2700	1.637
2800	1.690
2900	1.742
3000	1.794

AREA	MULTIPLIERS
1000	.803
1100	.852
1200	.894
1300	.931
1400	.962
1500	.988
1600	1.027
1700	1.063
1800	1.095
1900	1.124
2000	1.150
2100	1.183
2200	1.214
2300	1.243
2400	1.270
2500	1.294
2600	1.327
2700	1.358
2800	1.388
2900	1.417
3000	1.444

PHILADELPHIA PA RANCH BSMT
 HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -33.59	R-11 -16.94	R-5 4FT -4.74	R-11 -5.80	R-11 -1.16	R-5 4FT -1.77
R-19 -37.79	R-19 -20.78	R-5 8FT -7.29	R-19 -6.31	R-19 -1.38	R-5 8FT -1.09
R-30 -40.77	R-27 -22.86	R-10 8FT -10.30	R-30 -6.71	R-27 -1.35	R-10 8FT -1.58
R-38 -41.85		R-19 FLR -11.37	R-38 -6.76		R-19 FLR -1.12
R-49 -42.77			R-49 -6.91		
R-60 -43.37			R-60 -7.03		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.68
LOW (.4 ACH)	-17.36

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.20
LOW (.4 ACH)	-16.40

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.22	-7.06	-1.88
	WOOD	-14.09	-9.87	-5.62
	ALUM	-11.28	-5.65	0.
	ALUM+TB	-13.16	-8.47	-3.76
2 PANE 1/4IN.	PLAIN	-20.19	-18.94	-17.60
	WOOD	-20.69	-19.68	-18.59
	ALUM	-17.74	-15.26	-12.70
	ALUM+TB	-19.71	-18.22	-16.64
2 PANE 1/2IN.	PLAIN	-21.72	-21.23	-20.66
	WOOD	-22.14	-21.86	-21.49
	ALUM	-19.53	-17.95	-16.28
	ALUM+TB	-21.30	-20.61	-19.82
3 PANE 1/4IN.	PLAIN	-23.09	-22.91	-22.65
	WOOD	-23.26	-23.16	-22.98
	ALUM	-20.46	-18.96	-17.37
	ALUM+TB	-21.25	-20.14	-18.95
3 PANE 1/2IN.	PLAIN	-24.45	-24.94	-25.35
	WOOD	-24.58	-25.14	-25.61
	ALUM	-22.35	-21.79	-21.15
	ALUM+TB	-23.79	-23.95	-24.03

BASE LOAD = 139.72 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-6.55	-3.28	-0.01
-6.57	-3.30	-0.03
-6.55	-3.27	0.
-6.56	-3.29	-0.02
-6.62	-3.71	-0.69
-6.62	-3.72	-0.70
-6.60	-3.70	-0.67
-6.62	-3.71	-0.69
-6.63	-3.73	-0.71
-6.63	-3.73	-0.71
-6.61	-3.71	-0.69
-6.63	-3.72	-0.70
-6.93	-4.05	-1.11
-6.93	-4.05	-1.11
-6.91	-4.03	-1.09
-6.92	-4.03	-1.10
-6.94	-4.06	-1.13
-6.94	-4.06	-1.13
-6.92	-4.04	-1.11
-6.93	-4.05	-1.12

BASE LOAD = 27.79 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.092
1700	1.148
1800	1.203
1900	1.257
2000	1.313
2100	1.370
2200	1.425
2300	1.480
2400	1.534
2500	1.589
2600	1.643
2700	1.696
2800	1.749
2900	1.801
3000	1.854

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.062
1700	1.123
1800	1.181
1900	1.240
2000	1.299
2100	1.358
2200	1.417
2300	1.476
2400	1.535
2500	1.594
2600	1.653
2700	1.712
2800	1.771
2900	1.830
3000	1.889

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.59	R-11	-4.35	R-5 2FT	-3.17
R-19	-11.84	R-19	-5.34	R-5 4FT	-3.62
R-30	-12.67	R-27	-5.81		
R-38	-12.97				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-15.58	R-11	-6.63	R-5 2FT	-8.47
R-19	-18.36	R-19	-8.54	R-5 4FT	-9.75
R-30	-20.46	R-27	-9.46		
R-38	-21.25				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.84
LOW (.4 ACH)	-5.67

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.18
LOW (.4 ACH)	-6.35

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.79	-1.22	-.48
	WOOD	-2.27	-1.94	-1.44
	ALUM	-1.55	-.86	0.
2 PANE 1/4IN.	ALUM+TB	-2.03	-1.58	-.97
	PLAIN	-3.58	-3.84	-3.92
	WOOD	-3.71	-4.04	-4.18
2 PANE 1/2IN.	ALUM	-2.95	-2.90	-2.65
	ALUM+TB	-3.46	-3.66	-3.67
	PLAIN	-3.97	-4.44	-4.71
3 PANE 1/4IN.	WOOD	-4.08	-4.60	-4.93
	ALUM	-3.41	-3.59	-3.58
	ALUM+TB	-3.87	-4.27	-4.49
3 PANE 1/2IN.	PLAIN	-4.25	-4.73	-5.01
	WOOD	-4.29	-4.80	-5.10
	ALUM	-3.57	-3.71	-3.65
3 PANE 1/2IN.	ALUM+TB	-3.77	-4.02	-4.06
	PLAIN	-4.60	-5.26	-5.71
	WOOD	-4.63	-5.31	-5.78
	ALUM	-4.05	-4.44	-4.63
	ALUM+TB	-4.43	-5.00	-5.37

10 PCT AREA	15 PCT AREA	20 PCT AREA
-15.81	-8.00	-.42
-16.36	-8.70	-1.25
-15.53	-7.66	0.
-16.09	-8.35	-.84
-18.74	-12.26	-5.77
-18.88	-12.45	-5.99
-18.01	-11.35	-4.67
-18.59	-12.08	-5.55
-19.19	-12.83	-6.45
-19.31	-12.99	-6.64
-18.54	-12.02	-5.47
-19.06	-12.68	-6.27
-20.29	-14.31	-8.22
-20.34	-14.37	-8.29
-19.51	-13.32	-7.03
-19.75	-13.62	-7.39
-20.69	-14.81	-8.82
-20.73	-14.86	-8.88
-20.07	-14.03	-7.88
-20.50	-14.56	-8.53

BASE LOAD = 35.00 MBTU-YR

BASE LOAD = 100.96 MBTU-YR

AREA	MULTIPLIERS
1000	.622
1100	.691
1200	.761
1300	.832
1400	.904
1500	.978
1600	1.043
1700	1.109
1800	1.175
1900	1.241
2000	1.307
2100	1.373
2200	1.440
2300	1.507
2400	1.573
2500	1.640
2600	1.705
2700	1.769
2800	1.833
2900	1.897
3000	1.960

AREA	MULTIPLIERS
1000	.739
1100	.795
1200	.847
1300	.895
1400	.940
1500	.982
1600	1.031
1700	1.077
1800	1.121
1900	1.163
2000	1.202
2100	1.248
2200	1.292
2300	1.335
2400	1.376
2500	1.416
2600	1.460
2700	1.504
2800	1.546
2900	1.587
3000	1.628

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -35.51	R-11 -18.48	R-5 4FT -5.13	R-11 -5.15	R-11 -1.21	R-5 4FT -0.72
R-19 -40.07	R-19 -22.73	R-5 8FT -7.87	R-19 -5.74	R-19 -1.53	R-5 8FT -0.73
R-30 -43.35	R-27 -25.05	R-10 8FT -11.19	R-30 -6.16	R-27 -1.62	R-10 8FT -0.79
R-38 -44.54		R-19 FLR -12.34	R-38 -6.31		R-19 FLR 0.
R-49 -45.57			R-49 -6.46		
R-60 -46.23			R-60 -6.53		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.36
LOW (.4 ACH)	-18.72

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.02
LOW (.4 ACH)	-0.04

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.89	-7.97	-2.05
	WOOD	-15.93	-11.03	-6.13
	ALUM	-12.87	-6.43	0.
	ALUM+TB	-14.92	-9.51	-4.10
2 PANE 1/4IN.	PLAIN	-22.41	-20.69	-18.91
	WOOD	-22.96	-21.51	-20.00
	ALUM	-19.70	-16.63	-13.49
	ALUM+TB	-21.88	-19.89	-17.84
2 PANE 1/2IN.	PLAIN	-24.10	-23.23	-22.28
	WOOD	-24.56	-23.92	-23.21
	ALUM	-21.68	-19.60	-17.45
	ALUM+TB	-23.64	-22.54	-21.36
3 PANE 1/4IN.	PLAIN	-25.62	-25.14	-24.58
	WOOD	-25.80	-25.41	-24.94
	ALUM	-22.71	-20.76	-18.74
	ALUM+TB	-23.58	-22.07	-20.49
3 PANE 1/2IN.	PLAIN	-27.12	-27.38	-27.57
	WOOD	-27.26	-27.60	-27.86
	ALUM	-24.80	-23.90	-22.92
	ALUM+TB	-26.39	-26.28	-26.11

BASE LOAD = 152.00 MBTU-YR

BASE LOAD = 21.86 MBTU-YR

AREA	MULTIPLIERS
1000	1.092
1100	1.147
1200	1.202
1300	1.255
1400	1.312
1500	1.368
1600	1.423

AREA	MULTIPLIERS
1000	1.052
1100	1.076
1200	1.096
1300	1.111
1400	1.136
1500	1.157
1600	1.176

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -43.87	R-11 -23.33	R-5 4FT -6.60
R-19 -49.74	R-19 -28.76	R-5 8FT -10.15
K-30 -53.95	R-27 -31.69	R-10 8FT -14.38
R-38 -55.49		R-19 FLR -15.81
R-49 -56.81		
R-60 -57.65		

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 R-0
R-11 -2.88	R-11 -0.70	R-5 4FT -0.41
R-19 -3.22	R-19 -0.84	R-5 8FT -0.41
R-30 -3.40	R-27 -0.87	K-10 8FT -0.41
R-38 -3.47		K-19 FLR 0.
R-49 -3.54		
R-60 -3.61		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -12.06
 LOW (.4 ACH) -24.12

INFILTRATION

HI (1 ACH) -0.03
 MED (.7 ACH) -0.01
 LOW (.4 ACH) 0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-16.42	-9.50	-2.59
	WOOD	-18.99	-13.36	-7.74
	ALUM	-15.12	-7.56	0.
	ALUM+TB	-17.71	-11.44	-5.18
2 PANE 1/4IN.	PLAIN	-26.61	-24.64	-22.58
	WOOD	-27.31	-25.69	-23.97
	ALUM	-23.15	-19.45	-15.66
	ALUM+TB	-25.93	-23.62	-21.21
2 PANE 1/2IN.	PLAIN	-28.77	-27.88	-26.89
	WOOD	-29.36	-28.76	-28.07
	ALUM	-25.68	-23.25	-20.71
	ALUM+TB	-28.18	-26.99	-25.71
3 PANE 1/4IN.	PLAIN	-30.59	-30.10	-29.49
	WOOD	-30.83	-30.45	-29.95
	ALUM	-26.87	-24.52	-22.04
	ALUM+TB	-27.99	-26.19	-24.28
3 PANE 1/2IN.	PLAIN	-32.50	-32.96	-33.30
	WOOD	-32.69	-33.24	-33.67
	ALUM	-29.54	-28.52	-27.38
	ALUM+TB	-31.57	-31.57	-31.44

BASE LOAD = 191.48 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.61	-1.86	-0.00
-3.61	-1.86	-0.00
-3.61	-1.86	0.
-3.61	-1.86	-0.00
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-3.93	-2.32	-0.65
-4.13	-2.68	-1.01
-4.13	-2.68	-1.01
-4.13	-2.68	-1.01
-4.13	-2.68	-1.01
-4.13	-2.68	-1.01
-4.13	-2.68	-1.01

BASE LOAD = 10.71 MBTU-YR

AREA	MULTIPLIERS
1000 .686	1700 1.091
1100 .747	1800 1.146
1200 .807	1900 1.200
1300 .865	2000 1.253
1400 .922	2100 1.309
1500 .978	2200 1.364
1600 1.035	2300 1.419
	2400 1.473
	2500 1.527
	2600 1.580
	2700 1.633
	2800 1.686
	2900 1.738
	3000 1.789

AREA	MULTIPLIERS
1000 .877	1700 1.046
1100 .918	1800 1.065
1200 .950	1900 1.080
1300 .973	2000 1.089
1400 .988	2100 1.108
1500 .994	2200 1.125
1600 1.022	2300 1.137
	2400 1.147
	2500 1.153
	2600 1.172
	2700 1.189
	2800 1.205
	2900 1.218
	3000 1.229

PORTLAND, OR RANCH CRAWLY HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-31.53	R-11	-16.03	R-11 FLR	-2.39
R-19	-35.57	R-19	-19.74	R-19 FLR	-2.71
R-30	-38.40	R-27	-21.70		
R-38	-39.44				
R-49	-40.32				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.06
LOW (.4 ACH)	-0.12

WINDOW	10 PCT AREA			15 PCT AREA			20 PCT AREA		
	SASH	AREA	MULTIPLIERS	SASH	AREA	MULTIPLIERS	SASH	AREA	MULTIPLIERS
1 PANE	PLAIN	-11.64	-6.75	-1.78	-2.58	-1.37	-0.00		
	WOOD	-13.41	-9.41	-5.32	-2.58	-1.38	-0.01		
	ALUM	-10.75	-5.42	0.	-2.58	-1.37	0.		
2 PANE 1/4IN.	ALUM+TB	-12.53	-8.09	-3.56	-2.58	-1.37	-0.00		
	PLAIN	-18.75	-17.29	-15.68	-2.84	-1.80	-0.55		
	WOOD	-19.22	-17.99	-16.62	-2.84	-1.80	-0.55		
2 PANE 1/2IN.	ALUM	-16.42	-13.78	-11.01	-2.84	-1.79	-0.54		
	ALUM+TB	-18.29	-16.60	-14.75	-2.84	-1.80	-0.55		
	PLAIN	-20.21	-19.47	-18.59	-2.84	-1.80	-0.55		
3 PANE 1/4IN.	WOOD	-20.60	-20.07	-19.38	-2.84	-1.80	-0.55		
	ALUM	-18.12	-16.35	-14.42	-2.84	-1.80	-0.55		
	ALUM+TB	-19.81	-18.87	-17.79	-2.84	-1.80	-0.55		
3 PANE 1/2IN.	PLAIN	-21.49	-21.03	-20.41	-2.99	-2.00	-0.91		
	WOOD	-21.65	-21.27	-20.73	-2.99	-2.00	-0.91		
	ALUM	-18.97	-17.26	-15.39	-2.99	-2.00	-0.91		
3 PANE 1/2IN.	ALUM+TB	-19.73	-18.39	-16.84	-2.99	-2.00	-0.91		
	PLAIN	-22.78	-22.97	-22.99	-2.99	-2.01	-0.92		
	WOOD	-22.90	-23.15	-23.24	-2.99	-2.01	-0.92		
1000	ALUM	-20.78	-19.97	-18.99	-2.99	-2.00	-0.91		
	ALUM+TB	-22.15	-22.02	-21.73	-2.99	-2.01	-0.91		

BASE LOAD = 12.62 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000	.682	1000	.877
1100	.743	1100	.918
1200	.804	1200	.950
1300	.863	1300	.973
1400	.921	1400	.988
1500	.978	1500	.994
1600	1.036	1600	1.022
		1700	1.046
		1800	1.065
		1900	1.080
		2000	1.089
		2100	1.108
		2200	1.125
		2300	1.137
		2400	1.147
		2500	1.153
		2600	1.172
		2700	1.189
		2800	1.205
		2900	1.218
		3000	1.229

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -32.40	R-11 -15.93	R-5 4FT
R-19 -36.42	R-19 -19.61	R-5 8FT
R-30 -39.25	R-27 -21.59	K-10 8FT
R-38 -40.29		R-19 FLR
R-49 -41.19		
R-60 -41.77		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -8.32
 LOW (.4 ACH) -16.64

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -8.65	R-11 -1.64	R-5 4FT
R-19 -9.72	R-19 -2.00	K-5 8FT
R-30 -10.31	K-27 -2.08	K-10 8FT
R-38 -10.56		K-19 FLR
R-49 -10.82		
R-60 -11.02		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -.16
 LOW (.4 ACH) -.32

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.56	-4.72	-1.77
	WOOD	-9.32	-7.36	-5.29
	ALUM	-6.68	-3.40	0.
	ALUM+TB	-8.45	-6.05	-3.54
2 PANE 1/4IN.	PLAIN	-13.99	-14.27	-14.32
	WOOD	-14.47	-14.98	-15.26
	ALUM	-11.65	-10.76	-9.63
	ALUM+TB	-13.53	-13.58	-13.39
2 PANE 1/2IN.	PLAIN	-15.45	-16.47	-17.24
	WOOD	-15.85	-17.07	-18.04
	ALUM	-13.36	-13.33	-13.06
	ALUM+TB	-15.05	-15.87	-16.44
3 PANE 1/4IN.	PLAIN	-16.53	-17.70	-18.57
	WOOD	-16.69	-17.94	-18.88
	ALUM	-14.00	-13.91	-13.52
	ALUM+TB	-14.76	-15.05	-15.04
3 PANE 1/2IN.	PLAIN	-17.82	-19.64	-21.16
	WOOD	-17.95	-19.83	-21.41
	ALUM	-15.81	-16.63	-17.14
	ALUM+TB	-17.19	-18.69	-19.89

BASE LOAD = 122.25 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.57	-2.92	-0.02
-5.59	-2.94	-0.05
-5.56	-2.90	0.
-5.58	-2.93	-0.03
-6.26	-3.94	-1.39
-6.26	-3.95	-1.40
-6.23	-3.90	-1.15
-6.25	-3.93	-1.38
-6.27	-3.96	-1.41
-6.28	-3.97	-1.42
-6.25	-3.93	-1.38
-6.27	-3.95	-1.41
-6.62	-4.53	-2.18
-6.62	-4.54	-2.18
-6.59	-4.50	-2.14
-6.60	-4.51	-2.15
-6.64	-4.52	-2.20
-6.64	-4.55	-2.21
-6.61	-4.52	-2.17
-6.63	-4.54	-2.19

BASE LOAD = 24.26 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000 .679	1700 1.093	1000 .868	1700 1.048
1100 .741	1800 1.149	1100 .909	1800 1.069
1200 .802	1900 1.205	1200 .943	1900 1.085
1300 .862	2000 1.259	1300 .968	2000 1.097
1400 .920	2100 1.316	1400 .985	2100 1.118
1500 .978	2200 1.373	1500 .993	2200 1.136
1600 1.036	2300 1.429	1600 1.023	2300 1.151
			2400 1.162
			2500 1.171
			2600 1.192
			2700 1.211
			2800 1.228
			2900 1.243
			3000 1.257

SALT LAKE CITY RANCH BSMT
 HEATING (IN MBTU-YR)
 COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-37.85	R-11	-19.34	R-5 4FT	-5.32
R-19	-42.65	R-19	-23.81	R-5 8FT	-8.17
R-30	-46.09	R-27	-26.23	R-10 8FT	-11.57
R-38	-47.35			K-19 FLR	-12.70
R-49	-48.42				
R-60	-49.11				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.25
LOW (.4 ACH)	-18.51

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.28
LOW (.4 ACH)	-0.57

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.54	-7.87	-2.15
	WOOD	-15.67	-11.07	-6.42
	ALUM	-12.46	-8.26	0.
	ALUM+TB	-14.61	-9.48	-4.29
2 PANE 1/4IN.	PLAIN	-22.17	-20.73	-19.13
	WOOD	-22.74	-21.59	-20.28
	ALUM	-19.32	-16.46	-13.44
	ALUM+TB	-21.61	-19.88	-18.01
2 PANE 1/2IN.	PLAIN	-23.94	-23.39	-22.68
	WOOD	-24.43	-24.12	-23.66
	ALUM	-21.40	-19.58	-17.60
	ALUM+TB	-23.46	-22.66	-21.71
3 PANE 1/4IN.	PLAIN	-25.47	-25.26	-24.90
	WOOD	-25.66	-25.55	-25.28
	ALUM	-22.41	-20.66	-18.77
	ALUM+TB	-23.33	-22.04	-20.61
3 PANE 1/2IN.	PLAIN	-27.04	-27.62	-28.04
	WOOD	-27.20	-27.85	-28.35
	ALUM	-24.60	-23.96	-23.16
	ALUM+TB	-26.28	-26.47	-26.51

BASE LOAD = 156.03 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-7.42	-3.84	-0.03
-7.46	-3.89	-0.09
-7.40	-3.81	0.
-7.44	-3.86	-0.06
-8.40	-5.42	-2.18
-8.47	-5.44	-2.19
-8.41	-5.36	-2.10
-8.45	-5.41	-2.16
-8.49	-5.46	-2.22
-8.50	-5.47	-2.24
-8.44	-5.41	-2.16
-8.48	-5.45	-2.21
-9.00	-6.24	-3.27
-9.00	-6.25	-3.27
-8.94	-6.18	-3.18
-8.96	-6.20	-3.21
-9.02	-6.28	-3.31
-9.03	-6.28	-3.31
-8.98	-6.22	-3.24
-9.01	-6.26	-3.29

BASE LOAD = 29.36 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000	.683	1000	.830
1100	.745	1100	.875
1200	.805	1200	.914
1300	.864	1300	.946
1400	.922	1400	.971
1500	.978	1500	.990
1600	1.035	1600	1.025
		1700	1.057
		1800	1.084
		1900	1.108
		2000	1.128
		2100	1.157
		2200	1.182
		2300	1.206
		2400	1.226
		2500	1.244
		2600	1.272
		2700	1.298
		2800	1.323
		2900	1.346
		3000	1.367

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -12.91	R-11 -5.34	R-5 2FT -4.45	R-11 -10.71	R-11 -3.97	R-5 2FT -5.08
R-19 -14.46	R-19 -7.77	R-5 4FT -5.09	R-19 -12.18	R-19 -4.89	R-5 4FT -5.81
R-30 -15.55	R-27 -8.52		R-30 -13.33	R-27 -5.43	
R-38 -15.95			R-38 -13.73		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -3.69
 LOW (.4 ACH) -7.38

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -2.64
 LOW (.4 ACH) -5.29

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.50	-2.15	-0.70
	WOOD	-4.20	-3.20	-2.10
	ALUM	-3.15	-1.62	0.
2 PANE 1/4IN.	ALUM+TB	-3.85	-2.67	-1.41
	PLAIN	-6.39	-6.41	-6.31
	WOOD	-6.57	-6.69	-6.69
	ALUM	-5.46	-5.03	-4.47
2 PANE 1/2IN.	ALUM+TB	-6.20	-6.14	-5.95
	PLAIN	-6.96	-7.28	-7.47
	WOOD	-7.12	-7.51	-7.78
	ALUM	-6.14	-6.04	-5.82
3 PANE 1/4IN.	ALUM+TB	-6.80	-7.04	-7.15
	PLAIN	-7.41	-7.79	-8.03
	WOOD	-7.47	-7.89	-8.15
	ALUM	-6.41	-6.30	-6.04
3 PANE 1/2IN.	ALUM+TB	-6.71	-6.75	-6.64
	PLAIN	-7.92	-8.56	-9.05
	WOOD	-7.97	-8.63	-9.15
	ALUM	-7.13	-7.37	-7.46
	ALUM+TB	-7.67	-8.19	-8.55

BASE LOAD = 49.88 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-13.65	-6.93	-0.13
-13.82	-7.15	-0.40
-13.56	-6.82	0.
-13.74	-7.04	-0.26
-13.81	-9.72	-3.74
-13.86	-9.78	-3.81
-13.38	-9.44	-3.40
-13.56	-9.67	-3.68
-13.75	-9.90	-3.96
-13.79	-9.95	-4.02
-13.55	-9.65	-3.65
-13.71	-9.85	-3.90
-16.72	-11.25	-5.87
-16.74	-11.27	-5.70
-16.48	-10.94	-5.30
-16.55	-11.03	-5.41
-16.85	-11.41	-5.87
-16.86	-11.42	-5.89
-16.65	-11.16	-5.57
-16.79	-11.33	-5.77

BASE LOAD = 77.49 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1000 .650	1700 1.101
1100 .715	1800 1.163
1200 .781	1900 1.223
1300 .846	2000 1.284
1400 .912	2100 1.346
1500 .978	2200 1.408
1600 1.040	2300 1.469
	2400 1.531
	2500 1.592
	2600 1.651
	2700 1.711
	2800 1.770
	2900 1.829
	3000 1.887

MULTIPLIERS

AREA	MULTIPLIERS
1000 .746	1700 1.075
1100 .800	1800 1.118
1200 .852	1900 1.159
1300 .899	2000 1.197
1400 .943	2100 1.241
1500 .983	2200 1.284
1600 1.030	2300 1.325
	2400 1.365
	2500 1.403
	2600 1.447
	2700 1.489
	2800 1.530
	2900 1.570
	3000 1.609

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.71	R-11	-3.35	R-5 2FT	-2.05
R-19	-8.61	R-19	-4.00	R-5 4FT	-2.30
R-30	-9.12	R-27	-4.25		
R-38	-9.29				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.32	R-11	-0.32	R-5 2FT	-0.15
R-19	-2.51	R-19	-0.40	R-5 4FT	-0.25
R-30	-2.60	K-27	-0.40		
R-38	-2.68				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-1.50
LOW (1.4 ACH)	-3.01

INFILTRATION

HI (1 ACH)	-0.68
MED (1.7 ACH)	-0.34
LOW (1.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-0.50	-0.43	-0.19
	WOOD	-0.69	-0.72	-0.58
	ALUM	-0.41	-0.29	0.
	ALUM+TB	-0.60	-0.58	-0.39
2 PANE 1/4IN.	PLAIN	-1.90	-2.35	-2.57
	WOOD	-1.95	-2.42	-2.67
	ALUM	-1.65	-1.97	-2.07
	ALUM+TB	-1.85	-2.27	-2.47
2 PANE 1/2IN.	PLAIN	-2.06	-2.58	-2.89
	WOOD	-2.10	-2.65	-2.97
	ALUM	-1.83	-2.25	-2.44
	ALUM+TB	-2.01	-2.52	-2.80
3 PANE 1/4IN.	PLAIN	-2.27	-2.69	-2.91
	WOOD	-2.29	-2.72	-2.95
	ALUM	-2.00	-2.29	-2.37
	ALUM+TB	-2.08	-2.41	-2.53
3 PANE 1/2IN.	PLAIN	-2.41	-2.90	-3.19
	WOOD	-2.42	-2.92	-3.22
	ALUM	-2.19	-2.58	-2.76
	ALUM+TB	-2.34	-2.80	-3.06

10 PCT AREA	15 PCT AREA	20 PCT AREA
-2.53	-1.41	-0.00
-2.53	-1.41	-0.00
-2.53	-1.41	0.
-2.53	-1.41	-0.00
-2.64	-1.52	-0.21
-2.64	-1.53	-0.21
-2.64	-1.52	-0.21
-2.64	-1.52	-0.21
-2.64	-1.53	-0.21
-2.64	-1.52	-0.21
-2.64	-1.53	-0.21
-2.64	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52
-2.62	-1.72	-0.52

BASE LOAD = 21.36 MBTU-YR

BASE LOAD = 7.79 MBTU-YR

AREA	MULTIPLIERS
1000	.540
1100	.618
1200	.701
1300	.789
1400	.881
1500	.977
1600	1.054
1700	1.132
1800	1.212
1900	1.293
2000	1.376
2100	1.456
2200	1.537
2300	1.619
2400	1.702
2500	1.786
2600	1.864
2700	1.943
2800	2.021
2900	2.101
3000	2.181

AREA	MULTIPLIERS
1000	.877
1100	.918
1200	.950
1300	.973
1400	.988
1500	.994
1600	1.022
1700	1.046
1800	1.065
1900	1.080
2000	1.089
2100	1.108
2200	1.125
2300	1.137
2400	1.147
2500	1.153
2600	1.172
2700	1.189
2800	1.205
2900	1.218
3000	1.229

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-21.50	R-11	-10.93	R-5 2FT	-7.59
R-19	-24.17	R-19	-13.44	R-5 4FT	-8.66
R-30	-26.03	R-27	-14.70		
R-38	-26.71				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.13
LOW (.4 ACH)	-12.26

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.20
R-11	-.71	R-11	-.12	R-5 2FT	-.03
R-19	-.78	R-19	-.14	R-5 4FT	0.
R-30	-.80	R-27	-.13		
R-38	-.81				

INFILTRATION

HI (1 ACH)	-0.06
MED (.7 ACH)	-0.03
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.65	-2.25	-.63
	WOOD	-4.28	-3.19	-1.88
	ALUM	-3.34	-1.78	0.
	ALUM+TB	-3.96	-2.72	-1.26
2 PANE 1/4IN.	PLAIN	-9.12	-10.10	-10.72
	WOOD	-9.29	-10.35	-11.05
	ALUM	-8.30	-8.87	-9.07
	ALUM+TB	-8.96	-9.86	-10.39
2 PANE 1/2IN.	PLAIN	-9.64	-10.88	-11.74
	WOOD	-9.78	-11.09	-12.02
	ALUM	-8.90	-9.77	-10.27
	ALUM+TB	-9.50	-10.66	-11.46
3 PANE 1/4IN.	PLAIN	-10.79	-12.14	-13.07
	WOOD	-10.85	-12.23	-13.18
	ALUM	-9.90	-10.81	-11.29
	ALUM+TB	-10.17	-11.21	-11.83
3 PANE 1/2IN.	PLAIN	-11.25	-12.82	-13.98
	WOOD	-11.29	-12.89	-14.07
	ALUM	-10.54	-11.77	-12.57
	ALUM+TB	-11.02	-12.49	-13.53

BASE LOAD = 78.40 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-.70	-.37	-.00
-.70	-.37	-.00
-.70	-.37	0.
-.70	-.37	-.00
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.73	-.43	-.10
-.77	-.48	-.17
-.77	-.48	-.17
-.77	-.48	-.17
-.77	-.48	-.17
-.77	-.49	-.17
-.77	-.49	-.17
-.77	-.48	-.17
-.77	-.49	-.17

BASE LOAD = 2.05 MBTU-YR

AREA	MULTIPLIERS
1000	.664
1100	.727
1200	.791
1300	.854
1400	.916
1500	.978
1600	1.038
1700	1.097
1800	1.156
1900	1.214
2000	1.272
2100	1.332
2200	1.391
2300	1.450
2400	1.508
2500	1.567
2600	1.624
2700	1.681
2800	1.738
2900	1.794
3000	1.849

AREA	MULTIPLIERS
1000	.877
1100	.918
1200	.950
1300	.973
1400	.988
1500	.994
1600	1.022
1700	1.046
1800	1.065
1900	1.080
2000	1.089
2100	1.108
2200	1.125
2300	1.137
2400	1.147
2500	1.153
2600	1.172
2700	1.189
2800	1.205
2900	1.218
3000	1.229

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -35.49	R-11 -18.01	R-11 FLR -30.31
R-19 -39.96	R-19 -22.18	R-19 FLR -34.69
R-30 -43.13	R-27 -24.40	
R-38 -44.30		
R-49 -45.31		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -1.45	R-11 -0.33	R-11 FLR -1.30
R-19 -1.66	R-19 -0.41	R-19 FLR -1.46
R-30 -1.76	R-27 -0.43	
R-38 -1.81		
R-49 -1.85		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -9.13
LOW (.4 ACH) -18.26

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.06
LOW (.4 ACH) -0.11

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	BASE LOAD = 169.34 MBTU-YR
1 PANE	PLAIN	-12.60	-7.36	-2.00	1000 .683
	WOOD	-14.59	-10.34	-5.98	1100 .745
	ALUM	-11.60	-5.86	0.	1200 .805
2 PANE 1/4IN.	ALUM+TB	-13.60	-8.86	-4.00	1300 .864
	PLAIN	-20.84	-19.54	-16.02	1400 .922
	WOOD	-21.37	-20.33	-19.08	1500 .978
	ALUM	-18.22	-15.60	-12.78	1600 1.035
2 PANE 1/2IN.	ALUM+TB	-20.33	-18.76	-16.99	1700 1.092
	PLAIN	-22.48	-21.99	-21.29	1800 1.147
	WOOD	-22.93	-22.66	-22.19	1900 1.202
	ALUM	-20.14	-18.48	-16.61	2000 1.255
3 PANE 1/4IN.	ALUM+TB	-22.03	-21.32	-20.40	2100 1.312
	PLAIN	-23.95	-23.70	-23.22	2200 1.368
	WOOD	-24.13	-23.97	-23.58	2300 1.423
	ALUM	-21.43	-19.47	-17.28	2400 1.479
3 PANE 1/2IN.	ALUM+TB	-21.98	-20.74	-19.27	2500 1.532
	PLAIN	-25.40	-25.87	-26.12	2600 1.586
	WOOD	-25.54	-26.08	-26.40	2700 1.639
	ALUM	-23.15	-22.50	-21.62	2800 1.692
	ALUM+TB	-24.69	-24.81	-24.71	2900 1.745
					3000 1.797

10 PCT AREA	15 PCT AREA	20 PCT AREA	BASE LOAD = 6.58 MBTU-YR
-1.26	-0.66	-0.00	1000 .877
-1.26	-0.66	-0.00	1100 .918
-1.26	-0.66	0.	1200 .950
-1.26	-0.66	-0.00	1300 .973
-1.42	-0.91	-0.34	1400 .988
-1.42	-0.91	-0.34	1500 .994
-1.42	-0.91	-0.34	1600 1.022
-1.42	-0.91	-0.34	1700 1.046
-1.42	-0.91	-0.34	1800 1.065
-1.42	-0.91	-0.34	1900 1.080
-1.42	-0.91	-0.34	2000 1.089
-1.42	-0.91	-0.34	2100 1.108
-1.42	-0.91	-0.34	2200 1.125
-1.42	-0.91	-0.34	2300 1.137
-1.42	-0.91	-0.34	2400 1.147
-1.42	-0.91	-0.34	2500 1.153
-1.42	-0.91	-0.34	2600 1.172
-1.42	-0.91	-0.34	2700 1.189
-1.42	-0.91	-0.34	2800 1.205
-1.42	-0.91	-0.34	2900 1.216
-1.42	-0.91	-0.34	3000 1.229

MULTIPLIERS

AREA	MULTIPLIERS
1000	1.000
1100	1.100
1200	1.200
1300	1.300
1400	1.400
1500	1.500
1600	1.600

MULTIPLIERS

AREA	MULTIPLIERS
1700	1.700
1800	1.800
1900	1.900
2000	2.000
2100	2.100
2200	2.200
2300	2.300
2400	2.400
2500	2.500
2600	2.600
2700	2.700
2800	2.800
2900	2.900
3000	3.000

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	K-0 0.	R-0 0.	R-0 0.	K-0 0.
R-11 -35.87	R-11 -18.13	K-5 4FT -4.91	R-11 -1.40	R-11 -0.32	K-5 4FT -0.16
R-19 -40.30	R-19 -22.29	K-5 8FT -7.53	R-19 -1.55	R-19 -0.39	K-5 8FT -0.15
R-30 -43.47	R-27 -24.52	R-10 8FT -10.69	K-30 -1.04	R-27 -0.41	R-10 8FT -0.14
K-38 -44.62		K-19 FLR -11.77	K-38 -1.64		K-19 FLR 0.
K-49 -45.62			R-49 -1.72		
K-60 -46.26			R-60 -1.75		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -9.03
 LOW (.4 ACH) -18.06

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -0.05
 LOW (.4 ACH) -0.10

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.61	-7.38	-2.01
	WOOD	-14.61	-10.38	-6.02
	ALUM	-11.60	-5.87	0.
	ALUM+TB	-13.62	-8.88	-4.03
2 PANE 1/4IN.	PLAIN	-20.85	-19.53	-18.01
	WOOD	-21.38	-20.33	-19.08
	ALUM	-18.20	-15.56	-12.72
	ALUM+TB	-20.32	-18.75	-16.97
2 PANE 1/2IN.	PLAIN	-22.50	-22.01	-21.31
	WOOD	-22.95	-22.69	-22.21
	ALUM	-20.13	-18.46	-16.54
	ALUM+TB	-22.05	-21.33	-20.41
3 PANE 1/4IN.	PLAIN	-23.94	-23.68	-23.20
	WOOD	-24.12	-23.95	-23.55
	ALUM	-21.09	-19.41	-17.50
	ALUM+TB	-21.95	-20.69	-19.21
3 PANE 1/2IN.	PLAIN	-25.40	-25.87	-26.12
	WOOD	-25.54	-26.08	-26.40
	ALUM	-23.13	-22.47	-21.58
	ALUM+TB	-24.69	-24.80	-24.69

BASE LOAD = 144.36 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-1.26	-0.66	-0.00
-1.26	-0.66	-0.00
-1.26	-0.66	0.
-1.26	-0.66	-0.00
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.41	-0.91	-0.33
-1.49	-1.05	-0.53
-1.49	-1.05	-0.53
-1.49	-1.05	-0.53
-1.49	-1.05	-0.53
-1.49	-1.05	-0.53
-1.49	-1.05	-0.53

BASE LOAD = 4.54 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1000 .682	1.092	1700 1.046	2400 1.147
1100 .743	1.148	1800 1.065	2500 1.153
1200 .804	1.203	1900 1.080	2600 1.172
1300 .863	1.257	2000 1.089	2700 1.189
1400 .921	1.314	2100 1.108	2800 1.205
1500 .978	1.370	2200 1.125	2900 1.218
1600 1.036	1.425	2300 1.137	3000 1.229

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	R-0
R-11	-26.78	R-11	-13.41	R-5	4FT
R-19	-30.12	R-19	-16.52	R-5	8FT
R-30	-32.54	R-27	-18.22	R-10	8FT
R-38	-33.43			R-19	FLR
R-49	-34.19				
R-60	-34.68				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.50
LOW (.4 ACH)	-15.00

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-8.52	-5.03	-1.49
	WOOD	-10.00	-7.25	-4.45
	ALUM	-7.77	-3.92	0.
2 PANE 1/4IN.	ALUM+TB	-9.26	-6.15	-2.98
	PLAIN	-14.59	-14.06	-13.41
	WOOD	-14.99	-14.66	-14.21
	ALUM	-12.61	-11.09	-9.45
2 PANE 1/2IN.	ALUM+TB	-14.20	-13.48	-12.63
	PLAIN	-15.82	-15.92	-15.88
	WOOD	-16.16	-16.42	-16.55
	ALUM	-14.05	-13.27	-12.34
3 PANE 1/4IN.	ALUM+TB	-15.48	-15.41	-15.20
	PLAIN	-16.87	-17.16	-17.30
	WOOD	-17.00	-17.36	-17.57
	ALUM	-14.74	-13.96	-13.04
3 PANE 1/2IN.	ALUM+TB	-15.37	-14.92	-14.32
	PLAIN	-17.96	-18.79	-19.49
	WOOD	-18.07	-18.95	-19.70
	ALUM	-16.26	-16.25	-16.10
	ALUM+TB	-17.43	-18.00	-18.42

BASE LOAD = 109.45 MBTU-YR

AREA MULTIPLIERS

1000	.678	1700	1.094	2400	1.487
1100	.740	1800	1.150	2500	1.542
1200	.801	1900	1.206	2600	1.597
1300	.861	2000	1.260	2700	1.652
1400	.920	2100	1.318	2800	1.706
1500	.978	2200	1.375	2900	1.759
1600	1.036	2300	1.431	3000	1.812

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	R-0
R-11	-7.30	R-11	-2.24	R-5	4FT
R-19	-8.29	R-19	-2.79	R-5	8FT
R-30	-8.96	R-27	-3.05	R-10	8FT
R-38	-9.20			R-19	FLR
R-49	-9.44				
R-60	-9.57				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.54
LOW (.4 ACH)	-1.08

10 PCT AREA 15 PCT AREA 20 PCT AREA

		-4.11	-0.02
		-4.15	-0.07
		-4.09	0.
		-4.13	-0.05
		-5.77	-2.13
		-5.78	-2.14
		-5.71	-2.06
		-5.76	-2.12
		-5.80	-2.17
		-5.81	-2.18
		-5.75	-2.11
		-5.79	-2.16
		-6.54	-3.22
		-6.59	-3.22
		-6.53	-3.15
		-6.55	-3.17
		-6.62	-3.25
		-6.62	-3.25
		-6.57	-3.20
		-6.60	-3.23

BASE LOAD = 38.78 MBTU-YR

AREA MULTIPLIERS

1000	.783	1700	1.067	2400	1.304
1100	.833	1800	1.103	2500	1.333
1200	.879	1900	1.137	2600	1.370
1300	.920	2000	1.167	2700	1.405
1400	.955	2100	1.204	2800	1.439
1500	.986	2200	1.239	2900	1.472
1600	1.028	2300	1.273	3000	1.503

TWO-STORY

ATLANTA TWO-STORY BSMT

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -15.75	R-11 -16.50	R-5 4FT -1.84
R-19 -17.56	R-19 -20.27	R-5 8FT -2.83
R-30 -18.83	R-27 -22.29	R-10 8FT -4.03
R-38 -19.30		R-19 FLR -4.55
R-49 -19.69		
R-60 -19.94		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -7.61
LOW (.4 ACH) -15.22

COOLING (IN MBTU-YR)

CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -6.55	R-11 -3.51	R-5 4FT -0.96
R-19 -7.04	R-19 -3.80	R-5 8FT -1.08
R-30 -7.26	R-27 -4.42	R-10 8FT -2.28
R-38 -7.43		R-19 FLR -1.84
R-49 -7.48		
R-60 -7.43		

INFILTRATION

HI (1 ACH) -1.62
MED (.7 ACH) -0.81
LOW (.4 ACH) 0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.86	-5.30	-1.59
	WOOD	-9.95	-7.68	-4.76
	ALUM	-8.32	-4.11	0.
2 PANE 1/4IN.	ALUM+TB	-9.41	-6.50	-3.18
	PLAIN	-15.87	-15.24	-14.80
	WOOD	-16.16	-15.87	-15.65
	ALUM	-14.43	-12.10	-10.62
2 PANE 1/2IN.	ALUM+TB	-15.58	-14.62	-13.98
	PLAIN	-16.76	-17.19	-17.41
	WOOD	-17.01	-17.73	-18.12
	ALUM	-15.48	-14.40	-13.68
3 PANE 1/4IN.	ALUM+TB	-16.52	-16.66	-16.70
	PLAIN	-18.21	-18.44	-18.79
	WOOD	-18.31	-18.65	-19.07
	ALUM	-16.66	-15.07	-14.29
3 PANE 1/2IN.	ALUM+TB	-17.13	-16.08	-15.64
	PLAIN	-19.00	-20.17	-21.09
	WOOD	-19.08	-20.34	-21.32
	ALUM	-17.77	-17.48	-17.51
	ALUM+TB	-18.62	-19.33	-19.97

BASE LOAD = 91.45 MBTU-YR

AREA	MULTIPLIERS
1800 .812	1.151
1900 .855	1.192
2000 .898	1.233
2100 .941	1.274
2200 .983	1.314
2300 1.025	1.355
2400 1.067	1.395
2500 1.109	1.435

10 PCT AREA	15 PCT AREA	20 PCT AREA
-12.94	-6.53	-0.04
-12.98	-6.60	-0.13
-12.92	-6.49	0.
-12.96	-6.57	-0.09
-13.53	-7.40	-1.33
-13.53	-7.41	-1.34
-13.51	-7.37	-1.29
-13.52	-7.39	-1.33
-13.54	-7.42	-1.36
-13.54	-7.43	-1.37
-13.52	-7.39	-1.32
-13.54	-7.42	-1.35
-14.18	-8.23	-2.45
-14.18	-8.24	-2.46
-14.16	-8.20	-2.41
-14.16	-8.21	-2.42
-14.19	-8.25	-2.48
-14.19	-8.25	-2.48
-14.17	-8.22	-2.44
-14.18	-8.24	-2.47

BASE LOAD = 47.26 MBTU-YR

AREA	MULTIPLIERS
1800 .878	1.100
1900 .909	1.124
2000 .938	1.150
2100 .965	1.176
2200 .990	1.202
2300 1.018	1.226
2400 1.046	1.250
2500 1.074	1.264

ATLANTA TWO-STORY CRAWLY

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	K-0 0.	K-0 0.
R-11 -16.02	K-11 -16.63	R-11 FLR -12.12
R-19 -17.86	K-19 -20.42	R-19 FLR -13.83
R-30 -19.15	R-27 -22.43	
R-38 -19.60		
R-49 -20.00		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -7.71
LUM (.4 ACH) -15.41

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-8.88	-5.32	-1.60
	WOOD	-9.97	-7.71	-4.79
	ALUM	-8.33	-4.11	0.
2 PANE 1/4IN.	ALUM+TB	-9.43	-6.52	-3.21
	PLAIN	-15.87	-15.23	-14.79
	WOOD	-16.16	-15.87	-15.64
	ALUM	-14.42	-12.07	-10.58
2 PANE 1/2IN.	ALUM+TB	-15.58	-14.61	-13.96
	PLAIN	-16.77	-17.20	-17.41
	WOOD	-17.01	-17.74	-18.13
	ALUM	-15.48	-14.38	-13.66
3 PANE 1/4IN.	ALUM+TB	-16.52	-16.66	-16.70
	PLAIN	-18.19	-18.42	-18.76
	WOOD	-18.29	-18.63	-19.04
	ALUM	-16.64	-15.02	-14.23
3 PANE 1/2IN.	ALUM+TB	-17.10	-16.04	-15.59
	PLAIN	-18.29	-20.16	-21.08
	WOOD	-19.07	-20.33	-21.31
	ALUM	-17.75	-17.45	-17.47
	ALUM+TB	-18.60	-19.31	-19.95

BASE LOAD = 102.47 MBTU-YR

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	K-0 0.	K-0 0.
R-11 -6.91	K-11 -4.57	K-11 FLK -5.30
R-19 -7.78	K-19 -5.47	K-19 FLK -5.82
R-30 -8.28	K-27 -5.99	
R-38 -8.43		
R-49 -8.50		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -5.54
LUM (.4 ACH) -1.07

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-12.96	-6.54	-0.06
	WOOD	-13.01	-6.64	-0.17
	ALUM	-12.93	-6.49	0.
2 PANE 1/4IN.	ALUM+TB	-12.98	-6.59	-0.12
	PLAIN	-14.18	-8.02	-1.94
	WOOD	-14.19	-8.05	-1.97
	ALUM	-14.11	-7.90	-1.79
2 PANE 1/2IN.	ALUM+TB	-14.16	-8.00	-1.91
	PLAIN	-14.22	-8.10	-2.04
	WOOD	-14.23	-8.12	-2.06
	ALUM	-14.16	-7.99	-1.90
3 PANE 1/4IN.	ALUM+TB	-14.21	-8.06	-2.01
	PLAIN	-14.68	-8.91	-3.12
	WOOD	-14.68	-8.92	-3.13
	ALUM	-14.61	-8.78	-2.96
3 PANE 1/2IN.	ALUM+TB	-14.83	-8.82	-3.01
	PLAIN	-14.92	-8.98	-3.21
	WOOD	-14.92	-8.99	-3.21
	ALUM	-14.86	-8.87	-3.07
	ALUM+TB	-14.90	-8.95	-3.16

BASE LOAD = 53.78 MBTU-YR

AREA MULTIPLIERS

1800	.813	2600	1.150	3400	1.472
1900	.856	2700	1.191	3500	1.512
2000	.898	2800	1.232	3600	1.551
2100	.941	2900	1.272	3700	1.590
2200	.983	3000	1.313	3800	1.629
2300	1.025	3100	1.353	3900	1.668
2400	1.067	3200	1.393	4000	1.706
2500	1.108	3300	1.433		

AREA MULTIPLIERS

1800	.877	2600	1.101	3400	1.288
1900	.908	2700	1.126	3500	1.301
2000	.937	2800	1.152	3600	1.313
2100	.965	2900	1.179	3700	1.324
2200	.990	3000	1.204	3800	1.333
2300	1.018	3100	1.229	3900	1.341
2400	1.047	3200	1.253	4000	1.347
2500	1.074	3300	1.273		

ATLANTA 140-STORY SLAB

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -15.74	R-11 -16.46	R-5 2FT -5.83
R-19 -17.55	R-19 -20.21	R-5 4FT -6.64
R-30 -18.81	R-27 -22.23	
R-38 -19.27		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -6.45	R-11 -3.34	R-5 2FT -2.44
R-19 -6.93	R-19 -3.72	R-5 4FT -3.02
R-30 -7.35	R-27 -4.30	
R-38 -7.57		

INFILTRATION

HI (1 ACH)	U.
MEQ (.7 ACH)	-0.36
LOW (.4 ACH)	-0.72

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.86	-5.30	-1.59
	WOOD	-9.95	-7.67	-4.74
	ALUM	-8.31	-4.11	0.
2 PANE 1/4IN.	ALUM+TB	-9.41	-6.49	-3.18
	PLAIN	-15.84	-15.22	-14.79
	WOOD	-16.13	-15.85	-15.63
	ALUM	-14.41	-12.10	-10.62
2 PANE 1/2IN.	ALUM+TB	-15.56	-14.61	-13.96
	PLAIN	-16.74	-17.17	-17.38
	WOOD	-16.98	-17.70	-18.09
	ALUM	-15.46	-14.38	-13.67
3 PANE 1/4IN.	ALUM+TB	-16.49	-16.64	-16.67
	PLAIN	-18.19	-18.42	-18.77
	WOOD	-18.28	-18.63	-19.05
	ALUM	-16.64	-15.06	-14.28
3 PANE 1/2IN.	ALUM+TB	-17.11	-16.06	-15.63
	PLAIN	-18.98	-20.14	-21.06
	WOOD	-19.05	-20.31	-21.29
	ALUM	-17.75	-17.47	-17.50
	ALUM+TB	-18.59	-19.30	-19.94

BASE LOAD = 93.36 MBTU-YR

INFILTRATION

HI (1 ACH)	U.
MEQ (.7 ACH)	-0.36
LOW (.4 ACH)	-0.72

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.94	-6.53	-0.04
	WOOD	-12.98	-6.60	-0.13
	ALUM	-12.92	-6.49	0.
2 PANE 1/4IN.	ALUM+TB	-12.96	-6.56	-0.08
	PLAIN	-13.69	-7.55	-1.47
	WOOD	-13.70	-7.56	-1.49
	ALUM	-13.64	-7.45	-1.36
2 PANE 1/2IN.	ALUM+TB	-13.68	-7.53	-1.45
	PLAIN	-13.72	-7.60	-1.54
	WOOD	-13.73	-7.62	-1.56
	ALUM	-13.68	-7.52	-1.44
3 PANE 1/4IN.	ALUM+TB	-13.71	-7.59	-1.52
	PLAIN	-14.09	-8.13	-2.34
	WOOD	-14.09	-8.13	-2.35
	ALUM	-14.03	-8.03	-2.22
3 PANE 1/2IN.	ALUM+TB	-14.05	-8.06	-2.26
	PLAIN	-14.12	-8.16	-2.40
	WOOD	-14.12	-8.16	-2.41
	ALUM	-14.07	-8.10	-2.31
	ALUM+TB	-14.10	-8.15	-2.37

BASE LOAD = 47.63 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.151
1900	1.192
2000	1.233
2100	1.274
2200	1.314
2300	1.355
2400	1.395
2500	1.435

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.100
1900	1.125
2000	1.151
2100	1.177
2200	1.203
2300	1.228
2400	1.251
2500	1.271

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-31.50	R-11	-33.57	R-5 4FT	-4.03
R-19	-35.09	R-19	-41.12	R-5 8FT	-6.23
R-30	-37.63	R-27	-45.17	R-10 8FT	-8.89
R-38	-38.54			R-19 FLR	-10.21
R-49	-39.31				
R-60	-39.80				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.30
R-11	-2.28	R-11	-1.38	R-5 4FT	-0.33
R-19	-2.52	R-19	-1.71	R-5 8FT	-0.38
R-30	-2.66	R-27	-1.88	R-10 8FT	-0.45
R-38	-2.64			R-19 FLR	0.
R-49	-2.69				
R-60	-2.73				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-13.32
LOW (.4 ACH)	-26.64

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.15
LOW (.4 ACH)	-0.30

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-22.17	-12.73	-3.24
	WOOD	-24.38	-17.56	-9.68
	ALUM	-21.06	-10.30	0.
	ALUM+TB	-23.28	-15.16	-6.48
2 PANE 1/4IN.	PLAIN	-37.05	-34.15	-31.84
	WOOD	-37.63	-35.42	-33.53
	ALUM	-34.18	-27.88	-23.49
	ALUM+TB	-36.49	-32.91	-30.20
2 PANE 1/2IN.	PLAIN	-38.85	-38.06	-37.05
	WOOD	-39.33	-39.12	-38.48
	ALUM	-36.28	-32.46	-29.60
	ALUM+TB	-38.36	-36.99	-35.63
3 PANE 1/4IN.	PLAIN	-41.92	-40.86	-40.28
	WOOD	-42.11	-41.28	-40.84
	ALUM	-38.83	-34.12	-31.28
	ALUM+TB	-39.75	-36.14	-33.98
3 PANE 1/2IN.	PLAIN	-43.50	-44.32	-44.88
	WOOD	-43.66	-44.66	-45.33
	ALUM	-41.04	-38.95	-37.73
	ALUM+TB	-42.73	-42.63	-42.64

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.95	-2.90	-0.01
-5.96	-2.92	-0.04
-5.94	-2.89	0.
-5.96	-2.91	-0.03
-6.67	-3.86	-1.19
-6.67	-3.87	-1.20
-6.65	-3.83	-1.16
-6.67	-3.85	-1.19
-6.68	-3.88	-1.22
-6.68	-3.89	-1.23
-6.67	-3.85	-1.18
-6.68	-3.87	-1.21
-6.98	-4.44	-1.81
-6.98	-4.44	-1.81
-6.96	-4.40	-1.77
-6.96	-4.42	-1.78
-6.99	-4.46	-1.83
-6.99	-4.46	-1.83
-6.97	-4.43	-1.80
-6.98	-4.45	-1.82

BASE LOAD = 192.54 MBTU-YR

BASE LOAD = 17.96 MBTU-YR

AREA	MULTIPLIERS
1800	.819
1900	.860
2000	.902
2100	.943
2200	.984
2300	1.024
2400	1.065
2500	1.105
2600	1.145
2700	1.184
2800	1.224
2900	1.263
3000	1.302
3100	1.341
3200	1.379
3300	1.418
3400	1.456
3500	1.494
3600	1.532
3700	1.570
3800	1.608
3900	1.645
4000	1.682

AREA	MULTIPLIERS
1800	.931
1900	.952
2000	.970
2100	.985
2200	.996
2300	1.012
2400	1.031
2500	1.047
2600	1.061
2700	1.074
2800	1.087
2900	1.102
3000	1.115
3100	1.126
3200	1.136
3300	1.134
3400	1.119
3500	1.102
3600	1.081
3700	1.058
3800	1.032
3900	1.003
4000	.971

CHICAGO TWO-STORY BSMT

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION	CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -31.98	R-11 -34.00	R-5 4FT -4.16	R-11 -3.38	R-11 -2.36	R-5 4FT -0.19
R-19 -35.66	R-19 -41.74	R-5 8FT -6.42	R-19 -3.77	R-19 -2.88	R-5 8FT -0.31
R-30 -38.27	R-27 -45.93	R-10 8FT -9.17	R-30 -4.04	R-27 -3.08	R-10 8FT -0.43
R-38 -39.22	R-19 FLR -10.50		R-38 -4.14		R-19 FLR -0.14
R-49 -40.03			R-49 -4.23		
R-60 -40.56			R-60 -4.30		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -14.23
LOW (.4 ACH) -28.46

INFILTRATION

HI (1 ACH) -0.04
MED (.7 ACH) -0.02
LOW (.4 ACH) 0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-22.26	-12.80	-3.28
	WOOD	-24.51	-17.70	-9.80
	ALUM	-21.14	-10.34	0.
	ALUM+TB	-23.39	-15.26	-6.56
2 PANE 1/4IN.	PLAIN	-36.18	-32.80	-30.08
	WOOD	-36.77	-34.09	-31.81
	ALUM	-33.24	-26.37	-21.51
	ALUM+TB	-35.60	-31.53	-28.39
2 PANE 1/2IN.	PLAIN	-38.01	-36.80	-35.42
	WOOD	-38.52	-37.89	-36.87
	ALUM	-35.39	-31.07	-27.77
	ALUM+TB	-37.51	-35.71	-33.96
3 PANE 1/4IN.	PLAIN	-41.06	-39.62	-38.68
	WOOD	-41.26	-40.05	-39.26
	ALUM	-37.90	-32.71	-29.46
	ALUM+TB	-38.85	-34.78	-32.23
3 PANE 1/2IN.	PLAIN	-42.69	-43.16	-43.40
	WOOD	-42.85	-43.51	-43.67
	ALUM	-40.17	-37.66	-36.07
	ALUM+TB	-41.90	-41.43	-41.10

BASE LOAD = 197.44 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-7.07	-3.44	-0.03
-7.11	-3.50	-0.10
-7.06	-3.41	0.
-7.09	-3.47	-0.07
-7.81	-4.72	-1.36
-7.82	-4.74	-1.37
-7.71	-4.65	-1.27
-7.81	-4.71	-1.34
-7.84	-4.77	-1.41
-7.85	-4.78	-1.43
-7.80	-4.71	-1.33
-7.83	-4.76	-1.40
-8.27	-5.27	-2.36
-8.27	-5.28	-2.36
-8.23	-5.20	-2.26
-8.24	-5.22	-2.29
-8.29	-5.31	-2.41
-8.29	-5.32	-2.41
-8.26	-5.25	-2.33
-8.28	-5.29	-2.38

BASE LOAD = 22.49 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .819	2600 1.145
1900 .861	2700 1.184
2000 .902	2800 1.223
2100 .943	2900 1.263
2200 .984	3000 1.302
2300 1.024	3100 1.340
2400 1.065	3200 1.379
2500 1.105	3300 1.417

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .921	2600 1.069
1900 .944	2700 1.083
2000 .964	2800 1.099
2100 .981	2900 1.116
2200 .995	3000 1.131
2300 1.013	3100 1.145
2400 1.034	3200 1.158
2500 1.052	3300 1.160

H E A T I N G (I N M B T U - Y R)

CEILING	MALL	FOUNDATION	CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
K-11 -26.12	R-11 -27.68	R-5 4FT -3.34	R-11 -4.96	R-11 -3.22	R-5 4FT -0.42
R-19 -29.12	R-19 -34.05	R-5 8FT -5.17	K-19 -5.44	R-19 -3.86	R-5 8FT -0.84
R-30 -31.28	K-27 -37.51	R-10 8FT -7.43	R-30 -5.81	K-27 -4.23	K-10 8FT -0.84
R-38 -32.06		R-19 FLR -8.54	K-38 -5.97		K-19 FLR -0.45
R-49 -32.72			K-49 -6.10		
K-60 -33.15			K-60 -6.18		

I N F I L T R A T I O N

HI (1 ACH)	0.
MED (.7 ACH)	-11.97
LOW (.4 ACH)	-23.95

I N F I L T R A T I O N

HI (1 ACH)	0.
MED (.7 ACH)	-0.44
LOW (.4 ACH)	-0.89

C O O L I N G (I N M B T U - Y R)

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-17.82	-10.27	-2.67	-10.89	-5.51	-0.02
	WOOD	-19.65	-14.25	-7.98	-10.91	-5.54	-0.04
	ALUM	-16.90	-8.26	0.	-10.89	-5.50	0.
2 PANE 1/4IN.	ALUM+TB	-18.74	-12.27	-5.34	-10.90	-5.53	-0.03
	PLAIN	-29.35	-26.86	-24.97	-11.78	-6.88	-1.82
	WOOD	-29.84	-27.93	-26.39	-11.78	-6.89	-1.82
	ALUM+TB	-26.42	-21.57	-17.92	-11.76	-6.85	-1.78
2 PANE 1/2IN.	PLAIN	-28.87	-25.82	-23.58	-11.78	-6.88	-1.81
	WOOD	-30.86	-30.16	-29.36	-11.79	-6.90	-1.84
	ALUM	-31.27	-31.06	-30.56	-11.79	-6.91	-1.84
3 PANE 1/4IN.	ALUM+TB	-28.70	-25.44	-23.07	-11.77	-6.88	-1.81
	PLAIN	-30.45	-29.25	-28.16	-11.79	-6.90	-1.84
	WOOD	-33.38	-32.53	-32.14	-12.52	-7.82	-3.15
3 PANE 1/2IN.	ALUM+TB	-33.55	-32.89	-32.61	-12.52	-7.83	-3.15
	PLAIN	-30.77	-26.84	-24.55	-12.50	-7.79	-3.11
	WOOD	-31.56	-28.55	-26.82	-12.51	-7.80	-3.12
	ALUM	-34.72	-35.45	-36.02	-12.53	-7.84	-3.17
	ALUM+TB	-34.85	-35.73	-36.40	-12.53	-7.84	-3.17
	PLAIN	-32.64	-30.92	-29.99	-12.52	-7.82	-3.14
	WOOD	-34.07	-34.03	-34.13	-12.53	-7.83	-3.16

BASE LOAD = 160.61 MBTU-YR

BASE LOAD = 36.62 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800 .818	2600 1.146	1800 .890	2600 1.041
1900 .860	2700 1.186	1900 .919	2700 1.113
2000 .901	2800 1.225	2000 .945	2800 1.136
2100 .943	2900 1.265	2100 .970	2900 1.160
2200 .984	3000 1.304	2200 .992	3000 1.183
2300 1.025	3100 1.343	2300 1.017	3100 1.204
2400 1.065	3200 1.382	2400 1.043	3200 1.225
2500 1.106	3300 1.420	2500 1.068	3300 1.239
			3400 1.247
			3500 1.253
			3600 1.257
			3700 1.259
			3800 1.260
			3900 1.259
			4000 1.256

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-43.34	R-11	-46.68	R-5 4FT	-5.71
R-19	-48.42	R-19	-57.40	R-5 8FT	-8.83
R-30	-52.06	R-27	-63.25	R-10 8FT	-12.61
R-38	-53.37			R-19 FLR	-14.43
R-49	-54.48				
R-60	-55.21				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-19.15
LOW (.4 ACH)	-38.31

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.88	R-11	-2.81	R-5 4FT	-0.22
R-19	-4.34	R-19	-3.34	R-5 8FT	-0.35
R-30	-4.64	R-27	-3.72	R-10 8FT	-0.47
R-38	-4.75			R-19 FLR	-0.11
R-49	-4.81				
R-60	-4.88				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.21
LOW (.4 ACH)	-0.41

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-32.34	-18.16	-4.50
	WOOD	-35.42	-24.87	-13.46
	ALUM	-30.79	-14.78	0.
	ALUM+TB	-33.89	-21.54	-9.01
2 PANE 1/4IN.	PLAIN	-51.76	-45.73	-40.73
	WOOD	-52.59	-47.52	-43.13
	ALUM	-47.68	-36.83	-28.87
	ALUM+TB	-50.96	-43.97	-38.39
2 PANE 1/2IN.	PLAIN	-54.31	-51.27	-48.13
	WOOD	-55.00	-52.79	-50.15
	ALUM	-50.67	-43.33	-37.54
	ALUM+TB	-53.61	-49.76	-46.11
3 PANE 1/4IN.	PLAIN	-58.70	-55.44	-53.05
	WOOD	-58.97	-56.04	-53.85
	ALUM	-54.31	-45.86	-40.28
	ALUM+TB	-55.62	-48.74	-44.11
3 PANE 1/2IN.	PLAIN	-60.95	-60.35	-59.60
	WOOD	-61.17	-60.83	-60.24
	ALUM	-57.45	-52.73	-49.43
	ALUM+TB	-59.85	-57.96	-56.40

BASE LOAD = 277.65 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.60	-4.22	-0.3
-8.62	-4.26	-0.08
-8.54	-4.19	0.
-8.61	-4.24	-0.05
-9.60	-5.75	-1.85
-9.61	-5.76	-1.86
-9.57	-5.69	-1.79
-9.60	-5.74	-1.84
-9.62	-5.78	-1.89
-9.63	-5.79	-1.90
-9.60	-5.73	-1.83
-9.62	-5.77	-1.88
-10.18	-6.64	-2.96
-10.18	-6.64	-2.96
-10.15	-6.58	-2.89
-10.16	-6.60	-2.91
-10.20	-6.67	-3.00
-10.20	-6.67	-3.00
-10.17	-6.62	-2.94
-10.14	-6.66	-2.98

BASE LOAD = 28.67 MBTU-YR

AREA	MULTIPLIERS
1800	.821
1900	.862
2000	.903
2100	.944
2200	.984
2300	1.024
2400	1.064
2500	1.104
2600	1.143
2700	1.182
2800	1.221
2900	1.260
3000	1.299
3100	1.337
3200	1.375
3300	1.413
3400	1.451
3500	1.488
3600	1.526
3700	1.563
3800	1.600
3900	1.637
4000	1.673

AREA	MULTIPLIERS
1800	.902
1900	.929
2000	.953
2100	.974
2200	.993
2300	1.015
2400	1.039
2500	1.062
2600	1.082
2700	1.101
2800	1.121
2900	1.143
3000	1.163
3100	1.181
3200	1.198
3300	1.208
3400	1.209
3500	1.208
3600	1.205
3700	1.200
3800	1.193
3900	1.183
4000	1.172

H E A T I N G (I N M B T U - Y R)

C O O L I N G (I N M B T U - Y R)

CEILING		WALL		FOUNDATION		CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.	R-0	0.	R-0	0.	R-0	0.
R-11	-25.01	R-11	-26.46	R-5	4FT	R-11	-3.66	R-11	-2.36	R-5	4FT
R-19	-27.85	R-19	-32.45	R-5	8FT	R-19	-3.99	R-19	-2.82	R-5	8FT
R-30	-29.88	R-27	-35.67	R-10	8FT	R-30	-4.25	R-27	-3.09	R-10	8FT
R-38	-30.61	R-19	FLR	R-19	FLR	R-38	-4.15	R-19	FLR	R-19	FLR
R-49	-31.22					R-49	-4.22				
R-60	-31.63					R-60	-4.24				

I N F I L T R A T I O N

HI (1 ACH)	0.
MED (.7 ACH)	-11.07
LOW (.4 ACH)	-22.14

I N F I L T R A T I O N

HI (1 ACH)	-0.69
MED (.7 ACH)	-0.35
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-16.32	-9.46	-2.55
	WOOD	-18.06	-13.26	-7.63
	ALUM	-15.44	-7.54	0.
2 PANE 1/4IN.	ALUM+TB	-17.20	-11.37	-5.10
	PLAIN	-28.02	-26.24	-24.93
	WOOD	-28.48	-27.24	-26.27
2 PANE 1/2IN.	ALUM	-25.74	-21.26	-18.30
	ALUM+TB	-27.57	-25.26	-23.62
	PLAIN	-29.44	-29.34	-29.06
3 PANE 1/4IN.	WOOD	-29.83	-30.18	-30.19
	ALUM	-27.41	-24.90	-23.14
	ALUM+TB	-29.05	-28.49	-27.93
3 PANE 1/2IN.	PLAIN	-31.85	-31.50	-31.53
	WOOD	-32.00	-31.84	-31.98
	ALUM	-29.40	-26.15	-24.40
3 PANE 1/2IN.	ALUM+TB	-30.13	-27.76	-26.54
	PLAIN	-33.11	-34.25	-35.19
	WOOD	-33.23	-34.52	-35.55
ALUM+TB	ALUM	-31.15	-29.99	-29.51
	ALUM+TB	-32.49	-32.91	-33.41

BASE LOAD = 150.76 MBTU-YR

BASE LOAD = 27.55 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800	.817	1800	.905
1900	.859	1900	.931
2000	.901	2000	.955
2100	.942	2100	.975
2200	.984	2200	.993
2300	1.025	2300	1.015
2400	1.066	2400	1.038
2500	1.106	2500	1.060
		2600	1.080
		2700	1.098
		2800	1.118
		2900	1.138
		3000	1.157
		3100	1.175
		3200	1.191
		3300	1.200
		3400	1.199
		3500	1.196
		3600	1.191
		3700	1.184
		3800	1.175
		3900	1.163
		4000	1.149

PHILADELPHIA PA TWO-STORY BSMT

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -27.75	R-11 -29.17	R-5 4FT -3.54
R-19 -30.93	R-19 -35.76	R-5 8FT -5.49
R-30 -33.16	R-27 -39.31	R-10 8FT -7.83
R-38 -33.97		R-19 FLR -9.01
R-49 -34.66		
R-60 -35.10		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -4.60	R-11 -2.80	R-5 4FT -0.59
R-19 -4.95	R-19 -3.38	R-5 8FT -0.87
R-30 -5.23	R-27 -3.75	R-10 8FT -1.29
R-38 -5.36		R-19 FLR -0.86
R-49 -5.44		
R-60 -5.34		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -12.20
LOM (.4 ACH) -24.39

INFILTRATION

HI (1 ACH) -0.25
MED (.7 ACH) -0.13
LOM (.4 ACH) 0.

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-18.91	-10.88	-2.81
	WOOD	-20.84	-15.07	-8.41
	ALUM	-17.95	-8.77	0.
2 PANE 1/4IN.	ALUM+TB	-19.88	-12.99	-5.63
	PLAIN	-31.32	-28.76	-26.79
	WOOD	-31.82	-29.86	-28.26
	ALUM	-28.81	-23.29	-19.49
2 PANE 1/2IN.	ALUM+TB	-30.82	-27.68	-25.35
	PLAIN	-32.88	-32.17	-31.33
	WOOD	-33.31	-33.10	-32.58
	ALUM	-30.64	-27.29	-24.82
3 PANE 1/4IN.	ALUM+TB	-32.45	-31.23	-30.09
	PLAIN	-35.51	-34.60	-34.18
	WOOD	-35.68	-34.96	-34.67
	ALUM	-32.81	-28.71	-26.33
3 PANE 1/2IN.	ALUM+TB	-33.62	-30.47	-28.69
	PLAIN	-36.89	-37.61	-38.21
	WOOD	-37.03	-37.91	-38.60
	ALUM	-34.75	-32.93	-31.96
	ALUM+TB	-36.22	-36.14	-36.24

BASE LOAD = 169.03 MBTU-YR

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-9.52	-4.80	-0.09
	WOOD	-9.60	-4.96	-0.28
	ALUM	-9.47	-4.73	0.
2 PANE 1/4IN.	ALUM+TB	-9.56	-4.88	-0.19
	PLAIN	-10.05	-5.82	-1.45
	WOOD	-10.07	-5.86	-1.49
	ALUM	-9.49	-5.63	-1.22
2 PANE 1/2IN.	ALUM+TB	-10.03	-5.78	-1.40
	PLAIN	-10.11	-5.94	-1.59
	WOOD	-10.13	-5.97	-1.63
	ALUM	-10.02	-5.77	-1.59
3 PANE 1/4IN.	ALUM+TB	-10.10	-5.90	-1.55
	PLAIN	-10.20	-6.04	-1.84
	WOOD	-10.20	-6.06	-1.86
	ALUM	-10.09	-5.84	-1.60
3 PANE 1/2IN.	ALUM+TB	-10.12	-5.90	-1.67
	PLAIN	-10.25	-6.15	-1.97
	WOOD	-10.26	-6.16	-1.98
	ALUM	-10.16	-5.99	-1.77
	ALUM+TB	-10.22	-6.10	-1.91

BASE LOAD = 33.29 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.146
1900	1.185
2000	1.225
2100	1.264
2200	1.303
2300	1.342
2400	1.381
2500	1.419

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	0.892
1900	0.920
2000	0.946
2100	0.970
2200	0.992
2300	1.016
2400	1.042
2500	1.067

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
K-0 0.	K-0 0.	R-0
R-11 -8.44	R-11 -7.51	R-5 2FT -2.64
R-19 -9.39	R-19 -9.20	R-5 4FT -3.01
R-30 -10.02	R-27 -10.02	
R-38 -10.24		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -4.09
LOW (.4 ACH) -8.18

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.76	-1.87	-1.72
	WOOD	-3.25	-2.95	-2.16
	ALUM	-2.51	-1.33	0.
2 PANE 1/4IN.	ALUM+TB	-3.01	-2.42	-1.45
	PLAIN	-5.61	-5.80	-5.90
	WOOD	-5.74	-6.09	-6.28
	ALUM	-4.95	-4.37	-4.00
	ALUM+TB	-5.48	-5.52	-5.52
2 PANE 1/2IN.	PLAIN	-6.01	-6.69	-7.08
	WOOD	-6.13	-6.93	-7.41
	ALUM	-5.43	-5.41	-5.39
	ALUM+TB	-5.90	-6.44	-6.76
3 PANE 1/4IN.	PLAIN	-6.57	-7.51	-7.51
	WOOD	-6.62	-7.20	-7.63
	ALUM	-5.87	-5.57	-5.46
	ALUM+TB	-6.08	-6.03	-6.08
3 PANE 1/2IN.	PLAIN	-6.93	-7.89	-8.56
	WOOD	-6.97	-7.97	-8.66
	ALUM	-6.37	-6.67	-6.93
	ALUM+TB	-6.76	-7.51	-8.04

BASE LOAD = 41.24 MBTU-YR

AREA	MULTIPLIERS
1800 .793	2600 1.166
1900 .839	2700 1.212
2000 .886	2800 1.258
2100 .933	2900 1.303
2200 .981	3000 1.348
2300 1.028	3100 1.394
2400 1.074	3200 1.439
2500 1.120	3300 1.483

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0
R-11 -18.93	R-11 -14.96	R-5 2FT -7.38
R-19 -21.25	R-19 -18.35	R-5 4FT -8.48
R-30 -22.83	R-27 -20.09	
R-38 -23.42		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -4.50
LOW (.4 ACH) -8.99

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-22.21	-10.97	-10.05
	WOOD	-22.25	-11.04	-11.14
	ALUM	-22.19	-10.93	0.
2 PANE 1/4IN.	ALUM+TB	-22.23	-11.00	-10.09
	PLAIN	-27.39	-18.21	-9.02
	WOOD	-27.40	-18.23	-9.04
	ALUM	-27.34	-18.11	-8.90
	ALUM+TB	-27.38	-18.19	-8.99
2 PANE 1/2IN.	PLAIN	-27.43	-18.27	-9.09
	WOOD	-27.43	-18.29	-9.11
	ALUM	-27.38	-18.19	-8.99
	ALUM+TB	-27.42	-18.26	-9.07
3 PANE 1/4IN.	PLAIN	-29.65	-21.24	-12.70
	WOOD	-29.66	-21.25	-12.71
	ALUM	-29.59	-21.13	-12.57
	ALUM+TB	-29.61	-21.17	-12.61
3 PANE 1/2IN.	PLAIN	-29.68	-21.29	-12.76
	WOOD	-29.68	-21.30	-12.77
	ALUM	-29.64	-21.21	-12.66
	ALUM+TB	-29.67	-21.27	-12.73

BASE LOAD = 130.73 MBTU-YR

AREA	MULTIPLIERS
1800 .854	2600 1.118
1900 .889	2700 1.148
2000 .923	2800 1.179
2100 .956	2900 1.212
2200 .988	3000 1.243
2300 1.020	3100 1.274
2400 1.054	3200 1.304
2500 1.086	3300 1.332

PITTSBURGH PA TWO-STORY BSNT

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -30.25	R-11 -31.94	R-5 4FT -3.83
R-19 -33.70	R-19 -39.20	R-5 8FT -5.96
R-30 -36.14	R-27 -43.17	R-10 8FT -8.54
R-38 -37.02		R-19 FLR -9.82
R-49 -37.79		
R-60 -38.28		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -4.09	R-11 -2.46	R-5 4FT -0.35
R-19 -4.52	R-19 -2.84	R-5 8FT -0.41
R-30 -4.80	R-27 -3.11	K-10 8FT -0.46
R-38 -4.91		K-19 FLR 0.
R-49 -4.97		
R-60 -5.05		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -13.23
LOW (.4 ACH) -26.46

INFILTRATION

HI (1 ACH) -0.02
MED (.7 ACH) -0.01
LOW (.4 ACH) 0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	BASE LOAD = 185.77 MBTU-YR
1 PANE	PLAIN	-21.51	-12.30	-3.08	
	WOOD	-23.62	-16.89	-9.21	
	ALUM	-20.45	-9.99	0.	
2 PANE 1/4IN.	ALUM+TB	-22.57	-14.61	-6.16	
	PLAIN	-34.80	-31.50	-28.88	
	WOOD	-35.36	-32.72	-30.50	
	ALUM	-32.04	-25.47	-20.83	
2 PANE 1/2IN.	ALUM+TB	-34.26	-30.31	-27.29	
	PLAIN	-36.53	-35.26	-33.89	
	WOOD	-37.00	-36.29	-35.26	
	ALUM	-34.06	-29.88	-26.71	
3 PANE 1/4IN.	ALUM+TB	-36.06	-34.23	-32.52	
	PLAIN	-39.45	-38.03	-37.20	
	WOOD	-39.64	-38.44	-37.74	
	ALUM	-36.48	-31.54	-28.54	
3 PANE 1/2IN.	ALUM+TB	-37.37	-33.49	-31.14	
	PLAIN	-40.98	-41.36	-41.63	
	WOOD	-41.13	-41.68	-42.06	
	ALUM	-38.61	-36.19	-34.74	
	ALUM+TB	-40.23	-39.73	-39.47	

10 PCT AREA	15 PCT AREA	20 PCT AREA	BASE LOAD = 26.21 MBTU-YR
-8.93	-4.51	-0.02	
-8.95	-4.54	-0.05	
-8.92	-4.50	0.	
-8.94	-4.53	-0.04	
-9.69	-5.53	-1.30	
-9.70	-5.53	-1.31	
-9.68	-5.50	-1.27	
-9.69	-5.52	-1.29	
-9.70	-5.54	-1.32	
-9.70	-5.52	-1.32	
-9.69	-5.52	-1.29	
-9.70	-5.54	-1.31	
-10.16	-6.34	-2.09	
-10.16	-6.34	-2.09	
-10.14	-6.31	-2.05	
-10.15	-6.32	-2.06	
-10.17	-6.35	-2.10	
-10.17	-6.35	-2.10	
-10.15	-6.33	-2.08	
-10.16	-6.34	-2.09	

MULTIPLIERS

AREA	MULTIPLIERS
1800 .819	1.145
1900 .860	1.185
2000 .902	1.224
2100 .943	1.263
2200 .984	1.302
2300 1.024	1.341
2400 1.065	1.379
2500 1.105	1.418

MULTIPLIERS

AREA	MULTIPLIERS
1800 .915	1.073
1900 .939	1.089
2000 .961	1.106
2100 .979	1.124
2200 .995	1.140
2300 1.014	1.156
2400 1.035	1.169
2500 1.055	1.174

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-21.22	R-11	-21.90	R-5 2FT	-8.54
R-19	-23.63	R-19	-26.87	R-5 4FT	-9.80
R-30	-25.33	R-27	-29.54		
R-38	-25.95				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.11	R-11	-5.19	R-5 2FT	-1.63
R-19	-10.19	R-19	-6.35	R-5 4FT	-1.86
R-30	-10.87	R-27	-6.76		
R-38	-11.14				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.85
LOW (.4 ACH)	-17.70

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.28
LOW (.4 ACH)	-5.57

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.56	-6.45	-2.11
	WOOD	-12.00	-9.60	-6.31
	ALUM	-9.83	-4.86	0.
	ALUM+TB	-11.28	-8.03	-4.23
2 PANE 1/4IN.	PLAIN	-19.59	-19.23	-19.10
	WOOD	-19.97	-20.07	-20.22
	ALUM	-17.68	-15.07	-13.56
	ALUM+TB	-19.21	-18.41	-18.00
2 PANE 1/2IN.	PLAIN	-20.77	-21.82	-22.55
	WOOD	-21.10	-22.53	-23.50
	ALUM	-19.07	-18.11	-17.61
	ALUM+TB	-20.45	-21.11	-21.61
3 PANE 1/4IN.	PLAIN	-22.65	-23.45	-24.35
	WOOD	-22.78	-23.73	-24.72
	ALUM	-20.60	-18.97	-18.38
	ALUM+TB	-21.21	-20.31	-20.17
3 PANE 1/2IN.	PLAIN	-23.70	-25.74	-27.41
	WOOD	-23.80	-25.96	-27.70
	ALUM	-22.07	-22.18	-22.66
	ALUM+TB	-23.19	-24.62	-25.91

10 PCT AREA	15 PCT AREA	20 PCT AREA
-12.25	-6.35	-0.02
-12.26	-6.39	-0.06
-12.24	-6.33	0.
-12.26	-6.37	-0.04
-13.88	-8.82	-3.24
-13.89	-8.83	-3.25
-13.86	-8.78	-3.19
-13.88	-8.81	-3.23
-13.90	-8.85	-3.28
-13.90	-8.86	-3.29
-13.88	-8.81	-3.23
-13.90	-8.84	-3.27
-14.76	-10.12	-5.09
-14.76	-10.12	-5.09
-14.73	-10.07	-5.03
-14.74	-10.08	-5.05
-14.78	-10.14	-5.12
-14.78	-10.14	-5.12
-14.75	-10.10	-5.07
-14.77	-10.13	-5.11

BASE LOAD = 120.32 MBTU-YR

BASE LOAD = 45.67 MBTU-YR

AREA	MULTIPLIERS
1800 .814	2600 1.148
1900 .857	2700 1.189
2000 .899	2800 1.229
2100 .942	2900 1.270
2200 .983	3000 1.310
2300 1.025	3100 1.349
2400 1.066	3200 1.389
2500 1.108	3300 1.428
	3400 1.468
	3500 1.507
	3600 1.546
	3700 1.584
	3800 1.623
	3900 1.661
	4000 1.699

AREA	MULTIPLIERS
1800 .889	2600 1.092
1900 .918	2700 1.115
2000 .944	2800 1.138
2100 .969	2900 1.162
2200 .992	3000 1.185
2300 1.017	3100 1.207
2400 1.043	3200 1.228
2500 1.069	3300 1.243
	3400 1.251
	3500 1.258
	3600 1.263
	3700 1.266
	3800 1.268
	3900 1.267
	4000 1.266

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.62	R-11	-14.66	R-5 2FT	-5.36
R-19	-16.31	R-19	-18.04	R-5 4FT	-6.12
R-30	-17.50	R-27	-19.83		
R-38	-17.92				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.81	R-11	-4.68	R-5 2FT	-3.22
R-19	-8.47	R-19	-5.44	R-5 4FT	-3.84
R-30	-8.84	R-27	-6.00		
R-38	-8.94				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.43
LOW (.4 ACH)	-14.86

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.62
LOW (.4 ACH)	-1.24

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.72	-4.14	-1.41
	WOOD	-7.69	-6.25	-4.23
	ALUM	-6.23	-3.08	0.
	ALUM+TB	-7.21	-5.20	-2.83
2 PANE 1/4IN.	PLAIN	-12.27	-11.95	-11.81
	WOOD	-12.53	-12.52	-12.56
	ALUM	-11.00	-9.17	-8.10
	ALUM+TB	-12.02	-11.41	-11.07
2 PANE 1/2IN.	PLAIN	-13.07	-13.69	-14.12
	WOOD	-13.28	-14.16	-14.75
	ALUM	-11.93	-11.21	-10.81
	ALUM+TB	-12.85	-13.21	-13.49
3 PANE 1/4IN.	PLAIN	-14.24	-14.65	-15.16
	WOOD	-14.33	-14.83	-15.41
	ALUM	-12.87	-11.65	-11.17
	ALUM+TB	-13.28	-12.55	-12.37
3 PANE 1/2IN.	PLAIN	-14.95	-16.18	-17.21
	WOOD	-15.01	-16.33	-17.41
	ALUM	-13.85	-13.80	-14.03
	ALUM+TB	-14.60	-15.43	-16.21

10 PCT AREA	15 PCT AREA	20 PCT AREA
-15.03	-7.47	-.04
-15.07	-7.52	-.11
-15.02	-7.44	0.
-15.05	-7.50	-.07
-16.32	-9.39	-2.30
-16.33	-9.41	-2.32
-16.28	-9.31	-2.21
-16.31	-9.37	-2.28
-16.35	-9.44	-2.36
-16.35	-9.45	-2.37
-16.31	-9.37	-2.27
-16.34	-9.42	-2.34
-16.92	-10.45	-3.64
-16.93	-10.45	-3.65
-16.88	-10.36	-3.54
-16.89	-10.39	-3.57
-16.95	-10.49	-3.69
-16.95	-10.49	-3.70
-16.91	-10.42	-3.61
-16.94	-10.47	-3.67

BASE LOAD = 83.41 MBTU-YR

BASE LOAD = 60.46 MBTU-YR

AREA	MULTIPLIERS
1800 .811	2600 1.151
1900 .854	2700 1.193
2000 .897	2800 1.234
2100 .940	2900 1.276
2200 .983	3000 1.316
2300 1.025	3100 1.357
2400 1.068	3200 1.398
2500 1.110	3300 1.438
	3400 1.478
	3500 1.518
	3600 1.558
	3700 1.598
	3800 1.637
	3900 1.676
	4000 1.715

AREA	MULTIPLIERS
1800 .869	2600 1.106
1900 .902	2700 1.133
2000 .933	2800 1.161
2100 .962	2900 1.189
2200 .989	3000 1.217
2300 1.019	3100 1.244
2400 1.049	3200 1.269
2500 1.078	3300 1.292
	3400 1.311
	3500 1.328
	3600 1.345
	3700 1.360
	3800 1.374
	3900 1.387
	4000 1.399

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-49.56	R-11	-53.05	R-5 4FT	-6.57
R-19	-55.39	R-19	-65.24	R-5 8FT	-10.17
R-30	-59.53	R-27	-71.86	R-10 8FT	-14.53
R-38	-61.03			R-19 FLR	-16.62
R-49	-62.31				
R-60	-63.13				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.23
R-11	-3.67	R-11	-2.44	R-5 4FT	-0.33
R-19	-4.08	R-19	-3.01	R-5 8FT	-0.36
R-30	-4.34	R-27	-3.21	R-10 8FT	-0.41
R-38	-4.44			R-19 FLR	0.
R-49	-4.54				
R-60	-4.61				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-20.92
LOW (1.4 ACH)	-41.85

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-0.27
LOW (1.4 ACH)	-0.53

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-36.78	-20.67	-5.12
	WOOD	-40.28	-28.30	-15.29
	ALUM	-35.02	-16.83	0.
2 PANE 1/4IN.	ALUM+TB	-38.54	-24.51	-10.23
	PLAIN	-58.24	-51.04	-45.03
	WOOD	-59.17	-53.08	-47.76
2 PANE 1/2IN.	ALUM	-53.60	-40.92	-31.54
	ALUM+TB	-57.32	-49.04	-42.37
	PLAIN	-61.13	-57.35	-53.44
3 PANE 1/4IN.	WOOD	-61.92	-59.07	-55.74
	ALUM	-56.99	-48.32	-41.40
	ALUM+TB	-60.34	-55.62	-51.14
3 PANE 1/2IN.	PLAIN	-66.00	-61.95	-58.87
	WOOD	-66.31	-62.63	-59.78
	ALUM	-61.01	-51.06	-44.35
3 PANE 1/2IN.	ALUM+TB	-62.50	-54.32	-48.71
	PLAIN	-68.56	-67.53	-66.32
	WOOD	-68.81	-68.07	-67.04
	ALUM	-64.58	-58.86	-54.76
	ALUM+TB	-67.31	-64.81	-62.69

10 PCT AREA	15 PCT AREA	20 PCT AREA
-7.29	-3.76	-0.02
-7.31	-3.79	-0.05
-7.28	-3.75	0.
-7.30	-3.78	-0.04
-8.25	-5.22	-1.93
-8.26	-5.23	-1.94
-8.23	-5.18	-1.88
-8.25	-5.21	-1.92
-8.27	-5.24	-1.96
-8.27	-5.25	-1.97
-8.25	-5.21	-1.92
-8.26	-5.24	-1.95
-8.77	-5.98	-2.96
-8.77	-5.98	-2.96
-8.74	-5.93	-2.91
-8.75	-5.95	-2.92
-8.78	-6.00	-2.99
-8.78	-6.00	-2.99
-8.76	-5.97	-2.95
-8.77	-5.99	-2.97

BASE LOAD = 313.82 MBTU-YR

BASE LOAD = 22.59 MBTU-YR

AREA	MULTIPLIERS
1800	.821
1900	.863
2000	.903
2100	.944
2200	.984
2300	1.024
2400	1.064
2500	1.104
2600	1.143
2700	1.182
2800	1.221
2900	1.259
3000	1.298
3100	1.336
3200	1.374
3300	1.411
3400	1.449
3500	1.487
3600	1.524
3700	1.562
3800	1.598
3900	1.635
4000	1.671

AREA	MULTIPLIERS
1800	.926
1900	.948
2000	.967
2100	.983
2200	.996
2300	1.013
2400	1.032
2500	1.050
2600	1.065
2700	1.079
2800	1.093
2900	1.109
3000	1.123
3100	1.136
3200	1.147
3300	1.147
3400	1.136
3500	1.121
3600	1.104
3700	1.085
3800	1.062
3900	1.037
4000	1.009

TWO-STORY BSMT

BOISE

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

	HEATING (IN MBTU-YR)			COOLING (IN MBTU-YR)		
	CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0	0.	R-0	K-0	R-0	K-0	K-0
R-11	-29.22	R-11	R-5 4FT	R-11	R-11	R-5 4FT
R-19	-32.57	R-19	R-5 8FT	R-19	R-19	R-5 8FT
R-30	-34.94	R-27	K-10 8FT	R-30	R-27	R-10 8FT
R-38	-35.81		R-19 FLR	R-38		K-19 FLR
R-49	-36.54			R-49		
R-60	-37.01			R-60		

INFILTRATION

HI (1 ACH) 0.
 MED (1.7 ACH) -12.15
 LOW (.4 ACH) -24.31

INFILTRATION

HI (1 ACH) 0.
 MED (1.7 ACH) -0.38
 LOW (.4 ACH) -0.75

WINDOW	10 PCT AREA			15 PCT AREA			20 PCT AREA		
	SASH	AREA	MULTIPLIERS	SASH	AREA	MULTIPLIERS	SASH	AREA	MULTIPLIERS
1 PANE	PLAIN	-20.20	-11.62	-2.94	-2.94	-9.00	-4.65	-0.02	
	WOOD	-22.21	-16.00	-8.79	-8.79	-9.02	-4.68	-0.06	
	ALUM	-19.19	-9.41	0.	0.	-8.99	-4.63	0.	
2 PANE 1/4IN.	ALUM+TB	-21.21	-13.82	-5.89	-5.89	-9.01	-4.67	-0.04	
	PLAIN	-32.38	-24.15	-26.46	-26.46	-10.30	-6.74	-2.74	
	WOOD	-32.92	-30.32	-28.03	-28.03	-10.30	-6.55	-2.55	
2 PANE 1/2IN.	ALUM	-29.70	-23.31	-18.69	-18.69	-10.27	-6.50	-2.48	
	ALUM+TB	-31.85	-27.99	-24.93	-24.93	-10.29	-6.53	-2.53	
	PLAIN	-34.04	-32.78	-31.31	-31.31	-10.31	-6.57	-2.57	
3 PANE 1/4IN.	WOOD	-34.50	-33.77	-32.64	-32.64	-10.32	-6.58	-2.58	
	ALUM	-31.66	-27.58	-24.37	-24.37	-10.29	-6.53	-2.52	
	ALUM+TB	-33.59	-31.79	-29.99	-29.99	-10.31	-6.56	-2.56	
3 PANE 1/2IN.	PLAIN	-36.77	-35.32	-34.33	-34.33	-10.93	-7.47	-3.83	
	WOOD	-36.95	-35.72	-34.85	-34.85	-10.94	-7.48	-3.83	
	ALUM	-33.89	-29.05	-25.96	-25.96	-10.91	-7.42	-3.77	
3 PANE 1/2IN.	ALUM+TB	-34.76	-30.93	-28.47	-28.47	-10.92	-7.44	-3.74	
	PLAIN	-38.24	-38.54	-38.62	-38.62	-10.95	-7.50	-3.86	
	WOOD	-38.39	-38.86	-39.04	-39.04	-10.95	-7.50	-3.86	
ALUM+TB	ALUM	-37.96	-33.55	-31.96	-31.96	-10.93	-7.46	-3.81	
	ALUM+TB	-37.53	-36.97	-36.53	-36.53	-10.94	-7.49	-3.85	

BASE LOAD = 174.06 MBTU-YR

BASE LOAD = 29.40 MBTU-YR

	HEATING (IN MBTU-YR)			COOLING (IN MBTU-YR)		
	AREA	MULTIPLIERS	BASE LOAD	AREA	MULTIPLIERS	BASE LOAD
1800	.818	1.145	3400	.913	1.074	3400
1900	.860	1.185	3500	.938	1.091	3500
2000	.902	1.225	3600	.959	1.108	3600
2100	.943	1.264	3700	.978	1.127	3700
2200	.984	1.303	3800	.994	1.144	3800
2300	1.025	1.342	3900	1.014	1.160	3900
2400	1.065	1.381	4000	1.036	1.174	4000
2500	1.106	1.419	3300	1.056	1.179	3300

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-29.73	R-11	-30.99	R-11 FLR	-22.38
R-19	-33.16	R-19	-38.07	R-19 FLR	-25.61
R-30	-35.55	R-27	-41.85		
R-38	-36.42				
R-49	-37.17				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.72	R-11	-3.65	R-11 FLR	-4.52
R-19	-6.39	R-19	-4.42	R-19 FLR	-5.16
R-30	-6.77	R-27	-4.65		
R-38	-6.93				
R-49	-7.10				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-12.32
LOW (.4 ACH)	-24.64

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.36
LOW (.4 ACH)	-7.72

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-20.25	-11.66	-2.99
	WOOD	-22.29	-16.12	-8.93
	ALUM	-19.22	-9.42	0.
2 PANE 1/4IN.	ALUM+TB	-21.28	-13.90	-5.98
	PLAIN	-32.48	-29.23	-26.54
	WOOD	-33.02	-30.42	-28.12
2 PANE 1/2IN.	ALUM	-29.78	-23.35	-18.70
	ALUM+TB	-31.95	-28.07	-24.99
	PLAIN	-34.16	-32.90	-31.43
3 PANE 1/4IN.	WOOD	-34.62	-33.90	-32.76
	ALUM	-31.75	-27.65	-24.43
	ALUM+TB	-33.70	-31.89	-30.09
3 PANE 1/2IN.	PLAIN	-36.91	-35.45	-34.44
	WOOD	-37.09	-35.84	-34.97
	ALUM	-34.01	-29.12	-26.00
	ALUM+TB	-34.88	-31.02	-28.53
	PLAIN	-38.40	-38.69	-38.77
	WOOD	-38.54	-39.01	-39.19
	ALUM	-36.09	-33.65	-32.05
	ALUM+TB	-37.67	-37.11	-36.66

10 PCT AREA	15 PCT AREA	20 PCT AREA
-9.00	-4.65	-0.02
-9.02	-4.69	-0.07
-8.99	-4.63	0.
-9.01	-4.67	-0.04
-10.28	-6.53	-2.52
-10.29	-6.54	-2.53
-10.26	-6.48	-2.46
-10.28	-6.52	-2.51
-10.30	-6.56	-2.56
-10.30	-6.57	-2.57
-10.28	-6.52	-2.51
-10.30	-6.55	-2.55
-10.94	-7.48	-3.84
-10.95	-7.49	-3.84
-10.92	-7.43	-3.78
-10.92	-7.45	-3.80
-10.96	-7.51	-3.87
-10.96	-7.51	-3.88
-10.94	-7.47	-3.82
-10.95	-7.50	-3.86

BASE LOAD = 193.92 MBTU-YR

BASE LOAD = 36.20 MBTU-YR

AREA	MULTIPLIERS
1800 .818	2600 1.145
1900 .860	2700 1.185
2000 .902	2800 1.224
2100 .943	2900 1.263
2200 .984	3000 1.303
2300 1.024	3100 1.341
2400 1.065	3200 1.380
2500 1.105	3300 1.418
	3400 1.457
	3500 1.495
	3600 1.533
	3700 1.571
	3800 1.608
	3900 1.645
	4000 1.682

AREA	MULTIPLIERS
1800 .900	2600 1.084
1900 .927	2700 1.104
2000 .951	2800 1.124
2100 .973	2900 1.146
2200 .993	3000 1.166
2300 1.015	3100 1.186
2400 1.040	3200 1.203
2500 1.063	3300 1.214
	3400 1.216
	3500 1.217
	3600 1.215
	3700 1.211
	3800 1.205
	3900 1.198
	4000 1.188

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.45	R-11	-3.40	R-5 2FT	-.38
R-19	-3.83	R-19	-4.10	R-5 4FT	-.43
R-30	-4.05	R-27	-4.42		
R-38	-4.13				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.41
LOW (.4 ACH)	-2.83

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.42	-.91	-.33
	WOOD	-1.65	-1.40	-.98
	ALUM	-1.31	-.67	0.
	ALUM+TB	-1.53	-1.16	-.66
2 PANE 1/4IN.	PLAIN	-2.76	-2.74	-2.72
	WOOD	-2.82	-2.87	-2.90
	ALUM	-2.47	-2.10	-1.86
	ALUM+TB	-2.70	-2.62	-2.55
2 PANE 1/2IN.	PLAIN	-2.95	-3.15	-3.26
	WOOD	-3.00	-3.26	-3.41
	ALUM	-2.68	-2.57	-2.49
	ALUM+TB	-2.90	-3.04	-3.11
3 PANE 1/4IN.	PLAIN	-3.15	-3.22	-3.27
	WOOD	-3.17	-3.27	-3.33
	ALUM	-2.84	-2.53	-2.34
	ALUM+TB	-2.93	-2.74	-2.62
3 PANE 1/2IN.	PLAIN	-3.32	-3.58	-3.74
	WOOD	-3.33	-3.61	-3.74
	ALUM	-3.06	-3.03	-3.00
	ALUM+TB	-3.24	-3.41	-3.51

BASE LOAD = 15.53 MBTU-YR

AREA	MULTIPLIERS				
1800	.736	2600	1.212	3400	1.681
1900	.793	2700	1.273	3500	1.737
2000	.852	2800	1.332	3600	1.793
2100	.912	2900	1.390	3700	1.850
2200	.975	3000	1.448	3800	1.908
2300	1.034	3100	1.507	3900	1.966
2400	1.092	3200	1.567	4000	2.024
2500	1.151	3300	1.625		

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.65	R-11	-9.55	R-5 2FT	-3.94
R-19	-11.86	R-19	-11.65	R-5 4FT	-4.49
R-30	-12.68	R-27	-12.86		
R-38	-12.88				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.38
LOW (.4 ACH)	-14.77

10 PCT AREA	15 PCT AREA	20 PCT AREA
-29.09	-14.52	-.24
-29.30	-14.91	-.70
-28.98	-14.32	0.
-29.20	-14.71	-.47
-33.68	-21.03	-8.56
-33.74	-21.13	-8.69
-33.40	-20.52	-7.94
-33.63	-20.93	-8.44
-33.86	-21.35	-8.95
-33.90	-21.44	-9.05
-33.61	-20.89	-8.39
-33.81	-21.26	-8.84
-36.03	-24.21	-12.61
-36.04	-24.25	-12.65
-35.72	-23.66	-11.95
-35.81	-23.83	-12.15
-36.18	-24.49	-12.95
-36.19	-24.52	-12.99
-35.94	-24.05	-12.42
-36.10	-24.36	-12.79

BASE LOAD = 136.89 MBTU-YR

AREA	MULTIPLIERS				
1800	.852	2600	1.119	3400	1.366
1900	.887	2700	1.150	3500	1.394
2000	.922	2800	1.182	3600	1.421
2100	.955	2900	1.215	3700	1.447
2200	.987	3000	1.246	3800	1.473
2300	1.021	3100	1.278	3900	1.498
2400	1.054	3200	1.308	4000	1.522
2500	1.087	3300	1.338		

BUFFALO TWO-STORY BSMT HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 K-0
R-11 -36.38	R-11 -39.07	R-5 4FT -4.66	R-11 -1.75	R-11 -1.06	R-5 4FT -0.25
R-19 -40.53	R-19 -47.95	R-5 8FT -7.22	R-19 -1.94	R-19 -1.31	R-5 8FT -0.26
R-30 -43.47	R-27 -52.77	R-10 8FT -10.30	R-30 -2.07	R-27 -1.38	R-10 8FT -0.27
R-38 -44.54		R-19 FLR -11.84	R-38 -2.12		R-19 FLR 0.
R-49 -45.45			R-49 -2.16		
R-60 -46.04			R-60 -2.20		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.02
LOW (.4 ACH)	-0.03

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-27.80	-15.77	-3.77	-5.16	-2.83	-0.03
	WOOD	-30.38	-21.39	-11.26	-5.18	-2.87	-0.08
	ALUM	-26.50	-12.95	0.	-5.15	-2.81	0.
2 PANE 1/4IN.	ALUM+TB	-29.10	-18.60	-7.54	-5.17	-2.85	-0.05
	PLAIN	-44.43	-39.83	-36.07	-5.59	-3.45	-0.87
	WOOD	-45.12	-41.32	-38.05	-5.60	-3.46	-0.88
2 PANE 1/2IN.	ALUM	-41.05	-32.46	-26.24	-5.56	-3.39	-0.79
	ALUM+TB	-43.77	-38.38	-34.13	-5.58	-3.44	-0.85
	PLAIN	-46.54	-44.43	-42.20	-5.61	-3.49	-0.91
	WOOD	-47.12	-45.68	-43.87	-5.61	-3.50	-0.93
	ALUM	-43.52	-37.85	-33.43	-5.58	-3.43	-0.85
3 PANE 1/4IN.	ALUM+TB	-45.96	-43.17	-40.52	-5.60	-3.48	-0.90
	PLAIN	-50.16	-47.90	-46.32	-5.88	-3.81	-1.69
	WOOD	-50.39	-48.39	-46.98	-5.88	-3.81	-1.70
	ALUM	-46.53	-39.97	-35.74	-5.84	-3.74	-1.61
3 PANE 1/2IN.	ALUM+TB	-47.62	-42.35	-38.92	-5.85	-3.76	-1.64
	PLAIN	-52.03	-51.96	-51.74	-5.90	-3.84	-1.73
	WOOD	-52.21	-52.36	-52.27	-5.90	-3.84	-1.74
	ALUM	-49.13	-45.65	-43.33	-5.87	-3.79	-1.67
	ALUM+TB	-51.12	-49.98	-49.10	-5.89	-3.82	-1.71

BASE LOAD = 12.67 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800 .820	1.144	1800 .948	1.039
1900 .861	1.183	1900 .966	1.057
2000 .903	1.223	2000 .980	1.066
2100 .943	1.262	2100 .991	1.077
2200 .984	1.300	2200 .998	1.086
2300 1.024	1.339	2300 1.010	1.093
2400 1.065	1.377	2400 1.026	1.099
2500 1.105	1.415	2500 1.039	1.090
		2600 1.049	1.066
		2700 1.057	1.039
		2800 1.066	1.009
		2900 1.077	.975
		3000 1.086	.938
		3100 1.093	.897
		3200 1.099	.853
		3300 1.090	

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION	
R-0	0.	R-0	0.
R-11	-41.48	R-5 4FT	-5.30
R-19	-46.29	R-5 8FT	-8.22
R-30	-49.70	R-10 8FT	-11.75
R-38	-50.93	R-19 FLR	-13.50
R-49	-51.98		
R-60	-52.66		

INFILTRATION

HI (1 ACH) 0.
 MED (1.7 ACH) -18.51
 LOW (1.4 ACH) -37.01

COOLING (IN MBTU-YR)

CEILING	MALL	FOUNDATION	
R-0	0.	R-0	0.
R-11	-2.08	R-5 4FT	-0.25
R-19	-2.32	R-5 8FT	-0.27
R-30	-2.46	R-10 8FT	-0.29
R-38	-2.52	R-19 FLR	0.
R-49	-2.56		
R-60	-2.60		

INFILTRATION

HI (1 ACH) 0.
 MED (1.7 ACH) -0.10
 LOW (1.4 ACH) -0.20

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-30.74	-17.44	-4.27
	WOOD	-33.66	-23.81	-12.76
	ALUM	-29.27	-14.24	0.
2 PANE 1/4IN.	ALUM+TB	-32.21	-20.65	-8.54
	PLAIN	-48.73	-43.32	-38.89
	WOOD	-49.51	-45.02	-41.16
	ALUM	-44.87	-34.90	-27.67
	ALUM+TB	-47.97	-41.66	-36.68
2 PANE 1/2IN.	PLAIN	-51.13	-48.57	-45.89
	WOOD	-51.79	-50.01	-47.81
	ALUM	-47.69	-41.06	-35.87
	ALUM+TB	-50.48	-47.14	-43.98
3 PANE 1/4IN.	PLAIN	-55.20	-52.41	-50.48
	WOOD	-55.46	-52.98	-51.23
	ALUM	-51.05	-43.35	-38.40
	ALUM+TB	-52.29	-46.07	-42.02
3 PANE 1/2IN.	PLAIN	-57.33	-57.06	-56.67
	WOOD	-57.54	-57.51	-57.28
	ALUM	-54.02	-49.84	-47.06
	ALUM+TB	-56.29	-54.79	-53.65

BASE LOAD = 261.66 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-4.76	-2.48	-0.03
-4.79	-2.53	-0.10
-4.74	-2.45	0.
-4.77	-2.50	-0.07
-5.30	-3.22	-1.02
-5.31	-3.24	-1.04
-5.25	-3.14	-0.92
-5.29	-3.20	-1.00
-5.33	-3.27	-1.04
-5.34	-3.29	-1.10
-5.29	-3.20	-0.99
-5.32	-3.26	-1.07
-5.60	-3.54	-1.47
-5.61	-3.55	-1.48
-5.55	-3.45	-1.36
-5.57	-3.48	-1.39
-5.63	-3.59	-1.53
-5.63	-3.59	-1.53
-5.59	-3.52	-1.44
-5.62	-3.57	-1.50

BASE LOAD = 13.49 MBTU-YR

AREA	MULTIPLIERS
1800	.820
1900	.862
2000	.903
2100	.944
2200	.984
2300	1.024
2400	1.064
2500	1.104

AREA	MULTIPLIERS
2600	1.144
2700	1.183
2800	1.222
2900	1.260
3000	1.299
3100	1.337
3200	1.375
3300	1.413

AREA	MULTIPLIERS
1800	.948
1900	.986
2000	.980
2100	.991
2200	.998
2300	1.010
2400	1.026
2500	1.039
2600	1.049
2700	1.057
2800	1.066
2900	1.077
3000	1.086
3100	1.093
3200	1.099
3300	1.090

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-37.74	R-11	-34.79	R-5 4FT	-4.75
R-19	-42.04	R-19	-48.76	R-5 8FT	-7.33
R-30	-45.08	R-27	-53.58	R-10 8FT	-10.48
R-38	-46.17			R-19 FLR	-11.97
R-49	-47.10				
R-60	-47.70				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.20
R-11	-2.56	R-11	-1.37	R-5 4FT	-0.23
R-19	-2.87	R-19	-1.67	R-5 8FT	-0.25
R-30	-3.03	R-27	-1.70	R-10 8FT	-0.26
R-38	-3.09			R-19 FLR	0.
R-49	-3.16				
R-60	-3.21				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-12.96
LOW (.4 ACH)	-25.91

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.08
LOW (.4 ACH)	-0.17

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-24.96	-14.45	-3.84
	WOOD	-27.58	-20.17	-11.47
	ALUM	-23.64	-11.57	0.
	ALUM+TB	-26.28	-17.32	-7.68
2 PANE 1/4IN.	PLAIN	-42.03	-38.94	-36.56
	WOOD	-42.72	-40.44	-38.56
	ALUM	-38.61	-31.49	-26.63
	ALUM+TB	-41.35	-37.47	-34.60
2 PANE 1/2IN.	PLAIN	-44.16	-43.58	-42.75
	WOOD	-44.74	-44.85	-44.44
	ALUM	-41.11	-36.94	-33.89
	ALUM+TB	-43.57	-42.32	-41.06
3 PANE 1/4IN.	PLAIN	-47.71	-46.78	-46.44
	WOOD	-47.94	-47.28	-47.11
	ALUM	-44.04	-38.76	-35.75
	ALUM+TB	-45.14	-41.17	-38.96
3 PANE 1/2IN.	PLAIN	-49.60	-50.89	-51.92
	WOOD	-49.78	-51.29	-52.45
	ALUM	-46.67	-44.51	-43.41
	ALUM+TB	-48.68	-48.88	-49.25

10 PCT AREA	15 PCT AREA	20 PCT AREA
-5.23	-2.75	-0.01
-5.23	-2.76	-0.02
-5.22	-2.75	0.
-5.23	-2.76	-0.01
-5.77	-3.59	-1.11
-5.77	-3.59	-1.12
-5.76	-3.57	-1.10
-5.77	-3.58	-1.11
-5.77	-3.59	-1.12
-5.77	-3.60	-1.12
-5.77	-3.58	-1.11
-5.77	-3.59	-1.12
-6.08	-4.13	-1.90
-6.08	-4.13	-1.90
-6.07	-4.12	-1.89
-6.07	-4.12	-1.89
-6.08	-4.14	-1.91
-6.08	-4.14	-1.91
-6.08	-4.13	-1.90
-6.08	-4.14	-1.91

BASE LOAD = 216.71 MBTU-YR

BASE LOAD = 13.46 MBTU-YR

AREA	MULTIPLIERS				
1800	.819	2600	1.145	3400	1.455
1900	.861	2700	1.184	3500	1.493
2000	.902	2800	1.223	3600	1.531
2100	.943	2900	1.263	3700	1.569
2200	.984	3000	1.301	3800	1.606
2300	1.024	3100	1.340	3900	1.643
2400	1.065	3200	1.378	4000	1.680
2500	1.105	3300	1.417		

AREA	MULTIPLIERS				
1800	.948	2600	1.049	3400	1.066
1900	.966	2700	1.057	3500	1.039
2000	.980	2800	1.066	3600	1.009
2100	.991	2900	1.077	3700	.975
2200	.998	3000	1.086	3800	.938
2300	1.010	3100	1.093	3900	.897
2400	1.026	3200	1.099	4000	.853
2500	1.039	3300	1.090		

CEILING

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
K-11 -12.49	R-11 -12.63	R-11 FLR -9.37	R-11 -7.45	R-11 -5.35	R-11 FLR -5.41
K-19 -13.93	R-19 -15.45	R-19 FLR -10.68	R-19 -8.29	R-19 -6.31	R-19 FLR -5.86
K-30 -14.91	R-27 -16.92		R-30 -8.81	R-27 -6.87	
K-38 -15.26			R-38 -8.88		
K-49 -15.56			R-49 -8.97		

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
K-11 -12.49	R-11 -12.63	R-11 FLR -9.37	R-11 -7.45	R-11 -5.35	R-11 FLR -5.41
K-19 -13.93	R-19 -15.45	R-19 FLR -10.68	R-19 -8.29	R-19 -6.31	R-19 FLR -5.86
K-30 -14.91	R-27 -16.92		R-30 -8.81	R-27 -6.87	
K-38 -15.26			R-38 -8.88		
K-49 -15.56			R-49 -8.97		

INFILTRATION

HI (1 ACH) 0.
MED (1.7 ACH) -5.80
LOW (1.4 ACH) -11.60

INFILTRATION

HI (1 ACH) 0.
MED (1.7 ACH) -1.42
LOW (1.4 ACH) -2.84

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.05	-3.71	-1.22
	WOOD	-6.88	-5.53	-3.64
	ALUM	-5.63	-2.80	0.
2 PANE 1/4IN.	ALUM+TB	-6.47	-4.63	-2.44
	PLAIN	-11.17	-10.96	-10.63
	WOOD	-11.39	-11.44	-11.48
	ALUM	-10.07	-8.56	-7.63
2 PANE 1/2IN.	ALUM+TB	-10.95	-10.49	-10.20
	PLAIN	-11.86	-12.45	-12.82
	WOOD	-12.04	-12.86	-13.37
	ALUM	-10.88	-10.32	-9.97
3 PANE 1/4IN.	ALUM+TB	-11.67	-12.05	-12.28
	PLAIN	-12.86	-13.28	-13.75
	WOOD	-12.94	-13.44	-13.96
	ALUM	-11.68	-10.70	-10.31
3 PANE 1/2IN.	ALUM+TB	-12.04	-11.47	-11.34
	PLAIN	-13.47	-14.60	-15.51
	WOOD	-13.53	-14.73	-15.68
	ALUM	-12.53	-12.55	-12.77
	ALUM+TB	-13.17	-13.96	-14.65

BASE LOAD = 75.86 MBTU-YR

AREA	MULTIPLIERS
1800	1.154
1900	1.196
2000	1.238
2100	1.280
2200	1.321
2300	1.363
2400	1.404
2500	1.445

10 PCT AREA	15 PCT AREA	20 PCT AREA
-18.09	-9.11	-0.09
-18.17	-9.26	-0.28
-18.05	-9.03	0.
-18.13	-9.18	-0.19
-19.90	-11.61	-3.24
-19.92	-11.65	-3.29
-19.79	-11.41	-2.99
-19.88	-11.57	-3.19
-19.97	-11.74	-3.39
-19.94	-11.77	-3.43
-19.87	-11.56	-3.17
-19.95	-11.71	-3.35
-20.85	-13.00	-5.23
-20.73	-13.01	-5.24
-20.77	-12.78	-4.96
-20.91	-12.85	-5.04
-20.92	-13.11	-5.36
-20.82	-13.12	-5.37
-20.88	-12.94	-5.15
-20.88	-13.06	-5.29

BASE LOAD = 73.84 MBTU-YR

AREA	MULTIPLIERS
1800	1.110
1900	1.138
2000	1.167
2100	1.196
2200	1.225
2300	1.253
2400	1.280
2500	1.305

HEATING (IN MBTU-YR)

CEILING	MALL	FOUNDATION	CEILING	MALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -30.51	R-11 -31.83	R-5 4FT -3.88	R-11 -4.26	R-11 -2.41	R-5 4FT -2.41
R-19 -33.98	R-19 -39.07	R-5 8FT -6.01	R-19 -4.76	R-19 -2.97	R-5 8FT -2.97
R-30 -36.44	R-27 -42.97	R-10 8FT -8.61	R-30 -5.05	R-27 -3.11	R-10 8FT -3.11
R-38 -37.33		R-19 FLR -9.87	R-38 -5.18		R-19 FLR 0.
R-49 -38.09			R-49 -5.29		
R-60 -38.59			R-60 -5.38		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -11.88
LOW (.4 ACH) -23.76

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-17.98	-10.59	-3.07
	WOOD	-20.07	-15.17	-9.17
	ALUM	-16.92	-8.29	0.
2 PANE 1/4IN.	ALUM+TB	-19.03	-12.90	-6.14
	PLAIN	-31.23	-24.54	-28.34
	WOOD	-31.79	-30.76	-29.96
	ALUM	-28.48	-23.53	-20.32
	ALUM+TB	-30.69	-28.36	-26.76
2 PANE 1/2IN.	PLAIN	-32.95	-33.34	-33.34
	WOOD	-33.42	-34.32	-34.71
	ALUM	-30.49	-27.93	-26.18
	ALUM+TB	-32.48	-32.27	-31.97
3 PANE 1/4IN.	PLAIN	-35.76	-35.78	-36.14
	WOOD	-35.95	-36.19	-36.68
	ALUM	-32.80	-29.31	-27.51
	ALUM+TB	-33.69	-31.25	-30.10
3 PANE 1/2IN.	PLAIN	-37.29	-39.10	-40.57
	WOOD	-37.43	-39.42	-41.00
	ALUM	-34.92	-33.70	-33.70
	ALUM+TB	-36.54	-37.48	-38.41

BASE LOAD = 174.32 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .818	1.146
1900 .860	1.185
2000 .901	1.225
2100 .943	1.264
2200 .984	1.304
2300 1.025	1.343
2400 1.065	1.381
2500 1.106	1.420

10 PCT AREA 15 PCT AREA 20 PCT AREA

-6.50	-3.41	-0.05
-6.54	-3.49	-.14
-6.48	-3.37	0.
-6.52	-3.45	-.09
-7.31	-4.54	-1.65
-7.32	-4.61	-1.67
-7.25	-4.49	-1.52
-7.29	-4.57	-1.62
-7.34	-4.65	-1.72
-7.35	-4.67	-1.74
-7.29	-4.56	-1.61
-7.33	-4.64	-1.70
-7.75	-5.32	-2.62
-7.75	-5.33	-2.62
-7.69	-5.21	-2.48
-7.71	-5.25	-2.52
-7.78	-5.38	-2.68
-7.78	-5.38	-2.69
-7.73	-5.29	-2.58
-7.77	-5.35	-2.65

BASE LOAD = 20.10 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .948	1.049
1900 .966	1.058
2000 .980	1.067
2100 .991	1.078
2200 .998	1.087
2300 1.010	1.094
2400 1.026	1.099
2500 1.039	1.091

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	K-0 0.	R-0 0.	R-0 0.	K-0 0.
R-11 -13.32	R-11 -13.18	K-5 2FT -4.78	R-11 -10.06	R-11 -7.06	K-5 2FT -2.07
R-19 -14.82	R-19 -16.15	K-5 4FT -5.48	R-19 -11.89	R-19 -8.63	K-5 4FT -3.01
R-30 -15.86	R-27 -17.68		R-30 -12.05	R-27 -9.32	
R-38 -16.23			R-38 -12.93		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -5.87
LOW (.4 ACH) -11.73

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.71	-3.59	-1.27	-17.82	-8.98	-0.01
	WOOD	-6.58	-5.48	-3.80	-17.83	-8.99	-0.02
	ALUM	-5.27	-2.63	0.	-17.82	-8.97	0.
2 PANE 1/4IN.	ALUM+TB	-6.15	-4.54	-2.54	-17.83	-8.98	-0.02
	PLAIN	-10.97	-10.98	-11.06	-20.44	-12.95	-5.16
	WOOD	-11.20	-11.49	-11.73	-20.45	-12.95	-5.16
	ALUM	-9.83	-8.48	-7.72	-20.43	-12.93	-5.14
2 PANE 1/2IN.	ALUM+TB	-10.75	-10.49	-10.40	-20.44	-12.95	-5.15
	PLAIN	-11.59	-12.54	-13.13	-20.45	-12.96	-5.17
	WOOD	-11.88	-12.97	-13.70	-20.45	-12.96	-5.17
	ALUM	-10.66	-10.31	-10.16	-20.44	-12.95	-5.15
3 PANE 1/4IN.	ALUM+TB	-11.49	-12.11	-12.57	-20.45	-12.96	-5.17
	PLAIN	-12.73	-13.37	-14.02	-21.80	-14.81	-7.73
	WOOD	-12.81	-13.54	-14.24	-21.80	-14.81	-7.73
	ALUM	-11.50	-10.68	-10.43	-21.79	-14.79	-7.71
3 PANE 1/2IN.	ALUM+TB	-11.87	-11.49	-11.51	-21.79	-14.80	-7.71
	PLAIN	-13.36	-14.75	-15.86	-21.80	-14.82	-7.74
	WOOD	-13.42	-14.88	-16.04	-21.80	-14.82	-7.74
	ALUM	-12.38	-12.61	-13.00	-21.79	-14.81	-7.72
	ALUM+TB	-13.05	-14.08	-14.96	-21.80	-14.82	-7.73

BASE LOAD = 71.57 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1800	1.154
1900	1.197
2000	1.239
2100	1.281
2200	1.323
2300	1.364
2400	1.406
2500	1.447

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.48
LOW (.4 ACH) -0.95

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.71	-3.59	-1.27	-17.82	-8.98	-0.01
	WOOD	-6.58	-5.48	-3.80	-17.83	-8.99	-0.02
	ALUM	-5.27	-2.63	0.	-17.82	-8.97	0.
2 PANE 1/4IN.	ALUM+TB	-6.15	-4.54	-2.54	-17.83	-8.98	-0.02
	PLAIN	-10.97	-10.98	-11.06	-20.44	-12.95	-5.16
	WOOD	-11.20	-11.49	-11.73	-20.45	-12.95	-5.16
	ALUM	-9.83	-8.48	-7.72	-20.43	-12.93	-5.14
2 PANE 1/2IN.	ALUM+TB	-10.75	-10.49	-10.40	-20.44	-12.95	-5.15
	PLAIN	-11.59	-12.54	-13.13	-20.45	-12.96	-5.17
	WOOD	-11.88	-12.97	-13.70	-20.45	-12.96	-5.17
	ALUM	-10.66	-10.31	-10.16	-20.44	-12.95	-5.15
3 PANE 1/4IN.	ALUM+TB	-11.49	-12.11	-12.57	-20.45	-12.96	-5.17
	PLAIN	-12.73	-13.37	-14.02	-21.80	-14.81	-7.73
	WOOD	-12.81	-13.54	-14.24	-21.80	-14.81	-7.73
	ALUM	-11.50	-10.68	-10.43	-21.79	-14.79	-7.71
3 PANE 1/2IN.	ALUM+TB	-11.87	-11.49	-11.51	-21.79	-14.80	-7.71
	PLAIN	-13.36	-14.75	-15.86	-21.80	-14.82	-7.74
	WOOD	-13.42	-14.88	-16.04	-21.80	-14.82	-7.74
	ALUM	-12.38	-12.61	-13.00	-21.79	-14.81	-7.72
	ALUM+TB	-13.05	-14.08	-14.96	-21.80	-14.82	-7.73

BASE LOAD = 69.57 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1800	1.107
1900	1.134
2000	1.162
2100	1.191
2200	1.219
2300	1.246
2400	1.272
2500	1.295

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.92	R-11	-13.05	R-5 2FT	-4.61
R-19	-14.37	R-19	-16.01	R-5 4FT	-5.27
R-30	-15.38	R-27	-17.56		
R-38	-15.74				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.29	R-11	-8.42	R-5 2FT	-3.79
R-19	-11.52	R-19	-10.33	R-5 4FT	-4.46
R-30	-12.38	R-27	-11.41		
R-38	-12.67				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.13
LOW (.4 ACH)	-12.26

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.20
LOW (.4 ACH)	-6.41

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.01	-3.72	-1.26
	WOOD	-6.87	-5.60	-3.76
	ALUM	-5.58	-2.78	0.
	ALUM+TB	-6.44	-4.67	-2.52
2 PANE 1/4IN.	PLAIN	-11.42	-11.38	-11.39
	WOOD	-11.65	-11.88	-12.06
	ALUM	-10.29	-8.90	-8.09
	ALUM+TB	-11.20	-10.89	-10.74
2 PANE 1/2IN.	PLAIN	-12.13	-12.92	-13.45
	WOOD	-12.32	-13.34	-14.01
	ALUM	-11.12	-10.71	-10.50
	ALUM+TB	-11.94	-12.50	-12.89
3 PANE 1/4IN.	PLAIN	-13.19	-13.76	-14.34
	WOOD	-13.26	-13.93	-14.56
	ALUM	-11.97	-11.10	-10.79
	ALUM+TB	-12.33	-11.90	-11.85
3 PANE 1/2IN.	PLAIN	-13.81	-15.13	-16.16
	WOOD	-13.87	-15.26	-16.34
	ALUM	-12.84	-13.01	-13.34
	ALUM+TB	-13.51	-14.46	-15.28

10 PCT AREA	15 PCT AREA	20 PCT AREA
-19.44	-9.72	-1.10
-19.53	-9.89	-2.29
-19.39	-9.64	0.
-19.48	-9.80	-2.20
-22.88	-14.34	-6.14
-22.71	-14.39	-6.19
-22.57	-14.13	-5.88
-22.66	-14.30	-6.09
-22.76	-14.48	-6.30
-22.78	-14.51	-6.35
-22.65	-14.29	-6.07
-22.74	-14.44	-6.26
-24.18	-16.60	-9.00
-24.18	-16.61	-9.02
-24.05	-16.37	-8.72
-24.09	-16.44	-8.80
-24.24	-16.72	-9.14
-24.25	-16.73	-9.16
-24.14	-16.53	-8.92
-24.21	-16.66	-9.07

BASE LOAD = 72.12 MBTU-YR

BASE LOAD = 92.06 MBTU-YR

AREA	MULTIPLIERS				
1800	.808	2600	1.154	3400	1.486
1900	.851	2700	1.196	3500	1.527
2000	.895	2800	1.238	3600	1.568
2100	.939	2900	1.280	3700	1.608
2200	.983	3000	1.322	3800	1.648
2300	1.026	3100	1.363	3900	1.688
2400	1.069	3200	1.405	4000	1.728
2500	1.111	3300	1.446		

AREA	MULTIPLIERS				
1800	.859	2600	1.114	3400	1.344
1900	.893	2700	1.143	3500	1.367
2000	.926	2800	1.173	3600	1.390
2100	.958	2900	1.204	3700	1.412
2200	.988	3000	1.234	3800	1.433
2300	1.020	3100	1.264	3900	1.453
2400	1.052	3200	1.292	4000	1.472
2500	1.084	3300	1.319		

FKESND - CALIFORNIA TWO-STORY SLAB

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -14.65	R-11 -27.39	R-5 2FT -5.24
R-19 -16.29	R-19 -31.74	R-5 4FT -6.03
R-30 -17.42	R-27 -31.74	
R-38 -17.83		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -7.06
LOW (.4 ACH) -14.11

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.
R-11 -11.38	R-11 -14.21	R-5 2FT -1.90
R-19 -12.75	R-19 -16.52	R-5 4FT -2.15
R-30 -13.56	R-27 -16.52	
R-38 -13.88		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -1.22
LOW (.4 ACH) -2.43

WINDOW 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.15	-4.15	-1.37
	WOOD	-7.68	-6.19	-4.09
	ALUM	-6.27	-3.13	0.
2 PANE 1/4IN.	ALUM+TB	-7.21	-5.18	-2.74
	PLAIN	-12.42	-12.10	-11.88
	WOOD	-12.67	-12.64	-12.60
	ALUM	-11.19	-9.41	-8.24
2 PANE 1/2IN.	ALUM+TB	-12.18	-11.57	-11.17
	PLAIN	-13.19	-13.78	-14.11
	WOOD	-13.40	-14.23	-14.73
	ALUM	-12.09	-11.37	-10.91
3 PANE 1/4IN.	ALUM+TB	-12.98	-13.32	-13.50
	PLAIN	-14.39	-14.71	-15.06
	WOOD	-14.47	-14.89	-15.30
	ALUM	-13.06	-11.81	-11.20
3 PANE 1/2IN.	ALUM+TB	-13.46	-12.68	-12.35
	PLAIN	-15.07	-16.20	-17.04
	WOOD	-15.13	-16.34	-17.23
	ALUM	-14.01	-13.89	-13.96
	ALUM+TB	-14.74	-15.47	-16.07

10 PCT AREA 15 PCT AREA 20 PCT AREA

-15.05	-7.69	-0.14
-15.18	-7.92	-0.42
-14.99	-7.58	0.
-15.12	-7.81	-0.28
-17.50	-11.19	-4.73
-17.53	-11.25	-4.80
-17.33	-10.88	-4.36
-17.46	-11.13	-4.66
-17.60	-11.38	-4.96
-17.63	-11.43	-5.02
-17.45	-11.11	-4.63
-17.57	-11.33	-4.90
-18.71	-12.98	-7.01
-18.72	-13.00	-7.03
-18.53	-12.65	-6.61
-18.58	-12.75	-6.73
-18.80	-13.15	-7.21
-18.81	-13.17	-7.23
-18.66	-12.89	-6.90
-18.75	-13.07	-7.11

BASE LOAD = 95.83 MBTU-YR

BASE LOAD = 69.67 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .811	2600 1.151
1900 .854	2700 1.193
2000 .897	2800 1.234
2100 .940	2900 1.276
2200 .983	3000 1.316
2300 1.025	3100 1.357
2400 1.068	3200 1.398
2500 1.110	3300 1.438
	3400 1.478
	3500 1.518
	3600 1.558
	3700 1.597
	3800 1.637
	3900 1.676
	4000 1.715

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .873	2600 1.103
1900 .905	2700 1.129
2000 .935	2800 1.156
2100 .963	2900 1.184
2200 .990	3000 1.210
2300 1.018	3100 1.236
2400 1.048	3200 1.261
2500 1.076	3300 1.282
	3400 1.299
	3500 1.314
	3600 1.328
	3700 1.341
	3800 1.352
	3900 1.363
	4000 1.372

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-40.71	R-11	-43.48	R-5 4FT	-5.12
R-19	-45.36	R-19	-53.25	R-5 8FT	-7.93
R-30	-48.64	R-27	-58.53	R-10 8FT	-11.35
R-38	-49.83			R-19 FLR	-13.03
R-49	-50.83				
R-60	-51.48				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.38	R-11	-1.42	R-5 4FT	-.26
R-19	-2.65	R-19	-1.72	R-5 8FT	-.26
R-30	-2.79	R-27	-1.79	R-10 8FT	-.26
R-38	-2.85			R-19 FLR	0.
R-49	-2.92				
R-60	-2.97				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-14.47
LOW (.4 ACH)	-28.93

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.09
LOW (.4 ACH)	-.18

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-31.08	-17.55	-4.19
	WOOD	-33.94	-23.80	-12.53
	ALUM	-29.64	-14.40	0.
	ALUM+TB	-32.52	-20.69	-8.39
2 PANE 1/4IN.	PLAIN	-50.33	-45.30	-41.17
	WOOD	-51.09	-46.93	-43.35
	ALUM	-46.61	-37.18	-30.34
	ALUM+TB	-49.60	-43.69	-39.03
2 PANE 1/2IN.	PLAIN	-52.65	-50.36	-47.91
	WOOD	-53.29	-51.74	-49.76
	ALUM	-49.33	-43.11	-38.26
	ALUM+TB	-52.02	-48.97	-46.07
3 PANE 1/4IN.	PLAIN	-56.75	-54.28	-52.58
	WOOD	-57.00	-54.83	-53.31
	ALUM	-52.74	-45.55	-40.93
	ALUM+TB	-53.95	-48.17	-44.43
3 PANE 1/2IN.	PLAIN	-58.80	-58.76	-58.55
	WOOD	-59.00	-59.20	-59.13
	ALUM	-55.61	-51.81	-49.28
	ALUM+TB	-57.80	-56.58	-55.64

10 PCT AREA	15 PCT AREA	20 PCT AREA
-4.71	-2.46	-.06
-4.77	-2.56	-.19
-4.68	-2.41	0.
-4.74	-2.51	-.12
-5.24	-3.28	-1.17
-5.25	-3.31	-1.20
-5.17	-3.16	-1.02
-5.22	-3.26	-1.14
-5.28	-3.36	-1.27
-5.29	-3.38	-1.29
-5.22	-3.25	-1.13
-5.27	-3.34	-1.24
-5.55	-3.87	-1.89
-5.55	-3.88	-1.90
-5.48	-3.74	-1.72
-5.50	-3.78	-1.77
-5.59	-3.94	-1.97
-5.59	-3.95	-1.98
-5.53	-3.83	-1.84
-5.57	-3.91	-1.93

BASE LOAD = 245.39 MBTU-YR

BASE LOAD = 12.78 MBTU-YR

AREA	MULTIPLIERS
1800	.820
1900	.861
2000	.903
2100	.944
2200	.984
2300	1.024
2400	1.065
2500	1.105
2600	1.144
2700	1.183
2800	1.222
2900	1.261
3000	1.300
3100	1.339
3200	1.377
3300	1.415
3400	1.453
3500	1.491
3600	1.529
3700	1.566
3800	1.603
3900	1.640
4000	1.677

AREA	MULTIPLIERS
1800	.948
1900	.966
2000	.980
2100	.991
2200	.998
2300	1.010
2400	1.026
2500	1.039
2600	1.049
2700	1.057
2800	1.066
2900	1.077
3000	1.086
3100	1.093
3200	1.099
3300	1.090
3400	1.066
3500	1.039
3600	1.009
3700	.975
3800	.938
3900	.897
4000	.853

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-0.01	R-11	0.	R-5 2FT	0.
R-19	-0.01	R-19	0.	R-5 4FT	0.
R-30	-0.01	R-27	0.		
R-38	-0.01				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.78	R-11	-5.58	R-5 2FT	-4.01
R-19	-9.57	R-19	-6.58	R-5 4FT	-4.57
R-30	-10.28	R-27	-7.22		
R-38	-10.46				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

INFILTRATION

HI (1 ACH)	-0.06
MED (.7 ACH)	-0.03
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.

10 PCT AREA	15 PCT AREA	20 PCT AREA
-33.02	-16.39	-0.01
-33.02	-16.40	-0.02
-33.01	-16.38	0.
-33.02	-16.39	-0.01
-35.46	-19.95	-4.50
-35.46	-19.95	-4.50
-35.45	-19.94	-4.48
-35.46	-19.95	-4.50
-35.46	-19.95	-4.51
-35.46	-19.96	-4.51
-35.45	-19.94	-4.49
-35.46	-19.95	-4.50
-37.35	-22.79	-8.24
-37.35	-22.79	-8.25
-37.34	-22.78	-8.23
-37.34	-22.78	-8.23
-37.35	-22.80	-8.25
-37.35	-22.80	-8.25
-37.34	-22.79	-8.24
-37.35	-22.79	-8.25

BASE LOAD = .01 MBTU-YR

BASE LOAD = 115.24 MBTU-YR

AREA	MULTIPLIERS	
1800	.736	2600 1.212
1900	.793	2700 1.273
2000	.852	2800 1.332
2100	.912	2900 1.390
2200	.975	3000 1.448
2300	1.034	3100 1.507
2400	1.092	3200 1.567
2500	1.151	3300 1.625
		3400 1.681
		3500 1.737
		3600 1.793
		3700 1.850
		3800 1.908
		3900 1.966
		4000 2.024

AREA	MULTIPLIERS	
1800	.854	2600 1.117
1900	.889	2700 1.148
2000	.923	2800 1.179
2100	.956	2900 1.211
2200	.988	3000 1.242
2300	1.020	3100 1.273
2400	1.054	3200 1.303
2500	1.086	3300 1.331
		3400 1.358
		3500 1.385
		3600 1.410
		3700 1.435
		3800 1.459
		3900 1.482
		4000 1.505

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.06	R-11	-7.01	R-5 2FT	-2.02
R-19	-7.86	R-19	-8.61	R-5 4FT	-2.29
R-30	-8.42	R-27	-9.42		
R-38	-8.61				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-3.63
LOW (1.4 ACH)	-7.25

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.44	-1.64	-0.68
	WOOD	-2.90	-2.65	-2.02
	ALUM	-2.21	-1.13	0.
2 PANE 1/4IN.	ALUM+TB	-2.67	-2.14	-1.35
	PLAIN	-5.31	-5.57	-5.78
	WOOD	-5.43	-5.83	-6.14
2 PANE 1/2IN.	ALUM	-4.70	-4.24	-4.01
	ALUM+TB	-5.19	-5.30	-5.43
	PLAIN	-5.69	-6.40	-6.89
3 PANE 1/4IN.	WOOD	-5.79	-6.62	-7.19
	ALUM	-5.15	-5.21	-5.31
	ALUM+TB	-5.59	-6.17	-6.59
3 PANE 1/2IN.	PLAIN	-6.22	-6.73	-7.17
	WOOD	-6.26	-6.82	-7.29
	ALUM	-5.56	-5.30	-5.26
3 PANE 1/2IN.	ALUM+TB	-5.76	-5.73	-5.83
	PLAIN	-6.56	-7.46	-8.15
	WOOD	-6.59	-7.53	-8.24
	ALUM	-6.03	-6.32	-6.63
	ALUM+TB	-6.39	-7.10	-7.67

BASE LOAD = 36.27 MBTU-YR

AREA	MULTIPLIERS
1800	.788
1900	.835
2000	.883
2100	.932
2200	.980
2300	1.028
2400	1.075
2500	1.123
2600	1.170
2700	1.218
2800	1.265
2900	1.311
3000	1.357
3100	1.403
3200	1.450
3300	1.496
3400	1.541
3500	1.586
3600	1.630
3700	1.675
3800	1.720
3900	1.765
4000	1.810

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.92	R-11	-6.29	R-5 2FT	-4.39
R-19	-9.95	R-19	-7.72	R-5 4FT	-5.06
R-30	-10.68	R-27	-8.62		
R-38	-10.96				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-3.47
LOW (1.4 ACH)	-6.93

10 PCT AREA	15 PCT AREA	20 PCT AREA
-20.82	-10.40	-0.05
-20.87	-10.49	-0.16
-20.79	-10.35	0.
-20.84	-10.44	-0.11
-23.01	-13.71	-4.32
-23.02	-13.74	-4.35
-22.94	-13.59	-4.18
-23.00	-13.69	-4.29
-23.05	-13.79	-4.41
-23.06	-13.81	-4.44
-22.99	-13.68	-4.28
-23.04	-13.77	-4.39
-24.39	-15.63	-6.80
-24.39	-15.64	-6.81
-24.32	-15.50	-6.65
-24.34	-15.54	-6.69
-24.42	-15.69	-6.88
-24.43	-15.70	-6.89
-24.37	-15.59	-6.76
-24.40	-15.66	-6.84

BASE LOAD = 94.52 MBTU-YR

AREA	MULTIPLIERS
1800	.857
1900	.892
2000	.925
2100	.957
2200	.988
2300	1.020
2400	1.053
2500	1.084
2600	1.115
2700	1.145
2800	1.175
2900	1.206
3000	1.237
3100	1.267
3200	1.296
3300	1.323
3400	1.348
3500	1.373
3600	1.397
3700	1.419
3800	1.441
3900	1.462
4000	1.483

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 K-0
K-11 -49.92	K-11 -53.60	R-5 4FT -6.81	R-11 -0.00	K-11 0.	K-5 4FT 0.
K-19 -55.77	R-19 -66.11	R-5 8FT -10.51	R-19 -0.00	R-19 0.	K-5 8FT 0.
R-30 -59.99	R-27 -72.95	R-10 8FT -15.05	R-30 -0.00	R-27 0.	K-10 8FT 0.
K-38 -61.53		R-19 FLR -17.30	R-38 -0.00		K-19 FLR 0.
R-49 -62.84			R-49 -0.00		
R-60 -63.69			R-60 -0.00		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-21.21
LOW (.4 ACH)	-42.41

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

COOLING (IN MBTU-YR)

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-42.73	-23.89	-5.17	-0.01	-0.00	0.
	WOOD	-46.27	-31.60	-15.45	-0.01	-0.00	0.
	ALUM	-40.95	-20.01	0.	-0.01	-0.00	0.
2 PANE 1/4IN.	ALUM+TB	-44.51	-27.76	-10.34	-0.01	-0.00	0.
	PLAIN	-63.93	-54.60	-46.53	-0.01	-0.01	0.
	WOOD	-64.89	-56.69	-49.32	-0.01	-0.01	0.
	ALUM	-59.17	-44.22	-32.69	-0.01	-0.01	0.
2 PANE 1/2IN.	ALUM+TB	-62.99	-52.55	-43.80	-0.01	-0.01	0.
	PLAIN	-66.90	-61.07	-55.16	-0.01	-0.01	0.
	WOOD	-67.71	-62.84	-57.52	-0.01	-0.01	0.
	ALUM	-62.65	-51.80	-42.81	-0.01	-0.01	0.
3 PANE 1/4IN.	ALUM+TB	-66.09	-59.30	-52.80	-0.01	-0.01	0.
	PLAIN	-71.99	-65.94	-60.96	-0.01	-0.01	-0.00
	WOOD	-72.31	-66.64	-61.89	-0.01	-0.01	-0.00
	ALUM	-66.86	-54.77	-46.07	-0.01	-0.01	-0.00
3 PANE 1/2IN.	ALUM+TB	-68.40	-58.12	-50.53	-0.01	-0.01	-0.00
	PLAIN	-74.61	-71.67	-68.60	-0.01	-0.01	-0.00
	WOOD	-74.87	-72.23	-69.34	-0.01	-0.01	-0.00
	ALUM	-70.53	-62.78	-56.74	-0.01	-0.01	-0.00
	ALUM+TB	-73.33	-68.87	-64.87	-0.01	-0.01	-0.00

BASE LOAD = 323.07 MBTU-YR

BASE LOAD = .01 MBTU-YR

AREA	MULTIPLIERS
1800	.821
1900	.863
2000	.904
2100	.944
2200	.984
2300	1.024
2400	1.064
2500	1.104

AREA	MULTIPLIERS
2600	1.143
2700	1.182
2800	1.221
2900	1.259
3000	1.298
3100	1.336
3200	1.373
3300	1.411

AREA	MULTIPLIERS
1800	.948
1900	.966
2000	.980
2100	.991
2200	.998
2300	1.010
2400	1.026
2500	1.039

AREA	MULTIPLIERS
2600	1.049
2700	1.057
2800	1.066
2900	1.077
3000	1.086
3100	1.093
3200	1.099
3300	1.090

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-26.77	R-11	-27.98	R-5 4FT	-3.34
R-19	-29.84	R-19	-34.26	R-5 8FT	-5.19
R-30	-31.98	R-27	-37.65	R-10 8FT	-7.40
R-38	-32.76			R-19 FLR	-8.44
R-49	-33.42				
R-60	-33.84				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.28	R-11	-4.56	R-5 4FT	-0.59
R-19	-6.94	R-19	-5.70	R-5 8FT	-0.83
R-30	-7.45	R-27	-6.27	R-10 8FT	-1.22
R-38	-7.57			R-19 FLR	-1.03
R-49	-7.72				
R-60	-7.84				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.94
LOW (.4 ACH)	-23.89

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.32
LOW (.4 ACH)	-2.64

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-18.11	-10.42	-2.70
	WOOD	-19.95	-14.44	-8.07
	ALUM	-17.18	-8.39	0.
	ALUM+TB	-19.04	-12.44	-5.40
2 PANE 1/4IN.	PLAIN	-29.64	-26.97	-24.82
	WOOD	-30.13	-28.03	-26.23
	ALUM	-27.25	-21.76	-17.87
	ALUM+TB	-29.17	-25.94	-23.45
2 PANE 1/2IN.	PLAIN	-31.13	-30.22	-29.16
	WOOD	-31.54	-31.11	-30.34
	ALUM	-29.00	-25.57	-22.95
	ALUM+TB	-30.73	-29.34	-27.97
3 PANE 1/4IN.	PLAIN	-33.63	-32.50	-31.80
	WOOD	-33.79	-32.85	-32.27
	ALUM	-31.05	-26.89	-24.32
	ALUM+TB	-31.83	-28.57	-26.56
3 PANE 1/2IN.	PLAIN	-34.94	-35.38	-35.63
	WOOD	-35.07	-35.66	-36.01
	ALUM	-32.90	-30.91	-29.68
	ALUM+TB	-34.30	-33.97	-33.76

10 PCT AREA	15 PCT AREA	20 PCT AREA
-12.27	-6.12	-0.13
-12.39	-6.34	-0.39
-12.21	-6.01	0.
-12.33	-6.23	-0.26
-14.00	-8.70	-3.47
-14.03	-8.76	-3.55
-13.83	-8.38	-3.09
-13.97	-8.63	-3.40
-14.11	-8.89	-3.71
-14.14	-8.94	-3.77
-13.95	-8.61	-3.37
-14.08	-8.84	-3.64
-14.98	-10.11	-5.09
-14.99	-10.13	-5.12
-14.80	-9.77	-4.69
-14.85	-9.87	-4.81
-15.07	-10.28	-5.30
-15.08	-10.30	-5.32
-14.93	-10.01	-4.98
-15.03	-10.20	-5.20

BASE LOAD = 163.00 MBTU-YR

BASE LOAD = 50.77 MBTU-YR

AREA	MULTIPLIERS				
1800	.818	2600	1.146	3400	1.459
1900	.860	2700	1.185	3500	1.497
2000	.901	2800	1.225	3600	1.535
2100	.943	2900	1.265	3700	1.573
2200	.984	3000	1.304	3800	1.611
2300	1.025	3100	1.343	3900	1.648
2400	1.065	3200	1.381	4000	1.685
2500	1.106	3300	1.420		

AREA	MULTIPLIERS				
1800	.874	2600	1.103	3400	1.296
1900	.906	2700	1.129	3500	1.311
2000	.936	2800	1.155	3600	1.325
2100	.964	2900	1.183	3700	1.337
2200	.990	3000	1.209	3800	1.349
2300	1.018	3100	1.235	3900	1.358
2400	1.048	3200	1.259	4000	1.367
2500	1.076	3300	1.280		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.51	R-11	-9.67	R-5 2FT	-2.97
R-19	-10.59	R-19	-11.86	R-5 4FT	-3.40
R-30	-11.32	R-27	-13.00		
R-38	-11.59				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.37	R-11	-7.66	R-5 2FT	-4.09
R-19	-10.29	R-19	-9.24	R-5 4FT	-4.74
R-30	-11.00	R-27	-10.20		
R-38	-11.27				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-4.89
LOW (1.4 ACH)	-9.78

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-3.59
LOW (1.4 ACH)	-7.18

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.82	-2.93	-0.93
	WOOD	-5.46	-4.32	-2.79
	ALUM	-4.50	-2.23	0.
	ALUM+TB	-5.14	-3.63	-1.87
2 PANE 1/4IN.	PLAIN	-8.77	-8.49	-8.30
	WOOD	-8.94	-8.86	-8.79
	ALUM	-7.93	-6.66	-5.85
	ALUM+TB	-8.60	-8.13	-7.82
2 PANE 1/2IN.	PLAIN	-9.29	-9.64	-9.83
	WOOD	-9.43	-9.95	-10.24
	ALUM	-8.54	-8.00	-7.64
	ALUM+TB	-9.15	-9.32	-9.41
3 PANE 1/4IN.	PLAIN	-10.09	-10.27	-10.50
	WOOD	-10.14	-10.39	-10.66
	ALUM	-9.18	-8.30	-7.86
	ALUM+TB	-9.45	-8.89	-8.65
3 PANE 1/2IN.	PLAIN	-10.55	-11.28	-11.84
	WOOD	-10.60	-11.38	-11.98
	ALUM	-9.83	-9.71	-9.75
	ALUM+TB	-10.32	-10.79	-11.19

10 PCT AREA	15 PCT AREA	20 PCT AREA
-20.02	-10.01	-0.04
-20.06	-10.08	-0.13
-20.00	-9.97	0.
-20.04	-10.05	-0.09
-22.54	-13.72	-4.78
-22.55	-13.74	-4.80
-22.48	-13.62	-4.66
-22.52	-13.70	-4.75
-22.57	-13.78	-4.85
-22.58	-13.80	-4.87
-22.52	-13.69	-4.74
-22.56	-13.76	-4.83
-23.40	-15.51	-7.14
-23.91	-15.51	-7.15
-23.85	-15.40	-7.01
-23.87	-15.43	-7.05
-23.93	-15.56	-7.20
-23.94	-15.57	-7.21
-23.89	-15.48	-7.10
-23.92	-15.54	-7.17

BASE LOAD = 53.84 MBTU-YR

BASE LOAD = 94.61 MBTU-YR

AREA	MULTIPLIERS
1800	.802
1900	.847
2000	.892
2100	.937
2200	.982
2300	1.026
2400	1.070
2500	1.114
2600	1.158
2700	1.202
2800	1.246
2900	1.289
3000	1.332
3100	1.375
3200	1.417
3300	1.460
3400	1.502
3500	1.543
3600	1.585
3700	1.627
3800	1.668
3900	1.710
4000	1.751

AREA	MULTIPLIERS
1800	.858
1900	.892
2000	.926
2100	.958
2200	.988
2300	1.020
2400	1.053
2500	1.084
2600	1.115
2700	1.145
2800	1.175
2900	1.206
3000	1.236
3100	1.266
3200	1.295
3300	1.322
3400	1.348
3500	1.372
3600	1.395
3700	1.418
3800	1.440
3900	1.461
4000	1.481

LAS VEGAS, NV TMY TWO-STORY SLAB

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
K-11	-15.42	K-11	-14.97	R-5	2FT -6.43
R-19	-17.22	K-19	-18.46	R-5	4FT -7.38
R-30	-18.51	R-27	-20.35		
K-38	-18.97				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.73
LOW (.4 ACH)	-13.46

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-9.80	-5.63	-1.44
	WOOD	-10.78	-7.79	-4.32
	ALUM	-9.30	-4.55	0.
2 PANE 1/4IN.	ALUM+TB	-10.29	-6.72	-2.89
	PLAIN	-15.83	-14.24	-12.94
	WOOD	-16.09	-14.81	-13.71
	ALUM	-14.53	-11.40	-9.15
2 PANE 1/2IN.	ALUM+TB	-15.57	-13.68	-12.19
	PLAIN	-16.64	-16.01	-15.30
	WOOD	-16.86	-16.49	-15.95
	ALUM	-15.48	-13.47	-11.92
3 PANE 1/4IN.	ALUM+TB	-16.42	-15.53	-14.66
	PLAIN	-18.02	-17.26	-16.74
	WOOD	-18.11	-17.45	-17.00
	ALUM	-16.62	-14.20	-12.66
3 PANE 1/2IN.	ALUM+TB	-17.04	-15.12	-13.89
	PLAIN	-18.74	-18.83	-18.83
	WOOD	-18.81	-18.98	-19.03
	ALUM	-17.62	-16.40	-15.59
	ALUM+TB	-18.39	-18.06	-17.81

BASE LOAD = 89.98 MBTU-YR

AREA MULTIPLIERS

1800	.811	2600	1.151	3400	1.476
1900	.854	2700	1.192	3500	1.516
2000	.898	2800	1.234	3600	1.556
2100	.940	2900	1.274	3700	1.595
2200	.983	3000	1.315	3800	1.634
2300	1.025	3100	1.356	3900	1.673
2400	1.067	3200	1.396	4000	1.712
2500	1.109	3300	1.436		

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
K-11	-10.92	K-11	-10.93	R-5	2FT -3.82
R-19	-12.18	R-19	-13.42	K-5	4FT -4.37
R-30	-13.04	R-27	-14.67		
K-38	-13.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.26
LOW (.4 ACH)	-6.52

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

1 PANE	PLAIN	-16.56	-8.34	-1.14
	WOOD	-16.69	-8.58	-1.43
	ALUM	-16.49	-8.22	0.
2 PANE 1/4IN.	ALUM+TB	-16.62	-8.46	-1.28
	PLAIN	-20.90	-14.69	-8.23
	WOOD	-20.94	-14.75	-8.30
	ALUM	-20.73	-14.38	-7.85
2 PANE 1/2IN.	ALUM+TB	-20.87	-14.63	-8.15
	PLAIN	-21.01	-14.88	-8.46
	WOOD	-21.04	-14.93	-8.52
	ALUM	-20.86	-14.60	-8.13
3 PANE 1/4IN.	ALUM+TB	-20.98	-14.83	-8.40
	PLAIN	-22.64	-17.19	-11.48
	WOOD	-22.65	-17.21	-11.50
	ALUM	-22.46	-16.88	-11.07
3 PANE 1/2IN.	ALUM+TB	-22.51	-16.96	-11.20
	PLAIN	-22.73	-17.36	-11.68
	WOOD	-22.74	-17.38	-11.70
	ALUM	-22.59	-17.10	-11.36
	ALUM+TB	-22.69	-17.28	-11.58

BASE LOAD = 88.13 MBTU-YR

AREA MULTIPLIERS

1800	.860	2600	1.113	3400	1.340
1900	.894	2700	1.142	3500	1.363
2000	.927	2800	1.172	3600	1.385
2100	.958	2900	1.203	3700	1.407
2200	.988	3000	1.233	3800	1.427
2300	1.020	3100	1.262	3900	1.446
2400	1.052	3200	1.290	4000	1.464
2500	1.083	3300	1.316		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.61	R-11	-16.51	R-5 2FT	-2.56
R-19	-9.60	R-19	-18.90	R-5 4FT	-2.89
R-30	-10.18	R-27	-18.90		
R-38	-10.38				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-1.29	R-11	-1.23	R-5 2FT	-0.03
R-19	-1.41	R-19	-1.39	R-5 4FT	0.
R-30	-1.45	R-27	-1.39		
R-38	-1.47				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-3.45
LOW (1.4 ACH)	-6.90

INFILTRATION

HI (1 ACH)	-0.16
MED (1.7 ACH)	-0.08
LOW (1.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.53	-1.34	-0.82
	WOOD	-2.10	-2.57	-2.46
	ALUM	-1.25	-0.73	0.
	ALUM+TB	-1.82	-1.96	-1.65
2 PANE 1/4IN.	PLAIN	-4.91	-5.64	-6.16
	WOOD	-5.06	-5.96	-6.60
	ALUM	-4.17	-4.01	-4.00
	ALUM+TB	-4.77	-5.31	-5.73
2 PANE 1/2IN.	PLAIN	-5.38	-6.65	-7.51
	WOOD	-5.50	-5.92	-7.88
	ALUM	-4.71	-5.20	-5.58
	ALUM+TB	-5.25	-6.37	-7.14
3 PANE 1/4IN.	PLAIN	-5.85	-6.57	-7.05
	WOOD	-5.90	-6.68	-7.20
	ALUM	-5.04	-4.82	-4.73
	ALUM+TB	-5.28	-5.35	-5.42
3 PANE 1/2IN.	PLAIN	-6.26	-7.46	-8.25
	WOOD	-6.30	-7.55	-8.36
	ALUM	-5.62	-6.07	-6.39
	ALUM+TB	-6.06	-7.03	-7.67

10 PCT AREA	15 PCT AREA	20 PCT AREA
-2.65	-1.39	-0.00
-2.66	-1.39	-0.01
-2.65	-1.38	0.
-2.66	-1.39	-0.01
-2.79	-1.67	-0.28
-2.80	-1.68	-0.29
-2.79	-1.67	-0.28
-2.79	-1.67	-0.28
-2.80	-1.68	-0.29
-2.80	-1.68	-0.29
-2.79	-1.67	-0.28
-2.80	-1.68	-0.29
-2.88	-1.84	-0.56
-2.88	-1.84	-0.56
-2.88	-1.83	-0.55
-2.88	-1.83	-0.55
-2.88	-1.84	-0.57
-2.88	-1.84	-0.57
-2.88	-1.83	-0.56
-2.88	-1.84	-0.56

BASE LOAD = 46.33 MBTU-YR

BASE LOAD = 6.93 MBTU-YR

AREA	MULTIPLIERS
1800	.783
1900	.831
2000	.880
2100	.930
2200	.980
2300	1.029
2400	1.077
2500	1.125
2600	1.174
2700	1.223
2800	1.271
2900	1.319
3000	1.366
3100	1.414
3200	1.461
3300	1.508
3400	1.554
3500	1.600
3600	1.647
3700	1.693
3800	1.739
3900	1.785
4000	1.831

AREA	MULTIPLIERS
1800	.948
1900	.966
2000	.980
2100	.991
2200	.998
2300	1.010
2400	1.026
2500	1.039
2600	1.049
2700	1.057
2800	1.066
2900	1.077
3000	1.086
3100	1.093
3200	1.099
3300	1.090
3400	1.066
3500	1.039
3600	1.009
3700	.975
3800	.938
3900	.897
4000	.853

MEDFORD OR TWO-STORY CRAWLY

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	K-0	K-0
R-11	-23.28	R-11	-23.98	R-11 FLR	K-11 FLR
R-19	-26.05	R-19	-29.60	R-19 FLR	K-19 FLR
R-30	-27.96	R-27	-32.53		
R-38	-28.66				
R-49	-29.26				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.30
LOW (.4 ACH)	-0.60

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.98	-8.20	-2.31
	WOOD	-15.56	-11.65	-6.91
	ALUM	-13.18	-6.47	0.
2 PANE 1/4IN.	ALUM+TB	-14.77	-9.94	-4.63
	PLAIN	-22.16	-20.16	-18.53
	WOOD	-22.58	-21.08	-19.76
	ALUM	-20.08	-15.61	-12.46
2 PANE 1/2IN.	ALUM+TB	-21.75	-19.26	-17.34
	PLAIN	-23.46	-23.00	-22.32
	WOOD	-23.82	-23.77	-23.35
	ALUM	-21.60	-18.93	-16.90
3 PANE 1/4IN.	ALUM+TB	-23.11	-22.22	-21.28
	PLAIN	-25.41	-24.78	-24.43
	WOOD	-25.55	-25.09	-24.84
	ALUM	-23.16	-19.88	-17.90
3 PANE 1/2IN.	ALUM+TB	-23.83	-21.35	-19.85
	PLAIN	-26.56	-27.29	-27.77
	WOOD	-26.67	-27.54	-28.10
	ALUM	-24.77	-23.39	-22.58
	ALUM+TB	-26.00	-26.07	-26.14

BASE LOAD = 149.78 MBTU-YR

BASE LOAD = 31.13 MBTU-YR

MULTIPLIERS

AREA	MULTIPLIERS
1800	.817
1900	.859
2000	.901
2100	.942
2200	.984
2300	1.025
2400	1.066
2500	1.106

MULTIPLIERS

AREA	MULTIPLIERS
1800	.914
1900	.938
2000	.960
2100	.978
2200	.994
2300	1.014
2400	1.036
2500	1.056

MULTIPLIERS

AREA	MULTIPLIERS
2600	1.074
2700	1.090
2800	1.108
2900	1.126
3000	1.143
3100	1.159
3200	1.173
3300	1.178

MULTIPLIERS

AREA	MULTIPLIERS
3400	1.173
3500	1.166
3600	1.156
3700	1.143
3800	1.129
3900	1.112
4000	1.092

MEMPHIS TN T40-STORY SLAB

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 R-0	R-0 0.	R-0 0.	R-0 R-0
R-11 -16.59	R-11 -16.90	R-5 2FT -6.44	R-11 -8.27	R-11 -6.12	R-5 2FT -3.37
R-19 -18.50	R-19 -20.77	R-5 4FT -7.36	R-19 -9.20	R-19 -7.40	R-5 4FT -3.84
R-30 -19.84	R-27 -22.82		R-30 -9.86	R-27 -8.22	
R-38 -20.33			R-38 -10.06		

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -8.08
 LOW (.4 ACH) -16.17

INFILTRATION

HI (1 ACH) 0.
 MED (.7 ACH) -2.40
 LOW (.4 ACH) -4.79

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.81	-5.26	-1.63	-15.45	-7.77	-0.06
	WOOD	-9.93	-7.69	-4.87	-15.50	-7.86	-0.17
	ALUM	-8.25	-4.04	0.	-15.42	-7.72	0.
2 PANE 1/4IN.	ALUM+TB	-9.37	-6.49	-3.26	-15.47	-7.81	-0.11
	PLAIN	-15.63	-14.96	-14.51	-17.09	-10.89	-4.05
	WOOD	-15.93	-15.60	-15.38	-17.70	-10.91	-4.08
	ALUM	-14.16	-11.75	-10.24	-17.62	-10.76	-3.90
2 PANE 1/2IN.	ALUM+TB	-15.34	-14.32	-13.67	-17.68	-10.86	-4.02
	PLAIN	-16.55	-16.96	-17.18	-17.73	-10.96	-4.14
	WOOD	-16.80	-17.50	-17.91	-17.74	-10.99	-4.17
3 PANE 1/4IN.	ALUM	-15.23	-14.09	-13.36	-17.67	-10.85	-4.01
	ALUM+TB	-16.30	-16.41	-16.45	-17.72	-10.94	-4.12
	PLAIN	-17.95	-18.19	-18.58	-18.81	-12.58	-6.18
	WOOD	-18.05	-18.40	-18.86	-18.81	-12.59	-6.19
	ALUM	-16.37	-14.73	-13.97	-18.73	-12.45	-6.02
3 PANE 1/2IN.	ALUM+TB	-16.84	-15.77	-15.35	-18.76	-12.49	-6.06
	PLAIN	-18.76	-19.95	-20.93	-18.84	-12.65	-6.26
	WOOD	-18.84	-20.13	-21.17	-18.85	-12.66	-6.27
	ALUM	-17.50	-17.21	-17.27	-18.79	-12.55	-6.13
	ALUM+TB	-18.37	-19.09	-19.78	-18.83	-12.62	-6.22

BASE LOAD = 97.47 MBTU-YR

BASE LOAD = 72.34 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .813	1.150
1900 .856	1.191
2000 .898	1.232
2100 .941	1.273
2200 .983	1.313
2300 1.025	1.353
2400 1.067	1.393
2500 1.109	1.433

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .864	1.110
1900 .897	1.139
2000 .929	1.167
2100 .960	1.197
2200 .989	1.226
2300 1.019	1.254
2400 1.051	1.282
2500 1.081	1.306

MEMPHIS TN TWO-STORY CRAWLY

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
K-0 0.	R-0 0.	R-0 0.	K-0 0.	R-0 0.	R-0 0.
R-11 -16.83	R-11 -17.12	K-11 FLR -12.73	R-11 -8.77	K-11 0.	K-11 FLR -6.71
R-19 -18.78	R-19 -21.03	K-19 FLR -14.55	R-19 -9.81	K-19 -8.24	K-19 FLR -7.61
R-30 -20.14	R-27 -23.09		K-30 -10.54	K-27 -9.11	
R-38 -20.63			R-38 -10.79		
K-49 -21.04			R-49 -11.02		

COOLING (IN MBTU-YR)

INFILTRATION

HI (1 ACH)	MED (.7 ACH)	LOW (.4 ACH)
0.	-8.06	-16.12
0.	-2.61	-5.22

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE			
PLAIN	-8.83	-5.28	-1.65
WOOD	-9.96	-7.75	-4.94
ALUM	-8.26	-4.05	0.
ALUM+TB	-9.40	-6.52	-3.30
2 PANE 1/4IN.			
PLAIN	-15.69	-15.00	-14.55
WOOD	-15.99	-15.66	-15.43
ALUM	-14.20	-11.75	-10.22
ALUM+TB	-15.40	-14.36	-13.70
3 PANE 1/2IN.			
PLAIN	-16.62	-17.03	-17.25
WOOD	-16.87	-17.58	-17.99
ALUM	-15.29	-14.13	-13.38
ALUM+TB	-16.36	-16.47	-16.51
4 PANE 1/4IN.			
PLAIN	-18.05	-18.27	-18.66
WOOD	-18.15	-18.49	-18.95
ALUM	-16.45	-14.77	-13.99
ALUM+TB	-16.93	-15.82	-15.39
5 PANE 1/2IN.			
PLAIN	-18.87	-20.07	-21.05
WOOD	-18.95	-20.24	-21.28
ALUM	-17.60	-17.28	-17.33
ALUM+TB	-18.47	-19.19	-19.88

BASE LOAD = 106.62 MBTU-YR

WINDOW SASH 10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE			
PLAIN	-7.77	-7.77	-8.06
WOOD	-15.45	-15.51	-15.19
ALUM	-15.42	-7.72	0.
ALUM+TB	-15.48	-7.82	-1.12
2 PANE 1/4IN.			
PLAIN	-17.74	-10.93	-4.09
WOOD	-17.75	-10.96	-4.13
ALUM	-17.67	-10.80	-3.93
ALUM+TB	-17.72	-10.91	-4.06
3 PANE 1/2IN.			
PLAIN	-17.79	-11.02	-4.20
WOOD	-17.80	-11.04	-4.22
ALUM	-17.72	-10.90	-4.05
ALUM+TB	-17.77	-10.99	-4.17
4 PANE 1/4IN.			
PLAIN	-18.85	-12.62	-6.22
WOOD	-18.85	-12.63	-6.23
ALUM	-18.77	-12.48	-6.04
ALUM+TB	-18.79	-12.52	-6.09
5 PANE 1/2IN.			
PLAIN	-18.89	-12.70	-6.31
WOOD	-18.89	-12.71	-6.31
ALUM	-18.83	-12.58	-6.17
ALUM+TB	-18.87	-12.66	-6.26

BASE LOAD = 78.16 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.149
1900	1.190
2000	1.231
2100	1.271
2200	1.311
2300	1.351
2400	1.391
2500	1.431

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.111
1900	1.139
2000	1.168
2100	1.198
2200	1.227
2300	1.256
2400	1.283
2500	1.308

MIAMI TWO-STORY SLAB

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR) FOUNDATION

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 R-5 2FT	R-0 0.	R-0 0.	R-0 R-5 2FT
R-11 -.91	R-11 -.82	R-5 4FT	R-11 -12.81	R-11 -10.99	R-5 4FT
R-19 -.99	R-19 -.98		R-19 -14.27	R-19 -13.60	
R-30 -1.04	R-27 -1.05		R-30 -15.34	R-27 -15.11	
R-38 -1.06			R-38 -15.74		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -.37
LOW (.4 ACH) -.73

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -7.55
LOW (.4 ACH) -15.11

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.21	-.08	-.08
	WOOD	-.37	-.24	-.24
	ALUM	-.29	0.	0.
2 PANE 1/4IN.	ALUM+TB	-.34	-.16	-.16
	PLAIN	-.60	-.58	-.58
	WOOD	-.61	-.62	-.62
	ALUM	-.53	-.37	-.37
	ALUM+TB	-.58	-.54	-.54
2 PANE 1/2IN.	PLAIN	-.64	-.71	-.71
	WOOD	-.65	-.75	-.75
	ALUM	-.58	-.53	-.53
	ALUM+TB	-.63	-.68	-.68
3 PANE 1/4IN.	PLAIN	-.69	-.70	-.70
	WOOD	-.71	-.72	-.72
	ALUM	-.61	-.48	-.48
	ALUM+TB	-.63	-.55	-.55
3 PANE 1/2IN.	PLAIN	-.73	-.82	-.82
	WOOD	-.80	-.83	-.83
	ALUM	-.66	-.64	-.64
	ALUM+TB	-.71	-.76	-.76

BASE LOAD = 3.58 MBTU-YR

BASE LOAD = 152.61 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .736	2600 1.212
1900 .793	2700 1.273
2000 .852	2800 1.332
2100 .912	2900 1.390
2200 .975	3000 1.448
2300 1.034	3100 1.507
2400 1.092	3200 1.567
2500 1.151	3300 1.625

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800 .851	2600 1.120
1900 .887	2700 1.151
2000 .921	2800 1.183
2100 .955	2900 1.216
2200 .987	3000 1.248
2300 1.021	3100 1.280
2400 1.055	3200 1.311
2500 1.088	3300 1.340

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
K-0 0.	R-0 0.	K-0 0.	R-0 0.	K-0 0.	K-0 0.
K-11 -18.79	R-11 -19.77	R-11 FLR -14.24	R-11 -7.19	R-11 -4.79	R-11 FLR -5.51
R-19 -20.96	R-19 -24.28	R-19 FLR -16.27	R-19 -8.03	K-19 -5.86	K-19 FLR -6.14
K-30 -22.49	K-27 -26.70		R-30 -8.56	K-27 -6.44	
R-38 -23.03			R-38 -8.73		
R-49 -23.50			R-49 -8.87		

INFILTRATION

HI (1 ACH) 0.
MED (0.7 ACH) -8.89
LOW (0.4 ACH) -17.78

INFILTRATION

HI (1 ACH) 0.
MED (0.7 ACH) -0.80
LOW (0.4 ACH) -1.60

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.84	-6.89	-1.91
	WOOD	-13.14	-9.74	-5.70
	ALUM	-11.18	-5.46	0.
	ALUM+TB	-12.49	-8.32	-3.81
2 PANE 1/4IN.	PLAIN	-19.97	-18.53	-17.45
	WOOD	-20.31	-19.29	-18.46
	ALUM	-18.25	-14.78	-12.45
	ALUM+TB	-19.79	-17.79	-16.46
2 PANE 1/2IN.	PLAIN	-21.04	-20.87	-20.57
	WOOD	-21.33	-21.51	-21.42
	ALUM	-19.50	-17.53	-16.10
	ALUM+TB	-20.75	-20.23	-19.72
3 PANE 1/4IN.	PLAIN	-22.77	-22.45	-22.39
	WOOD	-22.89	-22.70	-22.73
	ALUM	-20.92	-18.41	-17.01
	ALUM+TB	-21.48	-19.62	-18.62
3 PANE 1/2IN.	PLAIN	-23.72	-24.52	-25.15
	WOOD	-23.82	-24.72	-25.42
	ALUM	-22.25	-21.30	-20.87
	ALUM+TB	-23.26	-23.51	-23.81

BASE LOAD = 123.67 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-14.17	-7.20	-0.26
-14.40	-7.63	-0.79
-14.05	-6.98	0.
-14.29	-7.42	-0.53
-15.47	-9.03	-2.54
-15.23	-9.14	-2.68
-15.16	-8.46	-1.85
-15.41	-8.92	-2.41
-15.66	-9.39	-2.97
-15.72	-9.48	-3.09
-15.39	-8.87	-2.36
-15.61	-9.29	-2.86
-16.40	-10.40	-4.20
-16.42	-10.44	-4.24
-16.06	-9.79	-3.47
-16.16	-9.97	-3.68
-16.57	-10.72	-4.58
-16.59	-10.75	-4.61
-16.30	-10.23	-3.99
-16.49	-10.57	-4.39

BASE LOAD = 57.82 MBTU-YR

AREA	MULTIPLIERS
1800 .815	1.148
1900 .857	1.188
2000 .900	1.229
2100 .942	1.269
2200 .983	1.309
2300 1.025	1.348
2400 1.066	1.388
2500 1.107	1.427

AREA	MULTIPLIERS
1800 .874	1.103
1900 .906	1.129
2000 .936	1.155
2100 .964	1.183
2200 .990	1.209
2300 1.018	1.235
2400 1.048	1.259
2500 1.076	1.280

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-22.75	R-11	-23.85	R-5 2FT	-8.78
R-19	-25.33	R-19	-29.25	R-5 4FT	-10.06
R-30	-27.15	R-27	-32.14		
R-38	-27.81				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.61	R-11	-5.08	R-5 2FT	-2.39
R-19	-7.41	R-19	-6.35	R-5 4FT	-2.71
R-30	-7.97	R-27	-7.06		
R-38	-8.13				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-9.89
LOW (.4 ACH)	-19.78

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-1.86
LOW (.4 ACH)	-3.71

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-14.65	-8.53	-2.30
	WOOD	-16.23	-11.96	-6.87
	ALUM	-13.86	-6.80	0.
	ALUM+TB	-15.45	-10.25	-4.60
2 PANE 1/4IN.	PLAIN	-25.24	-23.76	-22.67
	WOOD	-25.66	-24.67	-23.89
	ALUM	-23.17	-19.23	-16.63
	ALUM+TB	-24.83	-22.86	-21.48
2 PANE 1/2IN.	PLAIN	-26.54	-26.58	-26.43
	WOOD	-26.89	-27.35	-27.46
	ALUM	-24.69	-22.54	-21.04
	ALUM+TB	-26.18	-25.81	-25.40
3 PANE 1/4IN.	PLAIN	-28.65	-28.52	-28.66
	WOOD	-28.79	-28.83	-29.07
	ALUM	-26.42	-23.65	-22.17
	ALUM+TB	-27.09	-25.11	-24.12
3 PANE 1/2IN.	PLAIN	-29.79	-31.02	-31.99
	WOOD	-29.91	-31.26	-32.32
	ALUM	-28.02	-27.14	-26.82
	ALUM+TB	-29.24	-29.80	-30.37

10PCT AREA	15 PCT AREA	20 PCT AREA
-14.15	-7.17	-0.02
-14.17	-7.20	-0.06
-14.14	-7.16	0.
-14.16	-7.19	-0.04
-16.34	-10.30	-4.08
-16.35	-10.31	-4.09
-16.32	-10.26	-4.03
-16.34	-10.29	-4.07
-16.36	-10.32	-4.11
-16.36	-10.33	-4.12
-16.34	-10.29	-4.07
-16.35	-10.32	-4.10
-17.51	-11.88	-6.13
-17.51	-11.88	-6.13
-17.49	-11.83	-6.07
-17.49	-11.84	-6.09
-17.52	-11.90	-6.16
-17.53	-11.90	-6.16
-17.50	-11.86	-6.11
-17.52	-11.89	-6.14

BASE LOAD = 136.91 MBTU-YR

BASE LOAD = 61.63 MBTU-YR

AREA	MULTIPLIERS				
1800	.816	2600	1.147	3400	1.464
1900	.858	2700	1.188	3500	1.503
2000	.900	2800	1.228	3600	1.541
2100	.942	2900	1.268	3700	1.580
2200	.983	3000	1.307	3800	1.618
2300	1.025	3100	1.347	3900	1.656
2400	1.066	3200	1.386	4000	1.693
2500	1.107	3300	1.425		

AREA	MULTIPLIERS				
1800	.867	2600	1.108	3400	1.318
1900	.900	2700	1.135	3500	1.337
2000	.931	2800	1.163	3600	1.355
2100	.961	2900	1.192	3700	1.371
2200	.989	3000	1.221	3800	1.387
2300	1.019	3100	1.248	3900	1.401
2400	1.050	3200	1.274	4000	1.415
2500	1.079	3300	1.298		

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR) FOUNDATION

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -32.92	R-11 -34.39	R-5 4FT -4.11	R-11 -5.01	R-11 -3.26	R-5 4FT -3.65
R-19 -36.73	R-19 -42.32	R-5 8FT -6.35	R-19 -5.48	R-19 -3.99	R-5 8FT -3.88
R-30 -39.44	R-27 -46.63	R-10 8FT -9.07	R-30 -5.85	R-27 -4.34	R-10 8FT -1.04
R-38 -40.43	R-19 FLR -10.33		R-38 -6.00		R-19 FLR -3.78
R-49 -41.27			R-49 -6.14		
R-60 -41.81			R-60 -6.23		

INFILTRATION

HI (1 ACH) 0.
MED (1.7 ACH) -14.89
LOW (1.4 ACH) -29.79

INFILTRATION

HI (1 ACH) 0.
MED (1.7 ACH) -0.62
LOW (1.4 ACH) -1.23

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-21.71	-12.49	-3.32
	WOOD	-23.97	-17.44	-9.91
	ALUM	-20.57	-10.01	0.
2 PANE 1/4IN.	ALUM+TB	-22.85	-14.98	-6.64
	PLAIN	-35.77	-32.59	-30.05
	WOOD	-36.38	-33.91	-31.82
	ALUM	-32.75	-26.00	-21.27
2 PANE 1/2IN.	ALUM+TB	-35.17	-31.29	-28.32
	PLAIN	-37.65	-36.69	-35.52
	WOOD	-38.16	-37.81	-37.02
	ALUM	-34.96	-30.81	-27.69
3 PANE 1/4IN.	ALUM+TB	-37.14	-35.57	-34.03
	PLAIN	-40.73	-39.48	-38.74
	WOOD	-40.93	-39.92	-39.33
	ALUM	-37.48	-32.39	-29.29
3 PANE 1/2IN.	ALUM+TB	-38.45	-34.51	-32.12
	PLAIN	-42.39	-43.11	-43.58
	WOOD	-42.56	-43.46	-44.05
	ALUM	-39.81	-37.47	-36.06
	ALUM+TB	-41.58	-41.34	-41.22

BASE LOAD = 200.91 MBTU-YR

BASE LOAD = 37.43 MBTU-YR

AREA	MULTIPLIERS
1800 .819	1.145
1900 .861	1.184
2000 .902	1.223
2100 .943	1.262
2200 .984	1.301
2300 1.024	1.340
2400 1.065	1.378
2500 1.105	1.417

AREA	MULTIPLIERS
1800 .888	1.093
1900 .917	1.115
2000 .944	1.138
2100 .969	1.163
2200 .992	1.186
2300 1.017	1.208
2400 1.044	1.229
2500 1.069	1.244

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-26.02	R-11	-27.51	R-11 FLR	-19.80
R-19	-29.05	R-19	-33.84	R-19 FLR	-22.66
R-30	-31.18	R-27	-37.20		
R-38	-31.94				
R-49	-32.59				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.17	R-11	-1.22	R-11 FLR	-1.64
R-19	-2.43	R-19	-1.49	R-19 FLR	-1.87
R-30	-2.56	R-27	-1.56		
R-38	-2.62				
R-49	-2.67				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-11.50
LOW (1.4 ACH)	-23.01

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-.10
LOW (1.4 ACH)	-.20

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-18.00	-10.39	-2.65
	WOOD	-19.82	-14.35	-7.93
	ALUM	-17.09	-8.40	0.
	ALUM+TB	-18.91	-12.38	-5.31
2 PANE 1/4IN.	PLAIN	-29.10	-26.26	-23.89
	WOOD	-29.58	-27.32	-25.30
	ALUM	-26.70	-21.04	-16.93
	ALUM+TB	-28.62	-25.23	-22.52
2 PANE 1/2IN.	PLAIN	-30.59	-29.52	-28.23
	WOOD	-31.00	-30.41	-29.42
	ALUM	-28.45	-24.86	-22.02
	ALUM+TB	-30.18	-28.63	-27.05
3 PANE 1/4IN.	PLAIN	-33.05	-31.76	-30.84
	WOOD	-33.21	-32.12	-31.30
	ALUM	-30.47	-26.14	-23.34
	ALUM+TB	-31.24	-27.83	-25.59
3 PANE 1/2IN.	PLAIN	-34.37	-34.64	-34.68
	WOOD	-34.50	-34.93	-35.05
	ALUM	-32.32	-30.17	-28.71
	ALUM+TB	-33.72	-33.24	-32.80

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.72	-1.98	-.01
-3.73	-2.00	-.03
-3.71	-1.97	0.
-3.72	-1.99	-.02
-4.15	-2.04	-.84
-4.16	-2.65	-.85
-4.14	-2.62	-.81
-4.15	-2.64	-.83
-4.16	-2.66	-.86
-4.16	-2.66	-.86
-4.15	-2.64	-.83
-4.16	-2.65	-.85
-4.39	-2.98	-1.42
-4.39	-2.98	-1.42
-4.38	-2.95	-1.39
-4.38	-2.96	-1.40
-4.40	-2.99	-1.44
-4.40	-2.99	-1.44
-4.39	-2.97	-1.41
-4.39	-2.99	-1.43

BASE LOAD = 172.14 MBTU-YR

BASE LOAD = 12.86 MBTU-YR

AREA	MULTIPLIERS				
1800	.818	2600	1.146	3400	1.459
1900	.860	2700	1.186	3500	1.497
2000	.901	2800	1.225	3600	1.536
2100	.943	2900	1.265	3700	1.574
2200	.984	3000	1.304	3800	1.611
2300	1.025	3100	1.343	3900	1.649
2400	1.065	3200	1.382	4000	1.686
2500	1.106	3300	1.420		

AREA	MULTIPLIERS				
1800	.948	2600	1.049	3400	1.066
1900	.966	2700	1.057	3500	1.039
2000	.980	2800	1.066	3600	1.009
2100	.991	2900	1.077	3700	.975
2200	.998	3000	1.086	3800	.938
2300	1.010	3100	1.093	3900	.897
2400	1.026	3200	1.099	4000	.853
2500	1.039	3300	1.090		

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -26.51	R-11 -27.33	R-5 4FT -3.08	R-11 -6.73	R-11 -3.28	R-5 4FT -0.25
R-19 -29.55	R-19 -33.65	R-5 8FT -4.76	R-19 -7.49	R-19 -4.02	R-5 8FT -0.38
K-30 -31.69	R-27 -37.01	R-10 8FT -6.83	R-30 -7.91	R-27 -4.19	K-10 8FT -0.51
K-38 -32.47		R-19 FLR -7.77	R-38 -8.09		R-19 FLR -0.16
K-49 -33.14			R-49 -8.27		
R-60 -33.58			R-60 -8.41		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -12.02
LOW (.4 ACH) -24.05

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.65	-7.24	-2.64
	WOOD	-13.45	-11.17	-7.88
	ALUM	-10.75	-5.26	0.
2 PANE 1/4IN.	ALUM+TB	-12.56	-9.21	-5.27
	PLAIN	-21.81	-21.51	-21.55
	WOOD	-22.29	-22.57	-22.96
	ALUM	-19.40	-16.26	-14.55
2 PANE 1/2IN.	ALUM+TB	-21.33	-20.48	-20.17
	PLAIN	-23.31	-24.78	-25.91
	WOOD	-23.72	-25.68	-27.10
	ALUM	-21.16	-19.66	-19.66
3 PANE 1/4IN.	ALUM+TB	-22.90	-23.84	-24.72
	PLAIN	-25.52	-26.60	-27.84
	WOOD	-25.68	-26.95	-28.31
	ALUM	-22.93	-20.95	-20.31
3 PANE 1/2IN.	ALUM+TB	-23.71	-22.65	-22.57
	PLAIN	-26.85	-29.44	-31.70
	WOOD	-26.98	-29.77	-32.07
	ALUM	-24.79	-25.00	-25.70
	ALUM+TB	-26.20	-28.08	-29.81

BASE LOAD = 146.66 MBTU-YR

AREA	MULTIPLIERS
1800	.817
1900	.859
2000	.901
2100	.942
2200	.984
2300	1.025
2400	1.066
2500	1.106
2600	1.147
2700	1.187
2800	1.226
2900	1.266
3000	1.306
3100	1.345
3200	1.384
3300	1.422
3400	1.461
3500	1.500
3600	1.538
3700	1.577
3800	1.614
3900	1.652
4000	1.690

10 PCT AREA	15 PCT AREA	20 PCT AREA
-8.04	-4.22	-0.04
-8.07	-4.29	-0.13
-8.02	-4.18	0.
-8.05	-4.25	-0.08
-9.08	-5.72	-2.04
-9.09	-5.74	-2.07
-9.03	-5.63	-1.93
-9.07	-5.71	-2.02
-9.11	-5.78	-2.11
-9.12	-5.80	-2.13
-9.07	-5.70	-2.01
-9.10	-5.76	-2.04
-9.63	-6.64	-3.28
-9.63	-6.64	-3.29
-9.58	-6.54	-3.16
-9.59	-6.57	-3.19
-9.66	-6.64	-3.34
-9.66	-6.64	-3.34
-9.61	-6.61	-3.24
-9.64	-6.66	-3.31

BASE LOAD = 27.56 MBTU-YR

AREA	MULTIPLIERS
1800	.927
1900	.949
2000	.967
2100	.983
2200	.996
2300	1.013
2400	1.032
2500	1.049
2600	1.065
2700	1.078
2800	1.092
2900	1.108
3000	1.122
3100	1.134
3200	1.145
3300	1.145
3400	1.133
3500	1.118
3600	1.100
3700	1.080
3800	1.057
3900	1.031
4000	1.002

RENO, NV. TMY TWO-STORY SLAB HEATING (IN MBTU-YR) COOLING (IN MBTU-YR) FOUNDATION

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -26.52	K-11 -27.31	R-5 2FT -9.61	R-11 -6.78	R-11 -3.30	K-5 2FT -0.50
R-19 -29.57	R-19 -33.65	R-5 4FT -11.04	R-19 -7.54	R-19 -4.04	K-5 4FT -0.57
R-30 -31.71	K-27 -37.01		R-30 -7.97	K-27 -4.21	
R-38 -32.49			R-38 -8.16		

INFILTRATION

HI (1 ACH) 0.
MED (1.7 ACH) -0.24
LOW (0.4 ACH) -0.48

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.65	-7.23	-2.63	-8.04	-4.22	-0.04
	WOOD	-13.45	-11.16	-7.87	-8.07	-4.29	-0.13
	ALUM	-10.74	-5.26	0.	-8.02	-4.18	0.
2 PANE 1/4IN.	ALUM+TB	-12.56	-9.21	-5.27	-8.05	-4.25	-0.08
	PLAIN	-21.89	-21.62	-21.67	-9.09	-5.73	-2.05
	WOOD	-22.37	-22.66	-23.06	-9.10	-5.75	-2.08
	ALUM	-19.52	-16.43	-14.75	-9.04	-5.64	-1.94
2 PANE 1/2IN.	ALUM+TB	-21.42	-20.59	-20.30	-9.08	-5.72	-2.03
	PLAIN	-23.37	-24.85	-25.97	-9.12	-5.79	-2.12
	WOOD	-23.78	-25.73	-27.15	-9.13	-5.81	-2.14
	ALUM	-21.25	-20.22	-19.81	-9.08	-5.71	-2.02
3 PANE 1/4IN.	ALUM+TB	-22.97	-23.96	-24.80	-9.12	-5.78	-2.11
	PLAIN	-25.62	-26.71	-27.96	-9.64	-6.65	-3.29
	WOOD	-25.78	-27.06	-28.43	-9.64	-6.65	-3.30
	ALUM	-23.06	-21.13	-20.52	-9.59	-6.55	-3.17
3 PANE 1/2IN.	ALUM+TB	-23.83	-22.81	-22.76	-9.60	-6.58	-3.20
	PLAIN	-26.93	-29.57	-31.78	-9.67	-6.70	-3.35
	WOOD	-27.05	-29.85	-32.15	-9.67	-6.70	-3.36
	ALUM	-24.89	-25.13	-25.86	-9.63	-6.62	-3.25
	ALUM+TB	-26.29	-28.18	-29.92	-9.66	-6.67	-3.32

BASE LOAD = 28.07 MBTU-YR

BASE LOAD = 149.77 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800 .817	1.147	2600	1.069
1900 .859	1.187	2700	1.084
2000 .901	1.226	2800	1.099
2100 .942	1.266	2900	1.117
2200 .984	1.306	3000	1.132
2300 1.025	1.345	3100	1.146
2400 1.066	1.384	3200	1.159
2500 1.106	1.422	3300	1.161
		3400	1.152
		3500	1.140
		3600	1.126
		3700	1.110
		3800	1.091
		3900	1.069
		4000	1.045

SALT LAKE CITY TWO-STORY BSMI

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -31.66	R-11 -33.36	R-5 4FT -3.97	R-11 -6.30	R-11 -3.94	K-5 4FT -0.30
R-19 -35.29	R-19 -40.98	R-5 8FT -6.16	R-19 -7.06	K-19 -4.81	K-5 8FT -0.50
R-30 -37.86	R-27 -45.11	R-10 8FT -8.83	R-30 -7.46	K-27 -5.06	K-10 8FT -0.68
R-38 -38.80		R-19 FLR -10.09	R-38 -7.64		R-19 FLR -0.29
R-49 -39.60			R-49 -7.81		
R-60 -40.11			R-60 -7.93		

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-13.13
LOW (.4 ACH)	-26.25

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-0.43
LOW (.4 ACH)	-0.86

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-20.94	-12.13	-3.22
	WOOD	-23.14	-16.93	-9.62
	ALUM	-19.84	-9.72	0.
2 PANE 1/4IN.	ALUM+TB	-22.05	-14.54	-6.44
	PLAIN	-34.47	-31.53	-29.19
	WOOD	-35.05	-32.80	-30.89
	ALUM	-31.57	-25.21	-20.76
2 PANE 1/2IN.	ALUM+TB	-33.90	-30.28	-27.53
	PLAIN	-36.27	-35.47	-34.44
	WOOD	-36.77	-36.55	-35.88
	ALUM	-33.69	-29.83	-26.92
3 PANE 1/4IN.	ALUM+TB	-35.78	-34.39	-33.01
	PLAIN	-39.24	-38.19	-37.64
	WOOD	-39.44	-38.62	-38.21
	ALUM	-36.12	-31.39	-28.57
3 PANE 1/2IN.	ALUM+TB	-37.06	-33.43	-31.29
	PLAIN	-40.84	-41.68	-42.29
	WOOD	-41.00	-42.02	-42.75
	ALUM	-38.36	-36.27	-35.07
	ALUM+TB	-40.06	-39.98	-40.02

BASE LOAD = 189.20 MBTU-YR

10 PCT AREA	15 PCT AREA	20 PCT AREA
-10.75	-5.59	-0.11
-10.86	-5.78	-0.34
-10.70	-5.50	0.
-10.80	-5.69	-0.23
-12.33	-7.90	-3.21
-12.35	-7.95	-3.27
-12.42	-7.67	-2.92
-12.30	-7.85	-3.15
-12.41	-8.05	-3.59
-12.43	-8.09	-3.44
-12.29	-7.84	-3.13
-12.38	-8.01	-3.54
-13.12	-9.15	-4.89
-13.13	-9.17	-4.91
-12.98	-8.89	-4.58
-13.02	-8.97	-4.67
-13.19	-9.28	-5.05
-13.20	-9.29	-5.06
-13.08	-9.08	-4.80
-13.16	-9.22	-4.97

BASE LOAD = 35.03 MBTU-YR

AREA	MULTIPLIERS
1800	0.819
1900	0.860
2000	0.902
2100	0.943
2200	0.984
2300	1.024
2400	1.065
2500	1.105

AREA	MULTIPLIERS
2600	1.145
2700	1.185
2800	1.224
2900	1.263
3000	1.302
3100	1.341
3200	1.379
3300	1.418

AREA	MULTIPLIERS
3400	1.456
3500	1.495
3600	1.533
3700	1.570
3800	1.608
3900	1.645
4000	1.682

AREA	MULTIPLIERS
2600	1.082
2700	1.101
2800	1.120
2900	1.141
3000	1.161
3100	1.179
3200	1.196
3300	1.205

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.23	R-11	-5.90	R-5 2FT	-1.73
R-19	-6.93	R-19	-7.02	R-5 4FT	-1.94
R-30	-7.31	R-27	-7.48		
R-38	-7.45				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.20
LOW (.4 ACH)	-4.40

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.02
R-11	-1.86	R-11	-0.75	R-5 2FT	-0.01
R-19	-2.07	R-19	-0.88	R-5 4FT	0.
R-30	-2.17	R-27	-0.90		
R-38	-2.20				

INFILTRATION

HI (1 ACH)	-0.39
MED (.7 ACH)	-0.19
LOW (.4 ACH)	0.

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-0.78	-0.67	-0.29
	WOOD	-0.98	-1.11	-0.88
	ALUM	-0.68	-0.45	0.
	ALUM+TB	-0.88	-0.89	-0.59
2 PANE 1/4IN.	PLAIN	-3.05	-3.63	-3.95
	WOOD	-3.11	-3.74	-4.10
	ALUM	-2.79	-3.05	-3.17
	ALUM+TB	-3.00	-3.51	-3.79
2 PANE 1/2IN.	PLAIN	-3.22	-3.99	-4.43
	WOOD	-3.26	-4.09	-4.56
	ALUM	-2.98	-3.47	-3.74
	ALUM+TB	-3.17	-3.89	-4.30
3 PANE 1/4IN.	PLAIN	-3.62	-4.17	-4.48
	WOOD	-3.64	-4.21	-4.53
	ALUM	-3.33	-3.54	-3.65
	ALUM+TB	-3.42	-3.73	-3.90
3 PANE 1/2IN.	PLAIN	-3.77	-4.49	-4.91
	WOOD	-3.78	-4.52	-4.95
	ALUM	-3.54	-3.99	-4.25
	ALUM+TB	-3.70	-4.33	-4.70

10 PCT AREA	15 PCT AREA	20 PCT AREA
-3.64	-2.03	-0.00
-3.64	-2.03	-0.00
-3.64	-2.03	0.
-3.64	-2.03	-0.00
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.77	-2.16	-0.27
-3.85	-2.57	-0.85
-3.85	-2.57	-0.85
-3.85	-2.57	-0.85
-3.85	-2.57	-0.85
-3.85	-2.57	-0.86
-3.85	-2.57	-0.86
-3.85	-2.57	-0.85
-3.85	-2.57	-0.85

BASE LOAD = 25.07 MBTU-YR

BASE LOAD = 8.80 MBTU-YR

AREA	MULTIPLIERS				
1800	.752	2600	1.199	3400	1.638
1900	.806	2700	1.256	3500	1.691
2000	.861	2800	1.312	3600	1.744
2100	.918	2900	1.366	3700	1.797
2200	.976	3000	1.421	3800	1.851
2300	1.032	3100	1.476	3900	1.905
2400	1.087	3200	1.531	4000	1.959
2500	1.143	3300	1.586		

AREA	MULTIPLIERS				
1800	.948	2600	1.049	3400	1.066
1900	.966	2700	1.057	3500	1.039
2000	.980	2800	1.066	3600	1.009
2100	.991	2900	1.077	3700	.975
2200	.998	3000	1.086	3800	.938
2300	1.010	3100	1.093	3900	.897
2400	1.020	3200	1.099	4000	.853
2500	1.039	3300	1.090		

SAN FRANCISCO TWO-STORY SLAB

HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
K-0 0.	R-0 0.	R-0 0.	K-0 0.	K-0 0.	R-0 K-0
R-11 -17.22	K-11 -18.70	R-5 2FT -6.32	R-11 -0.53	K-11 -0.24	K-5 2FT -0.03
R-19 -19.27	K-19 -23.04	R-5 4FT -7.23	R-19 -0.58	R-19 -0.26	K-5 4FT 0.
R-30 -20.70	K-27 -25.22		R-30 -0.60	K-27 -0.25	
K-38 -21.21			R-38 -0.61		

INFILTRATION

HI (1 ACH)	MEU (0.7 ACH)	LOW (0.4 ACH)	HI (1 ACH)	MEU (0.7 ACH)	LOW (0.4 ACH)
0.	-8.81	-17.61	-0.11	-0.05	0.

10 PCT AREA 15 PCT AREA 20 PCT AREA

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.64	-3.46	-0.93
	WOOD	-6.28	-4.85	-2.79
	ALUM	-5.32	-2.75	0.
2 PANE 1/4IN.	ALUM+TB	-5.96	-4.16	-1.87
	PLAIN	-14.05	-15.23	-16.11
	WOOD	-14.22	-15.60	-16.60
	ALUM	-13.20	-13.39	-13.66
2 PANE 1/2IN.	ALUM+TB	-13.88	-14.86	-15.62
	PLAIN	-14.57	-16.37	-17.63
	WOOD	-14.72	-16.68	-18.05
	ALUM	-13.82	-14.73	-15.45
3 PANE 1/4IN.	ALUM+TB	-14.43	-16.06	-17.22
	PLAIN	-16.54	-18.28	-19.62
	WOOD	-16.59	-18.41	-19.79
	ALUM	-15.63	-16.31	-16.99
3 PANE 1/2IN.	ALUM+TB	-15.90	-16.90	-17.78
	PLAIN	-17.00	-19.30	-20.98
	WOOD	-17.05	-19.40	-21.11
	ALUM	-16.28	-17.72	-18.88
	ALUM+TB	-16.77	-18.60	-20.32

BASE LOAD = 93.93 MBTU-YR

BASE LOAD = 2.36 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	1.152
1900	1.193
2000	1.235
2100	1.276
2200	1.317
2300	1.357
2400	1.398
2500	1.438

AREA MULTIPLIERS

AREA	MULTIPLIERS
1800	0.948
1900	0.966
2000	0.980
2100	0.991
2200	0.998
2300	1.010
2400	1.026
2500	1.039

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-28.97	R-11	-30.95	R-5 4FT	-3.66
R-19	-32.31	R-19	-38.07	R-5 8FT	-5.67
R-30	-34.69	R-27	-41.89	R-10 8FT	-8.14
R-38	-35.56			R-19 FLR	-9.34
R-49	-36.30				
R-60	-36.78				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.12
R-11	-1.09	R-11	-0.62	R-5 4FT	-0.11
R-19	-1.20	R-19	-0.76	R-5 8FT	-0.10
R-30	-1.27	R-27	-0.79	R-10 8FT	-0.10
R-38	-1.30			R-19 FLR	0.
R-49	-1.33				
R-60	-1.35				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-12.75
LOW (1.4 ACH)	-25.51

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-0.08
LOW (1.4 ACH)	-0.17

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-19.48	-11.33	-2.99
	WOOD	-21.52	-15.78	-8.92
	ALUM	-18.45	-9.09	0.
	ALUM+TB	-20.51	-13.57	-5.97
2 PANE 1/4IN.	PLAIN	-32.37	-29.66	-27.42
	WOOD	-32.91	-30.85	-29.01
	ALUM	-29.66	-23.75	-19.54
	ALUM+TB	-31.83	-28.49	-25.86
2 PANE 1/2IN.	PLAIN	-34.06	-33.35	-32.33
	WOOD	-34.52	-34.35	-33.67
	ALUM	-31.64	-28.07	-25.30
	ALUM+TB	-33.59	-32.34	-30.99
3 PANE 1/4IN.	PLAIN	-36.85	-35.77	-35.04
	WOOD	-37.04	-36.17	-35.57
	ALUM	-33.94	-29.41	-26.56
	ALUM+TB	-34.81	-31.32	-29.10
3 PANE 1/2IN.	PLAIN	-38.35	-39.03	-39.39
	WOOD	-38.49	-39.35	-39.81
	ALUM	-36.03	-33.97	-32.64
	ALUM+TB	-37.62	-37.44	-37.27

10 PCT AREA	15 PCT AREA	20 PCT AREA
-1.82	-0.96	-0.00
-1.82	-0.96	-0.00
-1.82	-0.95	0.
-1.82	-0.96	-0.00
-2.04	-1.31	-0.49
-2.04	-1.32	-0.49
-2.04	-1.31	-0.49
-2.04	-1.32	-0.49
-2.04	-1.32	-0.49
-2.04	-1.31	-0.49
-2.04	-1.32	-0.49
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80
-2.16	-1.54	-0.80

BASE LOAD = 174.04 MBTU-YR

BASE LOAD = 5.41 MBTU-YR

AREA	MULTIPLIERS				
1800	.818	2600	1.146	3400	1.458
1900	.860	2700	1.185	3500	1.497
2000	.902	2800	1.225	3600	1.535
2100	.943	2900	1.264	3700	1.573
2200	.984	3000	1.303	3800	1.610
2300	1.025	3100	1.342	3900	1.648
2400	1.065	3200	1.381	4000	1.685
2500	1.106	3300	1.420		

AREA	MULTIPLIERS				
1800	.948	2600	1.049	3400	1.066
1900	.966	2700	1.057	3500	1.039
2000	.980	2800	1.066	3600	1.009
2100	.991	2900	1.077	3700	.975
2200	.998	3000	1.086	3800	.938
2300	1.010	3100	1.093	3900	.897
2400	1.026	3200	1.099	4000	.853
2500	1.039	3300	1.090		

SEATTLE TWO-STORY CRAWLY HEATING (IN MBTU-YR) COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -28.95	R-11 -30.90	R-11 FLR -22.23	R-11 -1.12	R-11 -0.69	R-11 FLR -0.89
R-19 -32.30	R-19 -38.05	R-19 FLR -25.45	R-19 -1.26	R-19 -0.83	R-19 FLR -1.01
R-30 -34.69	R-27 -41.88		R-30 -1.34	R-27 -0.88	
R-38 -35.55			R-38 -1.37		
R-49 -36.30			R-49 -1.40		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.07
LO4 (.4 ACH)	-0.14

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.82	-0.96	-0.00
	WOOD	-1.82	-0.96	-0.00
	ALUM	-1.82	-0.95	0.
2 PANE 1/4IN.	ALUM+TB	-2.07	-1.34	-0.00
	PLAIN	-2.07	-1.34	-0.51
	WOOD	-2.07	-1.34	-0.51
	ALUM	-2.07	-1.34	-0.51
2 PANE 1/2IN.	ALUM+TB	-2.07	-1.34	-0.51
	PLAIN	-2.07	-1.34	-0.51
	WOOD	-2.07	-1.34	-0.51
	ALUM	-2.07	-1.34	-0.51
3 PANE 1/4IN.	PLAIN	-2.19	-1.57	-0.83
	WOOD	-2.19	-1.57	-0.83
	ALUM	-2.19	-1.57	-0.83
3 PANE 1/2IN.	ALUM+TB	-2.19	-1.57	-0.83
	PLAIN	-2.19	-1.57	-0.83
	WOOD	-2.19	-1.57	-0.83
	ALUM	-2.19	-1.57	-0.83
	ALUM+TB	-2.19	-1.57	-0.83

BASE LOAD = 6.86 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800	.948	2600	1.049
1900	.966	2700	1.057
2000	.980	2800	1.066
2100	.991	2900	1.077
2200	.998	3000	1.086
2300	1.010	3100	1.093
2400	1.026	3200	1.099
2500	1.039	3300	1.099

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.
R-11 -28.95	R-11 -30.90	R-11 FLR -22.23	R-11 -1.12	R-11 -0.69	R-11 FLR -0.89
R-19 -32.30	R-19 -38.05	R-19 FLR -25.45	R-19 -1.26	R-19 -0.83	R-19 FLR -1.01
R-30 -34.69	R-27 -41.88		R-30 -1.34	R-27 -0.88	
R-38 -35.55			R-38 -1.37		
R-49 -36.30			R-49 -1.40		

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-12.91
LO4 (.4 ACH)	-25.82

WINDOW	SASH	10 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-19.47	-11.33	-2.98
	WOOD	-21.51	-15.77	-8.91
	ALUM	-18.45	-9.09	0.
2 PANE 1/4IN.	ALUM+TB	-20.50	-13.56	-5.96
	PLAIN	-32.35	-29.66	-27.42
	WOOD	-32.89	-30.84	-29.00
	ALUM	-29.66	-23.79	-19.60
2 PANE 1/2IN.	ALUM+TB	-31.82	-28.50	-25.88
	PLAIN	-34.02	-33.31	-32.30
	WOOD	-34.48	-34.31	-33.63
	ALUM	-31.62	-28.08	-25.32
3 PANE 1/4IN.	ALUM+TB	-33.56	-32.31	-30.97
	PLAIN	-36.85	-35.78	-35.06
	WOOD	-37.03	-36.17	-35.58
	ALUM	-33.95	-29.47	-26.64
3 PANE 1/2IN.	ALUM+TB	-34.82	-31.36	-29.17
	PLAIN	-38.33	-39.01	-39.37
	WOOD	-38.47	-39.33	-39.79
	ALUM	-36.03	-33.99	-32.67
	ALUM+TB	-37.61	-37.44	-37.27

BASE LOAD = 191.96 MBTU-YR

AREA	MULTIPLIERS	AREA	MULTIPLIERS
1800	.818	3400	1.457
1900	.860	3500	1.495
2000	.902	3600	1.533
2100	.943	3700	1.571
2200	.984	3800	1.609
2300	1.025	3900	1.646
2400	1.065	4000	1.683
2500	1.105	3300	1.419

MIDTOWN

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.68	R-11	-5.21	R-5 2FT	-6.14
R-19	-10.87	R-19	-6.37	R-5 4FT	-7.00
R-30	-11.71	R-27	-6.98		
R-38	-12.01				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.58	R-11	-1.33	R-5 2FT	-1.27
R-19	-5.17	R-19	-1.66	R-5 4FT	-1.44
R-30	-5.53	R-27	-1.78		
R-38	-5.68				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.51
LOW (.4 ACH)	-9.02

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.14
LOW (.4 ACH)	-.28

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.39	-3.11	-.87
	WOOD	-5.79	-4.09	-2.61
	ALUM	-3.69	-2.62	0.
2 PANE 1/4IN.	ALUM+TB	-5.09	-3.60	-1.75
	PLAIN	-9.46	-10.13	-9.94
	WOOD	-9.83	-10.39	-10.40
2 PANE 1/2IN.	ALUM	-7.61	-8.84	-7.64
	ALUM+TB	-9.09	-9.88	-9.48
	PLAIN	-10.60	-10.94	-11.37
3 PANE 1/4IN.	WOOD	-10.92	-11.16	-11.76
	ALUM	-8.96	-9.79	-9.32
	ALUM+TB	-10.29	-10.72	-10.97
3 PANE 1/2IN.	PLAIN	-11.34	-12.30	-12.68
	WOOD	-11.47	-12.39	-12.84
	ALUM	-9.36	-10.91	-10.21
3 PANE 1/2IN.	ALUM+TB	-9.96	-11.33	-10.95
	PLAIN	-12.36	-13.01	-13.95
	WOOD	-12.46	-13.08	-14.07
	ALUM	-10.78	-11.91	-11.98
	ALUM+TB	-11.86	-12.67	-13.33

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.75	-3.68	-.03
-5.81	-3.71	-.09
-5.71	-3.66	0.
-5.78	-3.70	-.06
-6.77	-5.02	-1.80
-6.79	-5.03	-1.82
-6.69	-4.97	-1.73
-6.75	-5.01	-1.79
-6.82	-5.05	-1.85
-6.83	-5.06	-1.87
-6.75	-5.01	-1.78
-6.81	-5.04	-1.84
-7.36	-5.75	-2.85
-7.37	-5.76	-2.85
-7.27	-5.70	-2.76
-7.30	-5.72	-2.79
-7.41	-5.78	-2.89
-7.41	-5.78	-2.89
-7.34	-5.74	-2.82
-7.38	-5.77	-2.87

BASE LOAD = 51.10 MBTU-YR

BASE LOAD = 25.10 MBTU-YR

AREA	MULTIPLIERS
900	.725
1000	.715
1100	.907
1200	1.000
1300	1.089
1400	1.178
1500	1.269
1600	1.360
1700	1.448
1800	1.536
1900	1.625
2000	1.713
2100	1.800
2200	1.887
2300	1.973
2400	2.060
2500	2.147

AREA	MULTIPLIERS
900	.905
1000	.948
1100	.980
1200	1.000
1300	1.042
1400	1.077
1500	1.106
1600	1.129
1700	1.161
1800	1.189
1900	1.212
2000	1.230
2100	1.257
2200	1.281
2300	1.302
2400	1.319
2500	1.333

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.24	R-11	-3.94	R-5 4FT	-.96
R-19	-8.14	R-19	-4.82	R-5 8FT	-1.49
R-30	-8.76	R-27	-5.27	R-10 8FT	-2.17
R-38	-8.99			R-19 FLR	-2.70
R-49	-9.18				
R-60	-9.30				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.39	R-11	-.73	R-5 4FT	-.44
R-19	-2.70	R-19	-.75	R-5 8FT	-.73
R-30	-2.93	R-27	-.80	R-10 8FT	-1.07
R-38	-3.02			R-19 FLR	-1.11
R-49	-3.09				
R-60	-3.16				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.74
LOW (.4 ACH)	-7.47

INFILTRATION

HI (1 ACH)	-.49
MED (.7 ACH)	-.24
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.69	-2.58	-.66
	WOOD	-4.75	-3.32	-1.98
	ALUM	-3.16	-2.21	0.
	ALUM+TB	-4.22	-2.95	-1.32
2 PANE 1/4IN.	PLAIN	-7.68	-8.07	-7.75
	WOOD	-7.95	-8.26	-8.09
	ALUM	-6.34	-7.13	-6.08
	ALUM+TB	-7.42	-7.89	-7.42
2 PANE 1/2IN.	PLAIN	-8.52	-8.66	-8.80
	WOOD	-8.75	-8.82	-9.08
	ALUM	-7.32	-7.82	-7.30
	ALUM+TB	-8.29	-8.50	-8.51
3 PANE 1/4IN.	PLAIN	-9.12	-9.71	-9.83
	WOOD	-9.21	-9.78	-9.94
	ALUM	-7.67	-8.70	-8.02
	ALUM+TB	-8.10	-9.00	-8.56
3 PANE 1/2IN.	PLAIN	-9.86	-10.23	-10.75
	WOOD	-9.93	-10.28	-10.84
	ALUM	-8.71	-9.43	-9.32
	ALUM+TB	-9.50	-9.98	-10.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.04	-3.79	-.01
-6.07	-3.81	-.04
-6.03	-3.79	0.
-6.06	-3.80	-.03
-5.84	-3.69	-.14
-5.84	-3.69	-.14
-5.83	-3.69	-.14
-5.84	-3.69	-.14
-5.84	-3.70	-.15
-5.84	-3.70	-.15
-5.84	-3.69	-.14
-5.84	-3.70	-.15
-5.84	-3.70	-.15
-6.22	-4.14	-.74
-6.22	-4.14	-.74
-6.21	-4.13	-.73
-6.22	-4.14	-.74
-6.22	-4.14	-.74
-6.22	-4.14	-.74
-6.22	-4.14	-.74

BASE LOAD = 37.45 MBTU-YR

BASE LOAD = 27.01 MBTU-YR

AREA MULTIPLIERS

900	.718	1500	1.277	2100	1.826
1000	.809	1600	1.372	2200	1.916
1100	.903	1700	1.462	2300	2.006
1200	1.000	1800	1.553	2400	2.096
1300	1.091	1900	1.645	2500	2.186
1400	1.183	2000	1.737		

AREA MULTIPLIERS

900	.881	1500	1.126	2100	1.325
1000	.930	1600	1.157	2200	1.356
1100	.970	1700	1.197	2300	1.385
1200	1.000	1800	1.232	2400	1.410
1300	1.048	1900	1.263	2500	1.433
1400	1.090	2000	1.290		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.22	R-11	-3.95	R-5 2FT	-4.06
R-19	-8.12	R-19	-4.82	R-5 4FT	-4.61
R-30	-8.74	R-27	-5.27		
R-38	-8.96				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.35	R-11	-.52	R-5 2FT	-2.00
R-19	-2.49	R-19	-.56	R-5 4FT	-2.20
R-30	-2.56	R-27	-.63		
R-38	-2.63				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.94
LCW (.4 ACH)	-7.89

INFILTRATION

HI (1 ACH)	-.28
MED (.7 ACH)	-.14
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.69	-2.58	-.66
	WOOD	-4.75	-3.32	-1.98
	ALUM	-3.16	-2.21	0.
	ALUM+TB	-4.22	-2.95	-1.33
2 PANE 1/4IN.	PLAIN	-7.60	-8.00	-7.67
	WOOD	-7.88	-8.20	-8.02
	ALUM	-6.21	-7.02	-5.93
	ALUM+TB	-7.33	-7.81	-7.32
2 PANE 1/2IN.	PLAIN	-8.47	-8.61	-8.75
	WOOD	-8.71	-8.78	-9.05
	ALUM	-7.23	-7.74	-7.20
	ALUM+TB	-8.23	-8.44	-8.45
3 PANE 1/4IN.	PLAIN	-9.04	-9.64	-9.74
	WOOD	-9.13	-9.71	-9.86
	ALUM	-7.54	-8.59	-7.87
	ALUM+TB	-7.99	-8.90	-8.43
3 PANE 1/2IN.	PLAIN	-9.81	-10.18	-10.70
	WOOD	-9.88	-10.23	-10.79
	ALUM	-8.61	-9.34	-9.21
	ALUM+TB	-9.43	-9.92	-10.23

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.04	-3.79	-.01
-6.06	-3.80	-.03
-6.03	-3.78	0.
-6.05	-3.80	-.02
-6.00	-3.86	-.30
-6.00	-3.86	-.31
-5.97	-3.84	-.28
-5.99	-3.85	-.30
-6.01	-3.87	-.32
-6.02	-3.87	-.32
-5.99	-3.85	-.29
-6.01	-3.86	-.31
-6.44	-4.36	-.96
-6.44	-4.36	-.96
-6.41	-4.34	-.93
-6.42	-4.35	-.94
-6.45	-4.37	-.97
-6.45	-4.37	-.97
-6.43	-4.36	-.95
-6.45	-4.37	-.97

BASE LOAD = 39.67 MBTU-YR

BASE LOAD = 27.77 MBTU-YR

AREA	MULTIPLIERS
900 .718	1500 1.276
1000 .810	2100 1.825
1100 .904	1600 1.371
1200 1.000	2200 1.914
1300 1.091	1700 1.461
1400 1.183	2300 2.004
	1800 1.552
	2400 2.094
	1900 1.644
	2500 2.184
	2000 1.736

AREA	MULTIPLIERS
900 .881	1500 1.127
1000 .930	2100 1.325
1100 .970	1600 1.158
1200 1.000	2200 1.357
1300 1.048	1700 1.197
1400 1.090	2300 1.385
	1800 1.232
	2400 1.411
	1900 1.263
	2500 1.434
	2000 1.291

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.36	R-11	-4.01	R-11 FLR	-6.31
R-19	-8.29	R-19	-4.89	R-19 FLR	-7.16
R-30	-8.92	R-27	-5.34		
R-3E	-9.14				
R-49	-9.33				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.26	R-11	-1.13	R-11 FLR	-2.54
R-19	-3.65	R-19	-1.26	R-19 FLR	-2.67
R-30	-3.89	R-27	-1.40		
R-38	-3.98				
R-49	-3.91				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.78
LCW (.4 ACH)	-7.56

INFILTRATION

HI (1 ACH)	-.90
MED (.7 ACH)	-.45
LOW (.4 ACH)	0.

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.70	-2.59	-.67
	WOOD	-4.77	-3.34	-2.01
	ALUM	-3.16	-2.21	0.
	ALUM+TB	-4.24	-2.97	-1.34
2 PANE 1/4IN.	PLAIN	-7.61	-8.02	-7.67
	WOOD	-7.90	-8.22	-8.03
	ALUM	-6.20	-7.02	-5.91
	ALUM+TB	-7.33	-7.82	-7.32
2 PANE 1/2IN.	PLAIN	-8.49	-8.63	-8.77
	WOOD	-8.74	-8.80	-9.07
	ALUM	-7.23	-7.75	-7.20
	ALUM+TB	-8.25	-8.46	-8.47
3 PANE 1/4IN.	PLAIN	-9.06	-9.67	-9.76
	WOOD	-9.15	-9.73	-9.88
	ALUM	-7.54	-8.60	-7.86
	ALUM+TB	-7.99	-8.92	-8.43
3 PANE 1/2IN.	PLAIN	-9.84	-10.21	-10.73
	WOOD	-9.91	-10.27	-10.83
	ALUM	-8.63	-9.36	-9.22
	ALUM+TB	-9.46	-9.95	-10.26

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.05	-3.80	-.02
-6.09	-3.83	-.06
-6.03	-3.79	0.
-6.07	-3.81	-.04
-6.47	-4.34	-.77
-6.48	-4.34	-.78
-6.41	-4.30	-.72
-6.46	-4.33	-.76
-6.50	-4.36	-.81
-6.51	-4.36	-.82
-6.45	-4.33	-.76
-6.49	-4.35	-.80
-6.88	-4.81	-1.40
-6.89	-4.81	-1.41
-6.82	-4.77	-1.34
-6.84	-4.79	-1.36
-6.91	-4.83	-1.43
-6.92	-4.83	-1.43
-6.86	-4.80	-1.39
-6.90	-4.82	-1.42

BASE LOAD = 42.71 MBTU-YR

BASE LOAD = 30.30 MBTU-YR

AREA		MULTIPLIERS	
900	.720	1500	1.274
1000	.811	1600	1.368
1100	.905	1700	1.457
1200	1.000	1800	1.547
1300	1.090	1900	1.638
1400	1.182	2000	1.729
		2100	1.817
		2200	1.906
		2300	1.994
		2400	2.083
		2500	2.172

AREA		MULTIPLIERS	
900	.883	1500	1.125
1000	.932	1600	1.155
1100	.971	1700	1.194
1200	1.000	1800	1.228
1300	1.047	1900	1.259
1400	1.089	2000	1.285
		2100	1.319
		2200	1.350
		2300	1.378
		2400	1.403
		2500	1.425

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.67	R-11	-3.47	R-5 2FT	-3.76
R-19	-7.51	R-19	-4.25	R-5 4FT	-4.24
R-30	-8.08	R-27	-4.64		
R-38	-8.28				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.69
LCW (.4 ACH)	-7.38

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.97	R-11	-.82	R-5 2FT	-2.32
R-19	-3.35	R-19	-.97	R-5 4FT	-2.67
R-30	-3.66	R-27	-1.12		
R-38	-3.77				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.45
LOW (.4 ACH)	-.91

WINDGW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.79	-1.99	-.58
	WOOD	-3.72	-2.64	-1.74
	ALUM	-2.33	-1.66	0.
2 PANE 1/4 IN.	ALUM+TB	-3.26	-2.32	-1.17
	PLAIN	-5.84	-6.26	-6.10
	WOOD	-6.08	-6.44	-6.41
2 PANE 1/2 IN.	ALUM	-4.61	-5.40	-4.57
	ALUM+TB	-5.59	-6.09	-5.80
	PLAIN	-6.60	-6.90	-7.05
3 PANE 1/4 IN.	WOOD	-6.81	-6.95	-7.31
	ALUM	-5.51	-6.03	-5.69
	ALUM+TB	-6.39	-6.65	-6.79
3 PANE 1/2 IN.	PLAIN	-7.03	-7.63	-7.83
	WOOD	-7.11	-7.68	-7.93
	ALUM	-5.71	-6.70	-6.18
	ALUM+TB	-6.10	-6.98	-6.68
	PLAIN	-7.70	-8.10	-8.67
	WOOD	-7.77	-8.15	-8.76
	ALUM	-6.65	-7.36	-7.36
	ALUM+TB	-7.37	-7.87	-8.26

BASE LOAD = 35.02 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.03	-4.38	-.02
-7.08	-4.41	-.06
-7.01	-4.37	0.
-7.06	-4.39	-.04
-7.41	-5.00	-.87
-7.42	-5.01	-.88
-7.35	-4.97	-.82
-7.40	-4.99	-.86
-7.44	-5.02	-.90
-7.45	-5.03	-.91
-7.39	-4.99	-.86
-7.43	-5.02	-.90
-7.93	-5.67	-1.73
-7.93	-5.68	-1.73
-7.86	-5.64	-1.67
-7.88	-5.65	-1.69
-7.96	-5.69	-1.76
-7.96	-5.69	-1.76
-7.91	-5.66	-1.71
-7.94	-5.68	-1.74

BASE LOAD = 35.02 MBTU-YR

AREA	MULTIPLIERS
900 .714	1500 1.281
1000 .806	2100 1.840
1100 .902	1600 1.377
1200 1.000	2200 1.931
1300 1.092	1700 1.469
1400 1.186	2300 2.022
	1800 1.562
	2400 2.114
	1900 1.655
	2500 2.206
	2000 1.749

AREA	MULTIPLIERS
900 .869	1500 1.136
1000 .922	2100 1.356
1100 .965	1600 1.171
1200 1.000	2200 1.392
1300 1.050	1700 1.213
1400 1.096	2300 1.424
	1800 1.252
	2400 1.454
	1900 1.287
	2500 1.481
	2000 1.319

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.69	R-11	-3.48	R-5 4FT	-.90
R-19	-7.52	R-19	-4.25	R-5 8FT	-1.40
R-30	-8.09	R-27	-4.65	R-10 8FT	-2.00
R-38	-8.29			R-19 FLR	-2.48
R-49	-8.46				
R-60	-8.58				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.06	R-11	-.89	R-5 4FT	-.59
R-19	-3.35	R-19	-1.15	R-5 8FT	-.85
R-30	-3.66	R-27	-1.26	R-10 8FT	-1.26
P-38	-3.78			R-19 FLR	-1.35
R-49	-3.88				
R-60	-3.92				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.54
LOW (.4 ACH)	-7.08

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.36
LOW (.4 ACH)	-.72

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.79	-1.99	-.58
	WCCD	-3.73	-2.64	-1.75
	ALUM	-2.33	-1.66	0.
	ALUM+TB	-3.26	-2.32	-1.17
2 PANE 1/4IN.	PLAIN	-5.90	-6.32	-6.17
	WOOD	-6.14	-6.49	-6.47
	ALUM	-4.72	-5.49	-4.70
	ALUM+TB	-5.67	-6.16	-5.88
2 PANE 1/2IN.	PLAIN	-6.64	-6.84	-7.09
	WOOD	-6.84	-6.99	-7.34
	ALUM	-5.58	-6.10	-5.77
	ALUM+TB	-6.44	-6.70	-6.84
3 PANE 1/4IN.	PLAIN	-7.10	-7.69	-7.91
	WCCD	-7.18	-7.75	-8.01
	ALUM	-5.83	-6.80	-6.32
	ALUM+TB	-6.21	-7.07	-6.80
3 PANE 1/2IN.	PLAIN	-7.75	-8.15	-8.72
	WOOD	-7.82	-8.20	-8.80
	ALUM	-6.74	-7.44	-7.46
	ALUM+TB	-7.44	-7.93	-8.33

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.04	-4.38	-.02
-7.08	-4.41	-.07
-7.01	-4.37	0.
-7.06	-4.40	-.05
-7.44	-5.04	-.90
-7.45	-5.05	-.92
-7.36	-4.99	-.82
-7.42	-5.03	-.89
-7.49	-5.07	-.95
-7.50	-5.07	-.96
-7.42	-5.02	-.88
-7.47	-5.06	-.94
-7.96	-5.71	-1.76
-7.97	-5.72	-1.77
-7.87	-5.66	-1.68
-7.90	-5.68	-1.70
-8.01	-5.74	-1.80
-8.01	-5.74	-1.81
-7.94	-5.70	-1.74
-7.98	-5.73	-1.78

BASE LOAD = 33.01 MBTU-YR

BASE LOAD = 33.78 MBTU-YR

AREA	MULTIPLIERS
900 .713	1500 1.282
1000 .806	1600 1.378
1100 .902	1700 1.470
1200 1.000	1800 1.563
1300 1.092	1900 1.656
1400 1.186	2000 1.751
	2100 1.841
	2200 1.933
	2300 2.024
	2400 2.116
	2500 2.208

AREA	MULTIPLIERS
900 .870	1500 1.136
1000 .922	1600 1.171
1100 .965	1700 1.213
1200 1.000	1800 1.252
1300 1.050	1900 1.287
1400 1.096	2000 1.318
	2100 1.356
	2200 1.391
	2300 1.423
	2400 1.453
	2500 1.480

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-23.21	R-11	-12.92	R-5 4FT	-3.61
R-19	-26.17	R-19	-15.88	R-5 8FT	-5.68
R-30	-28.29	R-27	-17.47	R-10 8FT	-8.33
R-38	-29.07			R-19 FLR	-10.70
R-45	-29.73				
R-6C	-30.16				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-1.81	R-11	-0.67	R-5 4FT	-0.19
R-19	-2.04	R-19	-0.83	R-5 8FT	-0.22
R-30	-2.17	R-27	-0.87	R-10 8FT	-0.22
R-38	-2.23			R-19 FLR	0.
R-49	-2.29				
R-60	-2.33				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.21
LOW (.4 ACH)	-22.42

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.13
LOW (.4 ACH)	-0.26

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-15.36	-10.33	-2.17
	WOOD	-18.82	-12.75	-6.48
	ALUM	-13.62	-9.11	0.
	ALUM+TB	-17.10	-11.55	-4.34
2 PANE 1/4IN.	PLAIN	-27.94	-27.57	-23.94
	WOOD	-28.86	-28.22	-25.09
	ALUM	-23.36	-24.37	-18.24
	ALUM+TB	-27.05	-26.94	-22.81
2 PANE 1/2IN.	PLAIN	-30.79	-29.57	-27.50
	WOOD	-31.57	-30.12	-28.47
	ALUM	-26.71	-26.71	-22.41
	ALUM+TB	-30.01	-29.03	-26.52
3 PANE 1/4IN.	PLAIN	-32.96	-33.38	-31.37
	WOOD	-33.26	-33.60	-31.76
	ALUM	-28.03	-29.93	-25.23
	ALUM+TB	-29.51	-30.96	-27.08
3 PANE 1/2IN.	PLAIN	-35.48	-35.15	-34.52
	WOOD	-35.73	-35.32	-34.83
	ALUM	-31.56	-32.40	-29.63
	ALUM+TB	-34.25	-34.29	-32.98

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.41	-2.17	-0.01
-3.42	-2.18	-0.02
-3.40	-2.17	0.
-3.41	-2.17	-0.01
-4.02	-2.96	-1.07
-4.02	-2.97	-1.07
-4.00	-2.95	-1.06
-4.02	-2.96	-1.07
-4.03	-2.97	-1.08
-4.03	-2.97	-1.08
-4.01	-2.96	-1.07
-4.03	-2.97	-1.08
-4.37	-3.40	-1.66
-4.37	-3.40	-1.66
-4.36	-3.39	-1.65
-4.36	-3.39	-1.65
-4.38	-3.41	-1.67
-4.38	-3.41	-1.67
-4.37	-3.40	-1.66
-4.38	-3.40	-1.67

BASE LOAD = 137.80 MBTU-YR

BASE LOAD = 12.67 MBTU-YR

AREA	MULTIPLIERS
900	.748
1000	.832
1100	.916
1200	1.000
1300	1.082
1400	1.164

AREA	MULTIPLIERS
900	.954
1000	.984
1100	1.000
1200	1.000
1300	1.030
1400	1.052

1500	1.246	2100	1.725
1600	1.327	2200	1.803
1700	1.408	2300	1.881
1800	1.488	2400	1.958
1900	1.567	2500	2.035
2000	1.646		

1500	1.066	2100	1.122
1600	1.072	2200	1.130
1700	1.090	2300	1.135
1800	1.102	2400	1.135
1900	1.109	2500	1.130
2000	1.110		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.41	R-11	-7.36	R-5 4FT	-1.96
R-19	-15.11	R-19	-9.00	R-5 8FT	-3.10
R-30	-16.29	R-27	-9.88	R-10 8FT	-4.53
R-38	-16.71			R-19 FLR	-5.80
R-49	-17.08				
R-60	-17.32				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.70	R-11	-.95	R-5 4FT	-.07
R-19	-3.08	R-19	-1.16	R-5 8FT	-.12
R-30	-3.28	R-27	-1.24	R-10 8FT	-.18
R-38	-3.37			R-19 FLR	0.
R-49	-3.47				
R-60	-3.53				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.16
LOW (.4 ACH)	-12.32

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.13
LOW (.4 ACH)	-.26

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.42	-5.74	-1.23
	WOOD	-10.39	-7.12	-3.69
	ALUM	-7.43	-5.05	0.
	ALUM+TB	-9.41	-6.44	-2.47
2 PANE 1/4IN.	PLAIN	-15.42	-15.49	-13.86
	WOOD	-15.93	-15.85	-14.50
	ALUM	-12.88	-13.71	-10.69
	ALUM+TB	-14.92	-15.14	-13.23
2 PANE 1/2IN.	PLAIN	-17.00	-16.60	-15.83
	WOOD	-17.44	-16.90	-16.37
	ALUM	-14.74	-15.01	-13.01
	ALUM+TB	-16.57	-16.29	-15.29
3 PANE 1/4IN.	PLAIN	-18.18	-18.69	-17.99
	WOOD	-18.35	-18.81	-18.20
	ALUM	-15.44	-16.77	-14.58
	ALUM+TB	-16.26	-17.35	-15.61
3 PANE 1/2IN.	PLAIN	-19.58	-19.67	-19.74
	WOOD	-19.71	-19.77	-19.91
	ALUM	-17.40	-18.15	-17.03
	ALUM+TB	-18.89	-19.19	-18.89

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.22	-2.69	-.02
-4.29	-2.71	-.05
-4.20	-2.68	0.
-4.23	-2.70	-.03
-5.04	-3.74	-1.42
-5.05	-3.74	-1.43
-5.00	-3.71	-1.38
-5.03	-3.73	-1.41
-5.07	-3.76	-1.45
-5.07	-3.76	-1.45
-5.03	-3.73	-1.41
-5.06	-3.75	-1.44
-5.48	-4.28	-2.17
-5.48	-4.28	-2.17
-5.44	-4.25	-2.12
-5.45	-4.26	-2.14
-5.51	-4.29	-2.19
-5.51	-4.30	-2.19
-5.47	-4.27	-2.15
-5.49	-4.29	-2.18

BASE LOAD = 73.29 MBTU-YR

BASE LOAD = 15.90 MBTU-YR

AREA	MULTIPLIERS				
900	.738	1500	1.256	2100	1.757
1000	.825	1600	1.341	2200	1.839
1100	.912	1700	1.425	2300	1.920
1200	1.000	1800	1.508	2400	2.002
1300	1.085	1900	1.592	2500	2.083
1400	1.170	2000	1.675		

AREA	MULTIPLIERS				
900	.940	1500	1.077	2100	1.160
1000	.974	1600	1.088	2200	1.173
1100	.994	1700	1.110	2300	1.181
1200	1.000	1800	1.126	2400	1.186
1300	1.033	1900	1.138	2500	1.187
1400	1.059	2000	1.144		

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.70	R-11	-7.46	R-11 FLR	-11.84
R-19	-15.44	R-19	-9.13	R-19 FLR	-13.50
R-30	-16.64	R-27	-10.01		
R-38	-17.08				
R-49	-17.45				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.30
LOW (.4 ACH)	-12.59

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.80	R-11	-.95	R-11 FLR	-2.49
R-19	-3.18	R-19	-1.17	R-19 FLR	-2.85
R-30	-3.39	R-27	-1.23		
R-38	-3.48				
R-49	-3.57				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.11
LOW (.4 ACH)	-.23

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.44	-5.76	-1.25
	WCCD	-10.44	-7.16	-3.74
	ALUM	-7.44	-5.05	0.
	ALUM+TB	-9.45	-6.46	-2.50
2 PANE 1/4IN.	PLAIN	-15.46	-15.54	-13.98
	WOOD	-15.99	-15.92	-14.55
	ALUM	-12.82	-13.70	-10.60
	ALUM+TB	-14.94	-15.18	-13.23
2 PANE 1/2IN.	PLAIN	-17.10	-16.70	-15.93
	WOOD	-17.55	-17.01	-16.49
	ALUM	-14.75	-15.05	-13.00
	ALUM+TB	-16.65	-16.38	-15.37
3 PANE 1/4IN.	PLAIN	-18.25	-18.78	-18.05
	WOOD	-18.43	-18.91	-18.27
	ALUM	-15.42	-16.79	-14.52
	ALUM+TB	-16.27	-17.39	-15.58
3 PANE 1/2IN.	PLAIN	-19.71	-19.80	-19.87
	WCCD	-19.85	-19.90	-20.04
	ALUM	-17.45	-18.22	-17.05
	ALUM+TB	-19.00	-19.30	-18.98

BASE LOAD = 82.52 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.22	-2.69	-.02
-4.25	-2.71	-.05
-4.20	-2.68	0.
-4.23	-2.70	-.03
-5.04	-3.74	-1.42
-5.05	-3.75	-1.43
-5.00	-3.72	-1.38
-5.03	-3.74	-1.42
-5.07	-3.76	-1.45
-5.08	-3.76	-1.46
-5.03	-3.74	-1.41
-5.06	-3.75	-1.44
-5.48	-4.28	-2.17
-5.49	-4.28	-2.17
-5.43	-4.25	-2.12
-5.45	-4.26	-2.14
-5.51	-4.30	-2.19
-5.51	-4.30	-2.19
-5.47	-4.27	-2.15
-5.50	-4.29	-2.18

BASE LOAD = 19.55 MBTU-YR

AREA	MULTIPLIERS				
900	.739	1500	1.255	2100	1.754
1000	.825	1600	1.340	2200	1.836
1100	.912	1700	1.424	2300	1.917
1200	1.000	1800	1.507	2400	1.998
1300	1.085	1900	1.590	2500	2.079
1400	1.170	2000	1.673		

AREA	MULTIPLIERS				
900	.924	1500	1.091	2100	1.205
1000	.962	1600	1.107	2200	1.222
1100	.988	1700	1.133	2300	1.236
1200	1.000	1800	1.155	2400	1.247
1300	1.037	1900	1.172	2500	1.254
1400	1.067	2000	1.183		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.51	R-11	-8.07	R-5 4FT	-2.19
R-19	-16.30	R-19	-9.83	R-5 8FT	-3.44
R-30	-17.54	R-27	-10.77	R-10 8FT	-5.01
R-38	-18.00			R-19 FLR	-6.47
R-49	-18.38				
R-60	-18.63				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.23
R-11	-1.04	R-11	-0.40	R-5 4FT	-0.24
R-19	-1.18	R-19	-0.40	R-5 8FT	-0.28
R-30	-1.24	R-27	-0.42	R-10 8FT	-0.27
R-38	-1.27			R-19 FLR	0.
R-49	-1.30				
R-60	-1.28				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.13
LOW (.4 ACH)	-14.27

INFILTRATION

HI (1 ACH)	-0.24
MED (.7 ACH)	-0.12
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.24	-6.29	-1.35
	WOOD	-11.40	-7.81	-4.05
	ALUM	-8.15	-5.53	0.
	ALUM+TB	-10.33	-7.05	-2.71
2 PANE 1/4IN.	PLAIN	-17.83	-18.08	-16.65
	WOOD	-18.38	-18.47	-17.33
	ALUM	-15.12	-16.18	-13.26
	ALUM+TB	-17.30	-17.71	-15.98
2 PANE 1/2IN.	PLAIN	-19.52	-19.27	-18.75
	WOOD	-19.98	-19.59	-19.33
	ALUM	-17.10	-17.57	-15.74
	ALUM+TB	-19.06	-18.94	-18.18
3 PANE 1/4IN.	PLAIN	-20.87	-21.58	-21.09
	WOOD	-21.05	-21.70	-21.32
	ALUM	-17.95	-19.53	-17.45
	ALUM+TB	-18.82	-20.14	-18.54
3 PANE 1/2IN.	PLAIN	-22.36	-22.63	-22.95
	WOOD	-22.51	-22.73	-23.14
	ALUM	-20.04	-21.00	-20.06
	ALUM+TB	-21.63	-22.11	-22.04

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.78	-1.71	-0.00
-2.78	-1.71	-0.01
-2.77	-1.71	0.
-2.78	-1.71	-0.01
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.10	-2.12	-0.55
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94
-3.36	-2.47	-0.94

BASE LOAD = 82.45 MBTU-YR

BASE LOAD = 10.51 MBTU-YR

AREA	MULTIPLIERS
900	.741
1000	.826
1100	.913
1200	1.000
1300	1.084
1400	1.169
1500	1.253
1600	1.338
1700	1.421
1800	1.503
1900	1.586
2000	1.668
2100	1.749
2200	1.830
2300	1.911
2400	1.991
2500	2.072

AREA	MULTIPLIERS
900	.961
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.063
1700	1.079
1800	1.089
1900	1.094
2000	1.092
2100	1.102
2200	1.108
2300	1.110
2400	1.107
2500	1.101

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.43	R-11	-.71	R-5 2FT	-.20
R-19	-1.59	R-19	-.84	R-5 4FT	-.21
R-30	-1.68	R-27	-.89		
R-38	-1.71				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.75	R-11	-2.33	R-5 2FT	-2.54
R-19	-5.35	R-19	-2.85	R-5 4FT	-2.85
R-30	-5.79	R-27	-3.17		
R-38	-5.94				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.53
LOW (.4 ACH)	-1.07

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.53
LOW (.4 ACH)	-9.07

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.58	-.42	-.12
	WOOD	-.77	-.55	-.36
	ALUM	-.48	-.35	0.
	ALUM+TB	-.67	-.48	-.24
2 PANE 1/4IN.	PLAIN	-1.20	-1.31	-1.30
	WOOD	-1.25	-1.35	-1.36
	ALUM	-.95	-1.14	-.98
	ALUM+TB	-1.15	-1.28	-1.23
2 PANE 1/2IN.	PLAIN	-1.36	-1.42	-1.49
	WOOD	-1.40	-1.45	-1.54
	ALUM	-1.13	-1.26	-1.21
	ALUM+TB	-1.31	-1.39	-1.44
3 PANE 1/4IN.	PLAIN	-1.38	-1.51	-1.53
	WOOD	-1.40	-1.52	-1.55
	ALUM	-1.11	-1.32	-1.19
	ALUM+TB	-1.19	-1.38	-1.30
3 PANE 1/2IN.	PLAIN	-1.52	-1.61	-1.71
	WOOD	-1.54	-1.62	-1.72
	ALUM	-1.31	-1.46	-1.44
	ALUM+TB	-1.46	-1.56	-1.62

12 PCT AREA	15 PCT AREA	20 PCT AREA
-13.63	-8.52	-.14
-13.91	-8.69	-.41
-13.48	-8.43	0.
-13.77	-8.60	-.27
-16.25	-11.97	-4.62
-16.33	-12.01	-4.69
-15.88	-11.74	-4.26
-16.18	-11.92	-4.55
-16.49	-12.10	-4.84
-16.55	-12.14	-4.90
-16.15	-11.91	-4.52
-16.43	-12.07	-4.78
-17.77	-13.76	-6.91
-17.80	-13.77	-6.94
-17.37	-13.52	-6.53
-17.49	-13.59	-6.64
-17.98	-13.88	-7.11
-18.00	-13.89	-7.13
-17.66	-13.69	-6.80
-17.88	-13.82	-7.01

BASE LOAD = 5.37 MBTU-YR

BASE LOAD = 79.21 MBTU-YR

AREA	MULTIPLIERS
900 .654	1500 1.342
1000 .762	2100 2.038
1100 .878	1600 1.464
1200 1.000	2200 2.151
1300 1.110	1700 1.576
1400 1.224	2300 2.266
	1800 1.690
	2400 2.382
	1900 1.807
	2500 2.500
	2000 1.926

AREA	MULTIPLIERS
900 .841	1500 1.159
1000 .901	2100 1.435
1100 .954	1600 1.204
1200 1.000	2200 1.479
1300 1.057	1700 1.255
1400 1.110	2300 1.521
	1800 1.302
	2400 1.560
	1900 1.347
	2500 1.598
	2000 1.388

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-16.79	R-11	-9.48	R-5 4FT	-2.54
R-19	-18.90	R-19	-11.61	R-5 8FT	-4.00
R-30	-20.39	R-27	-12.76	R-10 8FT	-5.85
R-38	-20.93			R-19 FLR	-7.51
R-49	-21.40				
R-60	-21.69				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.21
R-11	-.92	R-11	-.27	R-5 4FT	-.21
R-19	-1.03	R-19	-.34	R-5 8FT	-.21
R-30	-1.09	R-27	-.35	R-10 8FT	-.21
R-38	-1.08			R-19 FLR	0.
R-49	-1.10				
R-60	-1.14				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.29
LOW (.4 ACH)	-16.58

INFILTRATION

HI (1 ACH)	-.38
MED (.7 ACH)	-.19
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.60	-7.84	-1.59
	WOOD	-14.14	-9.62	-4.75
	ALUM	-10.33	-6.95	0.
	ALUM+TB	-12.88	-8.74	-3.18
2 PANE 1/4IN.	PLAIN	-21.32	-21.25	-18.95
	WOOD	-21.98	-21.72	-19.78
	ALUM	-18.03	-18.95	-14.85
	ALUM+TB	-20.67	-20.80	-18.14
2 PANE 1/2IN.	PLAIN	-23.37	-22.69	-21.51
	WOOD	-23.93	-23.09	-22.21
	ALUM	-20.43	-20.63	-17.85
	ALUM+TB	-22.81	-22.30	-20.81
3 PANE 1/4IN.	PLAIN	-25.00	-25.53	-24.43
	WOOD	-25.22	-25.68	-24.71
	ALUM	-21.46	-23.04	-20.02
	ALUM+TB	-22.52	-23.79	-21.34
3 PANE 1/2IN.	PLAIN	-26.82	-26.80	-26.70
	WOOD	-27.00	-26.92	-26.92
	ALUM	-24.00	-24.82	-23.18
	ALUM+TB	-25.93	-26.18	-25.59

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.40	-1.58	-.00
-2.40	-1.58	-.00
-2.40	-1.58	0.
-2.40	-1.58	-.00
-2.63	-1.89	-.43
-2.63	-1.89	-.44
-2.63	-1.88	-.43
-2.63	-1.89	-.43
-2.63	-1.89	-.44
-2.63	-1.89	-.44
-2.63	-1.89	-.44
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87
-2.82	-2.10	-.87

BASE LOAD = 98.43 MBTU-YR

BASE LOAD = 7.59 MBTU-YR

AREA	MULTIPLIERS
900	.744
1000	.829
1100	.914
1200	1.000
1300	1.083
1400	1.167
1500	1.250
1600	1.334
1700	1.415
1800	1.497
1900	1.578
2000	1.659
2100	1.739
2200	1.819
2300	1.898
2400	1.978
2500	2.057

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.23	R-11	-10.76	R-5 4FT	-2.91
R-15	-21.67	R-19	-13.20	R-5 8FT	-4.60
R-30	-23.40	R-27	-14.52	R-10 8FT	-6.74
R-38	-24.03			R-19 FLR	-8.68
R-45	-24.57				
R-60	-24.92				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.18
R-11	-1.06	R-11	-0.34	R-5 4FT	-0.18
R-19	-1.22	R-19	-0.42	R-5 8FT	-0.21
R-30	-1.28	R-27	-0.46	R-10 8FT	-0.22
R-38	-1.31			R-19 FLR	0.
R-49	-1.35				
R-60	-1.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.88
LOW (.4 ACH)	-19.75

INFILTRATION

HI (1 ACH)	-0.12
MED (.7 ACH)	-0.06
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.83	-8.68	-1.80
	WOOD	-15.71	-10.70	-5.39
	ALUM	-11.38	-7.66	0.
	ALUM+TB	-14.28	-9.69	-3.61
2 PANE 1/4 IN.	PLAIN	-23.34	-23.22	-20.52
	WOOD	-24.11	-23.76	-21.47
	ALUM	-19.56	-20.57	-15.80
	ALUM+TB	-22.60	-22.70	-19.59
2 PANE 1/2 IN.	PLAIN	-25.70	-24.88	-23.45
	WOOD	-26.34	-25.33	-24.26
	ALUM	-22.33	-22.51	-19.25
	ALUM+TB	-25.05	-24.42	-22.65
3 PANE 1/4 IN.	PLAIN	-27.51	-28.04	-26.71
	WOOD	-27.76	-28.22	-27.03
	ALUM	-23.44	-25.19	-21.64
	ALUM+TB	-24.66	-26.05	-23.16
3 PANE 1/2 IN.	PLAIN	-29.59	-29.51	-29.31
	WOOD	-29.80	-29.65	-29.57
	ALUM	-26.36	-27.24	-25.28
	ALUM+TB	-28.58	-28.79	-28.04

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.21	-1.41	-0.00
-2.22	-1.42	-0.01
-2.21	-1.41	0.
-2.22	-1.42	-0.01
-2.54	-1.82	-0.55
-2.54	-1.82	-0.56
-2.52	-1.81	-0.54
-2.53	-1.82	-0.55
-2.54	-1.82	-0.56
-2.55	-1.82	-0.56
-2.53	-1.82	-0.55
-2.54	-1.82	-0.56
-2.70	-1.99	-0.78
-2.70	-1.99	-0.78
-2.68	-1.98	-0.77
-2.69	-1.98	-0.77
-2.71	-1.99	-0.79
-2.71	-1.99	-0.79
-2.69	-1.98	-0.78
-2.70	-1.99	-0.78

BASE LOAD = 113.60 MBTU-YR

BASE LOAD = 7.72 MBTU-YR

AREA	MULTIPLIERS
900 .746	1500 1.248
1000 .830	2100 1.732
1100 .915	1600 1.331
1200 1.000	1700 1.412
1300 1.083	1800 1.492
1400 1.165	1900 1.573
	2000 1.653
	2200 1.811
	2300 1.890
	2400 1.968
	2500 2.046

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	2100 1.101
1100 1.003	1600 1.062
1200 1.000	1700 1.078
1300 1.028	1800 1.088
1400 1.048	1900 1.093
	2000 1.091
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.70	R-11	-3.00	R-11 FLR	-4.84
R-19	-6.42	R-19	-3.64	R-19 FLR	-5.47
R-30	-6.88	R-27	-3.96		
R-38	-7.05				
R-49	-7.19				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.71
LOW (.4 ACH)	-5.42

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.30	R-11	-1.19	R-11 FLR	-2.34
R-19	-3.67	R-19	-1.36	R-19 FLR	-2.64
R-30	-3.88	R-27	-1.48		
R-38	-3.97				
R-49	-4.01				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.78
LOW (.4 ACH)	-1.56

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.52	-1.79	-.50
	WOOD	-3.32	-2.35	-1.51
	ALUM	-2.11	-1.50	0.
2 PANE 1/4IN.	ALUM+TB	-2.92	-2.07	-1.01
	PLAIN	-5.33	-5.72	-5.58
	WOOD	-5.54	-5.87	-5.85
	ALUM	-4.27	-4.97	-4.26
2 PANE 1/2IN.	ALUM+TB	-5.12	-5.57	-5.32
	PLAIN	-5.99	-6.18	-6.40
	WOOD	-6.17	-6.31	-6.63
	ALUM	-5.04	-5.52	-5.22
3 PANE 1/4IN.	ALUM+TB	-5.81	-6.05	-6.18
	PLAIN	-6.35	-6.89	-7.08
	WOOD	-6.43	-6.94	-7.17
	ALUM	-5.21	-6.09	-5.66
3 PANE 1/2IN.	ALUM+TB	-5.56	-6.33	-6.09
	PLAIN	-6.94	-7.30	-7.81
	WOOD	-7.00	-7.34	-7.88
	ALUM	-6.03	-6.67	-6.68
	ALUM+TB	-6.65	-7.10	-7.46

BASE LOAD = 30.92 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-8.44	-5.29	-.03
-8.51	-5.33	-.09
-8.41	-5.28	0.
-8.48	-5.31	-.06
-9.17	-6.31	-1.42
-9.19	-6.32	-1.44
-9.08	-6.26	-1.34
-9.15	-6.30	-1.40
-9.22	-6.34	-1.47
-9.24	-6.35	-1.48
-9.15	-6.29	-1.40
-9.21	-6.33	-1.46
-9.84	-7.12	-2.57
-9.85	-7.13	-2.57
-9.75	-7.07	-2.48
-9.78	-7.09	-2.51
-9.89	-7.15	-2.61
-9.89	-7.15	-2.62
-9.82	-7.11	-2.54
-9.87	-7.14	-2.59

BASE LOAD = 41.70 MBTU-YR

AREA	MULTIPLIERS				
900	.703	1500	1.292	2100	1.876
1000	.798	1600	1.393	2200	1.971
1100	.897	1700	1.489	2300	2.067
1200	1.000	1800	1.585	2400	2.163
1300	1.096	1900	1.683	2500	2.260
1400	1.193	2000	1.782		

AREA	MULTIPLIERS				
900	.862	1500	1.142	2100	1.376
1000	.916	1600	1.179	2200	1.414
1100	.962	1700	1.224	2300	1.449
1200	1.000	1800	1.265	2400	1.481
1300	1.052	1900	1.302	2500	1.511
1400	1.099	2000	1.336		

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.37	R-11	-9.57	R-5 4FT	-2.58
R-19	-19.54	R-19	-11.69	R-5 8FT	-4.06
R-30	-21.05	R-27	-12.81	R-10 8FT	-5.92
R-38	-21.60			R-19 FLR	-7.58
R-49	-22.06				
R-60	-22.36				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-1.33	R-11	-0.38	R-5 4FT	-0.17
R-19	-1.52	R-19	-0.46	R-5 8FT	-0.18
R-30	-1.61	R-27	-0.48	R-10 8FT	-0.19
R-38	-1.65			R-19 FLR	0.
R-49	-1.69				
R-60	-1.73				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.72
LOW (.4 ACH)	-13.45

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.40	-7.12	-1.61
	WOOD	-12.97	-8.92	-4.80
	ALUM	-9.12	-6.22	0.
2 PANE 1/4IN.	ALUM+TB	-11.69	-8.02	-3.21
	PLAIN	-20.27	-20.70	-19.17
	WOOD	-20.93	-21.16	-19.99
2 PANE 1/2IN.	ALUM	-17.00	-18.40	-15.08
	ALUM+TB	-19.63	-20.25	-18.36
	PLAIN	-22.31	-22.13	-21.71
3 PANE 1/4IN.	WOOD	-22.87	-22.52	-22.41
	ALUM	-19.39	-20.08	-18.07
	ALUM+TB	-21.76	-21.74	-21.02
3 PANE 1/2IN.	PLAIN	-23.86	-24.82	-24.41
	WOOD	-24.08	-24.97	-24.69
	ALUM	-20.34	-22.35	-20.02
3 PANE 1/2IN.	ALUM+TB	-21.40	-23.09	-21.34
	PLAIN	-25.67	-26.08	-26.67
	WOOD	-25.85	-26.21	-26.88
3 PANE 1/2IN.	ALUM	-22.87	-24.12	-23.17
	ALUM+TB	-24.79	-25.47	-25.57

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.44	-1.58	-.00
-2.45	-1.58	-.01
-2.44	-1.57	0.
-2.45	-1.58	-.01
-2.82	-2.06	-.64
-2.82	-2.06	-.65
-2.81	-2.05	-.64
-2.82	-2.06	-.64
-2.82	-2.06	-.65
-2.83	-2.06	-.65
-2.82	-2.06	-.64
-2.82	-2.06	-.65
-3.05	-2.37	-1.10
-3.05	-2.37	-1.10
-3.04	-2.36	-1.09
-3.04	-2.36	-1.09
-3.05	-2.37	-1.10
-3.05	-2.37	-1.10
-3.05	-2.37	-1.09
-3.05	-2.37	-1.10

BASE LOAD = 91.39 MBTU-YR

BASE LOAD = 7.59 MBTU-YR

AREA	MULTIPLIERS
900	.741
1000	.827
1100	.913
1200	1.000
1300	1.084
1400	1.168
1500	1.253
1600	1.337
1700	1.420
1800	1.502
1900	1.584
2000	1.667
2100	1.747
2200	1.828
2300	1.909
2400	1.989
2500	2.069

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.77	R-11	-8.19	R-5 4FT	-2.26
R-19	-16.62	R-19	-10.03	R-5 8FT	-3.55
R-30	-17.93	R-27	-11.01	R-10 8FT	-5.19
R-38	-18.40			R-19 FLR	-6.64
R-49	-18.81				
R-60	-19.07				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.63	R-11	-.58	R-5 4FT	-.10
R-19	-1.84	R-19	-.70	R-5 8FT	-.20
R-30	-1.98	R-27	-.75	R-10 8FT	-.28
R-38	-2.04			R-19 FLR	-.13
R-49	-2.10				
R-60	-2.13				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.39
LOW (.4 ACH)	-14.79

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.03
LOW (.4 ACH)	-.07

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.28	-6.33	-1.37
	WOOD	-11.47	-7.86	-4.11
	ALUM	-8.18	-5.55	0.
	ALUM+TB	-10.38	-7.10	-2.75
2 PANE 1/4IN.	PLAIN	-17.34	-17.48	-15.79
	WOOD	-17.91	-17.88	-16.50
	ALUM	-14.50	-15.48	-12.24
	ALUM+TB	-16.78	-17.08	-15.09
2 PANE 1/2IN.	PLAIN	-19.11	-18.72	-17.99
	WOOD	-19.59	-19.06	-18.60
	ALUM	-16.57	-16.94	-14.83
	ALUM+TB	-18.62	-18.38	-17.39
3 PANE 1/4IN.	PLAIN	-20.44	-21.06	-20.36
	WOOD	-20.63	-21.20	-20.60
	ALUM	-17.39	-18.92	-16.55
	ALUM+TB	-18.30	-19.56	-17.69
3 PANE 1/2IN.	PLAIN	-22.01	-22.16	-22.32
	WOOD	-22.16	-22.27	-22.51
	ALUM	-19.58	-20.46	-19.28
	ALUM+TB	-21.25	-21.63	-21.36

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.30	-2.03	-.01
-3.32	-2.04	-.02
-3.29	-2.02	0.
-3.31	-2.03	-.02
-3.78	-2.71	-.78
-3.79	-2.72	-.78
-3.77	-2.70	-.76
-3.78	-2.71	-.78
-3.80	-2.72	-.79
-3.80	-2.72	-.79
-3.78	-2.71	-.78
-3.79	-2.72	-.79
-4.11	-3.07	-1.35
-4.11	-3.07	-1.36
-4.09	-3.06	-1.34
-4.09	-3.06	-1.34
-4.12	-3.07	-1.36
-4.12	-3.07	-1.37
-4.10	-3.06	-1.35
-4.11	-3.07	-1.36

BASE LOAD = 84.55 MBTU-YR

BASE LOAD = 12.57 MBTU-YR

AREA	MULTIPLIERS
900	.742
1000	.827
1100	.913
1200	1.000
1300	1.084
1400	1.168
1500	1.252
1600	1.337
1700	1.419
1800	1.501
1900	1.583
2000	1.665
2100	1.746
2200	1.827
2300	1.907
2400	1.987
2500	2.067

AREA	MULTIPLIERS
900	.952
1000	.983
1100	.999
1200	1.000
1300	1.031
1400	1.053
1500	1.068
1600	1.074
1700	1.093
1800	1.106
1900	1.114
2000	1.115
2100	1.128
2200	1.137
2300	1.142
2400	1.143
2500	1.140

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.06	R-11	-6.72	R-5 4FT	-1.83
R-15	-13.58	R-19	-8.25	R-5 8FT	-2.89
R-30	-14.67	R-27	-9.07	R-10 8FT	-4.26
R-38	-15.06			R-19 FLR	-5.48
R-45	-15.40				
R-60	-15.62				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.27	R-11	-0.83	R-5 4FT	-0.13
R-19	-2.59	R-19	-1.05	R-5 8FT	-0.22
R-30	-2.79	R-27	-1.14	R-10 8FT	-0.31
R-38	-2.88			R-19 FLR	-0.15
R-49	-2.95				
R-60	-3.00				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.34
LGW (.4 ACH)	-12.67

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.10
LOW (.4 ACH)	-0.21

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.44	-5.08	-1.13
	WOOD	-9.24	-6.34	-3.37
	ALUM	-6.53	-4.44	0.
2 PANE 1/4IN.	ALUM+TB	-8.34	-5.71	-2.26
	PLAIN	-14.20	-14.41	-13.19
	WOOD	-14.67	-14.75	-13.79
2 PANE 1/2IN.	ALUM	-11.84	-12.76	-10.25
	ALUM+TB	-13.73	-14.09	-12.61
	PLAIN	-15.67	-15.44	-15.03
3 PANE 1/4IN.	WOOD	-16.07	-15.72	-15.53
	ALUM	-13.56	-13.97	-12.40
	ALUM+TB	-15.27	-15.16	-14.53
3 PANE 1/2IN.	PLAIN	-16.77	-17.39	-17.01
	WOOD	-16.93	-17.50	-17.20
	ALUM	-14.23	-15.61	-13.84
3 PANE 1/2IN.	ALUM+TB	-14.99	-16.14	-14.79
	PLAIN	-18.07	-18.30	-18.63
	WOOD	-18.20	-18.39	-18.79
	ALUM	-16.05	-16.89	-16.11
	ALUM+TB	-17.43	-17.86	-17.84

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.10	-3.21	-0.01
-5.12	-3.22	-0.03
-5.09	-3.20	0.
-5.11	-3.22	-0.02
-5.80	-4.10	-1.15
-5.81	-4.10	-1.16
-5.77	-4.08	-1.12
-5.80	-4.10	-1.15
-5.83	-4.11	-1.17
-5.83	-4.11	-1.18
-5.80	-4.09	-1.14
-5.82	-4.11	-1.17
-6.20	-4.57	-1.83
-6.21	-4.57	-1.83
-6.17	-4.55	-1.79
-6.18	-4.55	-1.80
-6.22	-4.58	-1.84
-6.23	-4.58	-1.84
-6.19	-4.56	-1.82
-6.21	-4.57	-1.83

BASE LOAD = 68.70 MBTU-YR

BASE LOAD = 20.76 MBTU-YR

AREA	MULTIPLIERS
900 .738	1500 1.257
1000 .824	2100 1.760
1100 .912	1600 1.343
1200 1.000	1700 1.426
1300 1.085	1800 1.510
1400 1.171	1900 1.594
	2000 1.677
	2100 1.760
	2200 1.842
	2300 1.924
	2400 2.005
	2500 2.087

AREA	MULTIPLIERS
900 .904	1500 1.107
1000 .948	2100 1.259
1100 .980	1600 1.130
1200 1.000	1700 1.162
1300 1.042	1800 1.190
1400 1.078	1900 1.213
	2000 1.232
	2100 1.259
	2200 1.283
	2300 1.304
	2400 1.322
	2500 1.336

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.02	R-11	-7.66	R-5 4FT	-2.10
R-19	-15.77	R-19	-9.36	R-5 8FT	-3.30
R-30	-17.00	R-27	-10.26	R-10 8FT	-4.81
R-38	-17.44			R-19 FLR	-6.12
R-49	-17.81				
R-60	-18.05				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.04
R-11	-2.15	R-11	-.67	R-5 4FT	-.10
R-19	-2.44	R-19	-.82	R-5 8FT	-.14
R-30	-2.59	R-27	-.87	R-10 8FT	-.19
R-38	-2.66			R-19 FLR	0.
R-49	-2.73				
R-60	-2.78				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.97
LOW (.4 ACH)	-11.94

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.04
LOW (.4 ACH)	-.07

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.49	-5.19	-1.29
	WOOD	-9.54	-6.63	-3.84
	ALUM	-6.46	-4.47	0.
	ALUM+TB	-8.53	-5.91	-2.57
2 PANE 1/4IN.	PLAIN	-15.14	-15.74	-14.90
	WOOD	-15.67	-16.11	-15.56
	ALUM	-12.51	-13.89	-11.62
	ALUM+TB	-14.62	-15.37	-14.25
2 PANE 1/2IN.	PLAIN	-16.78	-16.89	-16.94
	WOOD	-17.23	-17.20	-17.50
	ALUM	-14.43	-15.24	-14.02
	ALUM+TB	-16.33	-16.57	-16.38
3 PANE 1/4IN.	PLAIN	-17.95	-18.97	-19.00
	WOOD	-18.13	-19.09	-19.22
	ALUM	-15.12	-16.98	-15.47
	ALUM+TB	-15.97	-17.58	-16.53
3 PANE 1/2IN.	PLAIN	-19.40	-19.98	-20.81
	WOOD	-19.54	-20.08	-20.98
	ALUM	-17.15	-18.40	-18.00
	ALUM+TB	-18.69	-19.49	-19.92

BASE LOAD = 72.66 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.02	-1.94	-.01
-3.04	-1.95	-.02
-3.02	-1.94	0.
-3.03	-1.95	-.01
-3.59	-2.65	-.96
-3.59	-2.65	-.97
-3.57	-2.64	-.94
-3.58	-2.65	-.96
-3.60	-2.66	-.97
-3.60	-2.66	-.98
-3.58	-2.65	-.96
-3.60	-2.65	-.97
-3.88	-3.04	-1.50
-3.88	-3.04	-1.50
-3.86	-3.03	-1.48
-3.87	-3.04	-1.48
-3.89	-3.05	-1.51
-3.89	-3.05	-1.51
-3.88	-3.04	-1.49
-3.89	-3.05	-1.50

BASE LOAD = 10.91 MBTU-YR

AREA	MULTIPLIERS
900	.737
1000	.824
1100	.911
1200	1.000
1300	1.085
1400	1.171
1500	1.257
1600	1.343
1700	1.427
1800	1.511
1900	1.595
2000	1.679
2100	1.761
2200	1.843
2300	1.925
2400	2.007
2500	2.089

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.98	R-11	-3.10	R-5 2FT	-3.36
R-19	-6.72	R-19	-3.77	R-5 4FT	-3.80
R-3C	-7.20	R-27	-4.10		
R-3A	-7.38				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.13	R-11	-1.83	R-5 2FT	-1.88
R-19	-5.79	R-19	-2.24	R-5 4FT	-2.14
R-30	-6.23	R-27	-2.41		
R-38	-6.40				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.87
LCW (.4 ACH)	-5.74

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.29
LOW (.4 ACH)	-5.58

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.37	-1.71	-0.52
	WOOD	-3.20	-2.29	-1.55
	ALUM	-1.95	-1.41	0.
2 PANE 1/4 IN.	ALUM+TB	-2.79	-2.00	-1.04
	PLAIN	-5.23	-5.71	-5.68
	WOOD	-5.45	-5.86	-5.95
2 PANE 1/2 IN.	ALUM	-4.13	-4.94	-4.32
	ALUM+TB	-5.01	-5.55	-5.41
	PLAIN	-5.91	-6.18	-6.53
3 PANE 1/4 IN.	WOOD	-6.10	-6.31	-6.76
	ALUM	-4.93	-5.50	-5.31
	ALUM+TB	-5.72	-6.05	-5.30
3 PANE 1/2 IN.	PLAIN	-6.29	-6.92	-7.21
	WOOD	-6.36	-6.97	-7.30
	ALUM	-5.11	-6.09	-5.74
3 PANE 1/2 IN.	ALUM+TB	-5.47	-6.34	-6.18
	PLAIN	-6.89	-7.34	-7.96
	WOOD	-6.95	-7.38	-8.04
	ALUM	-5.96	-6.68	-6.80
	ALUM+TB	-6.60	-7.13	-7.60

12 PCT AREA	15 PCT AREA	20 PCT AREA
-8.41	-5.31	-0.08
-8.57	-5.40	-0.23
-8.33	-5.26	0.
-8.49	-5.35	-0.16
-10.02	-7.45	-2.89
-10.07	-7.48	-2.93
-9.81	-7.33	-2.68
-9.98	-7.43	-2.85
-10.16	-7.53	-3.01
-10.20	-7.55	-3.05
-9.97	-7.42	-2.83
-10.12	-7.51	-2.98
-10.95	-8.54	-4.37
-10.96	-8.55	-4.38
-10.71	-8.41	-4.15
-10.78	-8.45	-4.22
-11.06	-8.61	-4.48
-11.08	-8.62	-4.50
-10.88	-8.51	-4.31
-11.01	-8.58	-4.43

BASE LOAD = 29.58 MBTU-YR

BASE LOAD = 38.58 MBTU-YR

AREA		MULTIPLIERS			
900	.700	1500	1.295	2100	1.884
1000	.797	1600	1.397	2200	1.980
1100	.896	1700	1.493	2300	2.077
1200	1.000	1800	1.591	2400	2.174
1300	1.096	1900	1.689	2500	2.272
1400	1.194	2000	1.789		

AREA		MULTIPLIERS			
900	.872	1500	1.134	2100	1.349
1000	.924	1600	1.168	2200	1.383
1100	.966	1700	1.209	2300	1.415
1200	1.000	1800	1.247	2400	1.444
1300	1.050	1900	1.282	2500	1.470
1400	1.094	2000	1.312		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.84	R-11	-3.09	R-5 2FT	-3.24
R-19	-6.55	R-19	-3.76	R-5 4FT	-3.65
R-30	-7.03	R-27	-4.10		
R-3E	-7.21				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.03	R-11	-2.14	R-5 2FT	-2.75
R-19	-5.61	R-19	-2.62	R-5 4FT	-3.18
R-30	-6.08	R-27	-2.92		
R-3E	-6.23				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.09
LOW (.4 ACH)	-6.17

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.98
LOW (.4 ACH)	-3.95

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.50	-1.78	-.52
	WOOD	-3.32	-2.36	-1.55
	ALUM	-2.08	-1.49	0.
	ALUM+TB	-2.91	-2.07	-1.04
2 PANE 1/4IN.	PLAIN	-5.48	-5.94	-5.88
	WOOD	-5.70	-6.09	-6.15
	ALUM	-4.39	-5.17	-4.52
	ALUM+TB	-5.27	-5.79	-5.61
2 PANE 1/2IN.	PLAIN	-6.15	-6.42	-6.73
	WOOD	-6.35	-6.55	-6.96
	ALUM	-5.19	-5.73	-5.52
	ALUM+TB	-5.98	-6.28	-6.50
3 PANE 1/4IN.	PLAIN	-6.57	-7.17	-7.43
	WOOD	-6.64	-7.22	-7.52
	ALUM	-5.40	-6.35	-5.97
	ALUM+TB	-5.75	-6.60	-6.41
3 PANE 1/2IN.	PLAIN	-7.17	-7.59	-8.18
	WOOD	-7.23	-7.64	-8.25
	ALUM	-6.24	-6.94	-7.02
	ALUM+TB	-6.88	-7.39	-7.81

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.14	-5.73	-.10
-9.34	-5.85	-.29
-9.04	-5.67	0.
-9.24	-5.79	-.19
-10.98	-8.14	-3.29
-11.03	-8.18	-3.35
-10.71	-7.99	-3.04
-10.93	-8.11	-3.24
-11.15	-8.24	-3.45
-11.19	-8.27	-3.49
-10.91	-8.10	-3.23
-11.10	-8.21	-3.41
-12.05	-9.47	-5.00
-12.07	-9.48	-5.01
-11.77	-9.30	-4.72
-11.85	-9.36	-4.81
-12.20	-9.56	-5.14
-12.22	-9.57	-5.15
-11.97	-9.43	-4.92
-12.13	-9.52	-5.07

BASE LOAD = 30.15 MBTU-YR

BASE LOAD = 52.03 MBTU-YR

AREA	MULTIPLIERS				
900	.703	1500	1.292	2100	1.875
1000	.799	1600	1.393	2200	1.970
1100	.898	1700	1.488	2300	2.065
1200	1.000	1800	1.584	2400	2.161
1300	1.095	1900	1.682	2500	2.257
1400	1.193	2000	1.780		

AREA	MULTIPLIERS				
900	.855	1500	1.147	2100	1.395
1000	.911	1600	1.187	2200	1.435
1100	.960	1700	1.234	2300	1.472
1200	1.000	1800	1.277	2400	1.506
1300	1.054	1900	1.316	2500	1.539
1400	1.103	2000	1.353		

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.55	R-11	-6.39	R-5 2FT	-3.79
R-19	-7.35	R-19	-7.36	R-5 4FT	-4.33
R-30	-7.87	R-27	-7.36		
R-38	-8.06				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.37
LOW (.4 ACH)	-6.74

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.62	R-11	-3.66	R-5 2FT	-1.31
R-19	-6.38	R-19	-4.29	R-5 4FT	-1.52
R-30	-6.80	R-27	-4.29		
R-38	-6.99				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.69
LOW (.4 ACH)	-1.37

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.79	-1.99	-0.56
	WOOD	-3.68	-2.61	-1.66
	ALUM	-2.35	-1.67	0.
	ALUM+TB	-3.24	-2.30	-1.11
2 PANE 1/4IN.	PLAIN	-5.82	-6.22	-6.03
	WOOD	-6.05	-6.39	-6.33
	ALUM	-4.65	-5.40	-4.58
	ALUM+TB	-5.59	-6.06	-5.74
2 PANE 1/2IN.	PLAIN	-6.54	-6.73	-6.94
	WOOD	-6.74	-6.87	-7.19
	ALUM	-5.50	-6.00	-5.64
	ALUM+TB	-6.35	-6.59	-6.69
3 PANE 1/4IN.	PLAIN	-6.97	-7.53	-7.66
	WOOD	-7.05	-7.58	-7.75
	ALUM	-5.71	-6.64	-6.09
	ALUM+TB	-6.09	-6.91	-6.56
3 PANE 1/2IN.	PLAIN	-7.61	-7.98	-8.46
	WOOD	-7.68	-8.02	-8.54
	ALUM	-6.61	-7.28	-7.21
	ALUM+TB	-7.30	-7.76	-8.07

BASE LOAD = 36.90 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.05	-4.47	-0.08
-7.22	-4.57	-0.24
-6.97	-4.42	0.
-7.13	-4.52	-0.16
-8.52	-6.39	-2.62
-8.56	-6.42	-2.66
-8.30	-6.27	-2.41
-8.48	-6.37	-2.58
-8.66	-6.47	-2.75
-8.69	-6.50	-2.78
-8.46	-6.36	-2.56
-8.62	-6.45	-2.71
-9.34	-7.41	-3.93
-9.36	-7.42	-3.94
-9.11	-7.27	-3.70
-9.18	-7.31	-3.77
-9.46	-7.48	-4.04
-9.47	-7.49	-4.05
-9.27	-7.37	-3.86
-9.40	-7.45	-3.98

BASE LOAD = 35.64 MBTU-YR

AREA	MULTIPLIERS
900 .711	1500 1.283
1000 .805	2100 1.848
1100 .901	2200 1.940
1200 1.000	2300 2.032
1300 1.093	2400 2.125
1400 1.187	2500 2.218
	2000 1.756

AREA	MULTIPLIERS
900 .882	1500 1.125
1000 .931	2100 1.322
1100 .970	2200 1.353
1200 1.000	2300 1.381
1300 1.047	2400 1.406
1400 1.089	2500 1.429
	2000 1.288

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-18.97	R-11	-10.50	R-5 4FT	-2.80
R-19	-21.21	R-19	-12.82	R-5 8FT	-4.42
R-30	-22.85	R-27	-14.05	R-10 8FT	-6.47
R-38	-23.44			R-19 FLR	-8.33
R-49	-23.95				
R-60	-24.27				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.19
R-11	-1.16	R-11	-0.40	R-5 4FT	-0.19
R-19	-1.31	R-19	-0.49	R-5 8FT	-0.18
R-30	-1.39	R-27	-0.51	R-10 8FT	-0.17
R-38	-1.43			R-19 FLR	0.
R-49	-1.47				
R-60	-1.50				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.74
LOW (.4 ACH)	-15.49

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.04
LOW (.4 ACH)	-0.07

WINDGW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.96	-8.73	-1.76
	WOOD	-15.77	-10.70	-5.26
	ALUM	-11.55	-7.74	0.
	ALUM+TB	-14.37	-9.72	-3.52
2 PANE 1/4IN.	PLAIN	-24.22	-24.15	-21.64
	WOOD	-24.95	-24.66	-22.54
	ALUM	-20.64	-21.64	-17.18
	ALUM+TB	-23.52	-23.66	-20.76
2 PANE 1/2IN.	PLAIN	-26.46	-25.72	-24.43
	WOOD	-27.07	-26.15	-25.19
	ALUM	-23.26	-23.48	-20.44
	ALUM+TB	-25.85	-25.29	-23.67
3 PANE 1/4IN.	PLAIN	-28.29	-28.86	-27.69
	WOOD	-28.53	-29.03	-27.99
	ALUM	-24.43	-26.16	-22.89
	ALUM+TB	-25.59	-26.97	-24.33
3 PANE 1/2IN.	PLAIN	-30.26	-30.25	-30.16
	WOOD	-30.46	-30.39	-30.40
	ALUM	-27.20	-28.10	-26.33
	ALUM+TB	-29.30	-29.57	-28.95

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.18	-1.39	-0.00
-2.18	-1.39	-0.01
-2.17	-1.38	0.
-2.18	-1.39	-0.01
-2.57	-1.90	-0.70
-2.58	-1.90	-0.70
-2.57	-1.90	-0.69
-2.57	-1.90	-0.70
-2.58	-1.91	-0.70
-2.58	-1.91	-0.70
-2.57	-1.90	-0.70
-2.58	-1.90	-0.70
-2.79	-2.22	-1.10
-2.80	-2.22	-1.10
-2.79	-2.21	-1.09
-2.79	-2.22	-1.10
-2.80	-2.22	-1.11
-2.80	-2.22	-1.11
-2.79	-2.22	-1.10
-2.80	-2.22	-1.11

BASE LOAD = 105.61 MBTU-YR

BASE LOAD = 7.12 MBTU-YR

AREA	MULTIPLIERS
900 .744	1500 1.250
1000 .829	2100 1.738
1100 .914	2200 1.818
1200 1.000	2300 1.897
1300 1.083	2400 1.976
1400 1.167	2500 2.055
	2000 1.658

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	2100 1.101
1100 1.003	2200 1.106
1200 1.000	2300 1.108
1300 1.028	2400 1.105
1400 1.048	2500 1.098
	2000 1.091

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	0.	R-11	0.	R-5 2FT	0.
R-19	0.	R-19	0.	R-5 4FT	0.
R-30	0.	R-27	0.		
R-38	0.				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.02	R-11	-1.52	R-5 2FT	-2.66
R-19	-4.54	R-19	-1.91	R-5 4FT	-3.02
R-30	-4.95	R-27	-2.13		
R-38	-5.11				

INFILTRATION

HI (1 ACH)	-0.22
MED (.7 ACH)	-0.11
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.

12 PCT AREA	15 PCT AREA	20 PCT AREA
-15.48	-9.65	-0.05
-15.58	-9.71	-0.14
-15.43	-9.62	0.
-15.53	-9.68	-0.09
-17.14	-11.74	-2.67
-17.17	-11.75	-2.70
-17.02	-11.66	-2.55
-17.12	-11.72	-2.65
-17.22	-11.79	-2.75
-17.24	-11.80	-2.77
-17.11	-11.72	-2.64
-17.20	-11.77	-2.73
-18.59	-13.51	-4.98
-18.60	-13.52	-4.99
-18.45	-13.43	-4.85
-18.49	-13.46	-4.89
-18.66	-13.55	-5.05
-18.67	-13.56	-5.05
-18.55	-13.49	-4.94
-18.63	-13.53	-5.01

BASE LOAD = 0. MBTU-YR

BASE LOAD = 69.82 MBTU-YR

AREA	MULTIPLIERS				
900	.654	1500	1.342	2100	2.038
1000	.762	1600	1.464	2200	2.151
1100	.878	1700	1.576	2300	2.266
1200	1.000	1800	1.690	2400	2.382
1300	1.110	1900	1.807	2500	2.500
1400	1.224	2000	1.926		

AREA	MULTIPLIERS				
900	.844	1500	1.156	2100	1.425
1000	.903	1600	1.200	2200	1.468
1100	.955	1700	1.250	2300	1.509
1200	1.000	1800	1.296	2400	1.548
1300	1.056	1900	1.340	2500	1.584
1400	1.108	2000	1.380		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.14	R-11	-1.62	R-5 2FT	-1.30
R-19	-3.53	R-19	-1.96	R-5 4FT	-1.44
R-30	-3.76	R-27	-2.11		
R-3E	-3.85				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.17	P-11	-1.73	R-5 2FT	-2.64
R-19	-4.75	R-19	-2.13	R-5 4FT	-2.97
R-30	-5.16	R-27	-2.35		
R-38	-5.27				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.55
LOW (.4 ACH)	-3.09

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.90
LOW (.4 ACH)	-3.80

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.01	-.76	-.27
	WOOD	-1.44	-1.06	-.81
	ALUM	-.79	-.60	0.
	ALUM+TB	-1.23	-.91	-.54
2 PANE 1/4IN.	PLAIN	-2.50	-2.84	-2.93
	WOOD	-2.62	-2.92	-3.07
	ALUM	-1.93	-2.43	-2.21
	ALUM+TB	-2.39	-2.76	-2.79
2 PANE 1/2IN.	PLAIN	-2.86	-3.09	-3.37
	WOOD	-2.96	-3.16	-3.50
	ALUM	-2.35	-2.73	-2.74
	ALUM+TB	-2.76	-3.02	-3.25
3 PANE 1/4IN.	PLAIN	-3.01	-3.40	-3.62
	WOOD	-3.05	-3.43	-3.67
	ALUM	-2.40	-2.97	-2.85
	ALUM+TB	-2.58	-3.10	-3.08
3 PANE 1/2IN.	PLAIN	-3.33	-3.62	-4.01
	WOOD	-3.36	-3.64	-4.05
	ALUM	-2.84	-3.28	-3.40
	ALUM+TB	-3.18	-3.51	-3.82

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.76	-6.11	-.06
-9.89	-6.18	-.17
-9.70	-6.08	0.
-9.83	-6.15	-.12
-11.35	-8.14	-2.64
-11.38	-8.16	-2.67
-11.19	-8.04	-2.49
-11.31	-8.12	-2.61
-11.45	-8.20	-2.73
-11.47	-8.21	-2.76
-11.30	-8.11	-2.60
-11.42	-8.18	-2.71
-12.31	-9.28	-4.10
-12.32	-9.29	-4.11
-12.13	-9.19	-3.94
-12.19	-9.21	-3.99
-12.40	-9.33	-4.19
-12.40	-9.34	-4.20
-12.26	-9.25	-4.06
-12.35	-9.31	-4.15

BASE LOAD = 13.88 MBTU-YR

BASE LOAD = 55.14 MBTU-YR

AREA	MULTIPLIERS
900	.654
1000	.762
1100	.878
1200	1.000
1300	1.110
1400	1.224
1500	1.342
1600	1.464
1700	1.576
1800	1.690
1900	1.807
2000	1.926
2100	2.038
2200	2.151
2300	2.266
2400	2.382
2500	2.500

AREA	MULTIPLIERS
900	.852
1000	.909
1100	.958
1200	1.000
1300	1.055
1400	1.105
1500	1.150
1600	1.192
1700	1.239
1800	1.283
1900	1.324
2000	1.362
2100	1.405
2200	1.446
2300	1.485
2400	1.521
2500	1.554

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-23.32	R-11	-13.06	R-5 4FT	-3.73
R-19	-26.32	R-19	-16.06	R-5 8FT	-5.89
R-30	-28.47	R-27	-17.68	R-10 8FT	-8.60
R-38	-29.25			R-19 FLR	-11.06
R-49	-29.52				
R-60	-30.35				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.02
LCW (.4 ACH)	-22.04

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.00
R-11	-0.00	R-11	-0.00	R-5 4FT	-0.00
R-19	-0.00	R-19	-0.00	R-5 8FT	-0.00
R-30	-0.00	R-27	-0.00	R-10 8FT	-0.00
R-38	-0.00			R-19 FLR	0.
R-49	-0.00				
R-60	-0.00				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-17.84	-11.95	-2.19
	WOOD	-21.33	-14.40	-6.55
	ALUM	-16.08	-10.72	0.
	ALUM+TB	-19.59	-13.18	-4.38
2 PANE 1/4IN.	PLAIN	-30.24	-29.24	-24.50
	WOOD	-31.18	-29.89	-25.67
	ALUM	-25.60	-25.98	-18.71
	ALUM+TB	-29.33	-28.59	-23.36
2 PANE 1/2IN.	PLAIN	-33.14	-31.27	-28.11
	WOOD	-33.93	-31.82	-29.09
	ALUM	-28.99	-28.36	-22.94
	ALUM+TB	-32.35	-30.71	-27.12
3 PANE 1/4IN.	PLAIN	-35.40	-35.22	-32.19
	WOOD	-35.71	-35.44	-32.58
	ALUM	-30.40	-31.71	-25.96
	ALUM+TB	-31.90	-32.76	-27.83
3 PANE 1/2IN.	PLAIN	-37.96	-37.01	-35.38
	WOOD	-38.21	-37.19	-35.69
	ALUM	-33.98	-34.22	-30.42
	ALUM+TB	-36.71	-36.14	-33.83

12 PCT AREA	15 PCT AREA	20 PCT AREA
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	0.
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00

BASE LOAD = 139.84 MBTU-YR

BASE LOAD = .01 MBTU-YR

AREA	MULTIPLIERS				
900	.748	1500	1.246	2100	1.725
1000	.832	1600	1.328	2200	1.803
1100	.916	1700	1.408	2300	1.881
1200	1.000	1800	1.488	2400	1.959
1300	1.082	1900	1.567	2500	2.036
1400	1.164	2000	1.647		

AREA	MULTIPLIERS				
900	.962	1500	1.060	2100	1.101
1000	.990	1600	1.062	2200	1.106
1100	1.003	1700	1.078	2300	1.108
1200	1.000	1800	1.088	2400	1.105
1300	1.028	1900	1.093	2500	1.098
1400	1.048	2000	1.091		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.33	R-11	-6.69	R-5 4FT	-1.82
R-15	-13.87	R-19	-8.18	R-5 8FT	-2.87
R-30	-14.94	R-27	-8.97	R-10 8FT	-4.20
R-3E	-15.32			R-19 FLR	-5.38
R-45	-15.65				
R-60	-15.86				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.95	R-11	-1.20	R-5 4FT	-.26
R-19	-3.34	R-19	-1.41	R-5 8FT	-.39
R-30	-3.59	R-27	-1.55	R-10 8FT	-.57
R-38	-3.70			R-19 FLR	-.56
R-49	-3.79				
R-60	-3.85				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.29
LOW (.4 ACH)	-12.59

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.80
LOW (.4 ACH)	-1.61

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.54	-5.14	-1.12
	WOOD	-9.33	-6.39	-3.35
	ALUM	-6.64	-4.51	0.
	ALUM+TB	-8.44	-5.77	-2.25
2 PANE 1/4IN.	PLAIN	-14.15	-14.29	-12.95
	WOOD	-14.62	-14.61	-13.53
	ALUM	-11.86	-12.68	-10.09
	ALUM+TB	-13.70	-13.97	-12.39
2 PANE 1/2IN.	PLAIN	-15.59	-15.29	-14.74
	WOOD	-15.98	-15.57	-15.23
	ALUM	-13.54	-13.86	-12.18
	ALUM+TB	-15.19	-15.02	-14.25
3 PANE 1/4IN.	PLAIN	-16.66	-17.18	-16.64
	WOOD	-16.82	-17.29	-16.84
	ALUM	-14.19	-15.44	-13.56
	ALUM+TB	-14.93	-15.96	-14.48
3 PANE 1/2IN.	PLAIN	-17.93	-18.07	-18.22
	WOOD	-18.05	-18.15	-18.38
	ALUM	-15.96	-16.69	-15.77
	ALUM+TB	-17.31	-17.63	-17.45

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.70	-3.54	-.02
-5.75	-3.57	-.07
-5.67	-3.53	0.
-5.73	-3.56	-.05
-6.96	-5.14	-2.10
-6.97	-5.15	-2.11
-6.91	-5.11	-2.05
-6.95	-5.14	-2.09
-6.99	-5.16	-2.13
-7.00	-5.17	-2.14
-6.95	-5.14	-2.09
-6.98	-5.16	-2.12
-7.60	-5.93	-3.03
-7.61	-5.94	-3.04
-7.55	-5.90	-2.98
-7.57	-5.91	-3.00
-7.63	-5.95	-3.06
-7.64	-5.95	-3.06
-7.59	-5.93	-3.02
-7.62	-5.94	-3.05

BASE LOAD = 69.89 MBTU-YR

BASE LOAD = 28.38 MBTU-YR

AREA		MULTIPLIERS			
900	.738	1500	1.256	2100	1.757
1000	.825	1600	1.341	2200	1.838
1100	.912	1700	1.425	2300	1.920
1200	1.000	1800	1.508	2400	2.001
1300	1.085	1900	1.591	2500	2.082
1400	1.170	2000	1.675		

AREA		MULTIPLIERS			
900	.883	1500	1.125	2100	1.320
1000	.932	1600	1.155	2200	1.351
1100	.971	1700	1.194	2300	1.379
1200	1.000	1800	1.229	2400	1.404
1300	1.047	1900	1.259	2500	1.426
1400	1.089	2000	1.286		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.25	R-11	-2.28	R-5 2FT	-2.03
R-19	-4.79	R-19	-2.77	R-5 4FT	-2.29
R-3C	-5.13	R-27	-3.01		
R-38	-5.26				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.29	R-11	-1.84	R-5 2FT	-2.65
R-19	-4.87	R-19	-2.19	R-5 4FT	-3.00
R-30	-5.23	R-27	-2.41		
R-38	-5.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.36
LCW (.4 ACH)	-4.72

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.28
LOW (.4 ACH)	-4.56

WINDCWM	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.00	-1.41	-.38
	WOOD	-2.61	-1.84	-1.14
	ALUM	-1.70	-1.20	0.
2 PANE 1/4IN.	ALUM+TB	-2.31	-1.63	-.76
	PLAIN	-4.16	-4.42	-4.27
	WOOD	-4.32	-4.54	-4.47
2 PANE 1/2 IN.	ALUM	-3.36	-3.86	-3.26
	ALUM+TB	-4.00	-4.31	-4.07
	PLAIN	-4.66	-4.77	-4.89
3 PANE 1/4IN.	WOOD	-4.80	-4.87	-5.06
	ALUM	-3.94	-4.27	-4.00
	ALUM+TB	-4.52	-4.68	-4.72
3 PANE 1/2IN.	PLAIN	-4.95	-5.31	-5.39
	WOOD	-5.00	-5.35	-5.46
	ALUM	-4.08	-4.71	-4.31
	ALUM+TB	-4.34	-4.89	-4.64
	PLAIN	-5.39	-5.62	-5.94
	WOOD	-5.43	-5.66	-6.00
	ALUM	-4.70	-5.14	-5.09
	ALUM+TB	-5.17	-5.47	-5.67

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.40	-5.89	-.06
-9.53	-5.97	-.18
-9.34	-5.85	0.
-9.47	-5.93	-.12
-10.64	-7.60	-2.36
-10.68	-7.62	-2.40
-10.47	-7.51	-2.20
-10.61	-7.59	-2.33
-10.75	-7.67	-2.46
-10.78	-7.68	-2.49
-10.60	-7.58	-2.32
-10.72	-7.65	-2.44
-11.63	-8.73	-3.81
-11.64	-8.74	-3.82
-11.45	-8.62	-3.63
-11.50	-8.66	-3.69
-11.72	-8.79	-3.89
-11.73	-8.79	-3.90
-11.58	-8.70	-3.76
-11.68	-8.76	-3.85

BASE LOAD = 22.08 MBTU-YR

BASE LOAD = 54.41 MBTU-YR

AREA	MULTIPLIERS				
900	.685	1500	1.311	2100	1.936
1000	.785	1600	1.419	2200	2.038
1100	.890	1700	1.521	2300	2.141
1200	1.000	1800	1.624	2400	2.245
1300	1.101	1900	1.729	2500	2.349
1400	1.204	2000	1.835		

AREA	MULTIPLIERS				
900	.852	1500	1.150	2100	1.404
1000	.909	1600	1.191	2200	1.445
1100	.958	1700	1.238	2300	1.483
1200	1.000	1800	1.283	2400	1.519
1300	1.054	1900	1.323	2500	1.552
1400	1.104	2000	1.361		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.11	R-11	-3.56	R-5 2FT	-4.61
R-19	-8.02	R-19	-4.36	R-5 4FT	-5.24
R-30	-8.64	R-27	-4.78		
R-38	-8.86				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.01	R-11	-2.82	R-5 2FT	-2.74
R-19	-5.65	R-19	-3.46	R-5 4FT	-3.15
R-30	-6.11	R-27	-3.79		
R-38	-6.28				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.35
LOW (.4 ACH)	-6.69

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.80
LOW (.4 ACH)	-3.60

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.08	-2.78	-.60
	WOOD	-5.03	-3.44	-1.79
	ALUM	-3.60	-2.44	0.
2 PANE 1/4IN.	ALUM+TB	-4.56	-3.11	-1.20
	PLAIN	-7.45	-7.48	-6.68
	WOOD	-7.70	-7.66	-7.00
2 PANE 1/2 IN.	ALUM	-6.19	-6.60	-5.11
	ALUM+TB	-7.20	-7.31	-6.37
	PLAIN	-8.23	-8.03	-7.66
3 PANE 1/4IN.	WOOD	-8.45	-8.18	-7.93
	ALUM	-7.11	-7.24	-6.26
	ALUM+TB	-8.02	-7.88	-7.39
3 PANE 1/2IN.	PLAIN	-8.78	-9.02	-8.65
	WOOD	-8.87	-9.08	-8.76
	ALUM	-7.43	-8.07	-6.96
3 PANE 1/2IN.	ALUM+TB	-7.83	-8.35	-7.47
	PLAIN	-9.48	-9.51	-9.52
	WOOD	-9.54	-9.55	-9.60
	ALUM	-8.40	-8.75	-8.17
	ALUM+TB	-9.14	-9.27	-9.09

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.89	-5.01	-.21
-8.34	-5.27	-.64
-7.66	-4.88	0.
-8.12	-5.14	-.43
-10.44	-8.44	-4.59
-10.56	-8.51	-4.70
-9.84	-8.09	-4.03
-10.32	-8.37	-4.48
-10.81	-8.66	-4.94
-10.91	-8.72	-5.04
-10.28	-8.35	-4.44
-10.71	-8.60	-4.85
-11.67	-9.92	-6.52
-11.71	-9.94	-6.55
-11.03	-9.54	-5.91
-11.22	-9.66	-6.09
-12.00	-10.11	-6.83
-12.03	-10.13	-6.86
-11.49	-9.81	-6.34
-11.84	-10.02	-6.67

BASE LOAD = 38.55 MBTU-YR

BASE LOAD = 47.74 MBTU-YR

AREA	MULTIPLIERS	
900	.717	1500 1.278
1000	.809	1600 1.373
1100	.903	1700 1.463
1200	1.000	1800 1.555
1300	1.091	1900 1.647
1400	1.184	2000 1.739
		2100 1.829
		2200 1.919
		2300 2.009
		2400 2.099
		2500 2.190

AREA	MULTIPLIERS	
900	.859	1500 1.144
1000	.914	1600 1.183
1100	.961	1700 1.229
1200	1.000	1800 1.271
1300	1.053	1900 1.309
1400	1.101	2000 1.344
		2100 1.385
		2200 1.424
		2300 1.460
		2400 1.493
		2500 1.524

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.69	R-11	-3.39	R-5 2FT	-1.54
R-19	-4.10	R-19	-3.75	R-5 4FT	-1.66
R-30	-4.27	R-27	-3.75		
R-38	-4.33				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.19
R-11	-.79	R-11	-.30	R-5 2FT	-.02
R-19	-.83	R-19	-.36	R-5 4FT	0.
R-30	-.88	R-27	-.36		
R-38	-.92				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.83
LOW (.4 ACH)	-1.65

INFILTRATION

HI (1 ACH)	-.23
MED (.7 ACH)	-.12
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.59	-.53	-.29
	WOOD	-1.06	-.86	-.88
	ALUM	-.35	-.37	0.
2 PANE 1/4IN.	ALUM+TB	-.83	-.70	-.59
	PLAIN	-1.88	-2.40	-2.70
	WOOD	-2.00	-2.49	-2.85
2 PANE 1/2IN.	ALUM	-1.26	-1.97	-1.92
	ALUM+TB	-1.75	-2.32	-2.54
	PLAIN	-2.26	-2.67	-3.18
3 PANE 1/4IN.	WOOD	-2.37	-2.75	-3.31
	ALUM	-1.71	-2.28	-2.49
	ALUM+TB	-2.16	-2.60	-3.05
3 PANE 1/2IN.	PLAIN	-2.23	-2.72	-3.00
	WOOD	-2.27	-2.75	-3.05
	ALUM	-1.56	-2.25	-2.17
3 PANE 1/2IN.	ALUM+TB	-1.76	-2.39	-2.42
	PLAIN	-2.57	-2.96	-3.43
	WOOD	-2.61	-2.99	-3.47
	ALUM	-2.04	-2.59	-2.77
	ALUM+TB	-2.41	-2.85	-3.22

12 PCT AREA	15 PCT AREA	20 PCT AREA
-1.24	-.80	-.00
-1.24	-.80	-.00
-1.24	-.80	0.
-1.24	-.80	-.00
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.31	-.92	-.14
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33
-1.41	-1.04	-.33

BASE LOAD = 13.64 MBTU-YR

BASE LOAD = 3.88 MBTU-YR

AREA	MULTIPLIERS
900 .654	1500 1.342
1000 .762	1600 1.464
1100 .878	1700 1.576
1200 1.000	1800 1.690
1300 1.110	1900 1.807
1400 1.224	2000 1.926
	2100 2.038
	2200 2.151
	2300 2.266
	2400 2.382
	2500 2.500

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.22	R-11	-6.18	R-11 FLR	-9.54
R-19	-12.68	R-19	-7.58	R-19 FLR	-10.90
R-30	-13.66	R-27	-8.32		
R-3E	-14.02				
R-49	-14.34				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.07	R-11	-.88	R-11 FLR	-2.69
R-19	-3.48	R-19	-1.07	R-19 FLR	-3.07
R-30	-3.69	R-27	-1.12		
R-38	-3.79				
R-49	-3.89				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.00
LOW (.4 ACH)	-12.00

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.08
LOW (.4 ACH)	-.16

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.90	-4.09	-1.04
	WOOD	-7.55	-5.25	-3.10
	ALUM	-5.06	-3.51	0.
	ALUM+TB	-6.73	-4.68	-2.07
2 PANE 1/4IN.	PLAIN	-10.86	-11.11	-10.03
	WOOD	-11.30	-11.42	-10.58
	ALUM	-8.67	-9.58	-7.31
	ALUM+TB	-10.42	-10.81	-9.49
2 PANE 1/2IN.	PLAIN	-12.22	-12.06	-11.72
	WOOD	-12.59	-12.33	-12.19
	ALUM	-10.27	-10.70	-9.30
	ALUM+TB	-11.84	-11.80	-11.26
3 PANE 1/4IN.	PLAIN	-13.06	-13.65	-13.28
	WOOD	-13.20	-13.76	-13.46
	ALUM	-10.71	-12.01	-10.35
	ALUM+TB	-11.41	-12.50	-11.23
3 PANE 1/2IN.	PLAIN	-14.26	-14.50	-14.78
	WOOD	-14.38	-14.58	-14.93
	ALUM	-12.39	-13.19	-12.45
	ALUM+TB	-13.67	-14.09	-14.05

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.76	-2.37	-.01
-3.79	-2.39	-.04
-3.75	-2.36	0.
-3.78	-2.38	-.03
-4.47	-3.27	-1.20
-4.48	-3.27	-1.20
-4.44	-3.24	-1.16
-4.47	-3.26	-1.19
-4.50	-3.28	-1.22
-4.50	-3.28	-1.22
-4.46	-3.26	-1.19
-4.49	-3.28	-1.21
-4.84	-3.73	-1.82
-4.85	-3.73	-1.83
-4.80	-3.70	-1.79
-4.82	-3.71	-1.80
-4.86	-3.74	-1.84
-4.87	-3.74	-1.85
-4.83	-3.72	-1.81
-4.85	-3.73	-1.83

BASE LOAD = 66.49 MBTU-YR

BASE LOAD = 18.11 MBTU-YR

AREA		MULTIPLIERS			
900	.735	1500	1.259	2100	1.768
1000	.822	1600	1.346	2200	1.851
1100	.911	1700	1.431	2300	1.934
1200	1.000	1800	1.515	2400	2.016
1300	1.086	1900	1.600	2500	2.099
1400	1.172	2000	1.685		

AREA		MULTIPLIERS			
900	.939	1500	1.078	2100	1.164
1000	.973	1600	1.089	2200	1.177
1100	.994	1700	1.112	2300	1.186
1200	1.000	1800	1.129	2400	1.191
1300	1.034	1900	1.141	2500	1.193
1400	1.060	2000	1.147		

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.57	R-11	-4.01	R-5 2FT	-4.58
R-19	-8.50	R-19	-4.89	R-5 4FT	-5.20
R-30	-9.14	R-27	-5.35		
R-38	-9.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.11
LOW (.4 ACH)	-8.22

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.71	R-11	-1.51	R-5 2FT	-2.29
R-19	-4.23	R-19	-1.82	R-5 4FT	-2.60
R-30	-4.65	R-27	-2.07		
R-38	-4.78				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.44
LOW (.4 ACH)	-2.89

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.66	-2.56	-.67
	WOOD	-4.74	-3.31	-2.01
	ALUM	-3.12	-2.18	0.
	ALUM+TB	-4.20	-2.93	-1.35
2 PANE 1/4IN.	PLAIN	-7.48	-7.87	-7.53
	WOOD	-7.76	-8.07	-7.89
	ALUM	-6.06	-6.88	-5.76
	ALUM+TB	-7.20	-7.68	-7.18
2 PANE 1/2IN.	PLAIN	-8.36	-8.49	-8.63
	WOOD	-8.60	-8.66	-8.93
	ALUM	-7.09	-7.60	-7.05
	ALUM+TB	-8.12	-8.32	-8.33
3 PANE 1/4IN.	PLAIN	-8.90	-9.52	-9.64
	WOOD	-9.00	-9.58	-9.76
	ALUM	-7.38	-8.45	-7.74
	ALUM+TB	-7.83	-8.77	-8.31
3 PANE 1/2IN.	PLAIN	-9.68	-10.06	-10.61
	WOOD	-9.76	-10.12	-10.71
	ALUM	-8.47	-9.21	-9.10
	ALUM+TB	-9.30	-9.80	-10.14

BASE LOAD = 41.66 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.24	-4.55	-.05
-7.34	-4.60	-.14
-7.19	-4.52	0.
-7.29	-4.58	-.09
-8.42	-6.08	-2.07
-8.45	-6.09	-2.10
-8.29	-6.01	-1.95
-8.40	-6.07	-2.05
-8.50	-6.13	-2.15
-8.52	-6.14	-2.17
-8.39	-6.06	-2.04
-8.48	-6.11	-2.13
-9.17	-7.02	-3.28
-9.18	-7.03	-3.29
-9.03	-6.94	-3.15
-9.07	-6.97	-3.19
-9.24	-7.07	-3.35
-9.25	-7.07	-3.36
-9.13	-7.00	-3.25
-9.20	-7.05	-3.32

BASE LOAD = 41.07 MBTU-YR

AREA	MULTIPLIERS
900 .721	1500 1.273
1000 .812	1600 1.366
1100 .905	1700 1.456
1200 1.000	1800 1.546
1300 1.090	1900 1.636
1400 1.181	2000 1.726
	2100 1.814
	2200 1.903
	2300 1.991
	2400 2.080
	2500 2.168

AREA	MULTIPLIERS
900 .864	1500 1.141
1000 .918	1600 1.178
1100 .963	1700 1.222
1200 1.000	1800 1.262
1300 1.052	1900 1.299
1400 1.099	2000 1.333
	2100 1.372
	2200 1.409
	2300 1.444
	2400 1.475
	2500 1.505

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.74	R-11	-4.10	R-11 FLR	-6.63
R-19	-8.72	R-19	-4.99	R-19 FLR	-7.54
R-30	-9.37	R-27	-5.44		
R-38	-9.61				
R-49	-9.80				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.07	R-11	-1.71	R-11 FLR	-3.40
R-19	-4.59	R-19	-2.07	R-19 FLR	-3.85
R-30	-4.95	R-27	-2.28		
R-38	-5.08				
R-49	-5.16				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.97
LOW (.4 ACH)	-7.93

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.26
LOW (.4 ACH)	-2.51

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.68	-2.57	-.69
	WOOD	-4.78	-3.34	-2.06
	ALUM	-3.13	-2.18	0.
	ALUM+TB	-4.23	-2.96	-1.38
2 PANE 1/4IN.	PLAIN	-7.52	-7.93	-7.57
	WOOD	-7.82	-8.13	-7.94
	ALUM	-6.08	-6.91	-5.77
	ALUM+TB	-7.24	-7.72	-7.22
2 PANE 1/2IN.	PLAIN	-8.43	-8.56	-8.70
	WOOD	-8.67	-8.73	-9.01
	ALUM	-7.13	-7.65	-7.09
	ALUM+TB	-8.18	-8.39	-8.39
3 PANE 1/4IN.	PLAIN	-8.98	-9.60	-9.71
	WOOD	-9.08	-9.67	-9.83
	ALUM	-7.42	-8.51	-7.77
	ALUM+TB	-7.89	-8.83	-8.35
3 PANE 1/2IN.	PLAIN	-9.78	-10.16	-10.71
	WOOD	-9.85	-10.21	-10.81
	ALUM	-8.54	-9.29	-9.16
	ALUM+TB	-9.39	-9.89	-10.22

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.25	-4.55	-.05
-7.36	-4.62	-.15
-7.19	-4.52	0.
-7.30	-4.59	-.10
-8.58	-6.24	-2.23
-8.61	-6.26	-2.26
-8.44	-6.16	-2.09
-8.55	-6.23	-2.20
-8.67	-6.30	-2.31
-8.69	-6.31	-2.34
-8.54	-6.22	-2.19
-8.64	-6.28	-2.29
-9.33	-7.19	-3.44
-9.34	-7.19	-3.45
-9.17	-7.09	-3.30
-9.22	-7.12	-3.34
-9.41	-7.23	-3.52
-9.41	-7.24	-3.52
-9.28	-7.16	-3.40
-9.37	-7.21	-3.48

BASE LOAD = 44.49 MBTU-YR

BASE LOAD = 42.79 MBTU-YR

AREA	MULTIPLIERS
900	.723
1000	.813
1100	.906
1200	1.000
1300	1.090
1400	1.180
1500	1.272
1600	1.364
1700	1.453
1800	1.542
1900	1.632
2000	1.722
2100	1.809
2200	1.897
2300	1.985
2400	2.072
2500	2.160

AREA	MULTIPLIERS
900	.864
1000	.917
1100	.963
1200	1.000
1300	1.052
1400	1.099
1500	1.141
1600	1.178
1700	1.222
1800	1.262
1900	1.299
2000	1.333
2100	1.372
2200	1.409
2300	1.444
2400	1.476
2500	1.505

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.33	R-11	-.15	R-5 2FT	-.01
R-19	-.37	R-19	-.18	R-5 4FT	-.01
R-30	-.38	R-27	-.18		
R-3E	-.39				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.09
LOW (.4 ACH)	-.18

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.91	R-11	-2.77	R-5 2FT	-3.78
R-19	-6.63	R-19	-3.45	R-5 4FT	-4.35
R-30	-7.18	R-27	-3.83		
R-38	-7.38				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.31
LOW (.4 ACH)	-8.63

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.12	-.09	-.03
	WOOD	-.16	-.12	-.07
	ALUM	-.10	-.08	0.
2 PANE 1/4IN.	ALUM+TB	-.14	-.10	-.05
	PLAIN	-.26	-.28	-.28
	WOOD	-.27	-.29	-.29
2 PANE 1/2IN.	ALUM	-.21	-.25	-.21
	ALUM+TB	-.25	-.28	-.27
	PLAIN	-.29	-.31	-.32
3 PANE 1/4IN.	WOOD	-.30	-.31	-.33
	ALUM	-.24	-.28	-.26
	ALUM+TB	-.28	-.30	-.31
3 PANE 1/2IN.	PLAIN	-.30	-.32	-.33
	WOOD	-.30	-.33	-.33
	ALUM	-.26	-.30	-.28
	ALUM+TB	-.26	-.34	-.36
	PLAIN	-.32	-.34	-.36
	WOOD	-.33	-.35	-.37
	ALUM	-.28	-.31	-.31
	ALUM+TB	-.31	-.33	-.35

BASE LOAD = 1.07 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-14.51	-9.08	-.14
-14.80	-9.26	-.42
-14.36	-9.00	0.
-14.66	-9.17	-.28
-16.99	-12.33	-4.32
-17.06	-12.38	-4.39
-16.60	-12.11	-3.96
-16.91	-12.29	-4.25
-17.23	-12.48	-4.55
-17.29	-12.51	-4.61
-16.88	-12.27	-4.22
-17.16	-12.44	-4.49
-18.57	-14.12	-6.61
-18.59	-14.14	-6.63
-18.15	-13.88	-6.22
-18.28	-13.95	-6.33
-18.78	-14.25	-6.81
-18.80	-14.26	-6.83
-18.45	-14.06	-6.50
-18.68	-14.19	-6.71

BASE LOAD = 87.95 MBTU-YR

AREA	MULTIPLIERS
900	.654
1000	.762
1100	.878
1200	1.000
1300	1.110
1400	1.224
1500	1.342
1600	1.464
1700	1.576
1800	1.690
1900	1.807
2000	1.926
2100	2.038
2200	2.151
2300	2.266
2400	2.382
2500	2.500

AREA	MULTIPLIERS
900	.839
1000	.899
1100	.953
1200	1.000
1300	1.058
1400	1.111
1500	1.161
1600	1.206
1700	1.257
1800	1.306
1900	1.351
2000	1.393
2100	1.440
2200	1.485
2300	1.527
2400	1.568
2500	1.606

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-20.31	R-11	-11.39	R-5 4FT	-3.14
R-15	-22.89	R-19	-13.97	R-5 8FT	-4.95
R-30	-24.73	R-27	-15.36	R-10 8FT	-7.25
R-38	-25.40			R-19 FLR	-9.33
R-49	-25.97				
R-60	-26.34				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.82	R-11	-.71	R-5 4FT	-.10
R-19	-2.07	R-19	-.88	R-5 8FT	-.14
R-30	-2.23	R-27	-.93	R-10 8FT	-.24
R-38	-2.30			R-19 FLR	-.00
R-49	-2.35				
R-60	-2.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-10.22
LOW (.4 ACH)	-20.44

INFILTRATION

HI (1 ACH)	-.05
MED (.7 ACH)	-.02
LOW (.4 ACH)	0.

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.51	-9.08	-1.91
	WOOD	-16.55	-11.21	-5.71
	ALUM	-11.97	-8.00	0.
	ALUM+TB	-15.04	-10.15	-3.82
2 PANE 1/4IN.	PLAIN	-24.94	-24.71	-21.68
	WOOD	-25.74	-25.27	-22.68
	ALUM	-20.95	-21.91	-16.70
	ALUM+TB	-24.15	-24.15	-20.69
2 PANE 1/2IN.	PLAIN	-27.43	-26.45	-24.78
	WOOD	-28.11	-26.93	-25.63
	ALUM	-23.86	-23.95	-20.34
	ALUM+TB	-26.75	-25.97	-23.93
3 PANE 1/4IN.	PLAIN	-29.37	-29.83	-28.25
	WOOD	-29.64	-30.02	-28.58
	ALUM	-25.07	-26.82	-22.89
	ALUM+TB	-26.36	-27.73	-24.50
3 PANE 1/2IN.	PLAIN	-31.57	-31.38	-30.99
	WOOD	-31.78	-31.53	-31.26
	ALUM	-28.15	-28.98	-26.73
	ALUM+TB	-30.50	-30.63	-29.65

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.02	-2.48	-.01
-4.03	-2.49	-.02
-4.01	-2.47	0.
-4.02	-2.48	-.01
-4.65	-3.31	-1.04
-4.66	-3.32	-1.04
-4.63	-3.30	-1.02
-4.65	-3.31	-1.04
-4.67	-3.32	-1.05
-4.67	-3.32	-1.06
-4.65	-3.31	-1.04
-4.66	-3.32	-1.05
-4.98	-3.75	-1.61
-4.98	-3.75	-1.61
-4.96	-3.73	-1.59
-4.96	-3.74	-1.60
-4.99	-3.75	-1.62
-4.99	-3.75	-1.62
-4.97	-3.74	-1.60
-4.99	-3.75	-1.62

BASE LOAD = 121.85 MBTU-YR

BASE LOAD = 16.19 MBTU-YR

AREA	MULTIPLIERS
900	.747
1000	.831
1100	.915
1200	1.000
1300	1.082
1400	1.165
1500	1.247
1600	1.329
1700	1.410
1800	1.490
1900	1.570
2000	1.650
2100	1.729
2200	1.807
2300	1.886
2400	1.964
2500	2.041

AREA	MULTIPLIERS
900	.922
1000	.961
1100	.987
1200	1.000
1300	1.038
1400	1.069
1500	1.092
1600	1.109
1700	1.136
1800	1.159
1900	1.176
2000	1.189
2100	1.211
2200	1.229
2300	1.244
2400	1.255
2500	1.263

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.47	R-11	-4.69	R-5 2FT	-5.20
R-15	-5.53	R-19	-5.74	R-5 4FT	-5.92
R-30	-10.26	R-27	-6.29		
R-38	-10.53				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.66
LOW (.4 ACH)	-9.31

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.83	R-11	-.68	R-5 2FT	-1.86
R-19	-3.08	R-19	-.64	R-5 4FT	-2.01
R-30	-3.29	R-27	-.75		
R-38	-3.37				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.03
LOW (.4 ACH)	-.06

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.92	-3.38	-.79
	WOOD	-6.18	-4.26	-2.35
	ALUM	-4.29	-2.94	0.
	ALUM+TB	-5.55	-3.82	-1.57
2 PANE 1/4IN.	PLAIN	-9.54	-9.80	-9.09
	WOOD	-9.88	-10.03	-9.50
	ALUM	-7.89	-8.64	-7.02
	ALUM+TB	-9.21	-9.57	-8.68
2 PANE 1/2IN.	PLAIN	-10.57	-10.52	-10.37
	WOOD	-10.85	-10.72	-10.72
	ALUM	-9.10	-9.48	-8.53
	ALUM+TB	-10.29	-10.32	-10.02
3 PANE 1/4IN.	PLAIN	-11.29	-11.82	-11.68
	WOOD	-11.41	-11.90	-11.82
	ALUM	-9.51	-10.57	-9.46
	ALUM+TB	-10.05	-10.95	-10.13
3 PANE 1/2IN.	PLAIN	-12.21	-12.46	-12.82
	WOOD	-12.30	-12.52	-12.93
	ALUM	-10.79	-11.47	-11.05
	ALUM+TB	-11.76	-12.15	-12.26

BASE LOAD = 49.16 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.52	-4.07	-.02
-6.55	-4.09	-.05
-6.50	-4.06	0.
-6.53	-4.08	-.03
-6.95	-4.76	-1.02
-6.96	-4.76	-1.03
-6.91	-4.73	-.98
-6.94	-4.75	-1.01
-6.98	-4.78	-1.04
-6.98	-4.78	-1.05
-6.94	-4.75	-1.01
-6.97	-4.77	-1.04
-7.58	-5.54	-1.97
-7.58	-5.54	-1.97
-7.54	-5.51	-1.93
-7.55	-5.52	-1.94
-7.61	-5.55	-1.99
-7.61	-5.55	-1.99
-7.57	-5.53	-1.96
-7.59	-5.55	-1.98

BASE LOAD = 29.46 MBTU-YR

AREA	MULTIPLIERS
900	.727
1000	.816
1100	.907
1200	1.000
1300	1.088
1400	1.177
1500	1.267
1600	1.358
1700	1.445
1800	1.533
1900	1.620
2000	1.709
2100	1.795
2200	1.881
2300	1.967
2400	2.053
2500	2.139

AREA	MULTIPLIERS
900	.879
1000	.929
1100	.969
1200	1.000
1300	1.048
1400	1.091
1500	1.128
1600	1.160
1700	1.199
1800	1.235
1900	1.267
2000	1.295
2100	1.330
2200	1.362
2300	1.391
2400	1.417
2500	1.441

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.65	R-11	-4.76	R-11 FLR	-7.47
R-19	-9.74	R-19	-5.81	R-19 FLR	-8.50
R-30	-10.49	R-27	-6.36		
R-3E	-10.76				
R-49	-10.99				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.47	R-11	-1.16	R-11 FLR	-2.65
R-19	-3.90	R-19	-1.36	R-19 FLR	-2.85
R-30	-4.14	R-27	-1.47		
R-38	-4.26				
R-49	-4.32				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.46
LCW (.4 ACH)	-8.92

INFILTRATION

HI (1 ACH)	-.66
MED (.7 ACH)	-.33
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.93	-3.39	-.80
	WOOD	-6.21	-4.28	-2.39
	ALUM	-4.29	-2.94	0.
	ALUM+TB	-5.58	-3.94	-1.60
2 PANE 1/4IN.	PLAIN	-9.57	-9.83	-9.11
	WOOD	-9.91	-10.06	-9.53
	ALUM	-7.89	-8.65	-7.01
	ALUM+TB	-9.23	-9.59	-8.69
2 PANE 1/2IN.	PLAIN	-10.61	-10.56	-10.41
	WOOD	-10.90	-10.76	-10.77
	ALUM	-9.11	-9.51	-8.54
	ALUM+TB	-10.33	-10.36	-10.06
3 PANE 1/4IN.	PLAIN	-11.33	-11.86	-11.71
	WOOD	-11.44	-11.94	-11.85
	ALUM	-9.52	-10.59	-9.46
	ALUM+TB	-10.06	-10.97	-10.13
3 PANE 1/2IN.	PLAIN	-12.25	-12.51	-12.87
	WOOD	-12.34	-12.57	-12.98
	ALUM	-10.81	-11.50	-11.07
	ALUM+TB	-11.80	-12.19	-12.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.53	-4.08	-.03
-6.58	-4.12	-.08
-6.50	-4.07	0.
-6.55	-4.10	-.05
-7.30	-5.12	-1.37
-7.32	-5.13	-1.39
-7.23	-5.08	-1.30
-7.29	-5.11	-1.36
-7.35	-5.15	-1.42
-7.36	-5.16	-1.43
-7.28	-5.11	-1.35
-7.34	-5.14	-1.40
-7.81	-5.77	-2.20
-7.81	-5.77	-2.20
-7.73	-5.72	-2.12
-7.75	-5.74	-2.14
-7.85	-5.79	-2.23
-7.85	-5.80	-2.24
-7.79	-5.76	-2.18
-7.83	-5.78	-2.22

BASE LOAD = 52.16 MBTU-YR

BASE LOAD = 32.15 MBTU-YR

AREA	MULTIPLIERS
900 .728	1500 1.266
1000 .817	1600 1.356
1100 .908	1700 1.443
1200 1.000	1800 1.530
1300 1.088	1900 1.617
1400 1.177	2000 1.705
	2100 1.791
	2200 1.876
	2300 1.962
	2400 2.047
	2500 2.133

AREA	MULTIPLIERS
900 .879	1500 1.128
1000 .929	1600 1.159
1100 .969	1700 1.199
1200 1.000	1800 1.234
1300 1.048	1900 1.266
1400 1.091	2000 1.294
	2100 1.329
	2200 1.361
	2300 1.390
	2400 1.416
	2500 1.440

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.52	R-11	-6.35	R-5 4FT	-1.74
R-19	-12.94	R-19	-7.75	R-5 8FT	-2.74
R-3C	-13.94	R-27	-8.49	R-10 8FT	-3.97
R-38	-14.30			R-19 FLR	-5.08
R-49	-14.60				
R-60	-14.80				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.09
R-11	-1.58	R-11	-0.55	R-5 4FT	-0.18
R-19	-1.79	R-19	-0.72	R-5 8FT	-0.21
R-30	-1.96	R-27	-0.77	R-10 8FT	-0.26
R-38	-2.02			R-19 FLR	0.
R-49	-2.06				
R-60	-2.06				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.78
LOW (.4 ACH)	-11.56

INFILTRATION

HI (1 ACH)	-0.28
MED (.7 ACH)	-0.14
LOW (.4 ACH)	0.

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.80	-4.66	-1.07
	WOOD	-8.50	-5.85	-3.19
	ALUM	-5.95	-4.06	0.
	ALUM+TB	-7.66	-5.26	-2.13
2 PANE 1/4IN.	PLAIN	-13.57	-13.94	-13.08
	WOOD	-14.01	-14.24	-13.62
	ALUM	-11.41	-12.43	-10.39
	ALUM+TB	-13.14	-13.64	-12.54
2 PANE 1/2IN.	PLAIN	-14.91	-14.88	-14.75
	WOOD	-15.28	-15.14	-15.21
	ALUM	-12.99	-13.53	-12.35
	ALUM+TB	-14.55	-14.62	-14.29
3 PANE 1/4IN.	PLAIN	-15.94	-16.67	-16.54
	WOOD	-16.09	-16.77	-16.72
	ALUM	-13.62	-15.04	-13.65
	ALUM+TB	-14.32	-15.53	-14.52
3 PANE 1/2IN.	PLAIN	-17.13	-17.50	-18.03
	WOOD	-17.25	-17.58	-18.17
	ALUM	-15.29	-16.20	-15.72
	ALUM+TB	-16.55	-17.09	-17.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.11	-2.56	-0.01
-4.12	-2.56	-0.02
-4.11	-2.55	0.
-4.12	-2.56	-0.01
-4.38	-2.97	-0.61
-4.39	-2.97	-0.61
-4.36	-2.96	-0.59
-4.38	-2.97	-0.60
-4.40	-2.98	-0.62
-4.40	-2.98	-0.62
-4.38	-2.97	-0.60
-4.39	-2.98	-0.62
-4.73	-3.43	-1.16
-4.73	-3.43	-1.16
-4.71	-3.42	-1.14
-4.71	-3.42	-1.15
-4.74	-3.43	-1.17
-4.74	-3.43	-1.17
-4.72	-3.42	-1.16
-4.73	-3.43	-1.17

BASE LOAD = 63.89 MBTU-YR

BASE LOAD = 15.86 MBTU-YR

AREA	MULTIPLIERS
900	.735
1000	.823
1100	.911
1200	1.000
1300	1.086
1400	1.172
1500	1.259
1600	1.346
1700	1.430
1800	1.515
1900	1.599
2000	1.684
2100	1.767
2200	1.850
2300	1.932
2400	2.015
2500	2.098

AREA	MULTIPLIERS
900	.923
1000	.962
1100	.987
1200	1.000
1300	1.038
1400	1.068
1500	1.092
1600	1.108
1700	1.135
1800	1.157
1900	1.174
2000	1.186
2100	1.208
2200	1.226
2300	1.241
2400	1.251
2500	1.259

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.46	R-11	-5.72	R-5 2FT	-6.33
R-19	-11.75	R-19	-6.99	R-5 4FT	-7.18
R-30	-12.65	R-27	-7.65		
R-38	-12.97				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.12	R-11	-1.35	R-5 2FT	-1.47
R-19	-3.52	R-19	-1.73	R-5 4FT	-1.72
R-30	-3.81	R-27	-1.89		
R-38	-3.93				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.29
LOW (.4 ACH)	-10.58

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.11
LOW (.4 ACH)	-2.21

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.11	-4.19	-2.96
	WOOD	-7.64	-5.27	-2.87
	ALUM	-5.34	-3.65	0.
	ALUM+TB	-6.88	-4.73	-1.92
2 PANE 1/4IN.	PLAIN	-12.22	-12.61	-11.86
	WOOD	-12.63	-12.89	-12.37
	ALUM	-10.20	-11.19	-9.34
	ALUM+TB	-11.82	-12.33	-11.36
2 PANE 1/2IN.	PLAIN	-13.48	-13.49	-13.43
	WOOD	-13.82	-13.73	-13.86
	ALUM	-11.67	-12.23	-11.18
	ALUM+TB	-13.13	-13.25	-13.00
3 PANE 1/4IN.	PLAIN	-14.37	-15.09	-15.03
	WOOD	-14.50	-15.19	-15.20
	ALUM	-12.19	-13.57	-12.32
	ALUM+TB	-12.84	-14.02	-13.13
3 PANE 1/2IN.	PLAIN	-15.48	-15.87	-16.42
	WOOD	-15.59	-15.95	-16.56
	ALUM	-13.75	-14.66	-14.26
	ALUM+TB	-14.94	-15.49	-15.74

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.65	-4.21	-2.05
-6.75	-4.26	-2.14
-6.60	-4.18	0.
-6.70	-4.24	-2.09
-8.10	-6.02	-2.38
-8.13	-6.04	-2.41
-7.98	-5.95	-2.26
-8.08	-6.01	-2.36
-8.19	-6.07	-2.46
-8.21	-6.08	-2.48
-8.07	-6.00	-2.35
-8.16	-6.06	-2.44
-8.84	-6.90	-3.53
-8.85	-6.90	-3.54
-8.71	-6.82	-3.40
-8.75	-6.84	-3.44
-8.92	-6.94	-3.60
-8.92	-6.94	-3.60
-8.80	-6.88	-3.49
-8.88	-6.92	-3.56

BASE LOAD = 59.91 MBTU-YR

BASE LOAD = 35.29 MBTU-YR

AREA	MULTIPLIERS
900	.732
1000	.820
1100	.909
1200	1.000
1300	1.087
1400	1.174
1500	1.262
1600	1.351
1700	1.436
1800	1.522
1900	1.608
2000	1.694
2100	1.778
2200	1.863
2300	1.947
2400	2.031
2500	2.115

AREA	MULTIPLIERS
900	.870
1000	.922
1100	.965
1200	1.000
1300	1.050
1400	1.095
1500	1.136
1600	1.170
1700	1.213
1800	1.251
1900	1.286
2000	1.318
2100	1.355
2200	1.390
2300	1.423
2400	1.452
2500	1.479

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.08	R-11	-9.50	R-5 4FT	-2.24
R-19	-16.02	R-19	-11.39	R-5 8FT	-3.53
R-30	-17.38	R-27	-12.39	R-10 8FT	-5.16
R-38	-17.87			R-19 FLR	-6.58
R-49	-18.29				
R-60	-18.56				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.88	R-11	-1.35	R-5 4FT	-0.16
R-19	-2.21	R-19	-1.55	R-5 8FT	-0.26
R-30	-2.41	R-27	-1.62	R-10 8FT	-0.38
R-38	-2.49			R-19 FLR	-0.19
R-49	-2.57				
R-60	-2.63				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.74
LOW (.4 ACH)	-15.48

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.26
LOW (.4 ACH)	-0.53

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.25	-6.38	-1.59
	WOOD	-11.80	-8.16	-4.76
	ALUM	-7.98	-5.48	0.
	ALUM+TB	-10.53	-7.27	-3.19
2 PANE 1/4IN.	PLAIN	-17.46	-17.69	-16.10
	WOOD	-18.04	-18.10	-16.83
	ALUM	-14.55	-15.65	-12.47
	ALUM+TB	-16.89	-17.29	-15.38
2 PANE 1/2IN.	PLAIN	-19.27	-18.96	-18.36
	WOOD	-19.77	-19.31	-18.98
	ALUM	-16.67	-17.14	-15.12
	ALUM+TB	-18.77	-18.61	-17.74
3 PANE 1/4IN.	PLAIN	-20.62	-21.33	-20.73
	WOOD	-20.82	-21.47	-20.98
	ALUM	-17.49	-19.13	-16.83
	ALUM+TB	-18.43	-19.79	-19.00
3 PANE 1/2IN.	PLAIN	-22.23	-22.46	-22.74
	WOOD	-22.38	-22.57	-22.93
	ALUM	-19.73	-20.71	-19.63
	ALUM+TB	-21.44	-21.91	-21.76

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.93	-3.12	-0.02
-4.98	-3.15	-0.07
-4.91	-3.11	0.
-4.96	-3.13	-0.04
-5.78	-4.19	-1.39
-5.78	-4.20	-1.39
-5.74	-4.17	-1.35
-5.77	-4.19	-1.38
-5.80	-4.21	-1.41
-5.81	-4.21	-1.42
-5.77	-4.19	-1.38
-5.79	-4.20	-1.40
-6.30	-4.80	-2.22
-6.31	-4.80	-2.22
-6.26	-4.77	-2.18
-6.27	-4.78	-2.19
-6.32	-4.81	-2.24
-6.33	-4.81	-2.24
-6.29	-4.79	-2.21
-6.31	-4.80	-2.23

BASE LOAD = 86.60 MBTU-YR

BASE LOAD = 21.22 MBTU-YR

AREA	MULTIPLIERS
900 .742	1500 1.252
1000 .827	2100 1.745
1100 .913	2200 1.825
1200 1.000	2300 1.905
1300 1.084	2400 1.985
1400 1.168	2500 2.065

AREA	MULTIPLIERS
900 .902	1500 1.109
1000 .946	2100 1.265
1100 .979	2200 1.290
1200 1.000	2300 1.312
1300 1.043	2400 1.330
1400 1.079	2500 1.345

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.80	R-11	-7.02	R-5 4FT	-1.93
R-19	-14.39	R-19	-8.58	R-5 8FT	-3.05
R-30	-15.51	R-27	-9.41	R-10 8FT	-4.46
R-3E	-15.91			R-19 FLR	-5.75
R-49	-16.26				
R-60	-16.48				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.09	R-11	-.29	R-5 4FT	-.23
R-19	-2.29	R-19	-.47	R-5 8FT	-.32
R-30	-2.49	R-27	-.55	R-10 8FT	-.48
R-38	-2.56			R-19 FLR	-.43
R-49	-2.59				
R-60	-2.65				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.48
LCW (.4 ACH)	-12.95

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.15
LOW (.4 ACH)	-.30

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.88	-5.37	-1.18
	WOOD	-9.76	-6.69	-3.52
	ALUM	-6.94	-4.71	0.
	ALUM+TB	-8.83	-6.04	-2.36
2 PANE 1/4IN.	PLAIN	-15.06	-15.28	-14.02
	WOOD	-15.54	-15.62	-14.63
	ALUM	-12.65	-13.59	-11.02
	ALUM+TB	-14.58	-14.94	-13.43
2 PANE 1/2IN.	PLAIN	-16.56	-16.33	-15.89
	WOOD	-16.97	-16.61	-16.40
	ALUM	-14.41	-14.82	-13.22
	ALUM+TB	-16.15	-16.04	-15.38
3 PANE 1/4IN.	PLAIN	-17.71	-18.33	-17.94
	WOOD	-17.87	-18.45	-18.14
	ALUM	-15.12	-16.52	-14.72
	ALUM+TB	-15.89	-17.06	-15.68
3 PANE 1/2IN.	PLAIN	-19.03	-19.26	-19.60
	WOOD	-19.16	-19.35	-19.76
	ALUM	-16.97	-17.82	-17.03
	ALUM+TB	-18.39	-18.81	-18.79

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.41	-2.76	-.00
-4.42	-2.76	-.01
-4.40	-2.75	0.
-4.41	-2.76	-.01
-4.62	-3.16	-.63
-4.63	-3.17	-.64
-4.59	-3.14	-.60
-4.61	-3.16	-.63
-4.64	-3.17	-.65
-4.64	-3.18	-.66
-4.61	-3.16	-.63
-4.63	-3.17	-.65
-4.98	-3.54	-1.10
-4.98	-3.55	-1.10
-4.94	-3.52	-1.07
-4.95	-3.53	-1.08
-5.00	-3.55	-1.12
-5.00	-3.56	-1.12
-4.97	-3.54	-1.09
-4.99	-3.55	-1.11

BASE LOAD = 72.42 MBTU-YR

BASE LOAD = 19.19 MBTU-YR

AREA	MULTIPLIERS				
900	.739	1500	1.255	2100	1.756
1000	.825	1600	1.341	2200	1.837
1100	.912	1700	1.424	2300	1.919
1200	1.000	1800	1.508	2400	2.000
1300	1.085	1900	1.591	2500	2.081
1400	1.170	2000	1.674		

AREA	MULTIPLIERS				
900	.903	1500	1.108	2100	1.264
1000	.947	1600	1.132	2200	1.288
1100	.979	1700	1.164	2300	1.309
1200	1.000	1800	1.193	2400	1.327
1300	1.042	1900	1.217	2500	1.342
1400	1.078	2000	1.236		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.74	R-11	-1.72	R-5 2FT	-1.78
R-19	-4.20	R-19	-2.07	R-5 4FT	-2.00
R-3C	-4.47	R-27	-2.23		
R-38	-4.57				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.86	R-11	-3.81	R-5 2FT	-5.29
R-19	-10.11	R-19	-4.70	R-5 4FT	-6.08
R-30	-10.92	R-27	-5.15		
R-38	-11.22				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.76
LOW (.4 ACH)	-3.51

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.46
LOW (.4 ACH)	-4.92

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.14	-0.86	-0.29
	WOOD	-1.60	-1.18	-0.86
	ALUM	-0.90	-0.70	0.
2 PANE 1/4IN.	ALUM+TB	-1.37	-1.02	-0.58
	PLAIN	-2.58	-2.91	-2.94
	WOOD	-2.70	-2.99	-3.09
2 PANE 1/2IN.	ALUM	-1.97	-2.48	-2.19
	ALUM+TB	-2.46	-2.82	-2.79
	PLAIN	-2.95	-3.17	-3.41
3 PANE 1/4IN.	WOOD	-3.06	-3.24	-3.54
	ALUM	-2.41	-2.79	-2.74
	ALUM+TB	-2.85	-3.10	-3.28
3 PANE 1/2IN.	PLAIN	-3.12	-3.53	-3.73
	WOOD	-3.16	-3.56	-3.78
	ALUM	-2.47	-3.07	-2.92
	ALUM+TB	-2.66	-3.21	-3.16
	PLAIN	-3.45	-3.76	-4.15
	WOOD	-3.49	-3.79	-4.19
	ALUM	-2.94	-3.40	-3.50
	ALUM+TB	-3.29	-3.65	-3.95

12 PCT AREA	15 PCT AREA	20 PCT AREA
-10.73	-6.78	-0.36
-11.49	-7.23	-1.09
-10.34	-6.56	0.
-11.11	-7.01	-0.73
-13.44	-10.49	-4.90
-13.65	-10.61	-5.10
-12.43	-9.90	-3.95
-13.24	-10.37	-4.72
-14.07	-10.86	-5.50
-14.24	-10.96	-5.66
-13.17	-10.33	-4.65
-13.90	-10.76	-5.34
-15.02	-12.31	-7.14
-15.09	-12.35	-7.20
-13.94	-11.67	-6.11
-14.26	-11.86	-6.42
-15.58	-12.64	-7.66
-15.63	-12.67	-7.71
-14.72	-12.13	-6.84
-15.31	-12.48	-7.41

BASE LOAD = 16.04 MBTU-YR

BASE LOAD = 70.60 MBTU-YR

AREA	MULTIPLIERS
900 .654	1500 1.342
1000 .762	2100 2.038
1100 .878	1600 1.464
1200 1.000	2200 2.151
1300 1.110	1700 1.576
1400 1.224	2300 2.266
	1800 1.690
	2400 2.382
	1900 1.807
	2500 2.500
	2000 1.926

AREA	MULTIPLIERS
900 .847	1500 1.154
1000 .905	2100 1.418
1100 .956	1600 1.197
1200 1.000	2200 1.460
1300 1.056	1700 1.246
1400 1.107	2300 1.500
	1800 1.291
	2400 1.537
	1900 1.334
	2500 1.573
	2000 1.373

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.91	R-11	-7.73	R-5 4FT	-2.11
R-19	-15.64	R-19	-9.49	R-5 8FT	-3.34
R-30	-16.89	R-27	-10.44	R-10 8FT	-4.90
R-3E	-17.34			R-19 FLR	-6.31
R-49	-17.73				
R-6C	-17.98				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.17
R-11	-1.97	R-11	-0.57	R-5 4FT	-0.23
R-19	-2.17	R-19	-0.70	R-5 8FT	-0.29
R-30	-2.31	R-27	-0.80	R-10 8FT	-0.30
R-38	-2.34			R-19 FLR	0.
R-49	-2.37				
R-60	-2.42				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.00
LOW (.4 ACH)	-14.00

INFILTRATION

HI (1 ACH)	-0.22
MED (.7 ACH)	-0.11
LOW (.4 ACH)	0.

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.97	-6.10	-1.30
	WOOD	-11.04	-7.55	-3.88
	ALUM	-7.93	-5.37	0.
	ALUM+TB	-10.01	-6.83	-2.59
2 PANE 1/4IN.	PLAIN	-16.72	-16.82	-15.17
	WOOD	-17.27	-17.21	-15.86
	ALUM	-14.01	-14.92	-11.79
	ALUM+TB	-16.19	-16.45	-14.51
2 PANE 1/2 IN.	PLAIN	-18.42	-18.01	-17.29
	WOOD	-18.88	-18.33	-17.86
	ALUM	-15.99	-16.31	-14.26
	ALUM+TB	-17.95	-17.68	-16.71
3 PANE 1/4IN.	PLAIN	-19.70	-20.27	-19.61
	WOOD	-19.88	-20.40	-19.84
	ALUM	-16.78	-18.22	-15.96
	ALUM+TB	-17.65	-18.83	-17.06
3 PANE 1/2IN.	PLAIN	-21.20	-21.32	-21.48
	WOOD	-21.34	-21.42	-21.66
	ALUM	-18.87	-19.69	-18.58
	ALUM+TB	-20.47	-20.81	-20.57

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.17	-2.62	-0.00
-4.18	-2.63	-0.01
-4.17	-2.62	0.
-4.18	-2.62	-0.01
-4.56	-3.10	-0.64
-4.56	-3.11	-0.64
-4.55	-3.10	-0.63
-4.56	-3.10	-0.64
-4.57	-3.11	-0.65
-4.56	-3.10	-0.64
-4.57	-3.11	-0.65
-4.87	-3.53	-1.10
-4.87	-3.53	-1.10
-4.86	-3.53	-1.09
-4.86	-3.53	-1.09
-4.87	-3.54	-1.10
-4.87	-3.53	-1.09
-4.87	-3.53	-1.10

BASE LOAD = 79.71 MBTU-YR

BASE LOAD = 15.11 MBTU-YR

AREA	MULTIPLIERS				
900	.740	1500	1.254	2100	1.750
1000	.826	1600	1.338	2200	1.831
1100	.913	1700	1.421	2300	1.912
1200	1.000	1800	1.504	2400	1.992
1300	1.084	1900	1.586	2500	2.073
1400	1.169	2000	1.669		

AREA	MULTIPLIERS				
900	.936	1500	1.081	2100	1.172
1000	.971	1600	1.093	2200	1.186
1100	.992	1700	1.116	2300	1.196
1200	1.000	1800	1.134	2400	1.203
1300	1.034	1900	1.147	2500	1.205
1400	1.061	2000	1.154		

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.78	R-11	-9.79	R-5 4FT	-2.72
R-19	-20.03	R-19	-12.00	R-5 8FT	-4.29
R-30	-21.61	R-27	-13.18	R-10 8FT	-6.27
R-38	-22.19			R-19 FLR	-8.08
R-45	-22.68				
R-60	-23.00				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.03
LCW (.4 ACH)	-18.06

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.23
R-11	-1.13	R-11	-0.32	R-5 4FT	-0.22
R-19	-1.29	R-19	-0.40	R-5 8FT	-0.24
R-30	-1.36	R-27	-0.42	R-10 8FT	-0.21
R-38	-1.41			R-19 FLR	0.
R-49	-1.45				
R-60	-1.49				

INFILTRATION

HI (1 ACH)	-0.18
MED (.7 ACH)	-0.09
LOW (.4 ACH)	0.

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.61	-7.24	-1.64
	WOOD	-13.23	-9.08	-4.91
	ALUM	-9.29	-6.32	0.
	ALUM+TB	-11.92	-8.17	-3.29
2 PANE 1/4IN.	PLAIN	-19.83	-20.04	-18.13
	WOOD	-20.51	-20.52	-18.99
	ALUM	-16.43	-17.66	-13.89
	ALUM+TB	-19.16	-19.57	-17.30
2 PANE 1/2IN.	PLAIN	-21.95	-21.53	-20.78
	WOOD	-22.53	-21.94	-21.50
	ALUM	-18.91	-19.40	-16.99
	ALUM+TB	-21.37	-21.12	-20.05
3 PANE 1/4IN.	PLAIN	-23.46	-24.24	-23.50
	WOOD	-23.69	-24.40	-23.78
	ALUM	-19.80	-21.67	-18.94
	ALUM+TB	-20.90	-22.44	-20.31
3 PANE 1/2IN.	PLAIN	-25.34	-25.55	-25.84
	WOOD	-25.52	-25.68	-26.07
	ALUM	-22.43	-23.51	-22.21
	ALUM+TB	-24.42	-24.91	-24.70

BASE LOAD = 101.00 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.43	-1.55	-0.00
-2.43	-1.55	-0.00
-2.43	-1.55	0.
-2.43	-1.55	-0.00
-2.79	-1.98	-0.58
-2.79	-1.98	-0.58
-2.78	-1.97	-0.58
-2.79	-1.98	-0.58
-2.79	-1.98	-0.58
-2.79	-1.98	-0.58
-2.79	-1.98	-0.58
-2.79	-1.98	-0.58
-2.99	-2.26	-0.91
-2.99	-2.26	-0.91
-2.99	-2.26	-0.91
-2.99	-2.26	-0.91
-2.99	-2.27	-0.91
-2.99	-2.27	-0.91
-2.99	-2.26	-0.91
-2.99	-2.26	-0.91

BASE LOAD = 7.50 MBTU-YR

AREA	MULTIPLIERS
900	.744
1000	.829
1100	.914
1200	1.000
1300	1.083
1400	1.166
1500	1.250
1600	1.333
1700	1.414
1800	1.496
1900	1.577
2000	1.657
2100	1.737
2200	1.817
2300	1.896
2400	1.975
2500	2.054

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.92	R-11	-9.90	R-11 FLR	-15.68
R-15	-20.22	R-19	-12.12	R-19 FLR	-17.88
R-30	-21.82	R-27	-13.30		
R-38	-22.40				
R-49	-22.89				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.09
LOW (.4 ACH)	-18.17

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.16	R-11	-.34	R-11 FLR	-1.03
R-19	-1.31	R-19	-.40	R-19 FLR	-1.18
R-30	-1.37	R-27	-.42		
R-38	-1.40				
R-49	-1.45				

INFILTRATION

HI (1 ACH)	-.14
MED (.7 ACH)	-.07
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.62	-7.26	-1.66
	WCCD	-13.27	-9.12	-4.96
	ALUM	-9.29	-6.33	0.
	ALUM+TB	-11.96	-8.20	-3.32
2 PANE 1/4IN.	PLAIN	-19.84	-20.07	-18.13
	WOOD	-20.54	-20.57	-19.01
	ALUM	-16.34	-17.62	-13.77
	ALUM+TB	-19.15	-19.59	-17.27
2 PANE 1/2IN.	PLAIN	-22.02	-21.60	-20.84
	WCCD	-22.61	-22.02	-21.59
	ALUM	-18.90	-19.41	-16.96
	ALUM+TB	-21.42	-21.18	-20.10
3 PANE 1/4IN.	PLAIN	-23.50	-24.29	-23.53
	WOOD	-23.74	-24.46	-23.82
	ALUM	-19.74	-21.65	-18.84
	ALUM+TB	-20.87	-22.45	-20.24
3 PANE 1/2IN.	PLAIN	-25.43	-25.64	-25.93
	WCCD	-25.62	-25.78	-26.16
	ALUM	-22.44	-23.55	-22.20
	ALUM+TB	-24.49	-24.99	-24.76

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.43	-1.55	-.00
-2.43	-1.55	-.00
-2.43	-1.55	0.
-2.43	-1.55	-.00
-2.73	-1.92	-.53
-2.73	-1.92	-.53
-2.73	-1.92	-.53
-2.73	-1.92	-.53
-2.73	-1.92	-.53
-2.74	-1.92	-.53
-2.73	-1.92	-.53
-2.73	-1.92	-.53
-2.95	-2.22	-.87
-2.95	-2.22	-.87
-2.95	-2.22	-.87
-2.95	-2.22	-.87
-2.95	-2.23	-.87
-2.95	-2.23	-.87
-2.95	-2.22	-.87
-2.95	-2.22	-.87

BASE LOAD = 112.17 MBTU-YR

BASE LOAD = 9.01 MBTU-YR

AREA	MULTIPLIERS
900 .745	1500 1.249
1000 .829	1600 1.332
1100 .914	1700 1.414
1200 1.000	1800 1.495
1300 1.083	1900 1.576
1400 1.166	2000 1.656
	2100 1.736
	2200 1.816
	2300 1.895
	2400 1.974
	2500 2.052

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.06	R-11	-6.45	R-5 4FT	-1.68
R-19	-13.58	R-19	-7.89	R-5 8FT	-2.66
R-30	-14.62	R-27	-8.65	R-10 8FT	-3.88
R-39	-15.00			R-19 FLR	-4.90
R-49	-15.33				
R-6C	-15.53				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.47	R-11	-.91	R-5 4FT	-.13
R-19	-3.91	R-19	-1.11	R-5 8FT	-.20
R-30	-4.16	R-27	-1.16	R-10 8FT	-.29
R-38	-4.27			R-19 FLR	-.10
R-49	-4.38				
R-60	-4.47				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.65
LOW (.4 ACH)	-11.29

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.15
LOW (.4 ACH)	-.31

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.84	-3.46	-1.08
	WOOD	-6.57	-4.67	-3.24
	ALUM	-3.97	-2.85	0.
	ALUM+TB	-5.71	-4.07	-2.17
2 PANE 1/4IN.	PLAIN	-10.55	-11.44	-11.32
	WOOD	-11.00	-11.76	-11.88
	ALUM	-8.33	-9.88	-8.55
	ALUM+TB	-10.11	-11.13	-10.78
2 PANE 1/2IN.	PLAIN	-11.94	-12.41	-13.05
	WOOD	-12.32	-12.68	-13.53
	ALUM	-9.95	-11.02	-10.58
	ALUM+TB	-11.56	-12.15	-12.58
3 PANE 1/4IN.	PLAIN	-12.81	-14.03	-14.59
	WOOD	-12.96	-14.14	-14.78
	ALUM	-10.42	-12.35	-11.60
	ALUM+TB	-11.14	-12.86	-12.50
3 PANE 1/2IN.	PLAIN	-14.04	-14.89	-16.12
	WOOD	-14.16	-14.98	-16.27
	ALUM	-12.14	-13.56	-13.74
	ALUM+TB	-13.44	-14.47	-15.37

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.75	-2.41	-.01
-3.78	-2.43	-.04
-3.74	-2.40	0.
-3.77	-2.42	-.03
-4.43	-3.27	-1.16
-4.43	-3.27	-1.16
-4.39	-3.25	-1.12
-4.42	-3.26	-1.15
-4.45	-3.28	-1.18
-4.46	-3.29	-1.18
-4.42	-3.26	-1.15
-4.44	-3.28	-1.17
-4.80	-3.77	-1.84
-4.80	-3.77	-1.85
-4.76	-3.74	-1.81
-4.77	-3.75	-1.82
-4.82	-3.78	-1.86
-4.82	-3.78	-1.87
-4.79	-3.76	-1.83
-4.81	-3.77	-1.85

BASE LOAD = 59.16 MBTU-YR

BASE LOAD = 15.01 MBTU-YR

AREA	MULTIPLIERS
900	.733
1000	.820
1100	.910
1200	1.000
1300	1.087
1400	1.174
1500	1.262
1600	1.350
1700	1.435
1800	1.521
1900	1.606
2000	1.692
2100	1.776
2200	1.860
2300	1.944
2400	2.028
2500	2.111

AREA	MULTIPLIERS
900	.957
1000	.987
1100	1.001
1200	1.000
1300	1.029
1400	1.050
1500	1.063
1600	1.068
1700	1.085
1800	1.096
1900	1.102
2000	1.101
2100	1.113
2200	1.120
2300	1.123
2400	1.122
2500	1.116

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.02	R-11	-6.45	R-5 2FT	-7.00
R-15	-13.53	R-19	-7.90	R-5 4FT	-7.99
R-30	-14.57	R-27	-8.64		
R-3E	-14.95				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.44	R-11	-.95	R-5 2FT	-.29
R-19	-3.89	R-19	-1.17	R-5 4FT	-.32
R-30	-4.14	R-27	-1.23		
R-38	-4.25				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.00
LOW (.4 ACH)	-12.00

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.13
LOW (.4 ACH)	-.27

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.84	-3.46	-1.08
	WOOD	-6.56	-4.67	-3.23
	ALUM	-3.97	-2.85	0.
2 PANE 1/4IN.	ALUM+TB	-5.70	-4.07	-2.16
	PLAIN	-10.51	-11.40	-11.27
	WOOD	-10.97	-11.73	-11.84
2 PANE 1/2IN.	ALUM	-8.23	-9.81	-8.43
	ALUM+TB	-10.06	-11.09	-10.71
	PLAIN	-11.93	-12.40	-13.04
3 PANE 1/4IN.	WOOD	-12.31	-12.67	-13.52
	ALUM	-9.90	-10.98	-10.51
	ALUM+TB	-11.54	-12.13	-12.56
3 PANE 1/2IN.	PLAIN	-12.77	-14.00	-14.54
	WOOD	-12.93	-14.11	-14.73
	ALUM	-10.33	-12.28	-11.49
3 PANE 1/2IN.	ALUM+TB	-11.06	-12.80	-12.41
	PLAIN	-14.03	-14.88	-16.11
	WOOD	-14.15	-14.97	-16.26
	ALUM	-12.08	-13.51	-13.68
	ALUM+TB	-13.42	-14.45	-15.35

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.75	-2.41	-.01
-3.78	-2.43	-.04
-3.74	-2.40	0.
-3.77	-2.42	-.03
-4.43	-3.27	-1.16
-4.44	-3.28	-1.17
-4.39	-3.25	-1.12
-4.42	-3.27	-1.15
-4.46	-3.29	-1.18
-4.46	-3.29	-1.19
-4.42	-3.27	-1.15
-4.45	-3.28	-1.18
-4.81	-3.78	-1.86
-4.82	-3.78	-1.86
-4.77	-3.75	-1.82
-4.78	-3.76	-1.83
-4.83	-3.79	-1.88
-4.84	-3.79	-1.88
-4.80	-3.77	-1.85
-4.82	-3.79	-1.87

BASE LOAD = 62.84 MBTU-YR

BASE LOAD = 15.29 MBTU-YR

AREA	MULTIPLIERS
900 .733	1500 1.261
1000 .821	2100 1.776
1100 .910	1600 1.350
1200 1.000	2200 1.860
1300 1.087	1700 1.435
1400 1.174	2300 1.943
	1800 1.520
	2400 2.027
	1900 1.606
	2500 2.111
	2000 1.692

AREA	MULTIPLIERS
900 .950	1500 1.069
1000 .982	2100 1.133
1100 .998	1600 1.076
1200 1.000	2200 1.142
1300 1.031	1700 1.095
1400 1.054	2300 1.147
	1800 1.109
	2400 1.149
	1900 1.117
	2500 1.146
	2000 1.119

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.58	R-11	-8.06	R-5 4FT	-2.18
R-19	-16.42	R-19	-9.87	R-5 8FT	-3.45
R-30	-17.71	R-27	-10.84	R-10 8FT	-5.04
R-3E	-18.18			R-19 FLR	-6.47
R-49	-18.58				
R-6C	-18.84				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.15	R-11	-1.05	R-5 4FT	-.15
R-19	-3.59	R-19	-1.27	R-5 8FT	-.25
R-30	-3.81	R-27	-1.33	R-10 8FT	-.35
R-38	-3.91			R-19 FLR	-.17
R-49	-4.01				
R-60	-4.08				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.75
LOW (.4 ACH)	-13.49

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.18
LOW (.4 ACH)	-.36

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.74	-5.98	-1.35
	WOOD	-10.89	-7.50	-4.04
	ALUM	-7.65	-5.22	0.
	ALUM+TB	-9.82	-6.74	-2.71
2 PANE 1/4IN.	PLAIN	-16.57	-16.83	-15.35
	WOOD	-17.13	-17.23	-16.06
	ALUM	-13.77	-14.87	-11.87
	ALUM+TB	-16.02	-16.44	-14.67
2 PANE 1/2IN.	PLAIN	-18.31	-18.05	-17.53
	WOOD	-18.79	-18.39	-18.12
	ALUM	-15.82	-16.30	-14.42
	ALUM+TB	-17.83	-17.72	-16.93
3 PANE 1/4IN.	PLAIN	-19.60	-20.33	-19.84
	WOOD	-19.79	-20.46	-20.07
	ALUM	-16.59	-18.22	-16.09
	ALUM+TB	-17.49	-18.85	-17.22
3 PANE 1/2IN.	PLAIN	-21.14	-21.41	-21.76
	WOOD	-21.29	-21.51	-21.95
	ALUM	-18.75	-19.73	-18.78
	ALUM+TB	-20.39	-20.88	-20.82

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.00	-3.19	-.02
-5.05	-3.22	-.07
-4.97	-3.17	0.
-5.02	-3.20	-.05
-6.04	-4.52	-1.82
-6.05	-4.53	-1.83
-5.98	-4.49	-1.76
-6.02	-4.52	-1.81
-6.07	-4.55	-1.86
-6.08	-4.55	-1.87
-6.02	-4.52	-1.81
-6.06	-4.54	-1.85
-6.57	-5.21	-2.75
-6.57	-5.21	-2.76
-6.50	-5.17	-2.69
-6.52	-5.18	-2.71
-6.60	-5.23	-2.79
-6.60	-5.23	-2.79
-6.55	-5.20	-2.74
-6.58	-5.22	-2.77

BASE LOAD = 80.36 MBTU-YR

BASE LOAD = 19.15 MBTU-YR

AREA	MULTIPLIERS
900 .740	1500 1.254
1000 .826	2100 1.751
1100 .913	2200 1.832
1200 1.000	2300 1.912
1300 1.084	2400 1.993
1400 1.169	2500 2.074

AREA	MULTIPLIERS
900 .924	1500 1.091
1000 .962	2100 1.205
1100 .988	2200 1.222
1200 1.000	2300 1.236
1300 1.037	2400 1.247
1400 1.067	2500 1.254

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.71	R-11	-2.54	R-5 2FT	-2.56
R-19	-5.29	R-19	-3.10	R-5 4FT	-2.89
R-30	-5.68	R-27	-3.38		
R-38	-5.81				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.56	R-11	-1.95	R-5 2FT	-2.88
R-19	-5.15	R-19	-2.39	R-5 4FT	-3.30
R-30	-5.59	R-27	-2.65		
R-38	-5.75				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.61
LOW (.4 ACH)	-5.22

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.98
LOW (.4 ACH)	-3.96

WINDGW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.24	-1.58	-.43
	WOOD	-2.92	-2.06	-1.27
	ALUM	-1.90	-1.34	0.
	ALUM+TB	-2.58	-1.82	-.85
2 PANE 1/4IN.	PLAIN	-4.75	-5.06	-4.93
	WOOD	-4.93	-5.19	-5.15
	ALUM	-3.85	-4.43	-3.81
	ALUM+TB	-4.57	-4.94	-4.71
2 PANE 1/2IN.	PLAIN	-5.31	-5.46	-5.62
	WOOD	-5.46	-5.56	-5.81
	ALUM	-4.51	-4.90	-4.62
	ALUM+TB	-5.16	-5.35	-5.43
3 PANE 1/4IN.	PLAIN	-5.65	-6.10	-6.24
	WOOD	-5.71	-6.14	-6.31
	ALUM	-4.69	-5.42	-5.03
	ALUM+TB	-4.98	-5.63	-5.39
3 PANE 1/2IN.	PLAIN	-6.15	-6.45	-6.85
	WOOD	-6.20	-6.48	-6.91
	ALUM	-5.38	-5.91	-5.89
	ALUM+TB	-5.91	-6.28	-6.55

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.20	-5.81	-.10
-9.41	-5.93	-.29
-9.09	-5.74	0.
-9.30	-5.87	-.20
-11.05	-8.16	-3.12
-11.10	-8.19	-3.17
-10.77	-8.00	-2.86
-10.99	-8.13	-3.06
-11.22	-8.26	-3.28
-11.26	-8.29	-3.32
-10.97	-8.12	-3.05
-11.17	-8.23	-3.23
-12.04	-9.38	-4.73
-12.06	-9.40	-4.74
-11.75	-9.21	-4.45
-11.84	-9.26	-4.53
-12.19	-9.47	-4.87
-12.21	-9.48	-4.88
-11.96	-9.34	-4.65
-12.12	-9.43	-4.80

BASE LOAD = 24.96 MBTU-YR

BASE LOAD = 54.62 MBTU-YR

AREA	MULTIPLIERS
900 .692	1500 1.303
1000 .790	2100 1.912
1100 .893	1600 1.409
1200 1.000	2200 2.011
1300 1.099	1700 1.508
1400 1.200	2300 2.111
	1800 1.609
	2400 2.212
	1900 1.710
	2500 2.313
	2000 1.814

AREA	MULTIPLIERS
900 .852	1500 1.150
1000 .909	2100 1.404
1100 .958	1600 1.191
1200 1.000	2200 1.445
1300 1.054	1700 1.238
1400 1.104	2300 1.483
	1800 1.282
	2400 1.519
	1900 1.323
	2500 1.552
	2000 1.361

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.04	R-11	-4.33	R-11 FLR	-6.89
R-19	-9.08	R-19	-5.24	R-19 FLR	-7.75
R-30	-9.73	R-27	-5.63		
R-3E	-9.95				
R-49	-10.13				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.35	R-11	-.07	R-11 FLR	-.25
R-19	-.39	R-19	-.08	R-19 FLR	-.28
R-30	-.40	R-27	-.08		
R-38	-.42				
R-49	-.42				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.95
LCW (.4 ACH)	-5.90

INFILTRATION

HI (1 ACH)	-.03
MED (.7 ACH)	-.01
LOW (.4 ACH)	0.

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.34	-1.65	-.38
	WOOD	-2.94	-2.08	-1.13
	ALUM	-2.03	-1.44	0.
2 PANE 1/4IN.	ALUM+TB	-2.64	-1.87	-.75
	PLAIN	-6.87	-7.60	-8.06
	WOOD	-7.03	-7.71	-8.26
2 PANE 1/2IN.	ALUM	-6.08	-7.04	-7.08
	ALUM+TB	-6.72	-7.49	-7.87
	PLAIN	-7.37	-7.95	-8.68
3 PANE 1/4IN.	WOOD	-7.50	-8.04	-8.85
	ALUM	-6.66	-7.45	-7.80
	ALUM+TB	-7.23	-7.85	-8.51
3 PANE 1/2IN.	PLAIN	-8.20	-9.07	-9.80
	WOOD	-8.26	-9.11	-9.87
	ALUM	-7.35	-8.47	-8.74
3 PANE 1/2IN.	ALUM+TB	-7.61	-8.65	-9.05
	PLAIN	-8.64	-9.38	-10.34
	WOOD	-8.68	-9.41	-10.40
	ALUM	-7.96	-8.90	-9.50
	ALUM+TB	-8.43	-9.23	-10.08

12 PCT AREA	15 PCT AREA	20 PCT AREA
-.47	-.30	-.00
-.47	-.30	-.00
-.47	-.30	0.
-.47	-.30	-.00
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.49	-.34	-.06
-.53	-.39	-.13
-.53	-.39	-.13
-.53	-.39	-.13
-.53	-.39	-.13
-.53	-.39	-.13
-.53	-.39	-.13
-.53	-.39	-.13

BASE LOAD = 38.89 MBTU-YR

BASE LOAD = 1.86 MBTU-YR

AREA	MULTIPLIERS
900	.705
1000	.800
1100	.898
1200	1.000
1300	1.095
1400	1.192
1500	1.290
1600	1.391
1700	1.485
1800	1.581
1900	1.678
2000	1.776
2100	1.870
2200	1.964
2300	2.059
2400	2.154
2500	2.250

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.89	R-11	-4.30	R-5 2FT	-4.32
R-19	-8.89	R-19	-5.16	R-5 4FT	-4.84
R-30	-9.50	R-27	-5.55		
R-38	-9.71				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-0.27	R-11	-0.05	R-5 2FT	-0.03
R-19	-0.30	R-19	-0.06	R-5 4FT	0.
R-30	-0.31	R-27	-0.06		
R-38	-0.31				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-3.42
LCW (1.4 ACH)	-6.84

INFILTRATION

HI (1 ACH)	-0.06
MED (1.7 ACH)	-0.03
LOW (1.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.33	-1.65	-.37
	WOOD	-2.93	-2.07	-1.12
	ALUM	-2.03	-1.44	0.
2 PANE 1/4IN.	ALUM+TB	-2.63	-1.86	-.75
	PLAIN	-6.79	-7.51	-7.98
	WOOD	-6.94	-7.62	-8.17
	ALUM	-6.00	-6.96	-7.00
2 PANE 1/2IN.	ALUM+TB	-6.63	-7.40	-7.78
	PLAIN	-7.28	-7.85	-9.59
	WOOD	-7.41	-7.95	-8.75
	ALUM	-6.57	-7.36	-7.71
3 PANE 1/4IN.	ALUM+TB	-7.14	-7.76	-8.42
	PLAIN	-8.06	-8.93	-9.65
	WOOD	-8.11	-8.96	-9.72
	ALUM	-7.21	-8.33	-8.60
3 PANE 1/2IN.	ALUM+TB	-7.47	-8.51	-8.92
	PLAIN	-8.49	-9.23	-10.20
	WOOD	-8.53	-9.26	-10.25
	ALUM	-7.82	-8.76	-9.36
	ALUM+TB	-8.28	-9.08	-9.93

12 PCT AREA	15 PCT AREA	20 PCT AREA
-.47	-.30	-.00
-.47	-.30	-.00
-.47	-.30	0.
-.47	-.30	-.00
-.50	-.34	-.07
-.50	-.34	-.07
-.50	-.34	-.07
-.50	-.34	-.07
-.50	-.34	-.07
-.50	-.34	-.07
-.50	-.34	-.07
-.52	-.38	-.13
-.52	-.38	-.13
-.52	-.38	-.13
-.52	-.38	-.13
-.52	-.38	-.13
-.52	-.38	-.13
-.52	-.38	-.13

BASE LOAD = 35.75 MBTU-YR

BASE LOAD = 1.37 MBTU-YR

AREA	MULTIPLIERS
900 .700	1500 1.295
1000 .796	1600 1.398
1100 .896	1700 1.494
1200 1.000	1800 1.592
1300 1.096	1900 1.691
1400 1.195	2000 1.791
	2100 1.886
	2200 1.983
	2300 2.079
	2400 2.177
	2500 2.275

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.40	R-11	-7.47	R-11 FLR	-11.70
R-19	-15.10	R-19	-9.15	R-19 FLR	-13.33
R-30	-16.29	R-27	-10.02		
R-3E	-16.71				
R-4S	-17.08				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.63	R-11	-.17	R-11 FLR	-.51
R-19	-.71	R-19	-.21	R-19 FLR	-.58
R-30	-.76	R-27	-.22		
R-38	-.77				
R-49	-.79				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.38
LCW (.4 ACH)	-12.77

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.01
LOW (.4 ACH)	-.03

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.12	-5.58	-1.25
	WOOD	-10.12	-6.98	-3.75
	ALUM	-7.12	-4.87	0.
	ALUM+TB	-9.13	-6.28	-2.51
2 PANE 1/4IN.	PLAIN	-15.43	-15.70	-14.29
	WOOD	-15.97	-16.07	-14.95
	ALUM	-12.80	-13.85	-11.00
	ALUM+TB	-14.91	-15.33	-13.64
2 PANE 1/2IN.	PLAIN	-17.08	-16.85	-16.34
	WOOD	-17.53	-17.16	-16.90
	ALUM	-14.72	-15.20	-13.40
	ALUM+TB	-16.63	-16.53	-15.78
3 PANE 1/4IN.	PLAIN	-18.25	-18.90	-18.33
	WOOD	-18.42	-19.03	-18.55
	ALUM	-15.41	-16.91	-14.79
	ALUM+TB	-16.26	-17.51	-15.86
3 PANE 1/2IN.	PLAIN	-19.70	-19.92	-20.15
	WOOD	-19.84	-20.02	-20.32
	ALUM	-17.44	-18.34	-17.33
	ALUM+TB	-18.99	-19.42	-19.26

12 PCT AREA	15 PCT AREA	20 PCT AREA
-.85	-.55	-.00
-.85	-.55	-.00
-.85	-.55	0.
-.85	-.55	-.00
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.01	-.76	-.29
-1.11	-.89	-.47
-1.11	-.89	-.47
-1.11	-.89	-.47
-1.11	-.89	-.47
-1.11	-.89	-.47
-1.11	-.89	-.47
-1.11	-.89	-.47

BASE LOAD = 80.71 MBTU-YR

BASE LOAD = 3.89 MBTU-YR

AREA	MULTIPLIERS
900	.738
1000	.824
1100	.912
1200	1.000
1300	1.085
1400	1.170
1500	1.256
1600	1.342
1700	1.425
1800	1.509
1900	1.593
2000	1.676
2100	1.758
2200	1.840
2300	1.922
2400	2.003
2500	2.085

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.10	R-11	-5.57	R-5 4FT	-1.53
R-19	-11.38	R-19	-6.83	R-5 8FT	-2.42
R-30	-12.29	R-27	-7.49	R-10 8FT	-3.53
R-38	-12.62			R-19 FLR	-4.52
R-49	-12.89				
R-60	-13.07				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.87	R-11	-1.17	R-5 4FT	-.27
R-19	-3.19	R-19	-1.45	R-5 8FT	-.42
R-30	-3.46	R-27	-1.58	R-10 8FT	-.62
R-38	-3.57			R-19 FLR	-.56
R-49	-3.66				
R-60	-3.72				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.36
LOW (.4 ACH)	-10.73

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.41
LOW (.4 ACH)	-.82

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.49	-3.80	-.93
	WOOD	-6.98	-4.84	-2.79
	ALUM	-4.74	-3.27	0.
	ALUM+TB	-6.24	-4.32	-1.87
2 PANE 1/4IN.	PLAIN	-11.01	-11.42	-10.75
	WOOD	-11.41	-11.70	-11.24
	ALUM	-9.06	-10.05	-8.31
	ALUM+TB	-10.63	-11.15	-10.27
2 PANE 1/2IN.	PLAIN	-12.23	-12.28	-12.27
	WOOD	-12.57	-12.51	-12.68
	ALUM	-10.49	-11.05	-10.09
	ALUM+TB	-11.90	-12.04	-11.85
3 PANE 1/4IN.	PLAIN	-13.10	-13.81	-13.78
	WOOD	-13.23	-13.90	-13.95
	ALUM	-10.99	-12.33	-11.16
	ALUM+TB	-11.62	-12.78	-11.95
3 PANE 1/2IN.	PLAIN	-14.17	-14.56	-15.13
	WOOD	-14.28	-14.64	-15.26
	ALUM	-12.50	-13.39	-13.04
	ALUM+TB	-13.65	-14.20	-14.47

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.61	-3.48	-.02
-5.65	-3.50	-.05
-5.59	-3.47	0.
-5.63	-3.49	-.04
-6.69	-4.87	-1.80
-6.70	-4.88	-1.81
-6.64	-4.84	-1.75
-6.68	-4.86	-1.79
-6.72	-4.89	-1.83
-6.73	-4.89	-1.84
-6.68	-4.86	-1.79
-6.71	-4.88	-1.82
-7.30	-5.59	-2.76
-7.30	-5.59	-2.76
-7.25	-5.56	-2.71
-7.26	-5.57	-2.72
-7.33	-5.61	-2.79
-7.33	-5.61	-2.79
-7.29	-5.58	-2.74
-7.32	-5.60	-2.77

BASE LOAD = 55.51 MBTU-YR

BASE LOAD = 26.61 MBTU-YR

AREA	MULTIPLIERS				
900	.732	1500	1.262	2100	1.777
1000	.820	1600	1.350	2200	1.861
1100	.909	1700	1.436	2300	1.945
1200	1.000	1800	1.521	2400	2.029
1300	1.087	1900	1.607	2500	2.113
1400	1.174	2000	1.693		

AREA	MULTIPLIERS				
900	.886	1500	1.122	2100	1.309
1000	.934	1600	1.151	2200	1.339
1100	.972	1700	1.188	2300	1.366
1200	1.000	1800	1.222	2400	1.389
1300	1.046	1900	1.251	2500	1.410
1400	1.087	2000	1.276		

ENDTOWN

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.76	R-11	-10.58	R-5 2FT	-6.15
R-19	-10.97	R-19	-12.93	R-5 4FT	-7.02
R-30	-11.81	R-27	-14.18		
R-38	-12.12				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.61	R-11	-2.71	R-5 2FT	-1.27
R-19	-5.20	R-19	-3.35	R-5 4FT	-1.43
R-30	-5.57	R-27	-3.56		
R-38	-5.71				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.61
LCW (.4 ACH)	-9.21

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.14
LOW (.4 ACH)	-0.28

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.33	-3.07	-0.88
	WOOD	-5.74	-4.06	-2.64
	ALUM	-3.63	-2.58	0.
	ALUM+TB	-5.04	-3.57	-1.77
2 PANE 1/4IN.	PLAIN	-9.46	-10.14	-9.94
	WOOD	-9.83	-10.40	-10.40
	ALUM	-7.60	-8.84	-7.62
	ALUM+TB	-9.09	-9.88	-9.48
2 PANE 1/2IN.	PLAIN	-10.62	-10.95	-11.38
	WOOD	-10.93	-11.18	-11.78
	ALUM	-8.96	-9.79	-9.31
	ALUM+TB	-10.30	-10.73	-10.99
3 PANE 1/4IN.	PLAIN	-11.38	-12.34	-12.71
	WOOD	-11.50	-12.42	-12.87
	ALUM	-9.37	-10.93	-10.21
	ALUM+TB	-9.97	-11.35	-10.96
3 PANE 1/2IN.	PLAIN	-12.40	-13.06	-13.99
	WOOD	-12.50	-13.13	-14.11
	ALUM	-10.81	-11.94	-12.00
	ALUM+TB	-11.90	-12.71	-13.37

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.80	-3.71	-0.03
-5.86	-3.75	-0.09
-5.77	-3.69	0.
-5.83	-3.73	-0.06
-6.85	-5.70	-2.16
-6.87	-5.21	-2.18
-6.77	-5.15	-2.08
-6.83	-5.19	-2.15
-6.90	-5.23	-2.21
-6.92	-5.24	-2.22
-6.83	-5.19	-2.14
-6.89	-5.22	-2.20
-7.46	-5.90	-3.07
-7.46	-5.90	-3.07
-7.37	-5.84	-2.99
-7.40	-5.86	-3.01
-7.50	-5.92	-3.11
-7.51	-5.93	-3.12
-7.43	-5.88	-3.05
-7.48	-5.91	-3.09

BASE LOAD = 60.03 MBTU-YR

BASE LOAD = 27.33 MBTU-YR

AREA	MULTIPLIERS
900	.732
1000	.820
1100	.909
1200	1.000
1300	1.087
1400	1.175
1500	1.263
1600	1.351
1700	1.437
1800	1.523
1900	1.609
2000	1.695
2100	1.780
2200	1.864
2300	1.948
2400	2.032
2500	2.116

AREA	MULTIPLIERS
900	.900
1000	.945
1100	.978
1200	1.000
1300	1.043
1400	1.080
1500	1.110
1600	1.135
1700	1.168
1800	1.197
1900	1.222
2000	1.242
2100	1.270
2200	1.296
2300	1.318
2400	1.337
2500	1.352

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.28	R-11	-7.99	R-5 4FT	-.97
R-19	-8.19	R-19	-9.75	R-5 8FT	-1.54
R-30	-8.81	R-27	-10.68	R-10 8FT	-2.22
R-38	-9.04			R-19 FLR	-2.77
R-49	-9.23				
R-60	-9.36				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.75	R-11	-1.50	R-5 4FT	-.42
R-19	-3.02	R-19	-1.42	R-5 8FT	-.90
R-30	-3.13	R-27	-1.66	R-10 8FT	-1.19
R-38	-3.22			R-19 FLR	-1.21
R-49	-3.25				
R-60	-3.32				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.85
LOW (.4 ACH)	-7.69

INFILTRATION

HI (1 ACH)	-.60
MED (.7 ACH)	-.30
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.64	-2.55	-.67
	WOOD	-4.70	-3.29	-1.99
	ALUM	-3.10	-2.17	0.
	ALUM+TB	-4.17	-2.92	-1.34
2 PANE 1/4IN.	PLAIN	-7.67	-8.06	-7.74
	WOOD	-7.94	-8.25	-8.08
	ALUM	-6.31	-7.11	-6.05
	ALUM+TB	-7.40	-7.87	-7.40
2 PANE 1/2IN.	PLAIN	-8.51	-8.65	-8.79
	WOOD	-8.75	-8.82	-9.08
	ALUM	-7.30	-7.81	-7.28
	ALUM+TB	-8.28	-8.49	-8.50
3 PANE 1/4IN.	PLAIN	-9.12	-9.72	-9.83
	WOOD	-9.22	-9.79	-9.95
	ALUM	-7.66	-8.70	-8.02
	ALUM+TB	-8.10	-9.01	-8.56
3 PANE 1/2IN.	PLAIN	-9.87	-10.25	-10.77
	WOOD	-9.94	-10.30	-10.86
	ALUM	-8.71	-9.43	-9.32
	ALUM+TB	-9.51	-9.99	-10.31

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.10	-3.83	-.01
-6.13	-3.85	-.04
-6.09	-3.82	0.
-6.11	-3.84	-.03
-6.29	-4.27	-.92
-6.29	-4.26	-.91
-6.30	-4.27	-.92
-6.30	-4.27	-.92
-6.29	-4.26	-.91
-6.29	-4.26	-.91
-6.30	-4.27	-.92
-6.29	-4.26	-.91
-6.66	-4.63	-1.33
-6.66	-4.63	-1.33
-6.67	-4.64	-1.34
-6.66	-4.63	-1.34
-6.65	-4.63	-1.33
-6.65	-4.63	-1.32
-6.66	-4.63	-1.33
-6.66	-4.63	-1.33

BASE LOAD = 44.18 MBTU-YR

BASE LOAD = 28.82 MBTU-YR

AREA MULTIPLIERS

900	.725	1500	1.270	2100	1.802
1000	.815	1600	1.361	2200	1.889
1100	.906	1700	1.449	2300	1.976
1200	1.000	1800	1.538	2400	2.063
1300	1.089	1900	1.626	2500	2.150
1400	1.179	2000	1.715		

AREA MULTIPLIERS

900	.880	1500	1.127	2100	1.326
1000	.930	1600	1.158	2200	1.357
1100	.970	1700	1.197	2300	1.386
1200	1.000	1800	1.232	2400	1.412
1300	1.048	1900	1.264	2500	1.435
1400	1.090	2000	1.291		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.27	R-11	-7.99	R-5 2FT	-4.09
R-19	-8.17	R-19	-9.76	R-5 4FT	-4.64
R-30	-8.79	R-27	-10.68		
R-3E	-9.02				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.61	R-11	-1.56	R-5 2FT	-1.80
R-19	-2.62	R-19	-1.52	R-5 4FT	-2.18
R-30	-2.84	R-27	-1.59		
R-38	-2.95				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.03
LOW (.4 ACH)	-8.07

INFILTRATION

HI (1 ACH)	-.47
MED (.7 ACH)	-.24
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.64	-2.55	-.67
	WOOD	-4.70	-3.29	-2.00
	ALUM	-3.10	-2.17	0.
2 PANE 1/4IN.	ALUM+TB	-4.17	-2.92	-1.34
	PLAIN	-7.62	-8.02	-7.68
	WOOD	-7.90	-8.22	-8.03
2 PANE 1/2IN.	ALUM	-6.21	-7.03	-5.93
	ALUM+TB	-7.34	-7.82	-7.33
	PLAIN	-8.49	-8.63	-8.77
3 PANE 1/4IN.	WOOD	-8.73	-8.30	-9.07
	ALUM	-7.24	-7.75	-7.21
	ALUM+TB	-8.25	-8.46	-8.47
3 PANE 1/2IN.	PLAIN	-9.06	-9.67	-9.77
	WOOD	-9.16	-9.74	-9.88
	ALUM	-7.55	-8.61	-7.88
3 PANE 1/2IN.	ALUM+TB	-8.00	-8.93	-8.45
	PLAIN	-9.84	-10.21	-10.73
	WOOD	-9.91	-10.27	-10.83
	ALUM	-8.63	-9.37	-9.23
	ALUM+TB	-9.46	-9.95	-10.26

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.10	-3.83	-.01
-6.13	-3.85	-.04
-6.09	-3.82	0.
-6.11	-3.84	-.03
-6.48	-4.47	-1.11
-6.49	-4.47	-1.11
-6.44	-4.44	-1.07
-6.48	-4.46	-1.10
-6.51	-4.48	-1.13
-6.51	-4.48	-1.13
-6.47	-4.46	-1.10
-6.50	-4.48	-1.12
-6.65	-4.63	-1.32
-6.65	-4.63	-1.32
-6.60	-4.61	-1.28
-6.62	-4.61	-1.29
-6.67	-4.64	-1.34
-6.67	-4.64	-1.34
-6.63	-4.62	-1.31
-6.66	-4.64	-1.33

BASE LOAD = 46.39 MBTU-YR

BASE LOAD = 29.49 MBTU-YR

AREA	MULTIPLIERS
900	.725
1000	.815
1100	.907
1200	1.000
1300	1.089
1400	1.179
1500	1.269
1600	1.361
1700	1.449
1800	1.537
1900	1.626
2000	1.715
2100	1.801
2200	1.888
2300	1.975
2400	2.062
2500	2.148

AREA	MULTIPLIERS
900	.880
1000	.930
1100	.970
1200	1.000
1300	1.048
1400	1.090
1500	1.127
1600	1.158
1700	1.198
1800	1.233
1900	1.264
2000	1.292
2100	1.326
2200	1.358
2300	1.387
2400	1.413
2500	1.436

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.38	R-11	-8.07	R-11 FLR	-6.35
R-19	-8.31	R-19	-9.85	R-19 FLR	-7.23
R-30	-8.94	R-27	-10.78		
R-38	-5.18				
R-49	-5.37				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.26	R-11	-2.27	R-11 FLR	-2.58
R-19	-3.63	R-19	-2.62	R-19 FLR	-2.76
R-30	-3.89	R-27	-2.86		
R-38	-3.99				
R-49	-4.05				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.92
LOW (.4 ACH)	-7.84

INFILTRATION

HI (1 ACH)	-0.55
MED (.7 ACH)	-0.27
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.65	-2.56	-.67
	WOOD	-4.72	-3.31	-2.02
	ALUM	-3.10	-2.18	0.
	ALUM+TB	-4.19	-2.93	-1.35
2 PANE 1/4IN.	PLAIN	-7.61	-8.01	-7.67
	WOOD	-7.90	-8.21	-8.03
	ALUM	-6.19	-7.02	-5.90
	ALUM+TB	-7.33	-7.82	-7.32
2 PANE 1/2IN.	PLAIN	-8.49	-8.63	-8.77
	WOOD	-8.74	-8.80	-9.07
	ALUM	-7.23	-7.75	-7.19
	ALUM+TB	-8.25	-8.46	-8.47
3 PANE 1/4IN.	PLAIN	-9.09	-9.70	-9.79
	WOOD	-9.18	-9.76	-9.91
	ALUM	-7.56	-8.63	-7.89
	ALUM+TB	-8.02	-8.95	-8.46
3 PANE 1/2IN.	PLAIN	-9.87	-10.25	-10.77
	WOOD	-9.95	-10.30	-10.86
	ALUM	-8.66	-9.39	-9.25
	ALUM+TB	-9.49	-9.98	-10.29

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.11	-3.84	-.02
-6.15	-3.86	-.06
-6.09	-3.82	0.
-6.13	-3.85	-.04
-6.60	-4.59	-1.22
-6.61	-4.60	-1.23
-6.54	-4.56	-1.17
-6.59	-4.58	-1.21
-6.64	-4.61	-1.26
-6.65	-4.61	-1.27
-6.59	-4.58	-1.21
-6.63	-4.60	-1.25
-7.04	-5.03	-1.71
-7.04	-5.03	-1.72
-6.98	-4.99	-1.66
-7.00	-5.00	-1.67
-7.07	-5.04	-1.74
-7.07	-5.05	-1.75
-7.02	-5.02	-1.70
-7.05	-5.04	-1.73

BASE LOAD = 49.49 MBTU-YR

BASE LOAD = 32.09 MBTU-YR

AREA	MULTIPLIERS
900 .727	1500 1.268
1000 .816	1600 1.358
1100 .907	1700 1.446
1200 1.000	1800 1.533
1300 1.089	1900 1.621
1400 1.178	2000 1.710
	2100 1.796
	2200 1.882
	2300 1.968
	2400 2.054
	2500 2.141

AREA	MULTIPLIERS
900 .881	1500 1.126
1000 .930	1600 1.157
1100 .970	1700 1.197
1200 1.000	1800 1.232
1300 1.048	1900 1.263
1400 1.090	2000 1.290
	2100 1.325
	2200 1.356
	2300 1.385
	2400 1.410
	2500 1.433

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.72	R-11	-7.07	R-5 2FT	-3.78
R-19	-7.57	R-19	-8.63	R-5 4FT	-4.29
R-30	-8.15	R-27	-9.43		
R-3E	-8.36				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.20	R-11	-2.08	R-5 2FT	-2.32
R-19	-3.46	R-19	-2.32	R-5 4FT	-2.60
R-30	-3.68	R-27	-2.60		
R-38	-3.80				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.78
LOW (.4 ACH)	-7.55

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.60
LOW (.4 ACH)	-1.20

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.76	-1.97	-0.59
	WOOD	-3.70	-2.63	-1.76
	ALUM	-2.28	-1.64	0.
	ALUM+TB	-3.23	-2.30	-1.18
2 PANE 1/4IN.	PLAIN	-5.86	-6.30	-6.12
	WOOD	-6.12	-6.47	-6.44
	ALUM	-4.62	-5.42	-4.58
	ALUM+TB	-5.62	-6.12	-5.82
2 PANE 1/2IN.	PLAIN	-6.64	-6.84	-7.09
	WOOD	-6.85	-6.99	-7.35
	ALUM	-5.53	-6.06	-5.71
	ALUM+TB	-6.43	-6.69	-6.83
3 PANE 1/4IN.	PLAIN	-7.08	-7.68	-7.88
	WOOD	-7.17	-7.74	-7.99
	ALUM	-5.74	-6.75	-6.22
	ALUM+TB	-6.15	-7.03	-6.72
3 PANE 1/2IN.	PLAIN	-7.77	-8.16	-8.74
	WOOD	-7.83	-8.21	-8.82
	ALUM	-6.70	-7.42	-7.41
	ALUM+TB	-7.43	-7.93	-8.32

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.10	-4.43	-.03
-7.16	-4.46	-.08
-7.08	-4.41	0.
-7.13	-4.44	-.05
-7.66	-5.40	-1.49
-7.68	-5.40	-1.50
-7.59	-5.35	-1.42
-7.65	-5.39	-1.48
-7.71	-5.42	-1.53
-7.72	-5.43	-1.55
-7.64	-5.38	-1.47
-7.70	-5.42	-1.52
-8.25	-6.06	-2.22
-8.25	-6.06	-2.23
-8.17	-6.01	-2.15
-8.19	-6.03	-2.17
-8.29	-6.09	-2.26
-8.29	-6.09	-2.26
-8.22	-6.05	-2.20
-8.27	-6.07	-2.24

BASE LOAD = 41.05 MBTU-YR

BASE LOAD = 37.29 MBTU-YR

AREA	MULTIPLIERS
900 .722	1500 1.273
1000 .812	2100 1.813
1100 .905	1600 1.366
1200 1.000	2200 1.901
1300 1.090	1700 1.455
1400 1.181	2300 1.990
	1800 1.545
	2400 2.078
	1900 1.635
	2500 2.167
	2000 1.725

AREA	MULTIPLIERS
900 .868	1500 1.137
1000 .921	2100 1.359
1100 .965	1600 1.172
1200 1.000	2200 1.395
1300 1.051	1700 1.215
1400 1.096	2300 1.428
	1800 1.254
	2400 1.458
	1900 1.289
	2500 1.485
	2000 1.321

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	G.	R-0	G.	R-0	G.
R-11	-22.53	R-11	-25.89	R-5 4FT	-3.62
R-19	-25.49	R-19	-31.84	R-5 8FT	-5.72
R-30	-27.61	R-27	-35.06	R-10 8FT	-8.38
R-38	-28.39			R-19 FLR	-10.77
R-49	-29.05				
R-60	-29.48				

CEILING		WALL		FOUNDATION	
R-0	G.	R-0	G.	R-0	G.
R-11	-1.80	R-11	-1.33	R-5 4FT	-.17
R-19	-2.03	R-19	-1.57	R-5 8FT	-.21
R-30	-2.15	R-27	-1.65	R-10 8FT	-.23
R-38	-2.21			R-19 FLR	0.
R-49	-2.27				
R-60	-2.31				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.30
LOW (.4 ACH)	-22.61

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.12
LOW (.4 ACH)	-.25

WIND	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-15.10	-10.16	-2.16
	WOOD	-18.55	-12.58	-6.46
	ALUM	-13.36	-8.95	0.
2 PANE 1/4IN.	ALUM+TB	-16.83	-11.38	-4.33
	PLAIN	-27.71	-27.35	-23.71
	WOOD	-28.64	-28.00	-24.87
2 PANE 1/2IN.	ALUM	-23.13	-24.14	-18.01
	ALUM+TB	-26.81	-26.72	-22.59
	PLAIN	-30.56	-29.35	-27.27
3 PANE 1/4IN.	WOOD	-31.34	-29.90	-28.24
	ALUM	-26.48	-26.49	-22.18
	ALUM+TB	-29.78	-28.80	-26.30
3 PANE 1/2IN.	PLAIN	-32.74	-33.16	-31.15
	WOOD	-33.05	-33.38	-31.54
	ALUM	-27.81	-29.71	-25.01
	ALUM+TB	-29.29	-30.74	-26.86
	PLAIN	-35.26	-34.93	-34.30
	WOOD	-35.51	-35.11	-34.61
	ALUM	-31.34	-32.18	-29.41
	ALUM+TB	-34.03	-34.07	-32.77

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.44	-2.19	-.01
-3.45	-2.20	-.02
-3.43	-2.19	0.
-3.44	-2.19	-.01
-4.08	-3.08	-1.29
-4.08	-3.08	-1.30
-4.06	-3.07	-1.28
-4.07	-3.08	-1.29
-4.08	-3.08	-1.30
-4.09	-3.08	-1.30
-4.07	-3.08	-1.29
-4.08	-3.08	-1.30
-4.46	-3.52	-1.83
-4.47	-3.52	-1.83
-4.45	-3.51	-1.82
-4.46	-3.51	-1.82
-4.47	-3.52	-1.84
-4.47	-3.52	-1.84
-4.46	-3.52	-1.83
-4.47	-3.52	-1.83

BASE LOAD = 158.49 MBTU-YR

BASE LOAD = 13.65 MBTU-YR

AREA	MULTIPLIERS
900	.749
1000	.833
1100	.916
1200	1.000
1300	1.082
1400	1.163
1500	1.245
1600	1.326
1700	1.405
1800	1.485
1900	1.564
2000	1.642
2100	1.720
2200	1.798
2300	1.875
2400	1.952
2500	2.029

AREA	MULTIPLIERS
900	.949
1000	.981
1100	.998
1200	1.000
1300	1.031
1400	1.054
1500	1.070
1600	1.077
1700	1.096
1800	1.110
1900	1.119
2000	1.121
2100	1.135
2200	1.145
2300	1.150
2400	1.152
2500	1.149

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.50	R-11	-14.85	R-5 4FT	-1.95
R-19	-15.21	R-19	-18.20	R-5 8FT	-3.09
R-30	-16.40	R-27	-19.98	R-10 8FT	-4.54
R-36	-16.83			R-19 FLR	-5.83
R-49	-17.20				
R-60	-17.44				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.27
LOW (.4 ACH)	-12.53

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.76	R-11	-1.89	R-5 4FT	-0.08
R-19	-3.13	R-19	-2.30	R-5 8FT	-0.14
R-30	-3.33	R-27	-2.44	R-10 8FT	-0.20
R-38	-3.42			R-19 FLR	-0.01
R-49	-3.51				
R-60	-3.58				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.13
LOW (.4 ACH)	-.26

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.29	-5.66	-1.24
	WOOD	-10.27	-7.05	-3.71
	ALUM	-7.30	-4.96	0.
2 PANE 1/4IN.	ALUM+TB	-9.29	-6.36	-2.48
	PLAIN	-15.35	-15.42	-13.78
	WOOD	-15.87	-15.79	-14.43
2 PANE 1/2IN.	ALUM	-12.77	-13.62	-10.57
	ALUM+TB	-14.84	-15.07	-13.15
	PLAIN	-16.96	-16.55	-15.79
3 PANE 1/4IN.	WOOD	-17.40	-16.86	-16.33
	ALUM	-14.66	-14.94	-12.92
	ALUM+TB	-16.52	-16.24	-15.24
3 PANE 1/2IN.	PLAIN	-18.12	-18.64	-17.93
	WOOD	-18.29	-18.76	-18.15
	ALUM	-15.35	-16.69	-14.47
	ALUM+TB	-16.18	-17.28	-15.51
	PLAIN	-19.54	-19.64	-19.70
	WOOD	-19.68	-19.73	-19.87
	ALUM	-17.33	-18.09	-16.95
	ALUM+TB	-18.85	-19.15	-18.84

BASE LOAD = 85.72 MBTU-YR

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.25	-2.71	-.02
-4.29	-2.73	-.05
-4.24	-2.70	0.
-4.27	-2.72	-.03
-5.09	-3.86	-1.67
-5.10	-3.86	-1.68
-5.05	-3.83	-1.63
-5.08	-3.85	-1.66
-5.11	-3.87	-1.69
-5.12	-3.88	-1.70
-5.08	-3.85	-1.66
-5.11	-3.87	-1.69
-5.54	-4.37	-2.31
-5.54	-4.37	-2.32
-5.49	-4.34	-2.27
-5.50	-4.35	-2.28
-5.56	-4.38	-2.34
-5.56	-4.38	-2.34
-5.52	-4.36	-2.30
-5.55	-4.38	-2.33

BASE LOAD = 17.42 MBTU-YR

AREA	MULTIPLIERS
900	.741
1000	.827
1100	.913
1200	1.000
1300	1.084
1400	1.168
1500	1.253
1600	1.337
1700	1.419
1800	1.502
1900	1.584
2000	1.666
2100	1.747
2200	1.827
2300	1.907
2400	1.988
2500	2.067

AREA	MULTIPLIERS
900	.934
1000	.970
1100	.992
1200	1.000
1300	1.035
1400	1.062
1500	1.082
1600	1.095
1700	1.118
1800	1.137
1900	1.150
2000	1.158
2100	1.176
2200	1.191
2300	1.202
2400	1.208
2500	1.212

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.74	R-11	-15.06	R-11 FLR	-11.86
R-19	-15.48	R-19	-18.46	R-19 FLR	-13.54
R-30	-16.70	R-27	-20.25		
R-38	-17.14				
R-49	-17.51				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.75	R-11	-1.98	R-11 FLR	-2.49
R-19	-3.11	R-19	-2.40	R-19 FLR	-2.86
R-30	-3.31	R-27	-2.52		
R-38	-3.40				
R-49	-3.49				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.43
LOW (.4 ACH)	-12.86

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.10
LOW (.4 ACH)	-2.20

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.31	-5.68	-1.26
	WOOD	-10.32	-7.09	-3.76
	ALUM	-7.30	-4.97	0.
2 PANE 1/4IN.	ALUM+TB	-9.32	-6.39	-2.52
	PLAIN	-15.37	-15.46	-13.79
	WOOD	-15.91	-15.83	-14.46
2 PANE 1/2IN.	ALUM	-12.72	-13.60	-10.49
	ALUM+TB	-14.85	-15.09	-13.14
	PLAIN	-17.02	-16.62	-15.85
3 PANE 1/4IN.	WOOD	-17.47	-16.93	-16.41
	ALUM	-14.66	-14.96	-12.91
	ALUM+TB	-16.57	-16.30	-15.29
3 PANE 1/2IN.	PLAIN	-18.19	-18.72	-17.99
	WOOD	-18.37	-18.84	-19.21
	ALUM	-15.34	-16.72	-14.43
3 PANE 1/2IN.	ALUM+TB	-16.19	-17.32	-15.50
	PLAIN	-19.65	-19.74	-19.81
	WOOD	-19.79	-19.84	-19.99
	ALUM	-17.38	-18.15	-16.98
	ALUM+TB	-18.94	-19.24	-18.92

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.25	-2.71	-0.02
-4.29	-2.73	-0.05
-4.24	-2.70	0.
-4.27	-2.72	-0.03
-5.08	-3.86	-1.67
-5.09	-3.86	-1.68
-5.04	-3.83	-1.62
-5.08	-3.85	-1.66
-5.11	-3.87	-1.69
-5.12	-3.88	-1.70
-5.07	-3.85	-1.66
-5.11	-3.87	-1.69
-5.54	-4.37	-2.31
-5.54	-4.37	-2.32
-5.49	-4.34	-2.27
-5.50	-4.35	-2.28
-5.56	-4.38	-2.34
-5.56	-4.39	-2.34
-5.52	-4.36	-2.30
-5.55	-4.38	-2.33

BASE LOAD = 95.07 MBTU-YR

BASE LOAD = 21.00 MBTU-YR

AREA	MULTIPLIERS
900	1.252
1000	1.336
1100	1.418
1200	1.500
1300	1.582
1400	1.664

AREA	MULTIPLIERS
900	1.094
1000	1.112
1100	1.140
1200	1.163
1300	1.181
1400	1.194

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.55	R-11	-16.32	R-5 4FT	-2.20
R-15	-16.36	R-19	-19.88	P-5 8FT	-3.46
R-30	-17.61	R-27	-21.79	R-10 8FT	-5.05
R-38	-18.07			R-19 FLR	-6.51
R-45	-18.45				
R-60	-18.70				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.24
R-11	-1.02	R-11	-0.79	R-5 4FT	-0.26
R-19	-1.15	R-19	-0.90	R-5 8FT	-0.27
R-30	-1.20	R-27	-0.97	R-10 8FT	-0.27
R-38	-1.24			R-19 FLR	0.
R-49	-1.27				
R-60	-1.22				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.20
LOW (.4 ACH)	-14.40

INFILTRATION

HI (1 ACH)	-0.28
MED (.7 ACH)	-0.14
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.10	-6.21	-1.36
	WOOD	-11.27	-7.73	-4.07
	ALUM	-8.00	-5.44	0.
	ALUM+TB	-10.19	-6.97	-2.73
2 PANE 1/4IN.	PLAIN	-17.80	-18.06	-16.61
	WOOD	-18.36	-18.45	-17.30
	ALUM	-15.00	-16.14	-13.19
	ALUM+TB	-17.26	-17.68	-15.94
2 PANE 1/2IN.	PLAIN	-19.51	-19.26	-18.74
	WOOD	-19.98	-19.59	-19.33
	ALUM	-17.06	-17.54	-15.69
	ALUM+TB	-19.04	-18.93	-18.16
3 PANE 1/4IN.	PLAIN	-20.86	-21.58	-21.08
	WOOD	-21.05	-21.71	-21.31
	ALUM	-17.91	-19.51	-17.40
	ALUM+TB	-18.80	-20.13	-18.51
3 PANE 1/2IN.	PLAIN	-22.38	-22.64	-22.97
	WOOD	-22.53	-22.74	-23.15
	ALUM	-20.03	-20.99	-20.04
	ALUM+TB	-21.64	-22.12	-22.05

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.80	-1.72	-0.00
-2.81	-1.73	-0.01
-2.80	-1.72	0.
-2.81	-1.73	-0.01
-3.21	-2.28	-0.80
-3.21	-2.28	-0.80
-3.20	-2.28	-0.79
-3.21	-2.28	-0.80
-3.21	-2.28	-0.80
-3.21	-2.28	-0.80
-3.21	-2.28	-0.80
-3.41	-2.55	-1.06
-3.41	-2.55	-1.06
-3.40	-2.54	-1.06
-3.40	-2.54	-1.06
-3.41	-2.55	-1.07
-3.41	-2.55	-1.07
-3.41	-2.55	-1.06
-3.41	-2.55	-1.06

BASE LOAD = 95.92 MBTU-YR

BASE LOAD = 11.15 MBTU-YR

AREA		MULTIPLIERS			
900	.743	1500	1.251	2100	1.741
1000	.828	1600	1.334	2200	1.821
1100	.914	1700	1.416	2300	1.900
1200	1.000	1800	1.498	2400	1.980
1300	1.084	1900	1.579	2500	2.059
1400	1.167	2000	1.660		

AREA		MULTIPLIERS			
900	.958	1500	1.062	2100	1.110
1000	.988	1600	1.066	2200	1.117
1100	1.002	1700	1.083	2300	1.120
1200	1.000	1800	1.094	2400	1.118
1300	1.029	1900	1.100	2500	1.112
1400	1.050	2000	1.099		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.50	R-11	-1.53	R-5 2FT	-.21
R-19	-1.67	R-19	-1.81	R-5 4FT	-.23
R-30	-1.76	R-27	-1.92		
R-38	-1.79				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.85	R-11	-4.66	R-5 2FT	-2.54
R-19	-5.46	R-19	-5.69	R-5 4FT	-2.90
R-30	-5.88	R-27	-6.28		
R-38	-6.03				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.60
LOW (.4 ACH)	-1.20

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.63
LOW (.4 ACH)	-9.26

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.57	-.42	-.13
	WOOD	-.78	-.56	-.38
	ALUM	-.47	-.35	0.
	ALUM+TB	-.68	-.49	-.26
2 PANE 1/4IN.	PLAIN	-1.24	-1.35	-1.33
	WOOD	-1.29	-1.39	-1.40
	ALUM	-.97	-1.16	-.99
	ALUM+TB	-1.18	-1.31	-1.26
2 PANE 1/2IN.	PLAIN	-1.40	-1.47	-1.54
	WOOD	-1.45	-1.50	-1.60
	ALUM	-1.16	-1.30	-1.24
	ALUM+TB	-1.36	-1.44	-1.48
3 PANE 1/4IN.	PLAIN	-1.45	-1.58	-1.59
	WOOD	-1.47	-1.59	-1.62
	ALUM	-1.16	-1.37	-1.23
	ALUM+TB	-1.24	-1.43	-1.34
3 PANE 1/2IN.	PLAIN	-1.60	-1.68	-1.78
	WOOD	-1.61	-1.69	-1.80
	ALUM	-1.37	-1.52	-1.49
	ALUM+TB	-1.52	-1.63	-1.69

12 PCT AREA	15 PCT AREA	20 PCT AREA
-13.75	-8.59	-.14
-14.04	-8.76	-.41
-13.61	-8.51	0.
-13.89	-8.68	-.27
-16.41	-12.37	-5.43
-16.49	-12.41	-5.50
-16.04	-12.15	-5.07
-16.34	-12.33	-5.36
-16.65	-12.51	-5.65
-16.71	-12.54	-5.71
-16.31	-12.31	-5.33
-16.58	-12.47	-5.59
-17.93	-14.03	-7.38
-17.96	-14.05	-7.40
-17.53	-13.79	-7.00
-17.65	-13.87	-7.11
-18.14	-14.15	-7.58
-18.16	-14.17	-7.60
-17.82	-13.96	-7.27
-18.04	-14.09	-7.48

BASE LOAD = 6.77 MBTU-YR

BASE LOAD = 83.37 MBTU-YR

AREA	MULTIPLIERS				
900	.654	1500	1.342	2100	2.038
1000	.762	1600	1.464	2200	2.151
1100	.878	1700	1.576	2300	2.266
1200	1.000	1800	1.690	2400	2.382
1300	1.110	1900	1.807	2500	2.500
1400	1.224	2000	1.926		

AREA	MULTIPLIERS				
900	.841	1500	1.160	2100	1.436
1000	.900	1600	1.205	2200	1.481
1100	.954	1700	1.256	2300	1.523
1200	1.000	1800	1.303	2400	1.563
1300	1.057	1900	1.348	2500	1.601
1400	1.110	2000	1.390		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-16.80	R-11	-19.10	R-5 4FT	-2.55
R-19	-18.92	R-19	-23.40	R-5 8FT	-4.03
R-30	-20.41	R-27	-25.72	R-10 8FT	-5.89
R-38	-20.96			R-19 FLR	-7.58
R-49	-21.43				
R-60	-21.73				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.21
R-11	-.95	R-11	-.55	R-5 4FT	-.21
R-19	-1.06	R-19	-.67	R-5 8FT	-.21
R-30	-1.12	R-27	-.72	R-10 8FT	-.18
R-38	-1.18			R-19 FLR	0.
R-49	-1.16				
R-60	-1.18				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-8.40
LOW (.4 ACH)	-16.79

INFILTRATION

HI (1 ACH)	-.32
MED (.7 ACH)	-.16
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-11.41	-7.73	-1.60
	WOOD	-13.96	-9.51	-4.77
	ALUM	-10.13	-6.83	0.
	ALUM+TB	-12.69	-8.63	-3.19
2 PANE 1/4 IN.	PLAIN	-21.19	-21.13	-18.83
	WOOD	-21.86	-21.60	-19.66
	ALUM	-17.89	-18.81	-14.71
	ALUM+TB	-20.54	-20.67	-18.01
2 PANE 1/2 IN.	PLAIN	-23.25	-22.57	-21.39
	WOOD	-23.81	-22.97	-22.09
	ALUM	-20.31	-20.51	-17.72
	ALUM+TB	-22.69	-22.18	-20.69
3 PANE 1/4 IN.	PLAIN	-24.89	-25.41	-24.31
	WOOD	-25.11	-25.57	-24.59
	ALUM	-21.33	-22.92	-19.89
	ALUM+TB	-22.40	-23.67	-21.21
3 PANE 1/2 IN.	PLAIN	-26.71	-26.69	-26.58
	WOOD	-26.88	-26.81	-26.81
	ALUM	-23.88	-24.70	-23.06
	ALUM+TB	-25.82	-26.06	-25.48

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.42	-1.60	-.00
-2.43	-1.60	-.00
-2.42	-1.60	0.
-2.42	-1.60	-.00
-2.67	-1.97	-.59
-2.67	-1.97	-.59
-2.66	-1.96	-.59
-2.67	-1.96	-.59
-2.67	-1.97	-.60
-2.67	-1.97	-.60
-2.67	-1.96	-.59
-2.67	-1.97	-.60
-2.86	-2.16	-.97
-2.86	-2.16	-.97
-2.86	-2.16	-.96
-2.86	-2.16	-.96
-2.86	-2.16	-.97
-2.86	-2.16	-.97
-2.86	-2.16	-.96
-2.86	-2.16	-.97

BASE LOAD = 114.22 MBTU-YR

BASE LOAD = 8.03 MBTU-YR

AREA	MULTIPLIERS
900	.746
1000	.830
1100	.915
1200	1.000
1300	1.083
1400	1.166
1500	1.248
1600	1.331
1700	1.412
1800	1.492
1900	1.573
2000	1.653
2100	1.732
2200	1.811
2300	1.890
2400	1.968
2500	2.046

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.14	R-11	-21.64	R-5 4FT	-2.92
R-19	-21.58	R-19	-26.58	R-5 8FT	-4.59
R-30	-23.33	R-27	-29.25	R-10 8FT	-6.75
R-3E	-23.96			R-19 FLR	-8.69
R-49	-24.51				
R-60	-24.86				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.18
R-11	-1.07	R-11	-0.70	R-5 4FT	-0.19
R-19	-1.21	R-19	-0.89	R-5 8FT	-0.19
R-30	-1.30	R-27	-0.95	R-10 8FT	-0.23
R-38	-1.33			R-19 FLR	0.
R-49	-1.35				
R-60	-1.38				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.95
LOW (.4 ACH)	-19.90

INFILTRATION

HI (1 ACH)	-0.10
MED (.7 ACH)	-0.05
LOW (.4 ACH)	0.

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.62	-8.55	-1.81
	WOOD	-15.50	-10.57	-5.40
	ALUM	-11.17	-7.53	0.
	ALUM+TB	-14.07	-9.56	-3.62
2 PANE 1/4IN.	PLAIN	-23.16	-23.05	-20.33
	WOOD	-23.93	-23.59	-21.29
	ALUM	-19.36	-20.38	-15.59
	ALUM+TB	-22.41	-22.52	-19.40
2 PANE 1/2IN.	PLAIN	-25.53	-24.71	-23.29
	WOOD	-26.18	-25.16	-24.09
	ALUM	-22.14	-22.33	-19.06
	ALUM+TB	-24.89	-24.25	-22.48
3 PANE 1/4IN.	PLAIN	-27.34	-27.88	-26.54
	WOOD	-27.60	-28.06	-26.86
	ALUM	-23.25	-25.01	-21.44
	ALUM+TB	-24.48	-25.87	-22.97
3 PANE 1/2IN.	PLAIN	-29.44	-29.35	-29.16
	WOOD	-29.64	-29.49	-29.41
	ALUM	-26.18	-27.07	-25.10
	ALUM+TB	-28.41	-28.63	-27.88

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.23	-1.43	-0.00
-2.24	-1.43	-0.01
-2.23	-1.42	0.
-2.24	-1.43	-0.01
-2.54	-1.86	-0.67
-2.54	-1.86	-0.67
-2.53	-1.85	-0.65
-2.54	-1.86	-0.66
-2.55	-1.87	-0.67
-2.55	-1.87	-0.68
-2.54	-1.86	-0.66
-2.55	-1.87	-0.67
-2.69	-2.00	-0.82
-2.69	-2.00	-0.82
-2.67	-1.99	-0.81
-2.68	-1.99	-0.81
-2.70	-2.00	-0.83
-2.70	-2.00	-0.83
-2.68	-1.99	-0.82
-2.69	-2.00	-0.83

BASE LOAD = 131.38 MBTU-YR

BASE LOAD = 8.28 MBTU-YR

AREA	MULTIPLIERS
900	.747
1000	.831
1100	.916
1200	1.000
1300	1.082
1400	1.164
1500	1.246
1600	1.328
1700	1.409
1800	1.489
1900	1.568
2000	1.648
2100	1.726
2200	1.805
2300	1.883
2400	1.960
2500	2.038

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.42	R-11	-19.35	R-5 4FT	-2.58
R-15	-19.60	R-19	-23.65	R-5 8FT	-4.08
R-30	-21.12	R-27	-25.93	R-10 8FT	-5.97
R-3E	-21.68			R-19 FLR	-7.64
R-49	-22.14				
R-60	-22.44				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-1.31	R-11	-0.75	R-5 4FT	-0.17
R-19	-1.50	R-19	-0.92	R-5 8FT	-0.18
R-30	-1.59	R-27	-0.94	R-10 8FT	-0.18
R-38	-1.64			R-19 FLR	0.
R-49	-1.68				
R-60	-1.71				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.86
LCW (.4 ACH)	-13.72

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.02
LOW (.4 ACH)	-0.03

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.25	-7.02	-1.62
	WOOD	-12.82	-8.83	-4.83
	ALUM	-8.95	-6.11	0.
	ALUM+TB	-11.54	-7.93	-3.23
2 PANE 1/4IN.	PLAIN	-20.21	-20.64	-19.10
	WOOD	-20.88	-21.11	-19.93
	ALUM	-16.90	-18.32	-14.98
	ALUM+TB	-19.56	-20.18	-18.28
2 PANE 1/2IN.	PLAIN	-22.27	-22.09	-21.67
	WOOD	-22.83	-22.48	-22.37
	ALUM	-19.32	-20.02	-17.99
	ALUM+TB	-21.71	-21.69	-20.96
3 PANE 1/4IN.	PLAIN	-23.83	-24.78	-24.37
	WOOD	-24.05	-24.94	-24.65
	ALUM	-20.27	-22.29	-19.94
	ALUM+TB	-21.34	-23.04	-21.27
3 PANE 1/2IN.	PLAIN	-25.65	-26.06	-26.64
	WOOD	-25.83	-26.19	-26.87
	ALUM	-22.82	-24.08	-23.11
	ALUM+TB	-24.76	-25.44	-25.54

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.47	-1.60	-0.01
-2.49	-1.61	-0.03
-2.46	-1.59	0.
-2.48	-1.60	-0.02
-2.85	-2.13	-0.80
-2.85	-2.14	-0.80
-2.82	-2.12	-0.77
-2.84	-2.13	-0.79
-2.86	-2.14	-0.81
-2.87	-2.15	-0.81
-2.84	-2.13	-0.79
-2.86	-2.14	-0.81
-3.08	-2.43	-1.19
-3.09	-2.43	-1.19
-3.06	-2.41	-1.16
-3.06	-2.42	-1.17
-3.10	-2.44	-1.20
-3.10	-2.44	-1.20
-3.08	-2.42	-1.18
-3.09	-2.43	-1.19

BASE LOAD = 107.44 MBTU-YR

BASE LOAD = 8.15 MBTU-YR

AREA		MULTIPLIERS			
900	.744	1500	1.250	2100	1.738
1000	.829	1600	1.333	2200	1.818
1100	.914	1700	1.415	2300	1.897
1200	1.000	1800	1.496	2400	1.976
1300	1.083	1900	1.577	2500	2.055
1400	1.167	2000	1.658		

AREA		MULTIPLIERS			
900	.962	1500	1.060	2100	1.101
1000	.990	1600	1.062	2200	1.108
1100	1.003	1700	1.078	2300	1.108
1200	1.000	1800	1.088	2400	1.105
1300	1.028	1900	1.093	2500	1.098
1400	1.048	2000	1.091		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.74	R-11	-6.07	R-11 FLR	-4.88
R-19	-5.46	R-19	-7.38	R-19 FLR	-5.53
R-30	-6.94	R-27	-8.03		
R-3E	-7.10				
R-49	-7.25				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.41	R-11	-2.48	R-11 FLR	-2.42
R-19	-3.80	R-19	-2.80	R-19 FLR	-2.71
R-30	-4.03	R-27	-3.04		
R-38	-4.11				
R-49	-4.14				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.86
LCM (.4 ACH)	-5.72

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.93
LOW (.4 ACH)	-1.86

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.48	-1.76	-.51
	WOOD	-3.29	-2.33	-1.52
	ALUM	-2.07	-1.48	0.
2 PANE 1/4IN.	ALUM+TB	-2.89	-2.05	-1.02
	PLAIN	-5.37	-5.76	-5.62
	WOOD	-5.58	-5.91	-5.88
	ALUM	-4.30	-5.01	-4.28
2 PANE 1/2IN.	ALUM+TB	-5.16	-5.61	-5.35
	PLAIN	-6.03	-6.22	-6.45
	WOOD	-6.21	-6.35	-6.67
	ALUM	-5.08	-5.56	-5.26
3 PANE 1/4IN.	ALUM+TB	-5.85	-6.10	-6.22
	PLAIN	-6.41	-6.95	-7.14
	WOOD	-6.48	-7.00	-7.23
	ALUM	-5.26	-6.15	-5.71
3 PANE 1/2IN.	ALUM+TB	-5.61	-6.39	-6.14
	PLAIN	-7.00	-7.37	-7.88
	WOOD	-7.06	-7.41	-7.95
	ALUM	-6.09	-6.72	-6.74
	ALUM+TB	-6.71	-7.16	-7.52

12 PCT AREA	15 PCT AREA	20 PCT AREA
-8.50	-5.32	-.01
-8.52	-5.33	-.03
-8.49	-5.32	0.
-8.51	-5.33	-.02
-9.39	-6.67	-2.07
-9.40	-6.68	-2.08
-9.37	-6.66	-2.05
-9.39	-6.67	-2.07
-9.41	-6.68	-2.09
-9.41	-6.69	-2.09
-9.39	-6.67	-2.07
-9.40	-6.68	-2.08
-10.02	-7.37	-2.95
-10.02	-7.37	-2.95
-10.00	-7.35	-2.92
-10.01	-7.36	-2.93
-10.04	-7.37	-2.96
-10.04	-7.38	-2.96
-10.02	-7.36	-2.94
-10.03	-7.37	-2.96

BASE LOAD = 36.09 MBTU-YR

BASE LOAD = 44.04 MBTU-YR

AREA	MULTIPLIERS				
900	.713	1500	1.282	2100	1.843
1000	.806	1600	1.379	2200	1.934
1100	.901	1700	1.471	2300	2.026
1200	1.000	1800	1.564	2400	2.118
1300	1.093	1900	1.657	2500	2.210
1400	1.187	2000	1.752		

AREA	MULTIPLIERS				
900	.861	1500	1.142	2100	1.379
1000	.916	1600	1.180	2200	1.416
1100	.962	1700	1.225	2300	1.451
1200	1.000	1800	1.266	2400	1.484
1300	1.052	1900	1.304	2500	1.514
1400	1.100	2000	1.338		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.78	R-11	-16.56	R-5 4FT	-2.26
R-15	-16.64	R-19	-20.28	R-5 8FT	-3.58
R-30	-17.96	R-27	-22.29	R-10 8FT	-5.22
R-38	-18.44			R-19 FLR	-6.68
R-45	-19.85				
R-60	-19.11				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.72	R-11	-1.19	R-5 4FT	-0.10
R-19	-1.93	R-19	-1.46	R-5 8FT	-0.16
R-30	-2.07	R-27	-1.58	R-10 8FT	-0.21
R-38	-2.13			R-19 FLR	-0.06
R-49	-2.18				
R-60	-2.18				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.51
LOW (.4 ACH)	-15.03

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.07
LOW (.4 ACH)	-0.14

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.14	-6.24	-1.38
	WCCD	-11.35	-7.79	-4.14
	ALUM	-8.03	-5.46	0.
	ALUM+TB	-10.25	-7.02	-2.77
2 PANE 1/4IN.	PLAIN	-17.25	-17.39	-15.69
	WOOD	-17.83	-17.80	-16.41
	ALUM	-14.39	-15.38	-12.13
	ALUM+TB	-16.68	-16.99	-14.99
2 PANE 1/2IN.	PLAIN	-19.03	-18.64	-17.92
	WOOD	-19.52	-18.98	-18.52
	ALUM	-16.48	-16.85	-14.73
	ALUM+TB	-18.54	-18.30	-17.21
3 PANE 1/4IN.	PLAIN	-20.37	-21.00	-20.29
	WCCD	-20.56	-21.13	-20.53
	ALUM	-17.29	-18.84	-16.45
	ALUM+TB	-18.22	-19.48	-17.60
3 PANE 1/2IN.	PLAIN	-21.95	-22.10	-22.26
	WCCD	-22.10	-22.21	-22.45
	ALUM	-19.50	-20.38	-19.20
	ALUM+TB	-21.18	-21.56	-21.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.33	-2.04	-0.01
-3.35	-2.05	-0.02
-3.32	-2.04	0.
-3.34	-2.05	-0.02
-3.83	-2.82	-0.99
-3.83	-2.82	-0.99
-3.81	-2.80	-0.97
-3.82	-2.81	-0.99
-3.84	-2.82	-1.00
-3.84	-2.83	-1.01
-3.82	-2.81	-0.98
-3.84	-2.82	-1.00
-4.18	-3.17	-1.50
-4.18	-3.17	-1.50
-4.15	-3.15	-1.48
-4.16	-3.16	-1.49
-4.19	-3.17	-1.51
-4.19	-3.17	-1.51
-4.17	-3.16	-1.49
-4.18	-3.17	-1.51

BASE LOAD = 98.34 MBTU-YR

BASE LOAD = 13.66 MBTU-YR

AREA	MULTIPLIERS
900	.744
1000	.829
1100	.914
1200	1.000
1300	1.083
1400	1.167
1500	1.250
1600	1.333
1700	1.415
1800	1.496
1900	1.577
2000	1.658
2100	1.738
2200	1.818
2300	1.897
2400	1.976
2500	2.055

AREA	MULTIPLIERS
900	.947
1000	.979
1100	.997
1200	1.000
1300	1.032
1400	1.056
1500	1.072
1600	1.080
1700	1.101
1800	1.115
1900	1.125
2000	1.128
2100	1.143
2200	1.153
2300	1.160
2400	1.163
2500	1.161

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.09	R-11	-13.55	R-5 4FT	-1.93
R-15	-13.61	R-19	-16.63	R-5 8FT	-2.89
R-30	-14.69	R-27	-18.29	R-10 8FT	-4.26
R-38	-15.09			R-19 FLR	-5.50
R-49	-15.43				
R-60	-15.65				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.36	R-11	-1.67	R-5 4FT	-.18
R-19	-2.66	R-19	-2.11	R-5 8FT	-.27
R-30	-2.85	R-27	-2.25	R-10 8FT	-.44
R-38	-2.93			R-19 FLR	-.29
R-49	-2.96				
R-60	-2.99				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.41
LOW (.4 ACH)	-12.82

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.15
LOW (.4 ACH)	-.30

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.32	-5.01	-1.13
	WOOD	-9.13	-6.27	-3.38
	ALUM	-6.41	-4.37	0.
	ALUM+TB	-8.23	-5.64	-2.26
2 PANE 1/4 IN.	PLAIN	-14.11	-14.32	-13.10
	WOOD	-14.58	-14.66	-13.70
	ALUM	-11.74	-12.66	-10.15
	ALUM+TB	-13.64	-13.99	-12.52
2 PANE 1/2 IN.	PLAIN	-15.58	-15.36	-14.94
	WOOD	-15.99	-15.64	-15.45
	ALUM	-13.47	-13.87	-12.31
	ALUM+TB	-15.18	-15.07	-14.44
3 PANE 1/4 IN.	PLAIN	-16.69	-17.31	-16.93
	WOOD	-16.85	-17.43	-17.12
	ALUM	-14.14	-15.53	-13.75
	ALUM+TB	-14.90	-16.06	-14.70
3 PANE 1/2 IN.	PLAIN	-18.00	-18.23	-18.56
	WOOD	-18.12	-18.32	-18.71
	ALUM	-15.97	-16.81	-16.03
	ALUM+TB	-17.36	-17.78	-17.76

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.14	-3.24	-.01
-5.17	-3.25	-.03
-5.13	-3.23	0.
-5.15	-3.25	-.02
-5.82	-4.21	-1.43
-5.83	-4.21	-1.43
-5.79	-4.19	-1.40
-5.81	-4.21	-1.42
-5.84	-4.22	-1.45
-5.85	-4.23	-1.45
-5.81	-4.21	-1.42
-5.84	-4.22	-1.44
-6.27	-4.68	-2.02
-6.28	-4.68	-2.02
-6.24	-4.66	-1.98
-6.25	-4.67	-1.99
-6.29	-4.69	-2.04
-6.30	-4.69	-2.04
-6.26	-4.68	-2.01
-6.28	-4.69	-2.03

BASE LOAD = 79.95 MBTU-YR

BASE LOAD = 22.31 MBTU-YR

AREA	MULTIPLIERS
900	.741
1000	.826
1100	.913
1200	1.000
1300	1.084
1400	1.169
1500	1.253
1600	1.338
1700	1.421
1800	1.503
1900	1.586
2000	1.668
2100	1.749
2200	1.830
2300	1.911
2400	1.991
2500	2.071

AREA	MULTIPLIERS
900	.901
1000	.945
1100	.978
1200	1.000
1300	1.043
1400	1.079
1500	1.110
1600	1.134
1700	1.167
1800	1.196
1900	1.220
2000	1.240
2100	1.268
2200	1.293
2300	1.315
2400	1.334
2500	1.349

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.09	R-11	-15.47	R-5 4FT	-2.11
R-19	-15.86	R-19	-18.94	R-5 8FT	-3.33
R-30	-17.10	R-27	-20.76	R-10 8FT	-4.95
R-38	-17.54			R-19 FLR	-6.20
R-49	-17.92				
R-60	-18.17				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.02
R-11	-2.19	R-11	-1.32	R-5 4FT	-.09
R-19	-2.47	R-19	-1.63	R-5 8FT	-.13
R-30	-2.63	R-27	-1.71	R-10 8FT	-.17
R-38	-2.69			R-19 FLR	0.
R-49	-2.77				
R-60	-2.82				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.12
LOW (.4 ACH)	-12.24

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.04
LOW (.4 ACH)	-.07

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.38	-5.12	-1.29
	WOOD	-9.44	-6.57	-3.86
	ALUM	-6.35	-4.39	0.
	ALUM+TB	-8.42	-5.95	-2.59
2 PANE 1/4IN.	PLAIN	-15.09	-15.69	-14.84
	WOOD	-15.63	-16.07	-15.51
	ALUM	-12.42	-13.83	-11.52
	ALUM+TB	-14.56	-15.33	-14.19
2 PANE 1/2IN.	PLAIN	-16.75	-16.86	-16.91
	WOOD	-17.20	-17.18	-17.48
	ALUM	-14.37	-15.19	-13.95
	ALUM+TB	-16.29	-16.54	-16.35
3 PANE 1/4IN.	PLAIN	-17.94	-18.96	-18.98
	WOOD	-18.12	-19.08	-19.20
	ALUM	-15.07	-16.95	-15.41
	ALUM+TB	-15.93	-17.55	-16.48
3 PANE 1/2IN.	PLAIN	-19.41	-19.99	-20.81
	WOOD	-19.55	-20.09	-20.99
	ALUM	-17.12	-18.39	-17.97
	ALUM+TB	-18.69	-19.49	-19.92

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.05	-1.96	-.01
-3.07	-1.97	-.02
-3.04	-1.96	0.
-3.06	-1.96	-.01
-3.60	-2.72	-1.12
-3.61	-2.72	-1.13
-3.58	-2.71	-1.11
-3.60	-2.72	-1.12
-3.62	-2.73	-1.14
-3.62	-2.73	-1.14
-3.60	-2.72	-1.12
-3.61	-2.72	-1.13
-3.91	-3.10	-1.59
-3.91	-3.10	-1.59
-3.89	-3.08	-1.57
-3.90	-3.09	-1.58
-3.92	-3.10	-1.60
-3.92	-3.10	-1.60
-3.90	-3.09	-1.59
-3.92	-3.10	-1.60

BASE LOAD = 85.63 MBTU-YR

BASE LOAD = 11.94 MBTU-YR

AREA	MULTIPLIERS
900 .741	1500 1.253
1000 .826	2100 1.749
1100 .913	1600 1.338
1200 1.000	1700 1.421
1300 1.084	2300 1.910
1400 1.169	1800 1.503
	2400 1.991
	1900 1.586
	2500 2.071
	2000 1.668

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	2100 1.101
1100 1.003	1600 1.062
1200 1.000	1700 1.078
1300 1.028	2300 1.108
1400 1.048	1800 1.088
	2400 1.105
	1900 1.093
	2500 1.098
	2000 1.091

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.09	R-11	-6.30	R-5 2FT	-3.37
R-19	-6.84	R-19	-7.68	R-5 4FT	-3.83
R-30	-7.34	R-27	-8.37		
R-38	-7.52				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.19	R-11	-3.68	R-5 2FT	-1.84
R-19	-5.87	R-19	-4.54	R-5 4FT	-2.10
R-30	-6.28	R-27	-4.90		
R-38	-6.45				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.95
LOW (.4 ACH)	-5.90

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.30
LOW (.4 ACH)	-6.61

WINDGW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.34	-1.69	-0.53
	WOOD	-3.18	-2.28	-1.57
	ALUM	-1.92	-1.39	0.
2 PANE 1/4IN.	ALUM+TB	-2.76	-1.99	-1.05
	PLAIN	-5.27	-5.75	-5.72
	WOOD	-5.49	-5.91	-6.00
	ALUM	-4.16	-4.57	-4.34
2 PANE 1/2IN.	ALUM+TB	-5.05	-5.60	-5.45
	PLAIN	-5.96	-6.23	-6.58
	WOOD	-6.15	-6.37	-6.81
3 PANE 1/4IN.	ALUM	-4.97	-5.54	-5.35
	ALUM+TB	-5.77	-6.10	-6.34
	PLAIN	-6.34	-6.97	-7.26
	WOOD	-6.42	-7.03	-7.36
3 PANE 1/2IN.	ALUM	-5.15	-6.14	-5.78
	ALUM+TB	-5.51	-6.39	-6.22
	PLAIN	-6.96	-7.40	-8.03
	WOOD	-7.01	-7.44	-8.10
	ALUM	-6.01	-6.74	-6.84
	ALUM+TB	-6.66	-7.19	-7.65

12 PCT AREA	15 PCT AREA	20 PCT AREA
-8.49	-5.35	-0.08
-8.65	-5.45	-0.24
-8.40	-5.31	0.
-8.57	-5.40	-0.16
-10.11	-7.69	-3.37
-10.16	-7.71	-3.41
-9.89	-7.56	-3.17
-10.07	-7.66	-3.33
-10.25	-7.77	-3.50
-10.29	-7.79	-3.54
-10.05	-7.65	-3.32
-10.21	-7.75	-3.47
-11.03	-8.70	-4.64
-11.05	-8.71	-4.66
-10.80	-8.56	-4.42
-10.87	-8.61	-4.49
-11.15	-8.77	-4.76
-11.17	-8.78	-4.77
-10.97	-8.66	-4.58
-11.10	-8.74	-4.70

BASE LOAD = 34.99 MBTU-YR

BASE LOAD = 41.64 MBTU-YR

AREA	MULTIPLIERS				
900	.712	1500	1.283	2100	1.846
1000	.805	1600	1.380	2200	1.938
1100	.901	1700	1.473	2300	2.030
1200	1.000	1800	1.566	2400	2.122
1300	1.093	1900	1.660	2500	2.215
1400	1.187	2000	1.755		

AREA	MULTIPLIERS				
900	.869	1500	1.136	2100	1.356
1000	.922	1600	1.171	2200	1.391
1100	.965	1700	1.213	2300	1.424
1200	1.000	1800	1.252	2400	1.454
1300	1.050	1900	1.287	2500	1.481
1400	1.096	2000	1.318		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.91	R-11	-6.28	R-5 2FT	-3.25
R-19	-6.64	R-19	-7.65	R-5 4FT	-3.69
R-30	-7.13	R-27	-8.36		
R-3E	-7.32				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.95	R-11	-4.35	R-5 2FT	-2.67
R-19	-5.58	R-19	-5.31	R-5 4FT	-3.09
R-30	-6.02	R-27	-5.87		
R-38	-6.19				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.17
LOW (.4 ACH)	-6.35

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.95
LOW (.4 ACH)	-3.90

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.47	-1.76	-.52
	WOOD	-3.30	-2.35	-1.57
	ALUM	-2.05	-1.47	0.
	ALUM+TB	-2.89	-2.06	-1.05
2 PANE 1/4IN.	PLAIN	-5.50	-5.96	-5.90
	WOOD	-5.73	-6.12	-6.18
	ALUM	-4.40	-5.19	-4.52
	ALUM+TB	-5.29	-5.81	-5.63
2 PANE 1/2IN.	PLAIN	-6.19	-6.44	-6.76
	WOOD	-6.38	-6.58	-6.99
	ALUM	-5.21	-5.75	-5.53
	ALUM+TB	-6.00	-6.31	-6.52
3 PANE 1/4IN.	PLAIN	-6.60	-7.20	-7.46
	WOOD	-6.67	-7.26	-7.55
	ALUM	-5.41	-6.37	-5.97
	ALUM+TB	-5.77	-6.62	-6.42
3 PANE 1/2IN.	PLAIN	-7.21	-7.63	-8.21
	WOOD	-7.27	-7.67	-8.29
	ALUM	-6.26	-6.97	-7.04
	ALUM+TB	-6.91	-7.42	-7.84

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.22	-5.79	-.10
-9.43	-5.91	-.29
-9.12	-5.72	0.
-9.33	-5.85	-.20
-11.08	-8.40	-3.82
-11.13	-8.43	-3.87
-10.81	-8.24	-3.56
-11.02	-8.37	-3.77
-11.24	-8.50	-3.98
-11.29	-8.53	-4.02
-11.00	-8.36	-3.75
-11.20	-8.47	-3.93
-12.12	-9.61	-5.26
-12.14	-9.62	-5.28
-11.83	-9.44	-4.98
-11.91	-9.49	-5.07
-12.27	-9.70	-5.40
-12.28	-9.71	-5.41
-12.04	-9.56	-5.18
-12.19	-9.66	-5.33

BASE LOAD = 35.50 MBTU-YR

BASE LOAD = 55.57 MBTU-YR

AREA	MULTIPLIERS
900	.714
1000	.806
1100	.902
1200	1.000
1300	1.092
1400	1.186
1500	1.281
1600	1.377
1700	1.469
1800	1.562
1900	1.655
2000	1.749
2100	1.840
2200	1.931
2300	2.022
2400	2.114
2500	2.206

AREA	MULTIPLIERS
900	.854
1000	.910
1100	.959
1200	1.000
1300	1.054
1400	1.104
1500	1.149
1600	1.189
1700	1.236
1800	1.279
1900	1.320
2000	1.357
2100	1.399
2200	1.439
2300	1.477
2400	1.512
2500	1.545

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.70	R-11	-13.06	R-5 2FT	-3.78
R-15	-7.52	R-19	-15.04	R-5 4FT	-4.31
R-30	-8.06	R-27	-15.04		
R-38	-8.25				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.46	R-11	-7.43	R-5 2FT	-1.32
R-19	-6.21	R-19	-8.64	R-5 4FT	-1.50
R-30	-6.64	R-27	-8.64		
R-38	-6.82				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.48
LOW (.4 ACH)	-6.95

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.69
LOW (.4 ACH)	-1.38

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.76	-1.97	-0.56
	WOOD	-3.66	-2.60	-1.69
	ALUM	-2.31	-1.65	0.
	ALUM+TB	-3.21	-2.29	-1.13
2 PANE 1/4IN.	PLAIN	-5.88	-6.29	-6.09
	WOOD	-6.12	-6.46	-6.39
	ALUM	-4.69	-5.46	-4.61
	ALUM+TB	-5.65	-6.13	-5.80
2 PANE 1/2IN.	PLAIN	-6.62	-6.81	-7.02
	WOOD	-6.83	-6.95	-7.27
	ALUM	-5.56	-6.07	-5.70
	ALUM+TB	-6.42	-6.67	-6.77
3 PANE 1/4IN.	PLAIN	-7.07	-7.63	-7.75
	WOOD	-7.15	-7.68	-7.85
	ALUM	-5.79	-6.73	-6.16
	ALUM+TB	-6.17	-7.00	-6.64
3 PANE 1/2IN.	PLAIN	-7.72	-8.09	-8.57
	WOOD	-7.79	-8.13	-8.65
	ALUM	-6.71	-7.37	-7.30
	ALUM+TB	-7.40	-7.86	-8.17

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.12	-4.51	-0.08
-7.28	-4.61	-0.24
-7.03	-4.46	0.
-7.20	-4.56	-0.16
-8.63	-6.63	-3.05
-8.67	-6.65	-3.10
-8.41	-6.50	-2.84
-8.59	-6.60	-3.01
-8.77	-6.71	-3.18
-8.80	-6.73	-3.22
-8.57	-6.59	-3.00
-8.73	-6.68	-3.15
-9.47	-7.59	-4.21
-9.49	-7.60	-4.22
-9.23	-7.46	-3.98
-9.31	-7.50	-4.05
-9.59	-7.67	-4.32
-9.60	-7.67	-4.33
-9.40	-7.56	-4.14
-9.53	-7.63	-4.27

BASE LOAD = 46.44 MBTU-YR

BASE LOAD = 40.63 MBTU-YR

AREA	MULTIPLIERS
900	.721
1000	.812
1100	.905
1200	1.000
1300	1.090
1400	1.181
1500	1.274
1600	1.367
1700	1.456
1800	1.546
1900	1.637
2000	1.727
2100	1.815
2200	1.904
2300	1.992
2400	2.081
2500	2.170

AREA	MULTIPLIERS
900	.878
1000	.928
1100	.969
1200	1.000
1300	1.048
1400	1.091
1500	1.129
1600	1.161
1700	1.201
1800	1.237
1900	1.270
2000	1.298
2100	1.333
2200	1.366
2300	1.395
2400	1.422
2500	1.446

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-18.73	R-11	-21.19	R-5 4FT	-2.81
R-19	-21.08	R-19	-25.91	R-5 8FT	-4.44
R-3C	-22.74	R-27	-28.43	R-10 8FT	-6.49
R-38	-23.33			R-19 FLR	-8.37
R-45	-23.85				
R-6C	-24.18				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.19
R-11	-1.19	R-11	-.78	R-5 4FT	-.18
R-19	-1.35	R-19	-.96	R-5 8FT	-.17
R-30	-1.43	R-27	-.99	R-10 8FT	-.16
R-38	-1.47			R-19 FLR	0.
R-49	-1.51				
R-60	-1.54				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.85
LOW (.4 ACH)	-15.70

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.04
LOW (.4 ACH)	-.07

WINDCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-12.75	-8.61	-1.77
	WOOD	-15.58	-10.59	-5.29
	ALUM	-11.33	-7.61	0.
	ALUM+TB	-14.17	-9.60	-3.54
2 PANE 1/4IN.	PLAIN	-24.08	-24.02	-21.49
	WOOD	-24.81	-24.53	-22.40
	ALUM	-20.44	-21.47	-16.96
	ALUM+TB	-23.36	-23.51	-20.59
2 PANE 1/2IN.	PLAIN	-26.34	-25.60	-24.31
	WOOD	-26.56	-26.04	-25.08
	ALUM	-23.10	-23.33	-20.27
	ALUM+TB	-25.72	-25.17	-23.54
3 PANE 1/4IN.	PLAIN	-28.16	-28.75	-27.56
	WOOD	-28.41	-28.92	-27.87
	ALUM	-24.25	-26.01	-22.69
	ALUM+TB	-25.43	-26.93	-24.15
3 PANE 1/2IN.	PLAIN	-30.17	-30.16	-30.06
	WOOD	-30.36	-30.29	-30.31
	ALUM	-27.06	-27.97	-26.18
	ALUM+TB	-29.19	-29.47	-28.34

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.20	-1.40	-.00
-2.20	-1.40	-.01
-2.19	-1.40	0.
-2.20	-1.40	-.01
-2.60	-1.96	-.82
-2.60	-1.96	-.83
-2.59	-1.96	-.82
-2.59	-1.96	-.82
-2.60	-1.97	-.83
-2.60	-1.97	-.83
-2.59	-1.96	-.82
-2.60	-1.96	-.83
-2.82	-2.26	-1.17
-2.82	-2.26	-1.17
-2.81	-2.25	-1.17
-2.81	-2.25	-1.17
-2.82	-2.26	-1.18
-2.82	-2.26	-1.18
-2.82	-2.26	-1.17
-2.82	-2.26	-1.18

BASE LOAD = 122.90 MBTU-YR

BASE LOAD = 7.73 MBTU-YR

AREA	MULTIPLIERS
900	.746
1000	.830
1100	.915
1200	1.000
1300	1.083
1400	1.165
1500	1.248
1600	1.330
1700	1.411
1800	1.492
1900	1.572
2000	1.652
2100	1.731
2200	1.810
2300	1.888
2400	1.967
2500	2.045

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-0.00	R-11	0.	R-5 2FT	0.
R-15	-0.00	R-19	0.	R-5 4FT	0.
R-30	-0.00	R-27	0.		
R-38	-0.00				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.06	R-11	-3.01	R-5 2FT	-2.62
R-19	-4.57	R-19	-3.85	R-5 4FT	-3.00
R-30	-4.98	R-27	-4.25		
R-38	-5.16				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

INFILTRATION

HI (1 ACH)	-0.11
MED (.7 ACH)	-0.06
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/4IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/2IN.	PLAIN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.

12 PCT AREA	15 PCT AREA	20 PCT AREA
-15.62	-9.74	-0.05
-15.72	-9.79	-0.14
-15.57	-9.71	0.
-15.67	-9.77	-0.09
-17.24	-12.14	-3.58
-17.27	-12.16	-3.60
-17.12	-12.07	-3.46
-17.22	-12.13	-3.56
-17.32	-12.19	-3.65
-17.34	-12.20	-3.67
-17.21	-12.12	-3.55
-17.30	-12.17	-3.63
-18.62	-13.69	-5.39
-18.63	-13.69	-5.40
-18.49	-13.61	-5.27
-18.53	-13.63	-5.30
-18.69	-13.73	-5.46
-18.70	-13.73	-5.47
-18.59	-13.67	-5.36
-18.66	-13.71	-5.43

BASE LOAD = .00 MBTU-YR

BASE LOAD = 72.45 MBTU-YR

AREA	MULTIPLIERS				
900	.654	1500	1.342	2100	2.038
1000	.762	1600	1.464	2200	2.151
1100	.878	1700	1.576	2300	2.266
1200	1.000	1800	1.690	2400	2.382
1300	1.110	1900	1.807	2500	2.500
1400	1.224	2000	1.926		

AREA	MULTIPLIERS				
900	.844	1500	1.157	2100	1.427
1000	.903	1600	1.201	2200	1.470
1100	.955	1700	1.251	2300	1.511
1200	1.000	1800	1.297	2400	1.550
1300	1.056	1900	1.341	2500	1.587
1400	1.109	2000	1.382		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.19	R-11	-3.31	R-5 2FT	-1.33
R-15	-3.59	R-19	-4.02	R-5 4FT	-1.48
R-3C	-3.84	R-27	-4.35		
R-3E	-3.92				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.23	R-11	-3.38	R-5 2FT	-2.69
R-19	-4.76	R-19	-4.15	R-5 4FT	-3.05
R-30	-5.16	R-27	-4.58		
R-38	-5.30				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.67
LOW (.4 ACH)	-3.35

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.03
LOW (.4 ACH)	-4.05

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.00	-.75	-.28
	WOOD	-1.44	-1.06	-.83
	ALUM	-.78	-.60	0.
2 PANE 1/4IN.	ALUM+TB	-1.22	-.91	-.55
	PLAIN	-2.53	-2.87	-2.96
	WOOD	-2.65	-2.95	-3.11
2 PANE 1/2IN.	ALUM	-1.95	-2.46	-2.73
	ALUM+TB	-2.42	-2.79	-2.82
	PLAIN	-2.90	-3.12	-3.41
3 PANE 1/4IN.	WOOD	-3.00	-3.19	-3.53
	ALUM	-2.38	-2.76	-2.76
	ALUM+TB	-2.80	-3.05	-3.29
3 PANE 1/2IN.	PLAIN	-3.07	-3.46	-3.67
	WOOD	-3.11	-3.48	-3.72
	ALUM	-2.44	-3.02	-2.89
3 PANE 1/2IN.	ALUM+TB	-2.63	-3.15	-3.12
	PLAIN	-3.39	-3.68	-4.07
	WOOD	-3.42	-3.70	-4.11
	ALUM	-2.89	-3.33	-3.45
	ALUM+TB	-3.23	-3.57	-3.88

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.85	-6.17	-.06
-9.97	-6.24	-.17
-9.79	-6.13	0.
-9.91	-6.20	-.11
-11.46	-8.43	-3.23
-11.49	-8.45	-3.26
-11.30	-8.34	-3.08
-11.42	-8.41	-3.20
-11.55	-8.49	-3.32
-11.58	-8.50	-3.35
-11.41	-8.40	-3.19
-11.53	-8.47	-3.30
-12.44	-9.50	-4.46
-12.45	-9.50	-4.47
-12.27	-9.40	-4.30
-12.32	-9.43	-4.35
-12.52	-9.55	-4.55
-12.53	-9.55	-4.55
-12.39	-9.47	-4.42
-12.48	-9.52	-4.51

BASE LOAD = 16.79 MBTU-YR

BASE LOAD = 58.17 MBTU-YR

AREA	MULTIPLIERS
900 .654	1500 1.342
1000 .762	1600 1.464
1100 .878	1700 1.576
1200 1.000	1800 1.690
1300 1.110	1900 1.807
1400 1.224	2000 1.926
	2100 2.038
	2200 2.151
	2300 2.266
	2400 2.382
	2500 2.500

AREA	MULTIPLIERS
900 .851	1500 1.151
1000 .908	1600 1.193
1100 .958	1700 1.241
1200 1.000	1800 1.285
1300 1.055	1900 1.327
1400 1.105	2000 1.365
	2100 1.408
	2200 1.449
	2300 1.488
	2400 1.524
	2500 1.558

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-23.22	R-11	-26.20	R-5 4FT	-3.73
R-19	-26.21	R-19	-32.26	R-5 8FT	-5.89
R-30	-28.36	R-27	-35.52	R-10 8FT	-8.63
R-38	-29.15			R-19 FLR	-11.10
R-49	-29.83				
R-60	-30.26				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.00
R-11	-0.01	R-11	-0.00	R-5 4FT	-0.00
R-19	-0.01	R-19	-0.00	R-5 8FT	-0.00
R-30	-0.01	R-27	-0.00	R-10 8FT	-0.00
R-38	-0.01			R-19 FLR	0.
R-49	-0.01				
R-60	-0.01				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-11.18
LOW (.4 ACH)	-22.36

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-17.53	-11.76	-2.19
	WOOD	-21.03	-14.21	-6.54
	ALUM	-15.78	-10.53	0.
	ALUM+TB	-19.29	-12.99	-4.38
2 PANE 1/4IN.	PLAIN	-29.98	-28.97	-24.23
	WOOD	-30.92	-29.63	-25.40
	ALUM	-25.32	-25.70	-18.42
	ALUM+TB	-29.06	-28.32	-23.08
2 PANE 1/2IN.	PLAIN	-32.88	-31.01	-27.85
	WOOD	-33.67	-31.56	-28.84
	ALUM	-28.72	-28.09	-22.67
	ALUM+TB	-32.09	-30.45	-26.86
3 PANE 1/4IN.	PLAIN	-35.15	-34.97	-31.94
	WOOD	-35.46	-35.19	-32.33
	ALUM	-30.14	-31.46	-25.69
	ALUM+TB	-31.64	-32.51	-27.56
3 PANE 1/2IN.	PLAIN	-37.72	-36.77	-35.14
	WOOD	-37.97	-36.95	-35.46
	ALUM	-33.73	-33.97	-30.17
	ALUM+TB	-36.47	-35.89	-33.58

12 PCT AREA	15 PCT AREA	20 PCT AREA
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	0.
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00
-0.00	-0.00	-0.00

BASE LOAD = 161.45 MBTU-YR

BASE LOAD = .01 MBTU-YR

AREA	MULTIPLIERS
900	.749
1000	.833
1100	.916
1200	1.000
1300	1.082
1400	1.163
1500	1.245
1600	1.326
1700	1.405
1800	1.485
1900	1.564
2000	1.643
2100	1.721
2200	1.798
2300	1.876
2400	1.953
2500	2.029

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.37	R-11	-13.58	R-5 4FT	-1.82
R-15	-13.91	R-19	-16.59	R-5 8FT	-2.88
R-30	-14.99	R-27	-18.19	R-10 8FT	-4.21
R-38	-15.38			R-19 FLR	-5.40
R-45	-15.72				
R-60	-15.93				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.90	R-11	-2.42	R-5 4FT	-.24
R-19	-3.27	R-19	-2.96	R-5 8FT	-.43
R-30	-3.49	R-27	-3.24	R-10 8FT	-.60
R-38	-3.59			R-19 FLR	-.59
R-49	-3.68				
R-60	-3.74				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.36
LOW (.4 ACH)	-12.71

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.82
LOW (.4 ACH)	-1.63

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.43	-5.07	-1.13
	WOOD	-9.24	-6.34	-3.39
	ALUM	-6.52	-4.43	0.
	ALUM+TB	-8.34	-5.71	-2.27
2 PANE 1/4IN.	PLAIN	-14.11	-14.25	-12.91
	WOOD	-14.58	-14.58	-13.49
	ALUM	-11.80	-12.63	-10.03
	ALUM+TB	-13.66	-13.93	-12.34
2 PANE 1/2IN.	PLAIN	-15.56	-15.26	-14.71
	WOOD	-15.95	-15.54	-15.20
	ALUM	-13.49	-13.82	-12.14
	ALUM+TB	-15.16	-14.99	-14.22
3 PANE 1/4IN.	PLAIN	-16.65	-17.17	-16.63
	WOOD	-16.81	-17.28	-16.82
	ALUM	-14.16	-15.42	-13.53
	ALUM+TB	-14.91	-15.95	-14.46
3 PANE 1/2IN.	PLAIN	-17.93	-18.07	-18.22
	WOOD	-18.05	-18.15	-18.38
	ALUM	-15.94	-16.67	-15.75
	ALUM+TB	-17.30	-17.63	-17.45

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.75	-3.58	-.02
-5.80	-3.61	-.07
-5.73	-3.56	0.
-5.78	-3.59	-.05
-6.96	-5.25	-2.37
-6.98	-5.26	-2.39
-6.90	-5.21	-2.31
-6.95	-5.25	-2.36
-7.00	-5.28	-2.41
-7.02	-5.28	-2.42
-6.95	-5.24	-2.36
-6.99	-5.27	-2.40
-7.60	-5.98	-3.16
-7.61	-5.98	-3.16
-7.53	-5.94	-3.09
-7.55	-5.95	-3.11
-7.64	-6.00	-3.19
-7.64	-6.01	-3.20
-7.58	-5.97	-3.14
-7.62	-5.99	-3.18

BASE LOAD = 81.17 MBTU-YR

BASE LOAD = 30.34 MBTU-YR

AREA	MULTIPLIERS				
900	.741	1500	1.253	2100	1.747
1000	.827	1600	1.337	2200	1.828
1100	.913	1700	1.420	2300	1.908
1200	1.000	1800	1.502	2400	1.988
1300	1.084	1900	1.584	2500	2.068
1400	1.168	2000	1.666		

AREA	MULTIPLIERS				
900	.880	1500	1.127	2100	1.327
1000	.930	1600	1.159	2200	1.359
1100	.970	1700	1.198	2300	1.388
1200	1.000	1800	1.233	2400	1.414
1300	1.048	1900	1.265	2500	1.437
1400	1.090	2000	1.293		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.31	R-11	-4.61	R-5 2FT	-2.06
R-19	-4.85	R-19	-5.61	R-5 4FT	-2.33
R-30	-5.21	R-27	-6.13		
R-3E	-5.33				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.46	R-11	-3.67	R-5 2FT	-2.76
R-19	-4.97	R-19	-4.43	R-5 4FT	-3.11
R-30	-5.36	R-27	-4.89		
R-38	-5.50				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.45
LOW (.4 ACH)	-4.90

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.27
LOW (.4 ACH)	-4.53

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.97	-1.40	-0.39
	WOOD	-2.59	-1.83	-1.15
	ALUM	-1.67	-1.18	0.
2 PANE 1/4IN.	ALUM+TB	-2.28	-1.61	-0.77
	PLAIN	-4.17	-4.43	-4.27
	WOOD	-4.33	-4.55	-4.48
2 PANE 1/2IN.	ALUM	-3.36	-3.86	-3.26
	ALUM+TB	-4.01	-4.32	-4.07
	PLAIN	-4.67	-4.79	-4.90
3 PANE 1/4IN.	WOOD	-4.81	-4.88	-5.08
	ALUM	-3.95	-4.28	-4.00
	ALUM+TB	-4.54	-4.69	-4.73
3 PANE 1/2IN.	PLAIN	-4.98	-5.35	-5.42
	WOOD	-5.03	-5.38	-5.49
	ALUM	-4.11	-4.73	-4.34
3 PANE 1/2IN.	ALUM+TB	-4.37	-4.92	-4.66
	PLAIN	-5.42	-5.66	-5.98
	WOOD	-5.47	-5.69	-6.03
	ALUM	-4.73	-5.17	-5.11
	ALUM+TB	-5.21	-5.51	-5.71

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.49	-5.94	-0.06
-9.61	-6.02	-0.18
-9.42	-5.91	0.
-9.55	-5.98	-0.12
-10.72	-7.85	-2.90
-10.76	-7.87	-2.93
-10.55	-7.75	-2.74
-10.69	-7.83	-2.87
-10.83	-7.92	-3.00
-10.85	-7.93	-3.03
-10.68	-7.83	-2.86
-10.80	-7.90	-2.97
-11.64	-8.82	-4.03
-11.65	-8.83	-4.04
-11.46	-8.71	-3.86
-11.51	-8.74	-3.91
-11.73	-8.87	-4.12
-11.74	-8.88	-4.13
-11.59	-8.79	-3.98
-11.68	-8.85	-4.08

BASE LOAD = 26.03 MBTU-YR

BASE LOAD = 57.68 MBTU-YR

AREA	MULTIPLIERS
900	.699
1000	.795
1100	.856
1200	1.000
1300	1.057
1400	1.196
1500	1.296
1600	1.399
1700	1.496
1800	1.595
1900	1.694
2000	1.794
2100	1.890
2200	1.987
2300	2.084
2400	2.182
2500	2.281

AREA	MULTIPLIERS
900	.851
1000	.908
1100	.958
1200	1.000
1300	1.055
1400	1.105
1500	1.151
1600	1.192
1700	1.240
1800	1.284
1900	1.326
2000	1.364
2100	1.407
2200	1.448
2300	1.487
2400	1.523
2500	1.557

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.14	R-11	-7.17	R-5 2FT	-4.60
R-19	-8.05	R-19	-8.80	R-5 4FT	-5.26
R-30	-8.68	R-27	-9.65		
R-3E	-8.91				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.82	R-11	-5.67	R-5 2FT	-2.75
R-19	-5.47	R-19	-6.98	R-5 4FT	-3.16
R-30	-5.91	R-27	-7.64		
R-3E	-6.08				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.42
LCW (.4 ACH)	-6.85

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.80
LCW (.4 ACH)	-3.60

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.01	-2.74	-.60
	WOOD	-4.97	-3.40	-1.79
	ALUM	-3.53	-2.40	0.
	ALUM+TB	-4.49	-3.07	-1.20
2 PANE 1/4IN.	PLAIN	-7.43	-7.46	-6.66
	WOOD	-7.69	-7.64	-6.98
	ALUM	-6.17	-6.58	-5.09
	ALUM+TB	-7.18	-7.29	-6.35
2 PANE 1/2IN.	PLAIN	-8.22	-8.01	-7.64
	WOOD	-8.43	-8.16	-7.91
	ALUM	-7.09	-7.23	-6.24
	ALUM+TB	-8.00	-7.86	-7.38
3 PANE 1/4IN.	PLAIN	-8.78	-9.02	-8.65
	WOOD	-8.86	-9.08	-8.75
	ALUM	-7.42	-8.07	-6.96
	ALUM+TB	-7.83	-8.35	-7.47
3 PANE 1/2IN.	PLAIN	-9.47	-9.50	-9.52
	WOOD	-9.54	-9.55	-9.60
	ALUM	-8.40	-8.75	-8.17
	ALUM+TB	-9.14	-9.27	-9.09

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.96	-5.05	-.22
-8.41	-5.32	-.64
-7.73	-4.92	0.
-8.19	-5.19	-.43
-10.49	-8.62	-4.97
-10.61	-8.69	-5.09
-9.90	-8.27	-4.41
-10.38	-8.55	-4.86
-10.87	-8.84	-5.32
-10.97	-8.90	-5.42
-10.33	-8.52	-4.82
-10.76	-8.78	-5.23
-11.72	-10.02	-6.71
-11.76	-10.05	-6.75
-11.08	-9.65	-6.10
-11.27	-9.76	-6.29
-12.05	-10.22	-7.02
-12.08	-10.24	-7.05
-11.54	-9.92	-6.54
-11.89	-10.12	-6.87

BASE LOAD = 44.57 MBTU-YR

BASE LOAD = 52.29 MBTU-YR

AREA	MULTIPLIERS
900 .724	1500 1.270
1000 .814	1600 1.362
1100 .906	1700 1.451
1200 1.000	1800 1.540
1300 1.089	1900 1.629
1400 1.179	2000 1.718
	2100 1.805
	2200 1.892
	2300 1.980
	2400 2.067
	2500 2.155

AREA	MULTIPLIERS
900 .856	1500 1.147
1000 .912	1600 1.186
1100 .960	1700 1.232
1200 1.000	1800 1.275
1300 1.053	1900 1.315
1400 1.102	2000 1.351
	2100 1.392
	2200 1.432
	2300 1.469
	2400 1.503
	2500 1.535

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.83	R-11	-7.28	R-5 2FT	-1.61
R-15	-4.27	R-19	-8.11	R-5 4FT	-1.76
R-3C	-4.48	R-27	-8.11		
R-38	-4.55				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.18
R-11	-0.96	R-11	-0.67	R-5 2FT	-0.03
R-19	-1.00	R-19	-0.75	R-5 4FT	0.
R-30	-1.04	R-27	-0.75		
R-38	-1.06				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.09
LCW (.4 ACH)	-2.19

INFILTRATION

HI (1 ACH)	-0.22
MED (.7 ACH)	-0.11
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-0.60	-0.55	-0.31
	WOOD	-1.11	-0.90	-0.94
	ALUM	-0.35	-0.37	0.
	ALUM+TB	-0.86	-0.72	-0.63
2 PANE 1/4 IN.	PLAIN	-2.10	-2.63	-2.91
	WOOD	-2.23	-2.72	-3.08
	ALUM	-1.44	-2.17	-2.08
	ALUM+TB	-1.97	-2.54	-2.75
2 PANE 1/2 IN.	PLAIN	-2.51	-2.92	-3.42
	WOOD	-2.62	-3.00	-3.57
	ALUM	-1.92	-2.50	-2.69
	ALUM+TB	-2.40	-2.84	-3.28
3 PANE 1/4 IN.	PLAIN	-2.53	-3.02	-3.29
	WOOD	-2.57	-3.06	-3.35
	ALUM	-1.81	-2.52	-2.40
	ALUM+TB	-2.03	-2.67	-2.67
3 PANE 1/2 IN.	PLAIN	-2.89	-3.28	-3.75
	WOOD	-2.93	-3.31	-3.79
	ALUM	-2.33	-2.88	-3.04
	ALUM+TB	-2.71	-3.16	-3.52

12 PCT AREA	15 PCT AREA	20 PCT AREA
-1.25	-0.80	-0.00
-1.25	-0.80	-0.00
-1.25	-0.80	0.
-1.25	-0.80	-0.00
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.34	-0.97	-0.23
-1.45	-1.09	-0.39
-1.45	-1.09	-0.39
-1.45	-1.09	-0.39
-1.45	-1.09	-0.39
-1.45	-1.09	-0.40
-1.45	-1.09	-0.40
-1.45	-1.09	-0.39
-1.45	-1.09	-0.39

BASE LOAD = 19.31 MBTU-YR

BASE LOAD = 4.49 MBTU-YR

AREA	MULTIPLIERS				
900	0.654	1500	1.342	2100	2.038
1000	0.762	1600	1.464	2200	2.151
1100	0.878	1700	1.576	2300	2.266
1200	1.000	1800	1.690	2400	2.382
1300	1.110	1900	1.807	2500	2.500
1400	1.224	2000	1.926		

AREA	MULTIPLIERS				
900	0.962	1500	1.060	2100	1.101
1000	0.990	1600	1.062	2200	1.106
1100	1.003	1700	1.078	2300	1.108
1200	1.000	1800	1.088	2400	1.105
1300	1.028	1900	1.093	2500	1.098
1400	1.048	2000	1.091		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.64	R-11	-8.13	R-5 2FT	-4.59
R-19	-8.59	R-19	-9.94	R-5 4FT	-5.22
R-30	-9.23	R-27	-10.88		
R-3E	-9.47				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.86	R-11	-3.02	R-5 2FT	-2.34
R-19	-4.32	R-19	-3.69	R-5 4FT	-2.64
R-30	-4.73	R-27	-4.10		
R-38	-4.86				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.19
LOW (.4 ACH)	-8.37

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.51
LOW (.4 ACH)	-3.02

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.61	-2.53	-.68
	WOOD	-4.70	-3.29	-2.03
	ALUM	-3.07	-2.14	0.
	ALUM+TB	-4.16	-2.91	-1.36
2 PANE 1/4IN.	PLAIN	-7.49	-7.89	-7.54
	WOOD	-7.78	-8.09	-7.90
	ALUM	-6.06	-6.88	-5.76
	ALUM+TB	-7.21	-7.69	-7.19
2 PANE 1/2IN.	PLAIN	-8.38	-8.51	-8.65
	WOOD	-8.62	-8.68	-8.96
	ALUM	-7.10	-7.62	-7.06
	ALUM+TB	-8.14	-8.34	-8.35
3 PANE 1/4IN.	PLAIN	-8.93	-9.55	-9.67
	WOOD	-9.03	-9.62	-9.79
	ALUM	-7.39	-8.47	-7.75
	ALUM+TB	-7.86	-8.80	-8.33
3 PANE 1/2IN.	PLAIN	-9.72	-10.10	-10.65
	WOOD	-9.80	-10.16	-10.75
	ALUM	-8.50	-9.25	-9.13
	ALUM+TB	-9.34	-9.83	-10.17

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.29	-4.57	-.02
-7.33	-4.59	-.07
-7.26	-4.55	0.
-7.31	-4.58	-.05
-8.48	-6.25	-2.48
-8.49	-6.26	-2.49
-8.41	-6.21	-2.42
-8.46	-6.24	-2.47
-8.52	-6.27	-2.52
-8.53	-6.28	-2.53
-8.46	-6.24	-2.46
-8.51	-6.27	-2.51
-9.24	-7.14	-3.52
-9.24	-7.14	-3.52
-9.17	-7.10	-3.45
-9.19	-7.11	-3.47
-9.27	-7.16	-3.55
-9.28	-7.16	-3.55
-9.22	-7.13	-3.50
-9.26	-7.15	-3.53

BASE LOAD = 48.53 MBTU-YR

BASE LOAD = 43.86 MBTU-YR

AREA	MULTIPLIERS
900	.727
1000	.817
1100	.907
1200	1.000
1300	1.088
1400	1.177
1500	1.267
1600	1.357
1700	1.445
1800	1.532
1900	1.620
2000	1.708
2100	1.794
2200	1.879
2300	1.965
2400	2.051
2500	2.137

AREA	MULTIPLIERS
900	.862
1000	.916
1100	.962
1200	1.000
1300	1.052
1400	1.099
1500	1.142
1600	1.180
1700	1.224
1800	1.265
1900	1.303
2000	1.337
2100	1.377
2200	1.415
2300	1.450
2400	1.482
2500	1.512

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.76	R-11	-8.25	R-11 FLR	-6.68
R-19	-8.75	R-19	-10.09	R-19 FLR	-7.59
R-30	-9.42	R-27	-11.04		
R-3E	-9.65				
R-4S	-9.86				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.00	R-11	-3.37	R-11 FLR	-3.45
R-19	-4.51	R-19	-4.05	R-19 FLR	-3.93
R-30	-4.85	R-27	-4.44		
R-38	-4.97				
R-49	-4.99				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.11
LOW (.4 ACH)	-8.21

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.28
LOW (.4 ACH)	-2.56

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-3.62	-2.54	-.69
	WOOD	-4.72	-3.31	-2.06
	ALUM	-3.07	-2.15	0.
	ALUM+TB	-4.18	-2.92	-1.38
2 PANE 1/4IN.	PLAIN	-7.52	-7.92	-7.57
	WOOD	-7.81	-8.12	-7.93
	ALUM	-6.07	-6.90	-5.76
	ALUM+TB	-7.23	-7.72	-7.21
2 PANE 1/2IN.	PLAIN	-8.42	-8.55	-8.69
	WOOD	-8.67	-8.73	-9.00
	ALUM	-7.13	-7.65	-7.08
	ALUM+TB	-8.17	-8.38	-8.38
3 PANE 1/4IN.	PLAIN	-8.97	-9.59	-9.71
	WOOD	-9.07	-9.66	-9.83
	ALUM	-7.41	-8.50	-7.76
	ALUM+TB	-7.88	-8.93	-8.34
3 PANE 1/2IN.	PLAIN	-9.77	-10.16	-10.70
	WOOD	-9.85	-10.21	-10.80
	ALUM	-8.53	-9.28	-9.15
	ALUM+TB	-9.38	-9.88	-10.22

12 PCT AREA	15 PCT AREA	20 PCT AREA
-7.29	-4.57	-.03
-7.34	-4.60	-.08
-7.26	-4.55	0.
-7.31	-4.59	-.05
-8.70	-6.48	-2.70
-8.72	-6.49	-2.72
-8.63	-6.44	-2.64
-8.69	-6.47	-2.69
-8.74	-6.50	-2.74
-8.76	-6.51	-2.76
-8.68	-6.47	-2.68
-8.73	-6.50	-2.73
-9.45	-7.35	-3.73
-9.45	-7.35	-3.73
-9.37	-7.31	-3.65
-9.39	-7.32	-3.67
-9.49	-7.37	-3.76
-9.49	-7.38	-3.77
-9.43	-7.34	-3.70
-9.47	-7.36	-3.74

BASE LOAD = 51.46 MBTU-YR

BASE LOAD = 45.53 MBTU-YR

AREA	MULTIPLIERS
900	.729
1000	.817
1100	.908
1200	1.000
1300	1.088
1400	1.176
1500	1.266
1600	1.356
1700	1.443
1800	1.530
1900	1.617
2000	1.704
2100	1.790
2200	1.875
2300	1.961
2400	2.046
2500	2.132

AREA	MULTIPLIERS
900	.862
1000	.916
1100	.962
1200	1.000
1300	1.052
1400	1.100
1500	1.142
1600	1.180
1700	1.224
1800	1.265
1900	1.303
2000	1.337
2100	1.377
2200	1.415
2300	1.450
2400	1.482
2500	1.512

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.37	R-11	-.33	R-5 2FT	-.01
R-19	-.41	R-19	-.40	R-5 4FT	-.01
R-30	-.43	R-27	-.42		
R-38	-.44				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.79	R-11	-5.51	R-5 2FT	-3.73
R-19	-6.52	R-19	-6.75	R-5 4FT	-4.31
R-30	-7.05	R-27	-7.47		
R-38	-7.25				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.12
LOW (.4 ACH)	-.23

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.49
LOW (.4 ACH)	-8.98

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.12	-.09	-.03
	WOOD	-.17	-.12	-.08
	ALUM	-.10	-.08	0.
	ALUM+TB	-.15	-.11	-.06
2 PANE 1/4IN.	PLAIN	-.26	-.29	-.28
	WOOD	-.27	-.29	-.30
	ALUM	-.20	-.25	-.21
	ALUM+TB	-.25	-.29	-.27
2 PANE 1/2IN.	PLAIN	-.30	-.31	-.33
	WOOD	-.31	-.32	-.34
	ALUM	-.25	-.28	-.26
	ALUM+TB	-.29	-.31	-.31
3 PANE 1/4IN.	PLAIN	-.30	-.33	-.34
	WOOD	-.31	-.34	-.34
	ALUM	-.24	-.29	-.26
	ALUM+TB	-.26	-.30	-.28
3 PANE 1/2IN.	PLAIN	-.34	-.36	-.38
	WOOD	-.34	-.36	-.38
	ALUM	-.29	-.32	-.31
	ALUM+TB	-.32	-.35	-.36

12 PCT AREA	15 PCT AREA	20 PCT AREA
-14.59	-9.11	-.08
-14.76	-9.21	-.25
-14.50	-9.06	0.
-14.67	-9.16	-.17
-17.24	-12.82	-5.28
-17.29	-12.84	-5.32
-17.01	-12.68	-5.06
-17.20	-12.79	-5.23
-17.39	-12.90	-5.41
-17.43	-12.92	-5.45
-17.18	-12.78	-5.22
-17.35	-12.88	-5.38
-18.82	-14.47	-7.19
-18.83	-14.48	-7.20
-18.57	-14.32	-6.95
-18.64	-14.36	-7.03
-18.94	-14.54	-7.31
-18.96	-14.55	-7.32
-18.75	-14.42	-7.12
-18.88	-14.50	-7.25

BASE LOAD = 1.41 MBTU-YR

BASE LOAD = 92.67 MBTU-YR

AREA	MULTIPLIERS
900	.654
1000	.762
1100	.878
1200	1.000
1300	1.110
1400	1.224
1500	1.342
1600	1.464
1700	1.576
1800	1.690
1900	1.807
2000	1.926
2100	2.038
2200	2.151
2300	2.266
2400	2.382
2500	2.500

AREA	MULTIPLIERS
900	.839
1000	.899
1100	.953
1200	1.000
1300	1.058
1400	1.111
1500	1.161
1600	1.207
1700	1.258
1800	1.307
1900	1.352
2000	1.395
2100	1.442
2200	1.487
2300	1.529
2400	1.570
2500	1.609

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-19.73	R-11	-22.81	R-5 4FT	-3.13
R-19	-22.32	R-19	-28.03	R-5 8FT	-4.96
R-30	-24.17	R-27	-30.85	R-10 8FT	-7.26
R-38	-24.84			R-19 FLR	-9.35
R-45	-25.42				
R-60	-25.79				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.84	R-11	-1.38	R-5 4FT	-.08
R-19	-2.07	R-19	-1.75	R-5 8FT	-.10
R-30	-2.25	R-27	-1.88	R-10 8FT	-.20
R-38	-2.28			R-19 FLR	-.00
R-49	-2.32				
R-60	-2.36				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-10.32
LOW (.4 ACH)	-20.64

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.01
LOW (.4 ACH)	-.02

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-13.28	-8.93	-1.91
	WOOD	-16.32	-11.06	-5.69
	ALUM	-11.75	-7.86	0.
	ALUM+TB	-14.81	-10.00	-3.81
2 PANE 1/4IN.	PLAIN	-24.73	-24.50	-21.46
	WOOD	-25.54	-25.07	-22.47
	ALUM	-20.71	-21.68	-16.45
	ALUM+TB	-23.93	-23.94	-20.47
2 PANE 1/2IN.	PLAIN	-27.23	-26.26	-24.58
	WOOD	-27.92	-26.74	-25.44
	ALUM	-23.64	-23.74	-20.11
	ALUM+TB	-26.55	-25.78	-23.73
3 PANE 1/4IN.	PLAIN	-29.19	-29.66	-28.07
	WOOD	-29.46	-29.85	-29.40
	ALUM	-24.86	-26.63	-22.67
	ALUM+TB	-26.16	-27.54	-24.29
3 PANE 1/2IN.	PLAIN	-31.41	-31.22	-30.83
	WOOD	-31.63	-31.37	-31.10
	ALUM	-27.97	-28.80	-26.54
	ALUM+TB	-30.33	-30.46	-29.48

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.08	-2.53	-.03
-4.15	-2.57	-.10
-4.04	-2.51	0.
-4.12	-2.55	-.07
-4.70	-3.46	-1.29
-4.72	-3.47	-1.31
-4.59	-3.39	-1.19
-4.68	-3.45	-1.27
-4.77	-3.50	-1.36
-4.79	-3.51	-1.38
-4.67	-3.44	-1.26
-4.75	-3.49	-1.34
-5.08	-3.90	-1.81
-5.09	-3.91	-1.82
-4.96	-3.83	-1.70
-5.00	-3.85	-1.73
-5.14	-3.94	-1.87
-5.15	-3.94	-1.87
-5.05	-3.88	-1.78
-5.11	-3.92	-1.84

BASE LOAD = 140.09 MBTU-YR

BASE LOAD = 17.35 MBTU-YR

AREA	MULTIPLIERS
900 .748	1500 1.246
1000 .832	1600 1.327
1100 .916	1700 1.407
1200 1.000	1800 1.487
1300 1.082	1900 1.566
1400 1.164	2000 1.645
	2100 1.724
	2200 1.802
	2300 1.880
	2400 1.957
	2500 2.034

AREA	MULTIPLIERS
900 .918	1500 1.095
1000 .958	1600 1.114
1100 .985	1700 1.142
1200 1.000	1800 1.166
1300 1.039	1900 1.184
1400 1.071	2000 1.198
	2100 1.221
	2200 1.241
	2300 1.257
	2400 1.270
	2500 1.279

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.54	R-11	-9.45	R-5 2FT	-5.21
R-19	-9.61	R-19	-11.58	R-5 4FT	-5.94
R-30	-10.36	R-27	-12.71		
R-38	-10.63				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.94	R-11	-1.73	R-5 2FT	-1.88
R-19	-3.15	R-19	-1.84	R-5 4FT	-2.02
R-30	-3.31	R-27	-2.20		
R-38	-3.42				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.72
LOW (.4 ACH)	-9.43

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.07
LOW (.4 ACH)	-1.14

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.85	-3.33	-.79
	WOOD	-6.11	-4.22	-2.36
	ALUM	-4.21	-2.89	0.
2 PANE 1/4IN.	ALUM+TB	-5.48	-3.78	-1.58
	PLAIN	-9.51	-9.77	-9.06
	WOOD	-9.85	-10.01	-9.48
2 PANE 1/2IN.	ALUM	-7.85	-8.60	-6.98
	ALUM+TB	-9.19	-9.54	-8.65
	PLAIN	-10.55	-10.50	-10.35
3 PANE 1/4IN.	WOOD	-10.83	-10.70	-10.70
	ALUM	-9.07	-9.46	-8.50
	ALUM+TB	-10.27	-10.30	-10.00
3 PANE 1/2IN.	PLAIN	-11.28	-11.81	-11.66
	WOOD	-11.39	-11.88	-11.80
	ALUM	-9.49	-10.55	-9.43
	ALUM+TB	-10.02	-10.93	-10.10
	PLAIN	-12.19	-12.45	-12.81
	WOOD	-12.28	-12.51	-12.92
	ALUM	-10.77	-11.45	-11.03
	ALUM+TB	-11.75	-12.13	-12.25

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.57	-4.10	-.01
-6.59	-4.11	-.03
-6.56	-4.10	0.
-6.58	-4.11	-.02
-7.05	-4.98	-1.45
-7.06	-4.98	-1.45
-7.03	-4.96	-1.43
-7.05	-4.98	-1.44
-7.07	-4.99	-1.46
-7.07	-4.99	-1.47
-7.05	-4.98	-1.44
-7.06	-4.99	-1.46
-7.52	-5.53	-2.07
-7.53	-5.54	-2.07
-7.50	-5.52	-2.05
-7.51	-5.52	-2.05
-7.54	-5.54	-2.08
-7.54	-5.54	-2.08
-7.52	-5.53	-2.06
-7.53	-5.54	-2.08

BASE LOAD = 57.08 MBTU-YR

BASE LOAD = 31.19 MBTU-YR

AREA	MULTIPLIERS
900	.732
1000	.820
1100	.909
1200	1.000
1300	1.087
1400	1.174
1500	1.262
1600	1.350
1700	1.436
1800	1.522
1900	1.607
2000	1.693
2100	1.777
2200	1.862
2300	1.946
2400	2.029
2500	2.113

AREA	MULTIPLIERS
900	.878
1000	.928
1100	.969
1200	1.000
1300	1.048
1400	1.091
1500	1.129
1600	1.161
1700	1.201
1800	1.237
1900	1.270
2000	1.298
2100	1.334
2200	1.366
2300	1.396
2400	1.423
2500	1.447

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.65	R-11	-9.59	R-11 FLR	-7.50
R-19	-9.75	R-19	-11.73	R-19 FLR	-8.55
R-30	-10.50	R-27	-12.86		
R-3E	-10.78				
R-4S	-11.01				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.46	R-11	-2.41	R-11 FLR	-2.69
R-19	-3.84	R-19	-2.89	R-19 FLR	-2.91
R-30	-4.18	R-27	-3.16		
R-38	-4.24				
R-49	-4.31				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-4.62
LOW (.4 ACH)	-9.24

INFILTRATION

HI (1 ACH)	-0.08
MED (.7 ACH)	-0.04
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.86	-3.34	-0.80
	WOOD	-6.14	-4.24	-2.40
	ALUM	-4.22	-2.89	0.
	ALUM+TB	-5.50	-3.79	-1.60
2 PANE 1/4IN.	PLAIN	-9.54	-9.81	-9.08
	WOOD	-9.88	-10.04	-9.51
	ALUM	-7.86	-8.62	-6.98
	ALUM+TB	-9.21	-9.57	-8.67
2 PANE 1/2IN.	PLAIN	-10.60	-10.54	-10.39
	WOOD	-10.88	-10.74	-10.75
	ALUM	-9.09	-9.49	-8.52
	ALUM+TB	-10.31	-10.34	-10.04
3 PANE 1/4IN.	PLAIN	-11.33	-11.96	-11.71
	WOOD	-11.44	-11.94	-11.85
	ALUM	-9.51	-10.59	-9.45
	ALUM+TB	-10.06	-10.97	-10.12
3 PANE 1/2IN.	PLAIN	-12.26	-12.51	-12.87
	WOOD	-12.35	-12.57	-12.98
	ALUM	-10.81	-11.50	-11.07
	ALUM+TB	-11.80	-12.19	-12.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.57	-4.11	-0.01
-6.60	-4.12	-0.04
-6.56	-4.10	0.
-6.59	-4.11	-0.02
-7.40	-5.33	-1.80
-7.41	-5.34	-1.81
-7.37	-5.31	-1.77
-7.40	-5.33	-1.80
-7.43	-5.35	-1.82
-7.43	-5.35	-1.83
-7.40	-5.33	-1.79
-7.42	-5.34	-1.82
-7.88	-5.89	-2.43
-7.88	-5.89	-2.43
-7.84	-5.87	-2.39
-7.85	-5.88	-2.40
-7.90	-5.90	-2.44
-7.90	-5.90	-2.44
-7.87	-5.89	-2.42
-7.89	-5.90	-2.43

BASE LOAD = 60.21 MBTU-YR

BASE LOAD = 33.93 MBTU-YR

AREA	MULTIPLIERS
900 .733	1500 1.261
1000 .821	1600 1.349
1100 .910	1700 1.434
1200 1.000	1800 1.520
1300 1.087	1900 1.605
1400 1.174	2000 1.691
	2100 1.775
	2200 1.858
	2300 1.942
	2400 2.026
	2500 2.109

AREA	MULTIPLIERS
900 .877	1500 1.129
1000 .928	1600 1.162
1100 .969	1700 1.202
1200 1.000	1800 1.238
1300 1.048	1900 1.270
1400 1.092	2000 1.299
	2100 1.334
	2200 1.367
	2300 1.397
	2400 1.424
	2500 1.448

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.55	R-11	-12.86	R-5 4FT	-1.74
R-19	-12.99	R-19	-15.70	R-5 8FT	-2.75
R-30	-14.00	R-27	-17.20	R-10 8FT	-4.01
R-38	-14.37			R-19 FLR	-5.14
R-45	-14.67				
R-60	-14.87				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.73	R-11	-1.03	R-5 4FT	-.13
R-19	-1.94	R-19	-1.24	R-5 8FT	-.19
R-30	-2.09	R-27	-1.39	R-10 8FT	-.25
R-38	-2.14			R-19 FLR	-.04
R-49	-2.19				
R-60	-2.23				

INFILTRATION

HI (1 ACH)	0.
MED (1.7 ACH)	-5.87
LOW (.4 ACH)	-11.73

INFILTRATION

HI (1 ACH)	-.25
MED (1.7 ACH)	-.13
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.70	-4.60	-1.07
	WOOD	-8.41	-5.80	-3.21
	ALUM	-5.84	-3.99	0.
	ALUM+TB	-7.56	-5.20	-2.15
2 PANE 1/4IN.	PLAIN	-13.53	-13.90	-13.03
	WOOD	-13.97	-14.21	-13.58
	ALUM	-11.34	-12.37	-10.31
	ALUM+TB	-13.10	-13.60	-12.49
2 PANE 1/2IN.	PLAIN	-14.89	-14.85	-14.72
	WOOD	-15.26	-15.11	-15.19
	ALUM	-12.94	-13.49	-12.30
	ALUM+TB	-14.52	-14.59	-14.26
3 PANE 1/4IN.	PLAIN	-15.93	-16.66	-15.53
	WOOD	-16.08	-16.76	-16.71
	ALUM	-13.58	-15.01	-13.60
	ALUM+TB	-14.29	-15.51	-14.48
3 PANE 1/2IN.	PLAIN	-17.14	-17.50	-18.03
	WOOD	-17.25	-17.59	-18.18
	ALUM	-15.27	-16.19	-15.70
	ALUM+TB	-16.55	-17.09	-17.30

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.16	-2.59	-.01
-4.18	-2.60	-.03
-4.14	-2.58	0.
-4.17	-2.59	-.02
-4.45	-3.11	-.88
-4.45	-3.12	-.89
-4.42	-3.10	-.85
-4.44	-3.11	-.87
-4.47	-3.12	-.90
-4.47	-3.13	-.90
-4.44	-3.11	-.87
-4.46	-3.12	-.89
-4.81	-3.55	-1.34
-4.81	-3.55	-1.35
-4.78	-3.53	-1.31
-4.79	-3.53	-1.32
-4.83	-3.56	-1.36
-4.83	-3.56	-1.36
-4.80	-3.54	-1.34
-4.82	-3.55	-1.35

BASE LOAD = 74.57 MBTU-YR

BASE LOAD = 16.79 MBTU-YR

AREA		MULTIPLIERS			
900	.739	1500	1.255	2100	1.755
1000	.825	1600	1.341	2200	1.836
1100	.912	1700	1.424	2300	1.918
1200	1.000	1800	1.507	2400	1.999
1300	1.085	1900	1.590	2500	2.080
1400	1.170	2000	1.673		

AREA		MULTIPLIERS			
900	.920	1500	1.094	2100	1.215
1000	.960	1600	1.111	2200	1.234
1100	.986	1700	1.139	2300	1.249
1200	1.000	1800	1.162	2400	1.261
1300	1.038	1900	1.180	2500	1.269
1400	1.069	2000	1.193		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.50	R-11	-11.58	R-5 2FT	-6.32
R-19	-11.81	R-19	-14.16	R-5 4FT	-7.20
R-30	-12.72	R-27	-15.51		
R-3E	-13.05				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.03	R-11	-2.68	R-5 2FT	-1.47
R-19	-3.45	R-19	-3.30	R-5 4FT	-1.71
R-30	-3.74	R-27	-3.61		
R-38	-3.86				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.36
LOW (.4 ACH)	-10.73

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.21
LOW (.4 ACH)	-2.42

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-6.01	-4.14	-.97
	WOOD	-7.56	-5.22	-2.85
	ALUM	-5.24	-3.59	0.
	ALUM+TB	-6.79	-4.68	-1.94
2 PANE 1/4IN.	PLAIN	-12.19	-12.58	-11.83
	WOOD	-12.60	-12.87	-12.34
	ALUM	-10.15	-11.15	-9.29
	ALUM+TB	-11.79	-12.30	-11.33
2 PANE 1/2IN.	PLAIN	-13.46	-13.47	-13.41
	WOOD	-13.80	-13.71	-13.84
	ALUM	-11.64	-12.20	-11.15
	ALUM+TB	-13.11	-13.23	-12.98
3 PANE 1/4IN.	PLAIN	-14.35	-15.08	-15.01
	WOOD	-14.49	-15.17	-15.18
	ALUM	-12.16	-13.54	-12.28
	ALUM+TB	-12.81	-14.00	-13.10
3 PANE 1/2IN.	PLAIN	-15.47	-15.87	-16.41
	WOOD	-15.58	-15.94	-16.55
	ALUM	-13.73	-14.64	-14.24
	ALUM+TB	-14.92	-15.48	-15.73

12 PCT AREA	15 PCT AREA	20 PCT AREA
-6.68	-4.21	-.01
-6.71	-4.23	-.04
-6.67	-4.20	0.
-6.69	-4.22	-.03
-8.19	-6.20	-2.78
-8.20	-6.20	-2.79
-8.15	-6.18	-2.75
-8.18	-6.19	-2.78
-8.21	-6.21	-2.80
-8.22	-6.22	-2.81
-8.18	-6.19	-2.77
-8.20	-6.21	-2.80
-9.01	-7.10	-3.84
-9.01	-7.10	-3.84
-8.97	-7.08	-3.80
-8.98	-7.08	-3.81
-9.03	-7.11	-3.86
-9.03	-7.11	-3.86
-9.00	-7.09	-3.83
-9.02	-7.10	-3.85

BASE LOAD = 69.52 MBTU-YR

BASE LOAD = 37.51 MBTU-YR

AREA	MULTIPLIERS
900	.736
1000	.823
1100	.911
1200	1.000
1300	1.086
1400	1.172
1500	1.258
1600	1.344
1700	1.429
1800	1.513
1900	1.597
2000	1.681
2100	1.764
2200	1.847
2300	1.929
2400	2.011
2500	2.093

AREA	MULTIPLIERS
900	.868
1000	.921
1100	.965
1200	1.000
1300	1.051
1400	1.096
1500	1.137
1600	1.173
1700	1.215
1800	1.255
1900	1.290
2000	1.322
2100	1.360
2200	1.396
2300	1.429
2400	1.459
2500	1.487

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-15.17	R-11	-16.77	R-5 4FT	-2.25
R-19	-17.11	R-19	-20.59	R-5 8FT	-3.56
R-30	-18.48	R-27	-22.63	R-10 8FT	-5.19
R-3E	-18.98			R-19 FLR	-6.63
R-49	-19.41				
R-6C	-19.68				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.32	R-11	-1.72	R-5 4FT	-.19
R-19	-2.63	R-19	-2.13	R-5 8FT	-.32
R-30	-2.83	R-27	-2.30	R-10 8FT	-.43
R-38	-2.91			R-19 FLR	-.22
R-49	-2.98				
R-6C	-3.03				

INFILTRATION

HI (1 ACH)	0.
MEC (.7 ACH)	-7.89
LOW (.4 ACH)	-15.78

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.28
LOW (.4 ACH)	-.57

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.91	-6.09	-1.40
	WOOD	-11.15	-7.66	-4.19
	ALUM	-7.79	-5.30	0.
	ALUM+TB	-10.04	-6.88	-2.80
2 PANE 1/4IN.	PLAIN	-17.15	-17.39	-15.78
	WOOD	-17.74	-17.80	-16.52
	ALUM	-14.21	-15.33	-12.12
	ALUM+TB	-16.57	-16.98	-15.06
2 PANE 1/2IN.	PLAIN	-18.98	-18.67	-18.07
	WOOD	-19.48	-19.92	-18.69
	ALUM	-16.36	-16.83	-14.80
	ALUM+TB	-18.48	-18.32	-17.44
3 PANE 1/4IN.	PLAIN	-20.32	-21.04	-20.43
	WOOD	-20.52	-21.18	-20.68
	ALUM	-17.16	-18.82	-16.49
	ALUM+TB	-18.11	-19.48	-17.67
3 PANE 1/2IN.	PLAIN	-21.94	-22.17	-22.45
	WOOD	-22.10	-22.28	-22.65
	ALUM	-19.43	-20.41	-19.32
	ALUM+TB	-21.15	-21.62	-21.47

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.99	-3.16	-.03
-5.05	-3.19	-.09
-4.95	-3.14	0.
-5.02	-3.17	-.06
-5.77	-4.29	-1.63
-5.79	-4.30	-1.64
-5.69	-4.24	-1.55
-5.75	-4.28	-1.61
-5.82	-4.32	-1.68
-5.84	-4.33	-1.69
-5.75	-4.27	-1.61
-5.81	-4.31	-1.66
-6.30	-4.85	-2.33
-6.31	-4.85	-2.34
-6.21	-4.79	-2.25
-6.24	-4.81	-2.27
-6.35	-4.87	-2.38
-6.35	-4.88	-2.38
-6.27	-4.83	-2.31
-6.32	-4.86	-2.35

BASE LOAD = 100.29 MBTU-YR

BASE LOAD = 22.61 MBTU-YR

AREA		MULTIPLIERS			
900	.744	1500	1.250	2100	1.737
1000	.829	1600	1.333	2200	1.817
1100	.914	1700	1.414	2300	1.896
1200	1.000	1800	1.495	2400	1.975
1300	1.083	1900	1.576	2500	2.053
1400	1.166	2000	1.657		

AREA		MULTIPLIERS			
900	.899	1500	1.111	2100	1.273
1000	.944	1600	1.136	2200	1.299
1100	.978	1700	1.169	2300	1.321
1200	1.000	1800	1.199	2400	1.340
1300	1.043	1900	1.224	2500	1.356
1400	1.080	2000	1.244		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.84	R-11	-14.21	R-5 4FT	-1.94
R-19	-14.44	R-19	-17.37	R-5 8FT	-3.06
R-3C	-15.57	R-27	-19.06	R-10 8FT	-4.48
R-38	-15.97			R-19 FLR	-5.78
R-49	-16.32				
R-60	-16.55				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.26	R-11	-1.13	R-5 4FT	-.28
R-19	-2.49	R-19	-1.39	R-5 8FT	-.37
R-30	-2.68	R-27	-1.54	R-10 8FT	-.51
R-38	-2.74			R-19 FLR	-.43
R-49	-2.81				
R-60	-2.85				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.53
LOW (.4 ACH)	-13.05

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.14
LOW (.4 ACH)	-.29

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.76	-5.30	-1.19
	WOOD	-9.66	-6.63	-3.55
	ALUM	-6.81	-4.63	0.
	ALUM+TB	-8.72	-5.97	-2.37
2 PANE 1/4IN.	PLAIN	-15.00	-15.22	-13.97
	WOOD	-15.49	-15.57	-14.58
	ALUM	-12.58	-13.52	-10.94
	ALUM+TB	-14.52	-14.89	-13.37
2 PANE 1/2IN.	PLAIN	-16.51	-16.28	-15.85
	WOOD	-16.93	-16.57	-16.37
	ALUM	-14.35	-14.77	-13.15
	ALUM+TB	-16.10	-15.99	-15.33
3 PANE 1/4IN.	PLAIN	-17.67	-18.30	-17.91
	WOOD	-17.84	-18.42	-18.11
	ALUM	-15.06	-16.47	-14.65
	ALUM+TB	-15.85	-17.02	-15.63
3 PANE 1/2IN.	PLAIN	-19.01	-19.24	-19.57
	WOOD	-19.14	-19.33	-19.74
	ALUM	-16.93	-17.78	-16.98
	ALUM+TB	-18.36	-18.78	-18.76

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.45	-2.79	-.01
-4.47	-2.80	-.03
-4.45	-2.78	0.
-4.46	-2.79	-.02
-4.62	-3.25	-.86
-4.63	-3.25	-.86
-4.60	-3.23	-.84
-4.62	-3.24	-.86
-4.64	-3.26	-.88
-4.64	-3.26	-.88
-4.62	-3.24	-.85
-4.64	-3.25	-.87
-4.94	-3.54	-1.17
-4.94	-3.54	-1.17
-4.91	-3.53	-1.14
-4.92	-3.53	-1.15
-4.95	-3.55	-1.18
-4.95	-3.55	-1.18
-4.93	-3.54	-1.16
-4.94	-3.55	-1.18

BASE LOAD = 84.19 MBTU-YR

BASE LOAD = 20.52 MBTU-YR

AREA	MULTIPLIERS
900	.742
1000	.827
1100	.913
1200	1.000
1300	1.084
1400	1.168
1500	1.252
1600	1.337
1700	1.419
1800	1.501
1900	1.583
2000	1.665
2100	1.746
2200	1.827
2300	1.907
2400	1.987
2500	2.067

AREA	MULTIPLIERS
900	.901
1000	.945
1100	.978
1200	1.000
1300	1.043
1400	1.079
1500	1.109
1600	1.133
1700	1.167
1800	1.195
1900	1.220
2000	1.240
2100	1.268
2200	1.293
2300	1.315
2400	1.333
2500	1.348

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.84	R-11	-3.53	R-5 2FT	-1.78
R-19	-4.32	R-19	-4.28	R-5 4FT	-2.01
R-30	-4.60	R-27	-4.62		
R-38	-4.70				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.24	R-11	-7.52	R-5 2FT	-5.25
R-19	-9.42	R-19	-9.34	R-5 4FT	-6.03
R-30	-10.26	R-27	-10.23		
R-38	-10.59				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.86
LCW (.4 ACH)	-3.73

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.48
LOW (.4 ACH)	-4.95

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-1.13	-.85	-.29
	WOOD	-1.60	-1.18	-.88
	ALUM	-.89	-.69	0.
	ALUM+TB	-1.36	-1.02	-.59
2 PANE 1/4IN.	PLAIN	-2.63	-2.96	-2.99
	WOOD	-2.75	-3.05	-3.15
	ALUM	-2.01	-2.53	-2.22
	ALUM+TB	-2.51	-2.87	-2.84
2 PANE 1/2IN.	PLAIN	-3.02	-3.23	-3.47
	WOOD	-3.12	-3.31	-3.61
	ALUM	-2.46	-2.84	-2.78
	ALUM+TB	-2.91	-3.16	-3.34
3 PANE 1/4IN.	PLAIN	-3.19	-3.60	-3.80
	WOOD	-3.23	-3.63	-3.85
	ALUM	-2.52	-3.13	-2.97
	ALUM+TB	-2.72	-3.27	-3.22
3 PANE 1/2IN.	PLAIN	-3.53	-3.84	-4.23
	WOOD	-3.56	-3.86	-4.27
	ALUM	-3.00	-3.47	-3.56
	ALUM+TB	-3.36	-3.72	-4.02

12 PCT AREA	15 PCT AREA	20 PCT AREA
-10.51	-6.53	-.05
-10.63	-6.60	-.16
-10.45	-6.50	0.
-10.57	-6.57	-.11
-13.76	-10.77	-5.67
-13.79	-10.78	-5.70
-13.61	-10.68	-5.52
-13.73	-10.75	-5.64
-13.85	-10.82	-5.76
-13.88	-10.84	-5.78
-13.72	-10.74	-5.63
-13.83	-10.81	-5.73
-15.26	-12.43	-7.57
-15.27	-12.44	-7.58
-15.10	-12.34	-7.41
-15.14	-12.37	-7.46
-15.34	-12.48	-7.65
-15.35	-12.49	-7.66
-15.21	-12.41	-7.52
-15.30	-12.46	-7.61

BASE LOAD = 19.16 MBTU-YR

BASE LOAD = 75.88 MBTU-YR

AREA	MULTIPLIERS
900 .664	1500 1.331
1000 .770	2100 2.004
1100 .882	1600 1.449
1200 1.000	2200 2.114
1300 1.107	1700 1.558
1400 1.217	2300 2.225
	2400 2.337
	2500 2.450

AREA	MULTIPLIERS
900 .846	1500 1.156
1000 .904	2100 1.423
1100 .956	1600 1.199
1200 1.000	2200 1.465
1300 1.056	1700 1.248
1400 1.108	2300 1.506
	2400 1.544
	2500 1.580

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.96	R-11	-15.59	R-5 4FT	-2.12
R-19	-15.71	R-19	-19.12	R-5 8FT	-3.34
R-30	-16.95	R-27	-21.03	R-10 8FT	-4.91
R-3E	-17.41			R-19 FLR	-6.35
R-49	-17.79				
R-6C	-18.05				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.09
R-11	-1.96	R-11	-1.24	R-5 4FT	-0.18
R-19	-2.12	R-19	-1.37	R-5 8FT	-0.28
R-30	-2.22	R-27	-1.52	R-10 8FT	-0.30
R-38	-2.24			R-19 FLR	0.
R-49	-2.31				
R-60	-2.31				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-7.08
LOW (.4 ACH)	-14.16

INFILTRATION

HI (1 ACH)	-0.31
MED (.7 ACH)	-0.15
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.83	-6.01	-1.30
	WOOD	-10.91	-7.47	-3.89
	ALUM	-7.79	-5.28	0.
	ALUM+TB	-9.88	-6.74	-2.61
2 PANE 1/4IN.	PLAIN	-16.63	-16.72	-15.08
	WOOD	-17.17	-17.11	-15.76
	ALUM	-13.91	-14.82	-11.69
	ALUM+TB	-16.09	-16.35	-14.41
2 PANE 1/2IN.	PLAIN	-18.32	-17.91	-17.19
	WOOD	-18.78	-18.23	-17.76
	ALUM	-15.90	-16.21	-14.17
	ALUM+TB	-17.86	-17.59	-16.61
3 PANE 1/4IN.	PLAIN	-19.62	-20.19	-19.53
	WOOD	-19.80	-20.32	-19.76
	ALUM	-16.70	-18.14	-15.89
	ALUM+TB	-17.57	-18.75	-16.98
3 PANE 1/2IN.	PLAIN	-21.12	-21.24	-21.40
	WOOD	-21.26	-21.34	-21.58
	ALUM	-18.79	-19.61	-18.50
	ALUM+TB	-20.39	-20.73	-20.49

12 PCT AREA	15 PCT AREA	20 PCT AREA
-4.27	-2.70	-0.06
-4.39	-2.77	-0.18
-4.20	-2.66	0.
-4.33	-2.74	-0.12
-4.68	-3.32	-0.98
-4.70	-3.33	-1.00
-4.60	-3.28	-0.91
-4.66	-3.31	-0.97
-4.73	-3.35	-1.03
-4.74	-3.36	-1.04
-4.66	-3.31	-0.96
-4.72	-3.34	-1.01
-5.07	-3.78	-1.40
-5.07	-3.79	-1.41
-4.98	-3.73	-1.32
-5.01	-3.75	-1.35
-5.11	-3.81	-1.44
-5.11	-3.81	-1.45
-5.04	-3.77	-1.38
-5.09	-3.80	-1.42

BASE LOAD = 92.67 MBTU-YR

BASE LOAD = 16.14 MBTU-YR

AREA	MULTIPLIERS
900	.743
1000	.828
1100	.914
1200	1.000
1300	1.084
1400	1.167
1500	1.251
1600	1.335
1700	1.416
1800	1.498
1900	1.580
2000	1.661
2100	1.741
2200	1.821
2300	1.901
2400	1.980
2500	2.060

AREA	MULTIPLIERS
900	.933
1000	.969
1100	.991
1200	1.000
1300	1.035
1400	1.063
1500	1.083
1600	1.096
1700	1.120
1800	1.139
1900	1.153
2000	1.162
2100	1.180
2200	1.195
2300	1.206
2400	1.214
2500	1.217

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.80	R-11	-19.76	R-5 4FT	-2.73
R-15	-20.06	R-19	-24.22	R-5 8FT	-4.31
R-30	-21.66	R-27	-26.61	R-10 8FT	-6.30
R-3E	-22.24			R-19 FLR	-8.11
R-49	-22.73				
R-60	-23.06				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.23
R-11	-1.12	R-11	-.73	R-5 4FT	-.22
R-19	-1.25	R-19	-.92	R-5 8FT	-.23
R-30	-1.34	R-27	-.96	R-10 8FT	-.20
R-38	-1.38			R-19 FLR	0.
R-49	-1.42				
R-60	-1.45				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.11
LCW (.4 ACH)	-18.21

INFILTRATION

HI (1 ACH)	-.15
MED (.7 ACH)	-.07
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.44	-7.14	-1.65
	WOOD	-13.08	-8.99	-4.93
	ALUM	-9.12	-6.22	0.
	ALUM+TB	-11.77	-8.07	-3.30
2 PANE 1/4IN.	PLAIN	-19.73	-19.96	-18.03
	WOOD	-20.43	-20.44	-18.90
	ALUM	-16.30	-17.55	-13.76
	ALUM+TB	-19.06	-19.48	-17.19
2 PANE 1/2IN.	PLAIN	-21.87	-21.46	-20.70
	WOOD	-22.46	-21.87	-21.43
	ALUM	-18.81	-19.31	-16.88
	ALUM+TB	-21.29	-21.05	-19.97
3 PANE 1/4IN.	PLAIN	-23.41	-24.19	-23.44
	WOOD	-23.64	-24.35	-23.73
	ALUM	-19.72	-21.60	-18.84
	ALUM+TB	-20.82	-22.38	-20.22
3 PANE 1/2IN.	PLAIN	-25.30	-25.51	-25.80
	WOOD	-25.48	-25.64	-26.03
	ALUM	-22.36	-23.45	-22.14
	ALUM+TB	-24.38	-24.87	-24.65

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.45	-1.56	-.00
-2.46	-1.57	-.01
-2.45	-1.56	0.
-2.46	-1.57	-.00
-2.78	-2.02	-.70
-2.78	-2.02	-.70
-2.77	-2.01	-.69
-2.78	-2.01	-.70
-2.78	-2.02	-.70
-2.78	-2.02	-.70
-2.78	-2.01	-.70
-2.78	-2.02	-.70
-2.97	-2.26	-.95
-2.97	-2.26	-.95
-2.96	-2.26	-.94
-2.96	-2.26	-.94
-2.97	-2.27	-.95
-2.97	-2.27	-.95
-2.97	-2.26	-.94
-2.97	-2.27	-.95

BASE LOAD = 117.41 MBTU-YR

BASE LOAD = 8.02 MBTU-YR

AREA	MULTIPLIERS
900 .746	1500 1.248
1000 .831	1600 1.330
1100 .915	1700 1.411
1200 1.000	1800 1.491
1300 1.083	1900 1.572
1400 1.165	2000 1.652
	2100 1.731
	2200 1.810
	2300 1.888
	2400 1.966
	2500 2.044

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.77	R-11	-19.87	R-11 FLR	-15.73
R-19	-20.07	R-19	-24.37	R-19 FLR	-17.95
R-30	-21.69	R-27	-26.76		
R-38	-22.27				
R-49	-22.77				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.19	R-11	-.72	R-11 FLR	-1.01
R-19	-1.35	R-19	-.87	R-19 FLR	-1.18
R-30	-1.42	R-27	-.90		
R-38	-1.46				
R-49	-1.50				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-9.20
LOW (.4 ACH)	-18.39

INFILTRATION

HI (1 ACH)	-.08
MED (.7 ACH)	-.04
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-10.45	-7.15	-1.66
	WOOD	-13.10	-9.01	-4.96
	ALUM	-9.12	-6.22	0.
	ALUM+TB	-11.78	-8.09	-3.32
2 PANE 1/4IN.	PLAIN	-19.75	-19.98	-18.04
	WOOD	-20.45	-20.47	-18.92
	ALUM	-16.25	-17.53	-13.68
	ALUM+TB	-19.06	-19.50	-17.18
2 PANE 1/2IN.	PLAIN	-21.92	-21.51	-20.75
	WOOD	-22.52	-21.92	-21.49
	ALUM	-18.80	-19.32	-16.86
	ALUM+TB	-21.33	-21.09	-20.01
3 PANE 1/4IN.	PLAIN	-23.44	-24.23	-23.46
	WOOD	-23.67	-24.40	-23.76
	ALUM	-19.68	-21.59	-18.78
	ALUM+TB	-20.81	-22.38	-20.18
3 PANE 1/2IN.	PLAIN	-25.37	-25.58	-25.87
	WOOD	-25.56	-25.71	-26.10
	ALUM	-22.37	-23.48	-22.14
	ALUM+TB	-24.43	-24.92	-24.69

12 PCT AREA	15 PCT AREA	20 PCT AREA
-2.45	-1.56	-.00
-2.46	-1.57	-.01
-2.45	-1.56	0.
-2.46	-1.56	-.00
-2.78	-2.01	-.69
-2.78	-2.01	-.69
-2.77	-2.01	-.69
-2.77	-2.01	-.69
-2.78	-2.01	-.70
-2.78	-2.01	-.70
-2.77	-2.01	-.69
-2.78	-2.01	-.70
-3.02	-2.31	-.99
-3.02	-2.31	-.99
-3.01	-2.31	-.99
-3.01	-2.31	-.99
-3.02	-2.31	-1.00
-3.02	-2.31	-1.00
-3.01	-2.31	-.99
-3.02	-2.31	-.99

BASE LOAD = 128.49 MBTU-YR

BASE LOAD = 9.59 MBTU-YR

AREA	MULTIPLIERS
900 .746	1500 1.247
1000 .831	1600 1.330
1100 .915	1700 1.410
1200 1.000	1800 1.491
1300 1.083	1900 1.571
1400 1.165	2000 1.651
	2100 1.730
	2200 1.809
	2300 1.887
	2400 1.965
	2500 2.043

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.02	R-11	-13.37	R-11 FLR	-10.41
R-19	-13.55	R-19	-16.35	R-19 FLR	-11.87
R-30	-14.61	R-27	-17.90		
R-38	-14.99				
R-49	-15.31				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.23	R-11	-.65	R-11 FLR	-.95
R-19	-1.38	R-19	-.82	R-19 FLR	-1.07
R-30	-1.47	R-27	-.85		
R-38	-1.50				
R-49	-1.54				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.92
LOW (.4 ACH)	-11.83

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.04
LOW (.4 ACH)	-.07

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.39	-5.06	-1.12
	WOOD	-9.17	-6.31	-3.34
	ALUM	-6.49	-4.43	0.
	ALUM+TB	-8.28	-5.68	-2.23
2 PANE 1/4IN.	PLAIN	-13.72	-13.82	-12.35
	WOOD	-14.20	-14.15	-12.94
	ALUM	-11.37	-12.17	-9.42
	ALUM+TB	-13.26	-13.49	-11.77
2 PANE 1/2IN.	PLAIN	-15.19	-14.85	-14.18
	WOOD	-15.59	-15.13	-14.68
	ALUM	-13.09	-13.37	-11.56
	ALUM+TB	-14.79	-14.56	-13.68
3 PANE 1/4IN.	PLAIN	-16.20	-16.68	-16.01
	WOOD	-16.26	-16.79	-16.21
	ALUM	-13.67	-14.90	-12.86
	ALUM+TB	-14.43	-15.44	-13.81
3 PANE 1/2IN.	PLAIN	-17.50	-17.59	-17.63
	WOOD	-17.63	-17.68	-17.79
	ALUM	-15.49	-16.18	-15.12
	ALUM+TB	-16.87	-17.14	-16.84

12 PCT AREA	15 PCT AREA	20 PCT AREA
-1.75	-1.14	-.00
-1.75	-1.14	-.00
-1.75	-1.14	0.
-1.75	-1.14	-.00
-2.02	-1.53	-.57
-2.02	-1.53	-.57
-2.02	-1.52	-.56
-2.02	-1.53	-.56
-2.03	-1.53	-.57
-2.03	-1.53	-.57
-2.02	-1.53	-.56
-2.03	-1.53	-.57
-2.03	-1.53	-.57
-2.18	-1.70	-.83
-2.18	-1.70	-.83
-2.17	-1.70	-.83
-2.17	-1.70	-.83
-2.18	-1.70	-.83
-2.18	-1.70	-.83
-2.18	-1.70	-.83
-2.18	-1.70	-.83

BASE LOAD = 83.73 MBTU-YR

BASE LOAD = 7.77 MBTU-YR

AREA	MULTIPLIERS
900	.740
1000	.826
1100	.912
1200	1.000
1300	1.085
1400	1.169
1500	1.254
1600	1.339
1700	1.422
1800	1.505
1900	1.588
2000	1.671
2100	1.752
2200	1.834
2300	1.915
2400	1.995
2500	2.076

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.22	R-11	-13.10	R-5 4FT	-1.68
R-19	-13.76	R-19	-16.06	R-5 8FT	-2.66
R-30	-14.82	R-27	-17.59	R-10 8FT	-3.87
R-38	-15.21			R-19 FLR	-4.93
R-49	-15.54				
R-60	-15.76				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.46	R-11	-1.85	R-5 4FT	-.13
R-19	-3.91	R-19	-2.28	R-5 8FT	-.20
R-30	-4.16	R-27	-2.39	R-10 8FT	-.28
R-38	-4.27			R-19 FLR	-.10
R-49	-4.38				
R-60	-4.47				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.85
LOW (.4 ACH)	-11.69

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.15
LOW (.4 ACH)	-.30

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.78	-3.43	-1.09
	WOOD	-6.52	-4.65	-3.27
	ALUM	-3.90	-2.81	0.
	ALUM+TB	-5.66	-4.04	-2.19
2 PANE 1/4IN.	PLAIN	-10.57	-11.47	-11.34
	WOOD	-11.03	-11.79	-11.91
	ALUM	-8.30	-9.88	-8.51
	ALUM+TB	-10.13	-11.16	-10.78
2 PANE 1/2IN.	PLAIN	-11.99	-12.46	-13.10
	WOOD	-12.38	-12.73	-13.58
	ALUM	-9.96	-11.04	-10.58
	ALUM+TB	-11.60	-12.19	-12.62
3 PANE 1/4IN.	PLAIN	-12.88	-14.10	-14.65
	WOOD	-13.03	-14.21	-14.84
	ALUM	-10.43	-12.39	-11.60
	ALUM+TB	-11.17	-12.90	-12.51
3 PANE 1/2IN.	PLAIN	-14.13	-14.98	-16.21
	WOOD	-14.25	-15.07	-16.36
	ALUM	-12.19	-13.62	-13.78
	ALUM+TB	-13.52	-14.55	-15.45

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.78	-2.43	-.00
-3.79	-2.43	-.01
-3.77	-2.42	0.
-3.78	-2.43	-.01
-4.47	-3.37	-1.38
-4.48	-3.37	-1.38
-4.46	-3.36	-1.37
-4.47	-3.37	-1.38
-4.48	-3.38	-1.39
-4.48	-3.38	-1.39
-4.47	-3.37	-1.38
-4.48	-3.38	-1.39
-4.84	-3.83	-1.97
-4.84	-3.83	-1.97
-4.83	-3.83	-1.96
-4.83	-3.83	-1.96
-4.85	-3.84	-1.98
-4.85	-3.84	-1.98
-4.84	-3.83	-1.97
-4.85	-3.83	-1.97

BASE LOAD = 70.44 MBTU-YR

BASE LOAD = 16.43 MBTU-YR

AREA	MULTIPLIERS
900	.737
1000	.824
1100	.911
1200	1.000
1300	1.085
1400	1.171
1500	1.257
1600	1.343
1700	1.427
1800	1.511
1900	1.595
2000	1.678
2100	1.761
2200	1.843
2300	1.925
2400	2.007
2500	2.089

AREA	MULTIPLIERS
900	.950
1000	.981
1100	.998
1200	1.000
1300	1.031
1400	1.054
1500	1.069
1600	1.076
1700	1.096
1800	1.109
1900	1.117
2000	1.120
2100	1.133
2200	1.143
2300	1.148
2400	1.150
2500	1.147

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.18	R-11	-13.08	R-5 2FT	-7.00
R-19	-13.71	R-19	-16.06	R-5 4FT	-7.99
R-30	-14.76	R-27	-17.59		
R-38	-15.15				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.47	R-11	-1.88	R-5 2FT	-0.30
R-19	-3.93	R-19	-2.30	R-5 4FT	-0.34
R-30	-4.19	R-27	-2.41		
R-38	-4.31				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.16
LOW (.4 ACH)	-12.32

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.11
LOW (.4 ACH)	-0.23

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-4.78	-3.42	-1.09
	WOOD	-6.52	-4.64	-3.26
	ALUM	-3.90	-2.81	0.
	ALUM+TB	-5.65	-4.04	-2.19
2 PANE 1/4IN.	PLAIN	-10.54	-11.44	-11.30
	WOOD	-11.00	-11.77	-11.88
	ALUM	-8.24	-9.83	-8.43
	ALUM+TB	-10.09	-11.12	-10.73
2 PANE 1/2 IN.	PLAIN	-11.97	-12.45	-13.09
	WOOD	-12.36	-12.72	-13.57
	ALUM	-9.92	-11.01	-10.53
	ALUM+TB	-11.58	-12.17	-12.60
3 PANE 1/4IN.	PLAIN	-12.84	-14.07	-14.61
	WOOD	-12.99	-14.18	-14.80
	ALUM	-10.37	-12.33	-11.52
	ALUM+TB	-11.11	-12.85	-12.45
3 PANE 1/2 IN.	PLAIN	-14.11	-14.96	-16.19
	WOOD	-14.23	-15.05	-15.34
	ALUM	-12.14	-13.58	-13.73
	ALUM+TB	-13.49	-14.52	-15.42

12 PCT AREA	15 PCT AREA	20 PCT AREA
-3.78	-2.43	-0.00
-3.79	-2.43	-0.01
-3.77	-2.42	0.
-3.78	-2.43	-0.01
-4.48	-3.38	-1.39
-4.48	-3.38	-1.39
-4.47	-3.37	-1.38
-4.48	-3.38	-1.38
-4.49	-3.38	-1.39
-4.49	-3.38	-1.40
-4.47	-3.38	-1.38
-4.48	-3.38	-1.39
-4.85	-3.84	-1.98
-4.85	-3.84	-1.98
-4.84	-3.83	-1.96
-4.84	-3.83	-1.97
-4.86	-3.84	-1.98
-4.86	-3.84	-1.98
-4.85	-3.84	-1.97
-4.85	-3.84	-1.98

BASE LOAD = 74.06 MBTU-YR

BASE LOAD = 16.73 MBTU-YR

AREA	MULTIPLIERS
900 .737	1500 1.257
1000 .824	2100 1.760
1100 .912	1600 1.343
1200 1.000	2200 1.843
1300 1.085	1700 1.427
1400 1.171	2300 1.925
	1800 1.511
	2400 2.006
	1900 1.594
	2500 2.088
	2000 1.678

AREA	MULTIPLIERS
900 .944	1500 1.075
1000 .977	2100 1.151
1100 .996	1600 1.084
1200 1.000	2200 1.163
1300 1.033	1700 1.105
1400 1.057	2300 1.170
	1800 1.121
	2400 1.174
	1900 1.131
	2500 1.174
	2000 1.136

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.62	R-11	-16.29	R-5 4FT	-2.18
R-19	-16.46	R-19	-19.97	R-5 8FT	-3.45
R-30	-17.77	R-27	-21.93	R-10 8FT	-5.05
R-38	-18.24			R-19 FLR	-6.49
R-49	-18.64				
R-60	-18.90				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.21	R-11	-2.09	R-5 4FT	-.16
R-19	-3.64	R-19	-2.55	R-5 8FT	-.25
R-30	-3.89	R-27	-2.68	R-10 8FT	-.36
R-38	-3.99			R-19 FLR	-.19
R-49	-4.08				
R-60	-4.15				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.88
LOW (.4 ACH)	-13.75

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.18
LOW (.4 ACH)	-.36

WINDCH	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.60	-5.90	-1.36
	WOOD	-10.77	-7.42	-4.07
	ALUM	-7.51	-5.14	0.
	ALUM+TB	-9.69	-6.67	-2.72
2 PANE 1/4IN.	PLAIN	-16.48	-16.75	-15.26
	WOOD	-17.05	-17.15	-15.97
	ALUM	-13.65	-14.76	-11.73
	ALUM+TB	-15.92	-16.36	-14.56
2 PANE 1/2IN.	PLAIN	-18.24	-17.98	-17.46
	WOOD	-18.73	-18.32	-18.06
	ALUM	-15.72	-16.21	-14.31
	ALUM+TB	-17.76	-17.65	-16.86
3 PANE 1/4IN.	PLAIN	-19.53	-20.27	-19.77
	WOOD	-19.72	-20.40	-20.00
	ALUM	-16.49	-18.13	-15.97
	ALUM+TB	-17.40	-18.77	-17.11
3 PANE 1/2IN.	PLAIN	-21.09	-21.36	-21.71
	WOOD	-21.24	-21.47	-21.90
	ALUM	-18.67	-19.66	-18.69
	ALUM+TB	-20.33	-20.83	-20.76

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.04	-3.21	-.02
-5.07	-3.23	-.05
-5.02	-3.20	0.
-5.05	-3.22	-.03
-6.09	-4.66	-2.10
-6.10	-4.66	-2.11
-6.04	-4.63	-2.06
-6.08	-4.65	-2.10
-6.11	-4.67	-2.13
-6.12	-4.68	-2.14
-6.08	-4.65	-2.09
-6.11	-4.67	-2.12
-6.61	-5.28	-2.90
-6.61	-5.29	-2.91
-6.56	-5.26	-2.86
-6.58	-5.27	-2.87
-6.63	-5.30	-2.93
-6.64	-5.30	-2.93
-6.60	-5.28	-2.89
-6.62	-5.29	-2.92

BASE LOAD = 93.95 MBTU-YR

BASE LOAD = 20.80 MBTU-YR

AREA	MULTIPLIERS
900 .743	1500 1.251
1000 .828	2100 1.741
1100 .914	1600 1.335
1200 1.000	2200 1.821
1300 1.084	1700 1.417
1400 1.167	2300 1.901
	1800 1.498
	2400 1.981
	1900 1.580
	2500 2.060
	2000 1.661

AREA	MULTIPLIERS
900 .919	1500 1.095
1000 .959	2100 1.218
1100 .986	1600 1.112
1200 1.000	2200 1.237
1300 1.038	1700 1.140
1400 1.070	2300 1.253
	1800 1.163
	2400 1.265
	1900 1.182
	2500 1.274
	2000 1.195

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.77	R-11	-5.21	R-5 2FT	-2.57
R-19	-5.35	R-19	-6.36	R-5 4FT	-2.91
R-30	-5.74	R-27	-6.94		
R-38	-5.88				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.59	R-11	-3.90	R-5 2FT	-2.87
R-19	-5.18	R-19	-4.79	R-5 4FT	-3.28
R-30	-5.61	R-27	-5.32		
R-38	-5.77				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.67
LOW (.4 ACH)	-5.34

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.05
LOW (.4 ACH)	-4.09

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.21	-1.57	-.44
	WOOD	-2.91	-2.05	-1.30
	ALUM	-1.86	-1.32	0.
	ALUM+TB	-2.56	-1.81	-.87
2 PANE 1/4IN.	PLAIN	-4.77	-5.08	-4.94
	WOOD	-4.95	-5.21	-5.17
	ALUM	-3.85	-4.44	-3.80
	ALUM+TB	-4.59	-4.96	-4.71
2 PANE 1/2IN.	PLAIN	-5.34	-5.48	-5.65
	WOOD	-5.49	-5.59	-5.85
	ALUM	-4.52	-4.91	-4.63
	ALUM+TB	-5.18	-5.37	-5.46
3 PANE 1/4IN.	PLAIN	-5.68	-6.13	-6.26
	WOOD	-5.74	-6.17	-6.34
	ALUM	-4.69	-5.44	-5.03
	ALUM+TB	-4.99	-5.65	-5.40
3 PANE 1/2IN.	PLAIN	-6.19	-6.49	-6.89
	WOOD	-6.24	-6.52	-6.95
	ALUM	-5.40	-5.93	-5.91
	ALUM+TB	-5.94	-6.31	-6.58

12 PCT AREA	15 PCT AREA	20 PCT AREA
-9.23	-5.80	-.04
-9.32	-5.86	-.13
-9.18	-5.78	0.
-9.27	-5.83	-.09
-11.19	-8.43	-3.69
-11.21	-8.44	-3.71
-11.06	-8.36	-3.58
-11.16	-8.41	-3.67
-11.26	-8.47	-3.76
-11.28	-8.48	-3.78
-11.15	-8.41	-3.66
-11.24	-8.46	-3.74
-12.14	-9.52	-5.02
-12.15	-9.53	-5.03
-12.01	-9.45	-4.90
-12.05	-9.47	-4.94
-12.21	-9.56	-5.09
-12.21	-9.56	-5.09
-12.10	-9.50	-4.99
-12.17	-9.54	-5.06

BASE LOAD = 29.38 MBTU-YR

BASE LOAD = 57.97 MBTU-YR

AREA	MULTIPLIERS
900	.705
1000	.800
1100	.898
1200	1.000
1300	1.095
1400	1.192
1500	1.290
1600	1.391
1700	1.485
1800	1.581
1900	1.678
2000	1.776
2100	1.870
2200	1.964
2300	2.059
2400	2.155
2500	2.250

AREA	MULTIPLIERS
900	.851
1000	.908
1100	.958
1200	1.000
1300	1.055
1400	1.105
1500	1.151
1600	1.193
1700	1.240
1800	1.285
1900	1.326
2000	1.364
2100	1.407
2200	1.448
2300	1.487
2400	1.523
2500	1.557

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.63	R-11	-2.42	R-5 2FT	-1.04
R-19	-2.92	R-19	-2.80	R-5 4FT	-1.14
R-30	-3.04	R-27	-2.92		
R-36	-3.09				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.83	R-11	-.39	R-5 2FT	-.12
R-19	-.96	R-19	-.36	R-5 4FT	-.11
R-30	-1.00	R-27	-.37		
R-38	-1.02				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.66
LOW (.4 ACH)	-1.31

INFILTRATION

HI (1 ACH)	-.65
MED (.7 ACH)	-.32
LOW (.4 ACH)	0.

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-.30	-.27	-.10
	WOOD	-.47	-.39	-.31
	ALUM	-.22	-.21	0.
	ALUM+TB	-.39	-.33	-.21
2 PANE 1/4IN.	PLAIN	-1.24	-1.53	-1.73
	WOOD	-1.29	-1.56	-1.78
	ALUM	-1.02	-1.38	-1.45
	ALUM+TB	-1.20	-1.50	-1.67
2 PANE 1/2IN.	PLAIN	-1.38	-1.63	-1.90
	WOOD	-1.42	-1.66	-1.95
	ALUM	-1.19	-1.49	-1.66
	ALUM+TB	-1.34	-1.60	-1.85
3 PANE 1/4IN.	PLAIN	-1.48	-1.74	-1.93
	WOOD	-1.49	-1.75	-1.95
	ALUM	-1.24	-1.58	-1.64
	ALUM+TB	-1.31	-1.63	-1.73
3 PANE 1/2IN.	PLAIN	-1.60	-1.83	-2.09
	WOOD	-1.61	-1.84	-2.10
	ALUM	-1.41	-1.70	-1.85
	ALUM+TB	-1.54	-1.79	-2.01

12 PCT AREA	15 PCT AREA	20 PCT AREA
-1.72	-1.15	-.01
-1.73	-1.16	-.02
-1.72	-1.15	0.
-1.73	-1.16	-.01
-1.83	-1.30	-.28
-1.83	-1.30	-.29
-1.81	-1.29	-.27
-1.83	-1.30	-.28
-1.84	-1.30	-.29
-1.84	-1.31	-.30
-1.82	-1.30	-.28
-1.84	-1.30	-.29
-1.98	-1.55	-.62
-1.98	-1.55	-.62
-1.96	-1.54	-.60
-1.97	-1.54	-.61
-1.99	-1.55	-.63
-1.99	-1.55	-.63
-1.98	-1.54	-.61
-1.98	-1.55	-.62

BASE LOAD = 9.86 MBTU-YR

BASE LOAD = 5.55 MBTU-YR

AREA	MULTIPLIERS
900	.654
1000	.762
1100	.878
1200	1.000
1300	1.110
1400	1.224
1500	1.342
1600	1.464
1700	1.576
1800	1.690
1900	1.807
2000	1.926
2100	2.038
2200	2.151
2300	2.266
2400	2.382
2500	2.500

AREA	MULTIPLIERS
900	.962
1000	.990
1100	1.003
1200	1.000
1300	1.028
1400	1.048
1500	1.060
1600	1.062
1700	1.078
1800	1.088
1900	1.093
2000	1.091
2100	1.101
2200	1.106
2300	1.108
2400	1.105
2500	1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.35	R-11	-15.02	R-5 4FT	-1.98
R-19	-15.03	R-19	-18.39	R-5 8FT	-3.14
R-30	-16.21	R-27	-20.16	R-10 8FT	-4.60
R-3E	-16.64			R-19 FLR	-5.92
R-49	-17.01				
R-6C	-17.25				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.56	R-11	-.35	R-5 4FT	-.11
R-19	-.63	R-19	-.44	R-5 8FT	-.10
R-30	-.67	R-27	-.46	R-10 8FT	-.09
R-38	-.69			R-19 FLR	0.
R-49	-.72				
R-60	-.73				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.46
LOW (.4 ACH)	-12.92

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.03
LOW (.4 ACH)	-.06

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-7.99	-5.50	-1.25
	WOOD	-9.99	-6.90	-3.75
	ALUM	-6.99	-4.79	0.
	ALUM+TB	-9.00	-6.20	-2.51
2 PANE 1/4IN.	PLAIN	-15.40	-15.65	-14.26
	WOOD	-15.92	-16.02	-14.91
	ALUM	-12.80	-13.93	-11.03
	ALUM+TB	-14.88	-15.29	-13.62
2 PANE 1/2IN.	PLAIN	-17.01	-16.78	-16.27
	WOOD	-17.45	-17.09	-16.82
	ALUM	-14.70	-15.16	-13.39
	ALUM+TB	-16.57	-16.47	-15.72
3 PANE 1/4IN.	PLAIN	-18.23	-18.87	-18.32
	WOOD	-18.40	-18.99	-19.54
	ALUM	-15.44	-16.92	-14.84
	ALUM+TB	-16.27	-17.50	-15.89
3 PANE 1/2IN.	PLAIN	-19.65	-19.87	-20.10
	WOOD	-19.79	-19.97	-20.27
	ALUM	-17.44	-18.32	-17.33
	ALUM+TB	-18.96	-19.39	-19.23

12 PCT AREA	15 PCT AREA	20 PCT AREA
-.86	-.55	-.00
-.86	-.55	-.00
-.86	-.55	0.
-.86	-.55	-.00
-1.02	-.78	-.33
-1.02	-.78	-.34
-1.02	-.78	-.33
-1.02	-.78	-.33
-1.02	-.78	-.34
-1.02	-.78	-.33
-1.02	-.78	-.34
-1.02	-.78	-.34
-1.11	-.90	-.49
-1.11	-.90	-.49
-1.11	-.90	-.49
-1.11	-.90	-.49
-1.11	-.90	-.49
-1.11	-.90	-.49
-1.11	-.90	-.49

BASE LOAD = 84.84 MBTU-YR

BASE LOAD = 3.34 MBTU-YR

AREA	MULTIPLIERS
900 .741	1500 1.253
1000 .827	1600 1.338
1100 .913	1700 1.420
1200 1.000	1800 1.503
1300 1.084	1900 1.585
1400 1.169	2000 1.668
	2100 1.749
	2200 1.830
	2300 1.910
	2400 1.991
	2500 2.071

AREA	MULTIPLIERS
900 .962	1500 1.060
1000 .990	1600 1.062
1100 1.003	1700 1.078
1200 1.000	1800 1.088
1300 1.028	1900 1.093
1400 1.048	2000 1.091
	2100 1.101
	2200 1.106
	2300 1.108
	2400 1.105
	2500 1.098

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.43	R-11	-15.06	R-11 FLR	-11.71
R-15	-15.13	R-19	-18.46	R-19 FLR	-13.37
R-30	-16.33	R-27	-20.24		
R-3E	-16.77				
R-45	-17.14				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-.63	R-11	-.36	R-11 FLR	-.50
R-19	-.71	R-19	-.45	R-19 FLR	-.57
R-30	-.75	R-27	-.46		
R-38	-.76				
R-49	-.79				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.62
LOW (.4 ACH)	-13.23

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.02
LOW (.4 ACH)	-.04

WINDOW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-8.00	-5.50	-1.26
	WOOD	-10.00	-6.91	-3.76
	ALUM	-6.99	-4.79	0.
	ALUM+TB	-9.01	-6.21	-2.52
2 PANE 1/4IN.	PLAIN	-15.38	-15.65	-14.23
	WOOD	-15.91	-16.02	-14.90
	ALUM	-12.73	-13.79	-10.93
	ALUM+TB	-14.86	-15.28	-13.58
2 PANE 1/2IN.	PLAIN	-17.03	-16.80	-16.29
	WOOD	-17.48	-17.12	-16.86
	ALUM	-14.67	-15.15	-13.35
	ALUM+TB	-16.58	-16.49	-15.73
3 PANE 1/4IN.	PLAIN	-18.23	-18.49	-18.32
	WOOD	-18.41	-19.01	-18.54
	ALUM	-15.38	-16.89	-14.76
	ALUM+TB	-16.24	-17.49	-15.83
3 PANE 1/2IN.	PLAIN	-19.69	-19.91	-20.14
	WOOD	-19.84	-20.01	-20.32
	ALUM	-17.42	-18.32	-17.31
	ALUM+TB	-18.98	-19.41	-19.25

12 PCT AREA	15 PCT AREA	20 PCT AREA
-.86	-.55	-.00
-.86	-.55	-.00
-.86	-.55	0.
-.86	-.55	-.00
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.03	-.79	-.34
-1.12	-.91	-.50
-1.12	-.91	-.50
-1.12	-.91	-.50
-1.12	-.91	-.50
-1.12	-.91	-.50
-1.12	-.91	-.50

BASE LOAD = 93.37 MBTU-YR

BASE LOAD = 4.16 MBTU-YR

AREA	MULTIPLIERS				
900	.741	1500	1.253	2100	1.747
1000	.827	1600	1.337	2200	1.828
1100	.913	1700	1.420	2300	1.908
1200	1.000	1800	1.502	2400	1.989
1300	1.084	1900	1.584	2500	2.068
1400	1.168	2000	1.666		

AREA	MULTIPLIERS				
900	.962	1500	1.060	2100	1.101
1000	.990	1600	1.062	2200	1.106
1100	1.003	1700	1.078	2300	1.108
1200	1.000	1800	1.088	2400	1.105
1300	1.028	1900	1.093	2500	1.098
1400	1.048	2000	1.091		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.13	R-11	-11.23	R-5 4FT	-1.53
R-19	-11.41	R-19	-13.79	R-5 8FT	-2.43
R-30	-12.32	R-27	-15.15	R-10 8FT	-3.56
R-38	-12.66			R-19 FLR	-4.56
R-49	-12.94				
R-60	-13.12				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.80	R-11	-2.28	R-5 4FT	-0.29
R-19	-3.15	R-19	-2.78	R-5 8FT	-0.45
R-30	-3.41	R-27	-3.05	R-10 8FT	-0.67
R-38	-3.51			R-19 FLR	-0.66
R-49	-3.60				
R-60	-3.66				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-5.48
LOW (.4 ACH)	-10.95

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.43
LOW (.4 ACH)	-0.87

WINCCW	SASH	12 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-5.41	-3.75	-0.94
	WOOD	-6.90	-4.79	-2.80
	ALUM	-4.66	-3.22	0.
	ALUM+TB	-6.16	-4.27	-1.88
2 PANE 1/4IN.	PLAIN	-10.94	-11.35	-10.67
	WOOD	-11.34	-11.63	-11.17
	ALUM	-8.97	-9.97	-8.22
	ALUM+TB	-10.55	-11.08	-10.19
2 PANE 1/2IN.	PLAIN	-12.17	-12.21	-12.20
	WOOD	-12.50	-12.45	-12.62
	ALUM	-10.41	-10.98	-10.01
	ALUM+TB	-11.83	-11.97	-11.78
3 PANE 1/4IN.	PLAIN	-13.04	-13.76	-13.73
	WOOD	-13.18	-13.85	-13.89
	ALUM	-10.92	-12.27	-11.09
	ALUM+TB	-11.56	-12.72	-11.88
3 PANE 1/2IN.	PLAIN	-14.13	-14.52	-15.08
	WOOD	-14.23	-14.59	-15.21
	ALUM	-12.44	-13.34	-12.98
	ALUM+TB	-13.60	-14.15	-14.42

12 PCT AREA	15 PCT AREA	20 PCT AREA
-5.65	-3.50	-0.00
-5.65	-3.50	-0.01
-5.65	-3.50	0.
-5.65	-3.50	-0.00
-6.76	-5.03	-2.14
-6.76	-5.03	-2.14
-6.76	-5.03	-2.13
-6.76	-5.03	-2.14
-6.76	-5.03	-2.14
-6.76	-5.03	-2.14
-6.76	-5.03	-2.14
-7.36	-5.68	-2.94
-7.36	-5.68	-2.94
-7.35	-5.68	-2.94
-7.35	-5.68	-2.94
-7.36	-5.69	-2.95
-7.36	-5.69	-2.95
-7.36	-5.68	-2.94
-7.36	-5.69	-2.94

BASE LOAD = 64.92 MBTU-YR

BASE LOAD = 28.44 MBTU-YR

AREA	MULTIPLIERS
900 .737	1500 1.258
1000 .823	1600 1.344
1100 .911	1700 1.428
1200 1.000	1800 1.512
1300 1.086	1900 1.596
1400 1.171	2000 1.680
	2100 1.763
	2200 1.845
	2300 1.928
	2400 2.010
	2500 2.092

AREA	MULTIPLIERS
900 .884	1500 1.124
1000 .933	1600 1.154
1100 .971	1700 1.192
1200 1.000	1800 1.226
1300 1.047	1900 1.257
1400 1.088	2000 1.283
	2100 1.316
	2200 1.347
	2300 1.374
	2400 1.399
	2500 1.421

SPLIT-LEVEL

HEATING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-42.32	R-11	-32.71	R-5 4FT	-11.23
R-19	-47.35	R-19	-40.01	R-5 8FT	-14.24
R-30	-50.88	R-27	-43.92	R-10 8FT	-17.37
R-38	-52.17			R-19 FLR	-5.83
R-49	-53.27				
R-60	-53.98				

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-2.94	R-11	-1.19	R-5 4FT	-0.14
R-19	-3.30	R-19	-1.44	R-5 8FT	-0.13
R-30	-3.48	R-27	-1.47	R-10 8FT	-0.13
R-38	-3.57			R-19 FLR	0.
R-49	-3.66				
R-60	-3.73				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-11.23
LOW (.4 ACH)	-22.47

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-0.06
LOW (.4 ACH)	-0.12

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-18.11	-11.43	-3.01
	WOOD	-20.80	-15.42	-4.99
	ALUM	-16.76	-9.42	0.
	ALUM+TB	-19.46	-13.44	-6.02
2 PANE 1/4IN.	PLATN	-33.73	-32.30	-30.01
	WOOD	-34.43	-33.33	-31.56
	ALUM	-30.27	-27.16	-22.30
	ALUM+TB	-33.05	-31.28	-28.49
2 PANE 1/2IN.	PLATN	-35.89	-35.50	-34.81
	WOOD	-36.48	-36.38	-36.12
	ALUM	-32.80	-30.91	-27.93
	ALUM+TB	-35.30	-34.62	-33.50
3 PANE 1/4IN.	PLATN	-39.00	-38.95	-38.43
	WOOD	-39.23	-39.29	-38.95
	ALUM	-35.27	-33.42	-30.13
	ALUM+TB	-36.39	-35.07	-32.62
3 PANE 1/2IN.	PLATN	-40.91	-41.78	-42.68
	WOOD	-41.09	-42.06	-43.10
	ALUM	-37.94	-37.38	-36.08
	ALUM+TB	-39.97	-40.40	-40.61

11 PCT AREA	15 PCT AREA	20 PCT AREA
-4.05	-2.35	-0.01
-4.07	-2.37	-0.04
-4.04	-2.34	0.
-4.06	-2.36	-0.03
-4.60	-3.10	-1.00
-4.61	-3.11	-1.00
-4.58	-3.08	-0.96
-4.60	-3.10	-0.99
-4.61	-3.12	-1.02
-4.62	-3.12	-1.02
-4.60	-3.09	-0.99
-4.61	-3.11	-1.01
-4.94	-3.59	-1.67
-4.94	-3.59	-1.67
-4.92	-3.56	-1.64
-4.92	-3.57	-1.65
-4.95	-3.60	-1.69
-4.95	-3.60	-1.69
-4.93	-3.58	-1.66
-4.94	-3.59	-1.68

BASE LOAD = 201.77 MBTU-YR

BASE LOAD = 12.75 MBTU-YR

AREA	MULTIPLIERS
1500	.834
1600	.880
1700	.926
1800	.970
1900	1.013
2000	1.055
2100	1.090
2200	1.123
2300	1.400
2400	1.953
2500	2.546
2600	2.636
2700	2.725
2800	2.819

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-34.70	R-11	-26.11	R-5 4FT	-9.17
R-19	-38.29	R-19	-32.04	R-5 8FT	-11.61
R-30	-41.18	R-27	-35.19	R-10 8FT	-14.17
R-38	-42.23			R-19 FLR	-4.73
R-49	-43.13				
R-60	-43.71				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.08
R-11	-4.82	R-11	-2.07	R-5 4FT	-0.30
R-19	-5.42	R-19	-2.50	R-5 8FT	-0.38
R-30	-5.74	R-27	-2.60	R-10 8FT	-0.43
R-38	-5.91			R-19 FLR	0.
R-49	-6.05				
R-60	-6.15				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.15
LOW (.4 ACH)	-20.30

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-0.09
LOW (.4 ACH)	-0.18

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-13.06	-8.37	-2.40
	WOOD	-15.21	-11.55	-7.18
	ALUM	-11.98	-6.77	0.
	ALUM+TB	-14.14	-9.97	-4.80
2 PANE 1/4IN.	PLATN	-25.16	-24.54	-23.31
	WOOD	-25.73	-25.39	-24.57
	ALUM	-22.35	-20.36	-17.04
	ALUM+TB	-24.61	-23.72	-22.07
2 PANE 1/2IN.	PLATN	-26.92	-27.15	-27.21
	WOOD	-27.40	-27.86	-28.28
	ALUM	-24.40	-23.42	-21.62
	ALUM+TB	-26.44	-26.44	-26.14
3 PANE 1/4IN.	PLATN	-29.33	-29.81	-29.94
	WOOD	-29.52	-30.10	-30.36
	ALUM	-26.30	-25.32	-23.19
	ALUM+TB	-27.21	-26.67	-25.22
3 PANE 1/2IN.	PLATN	-30.88	-32.12	-33.40
	WOOD	-31.04	-32.34	-33.73
	ALUM	-28.47	-28.54	-29.03
	ALUM+TB	-30.13	-30.99	-31.71

11 PCT AREA	15 PCT AREA	20 PCT AREA
-5.01	-2.89	-0.02
-5.03	-2.92	-0.06
-5.00	-2.87	0.
-5.02	-2.90	-0.04
-5.80	-3.95	-1.45
-5.81	-3.96	-1.46
-5.77	-3.92	-1.40
-5.80	-3.94	-1.44
-5.82	-3.97	-1.48
-5.82	-3.98	-1.49
-5.79	-3.94	-1.44
-5.82	-3.97	-1.47
-6.27	-4.60	-2.28
-6.28	-4.61	-2.29
-6.24	-4.56	-2.23
-6.25	-4.58	-2.25
-6.29	-4.62	-2.31
-6.29	-4.62	-2.31
-6.27	-4.59	-2.27
-6.28	-4.61	-2.30

BASE LOAD = 162.02 MBTU-YR

BASE LOAD = 19.31 MBTU-YR

AREA	MULTIPLIERS
1500	.831
1600	.878
1700	.924
1800	.969
1900	1.012
2000	1.055
2100	1.090
2200	1.124
2300	1.402
2400	1.955
2500	2.549
2600	2.640
2700	2.729
2800	2.823

AREA	MULTIPLIERS
1500	1.020
1600	1.042
1700	1.057
1800	1.067
1900	1.071
2000	1.069
2100	1.053
2200	1.032
2300	1.015
2400	1.004
2500	.988
2600	.991
2700	.991
2800	1.008

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-49.02	R-11	-38.51	R-5 4FT	-13.53
R-19	-55.01	R-19	-47.33	R-5 8FT	-17.15
R-30	-59.29	R-27	-52.10	R-10 8FT	-20.95
R-38	-60.85			R-19 FLR	-6.93
R-49	-62.17				
R-60	-63.03				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.26	R-11	-2.28	R-5 4FT	-0.43
R-19	-4.75	R-19	-2.75	R-5 8FT	-0.56
R-30	-5.10	R-27	-2.95	R-10 8FT	-0.80
R-38	-5.24			R-19 FLR	-0.17
R-49	-5.24				
R-60	-5.34				

INFILTRATION

HI (1 ACH)	0.
MED (0.7 ACH)	-16.65
LOW (0.4 ACH)	-33.29

INFILTRATION

HI (1 ACH)	0.
MED (0.7 ACH)	-0.25
LOW (0.4 ACH)	-0.51

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-23.45	-14.43	-3.54
	WOOD	-26.62	-19.13	-10.59
	ALUM	-21.86	-12.07	0.
2 PANE 1/4IN.	ALUM+TB	-25.04	-16.80	-7.09
	PLAIN	-41.33	-38.01	-33.41
	WOOD	-42.18	-39.26	-35.29
2 PANE 1/2IN.	ALUM	-37.15	-31.80	-24.10
	ALUM+TB	-40.51	-36.78	-31.57
	PLAIN	-43.94	-41.88	-39.21
3 PANE 1/4IN.	WOOD	-44.65	-42.94	-40.80
	ALUM	-40.21	-36.34	-30.90
	ALUM+TB	-43.23	-40.82	-37.63
3 PANE 1/2IN.	PLAIN	-47.79	-46.26	-43.93
	WOOD	-48.07	-46.68	-44.55
	ALUM	-43.28	-39.58	-33.90
3 PANE 1/2IN.	ALUM+TB	-44.64	-41.59	-36.91
	PLAIN	-50.09	-49.69	-49.06
	WOOD	-50.32	-50.02	-49.56
	ALUM	-46.51	-44.37	-41.09
	ALUM+TB	-48.97	-48.02	-46.56

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.66	-3.65	-0.03
-6.70	-3.69	-0.10
-6.64	-3.62	0.
-6.68	-3.67	-0.06
-7.66	-5.02	-1.67
-7.67	-5.03	-1.68
-7.62	-4.96	-1.59
-7.65	-5.01	-1.65
-7.69	-5.05	-1.72
-7.70	-5.06	-1.73
-7.65	-5.00	-1.65
-7.68	-5.04	-1.70
-8.19	-5.74	-2.55
-8.19	-5.74	-2.55
-8.14	-5.67	-2.47
-8.16	-5.69	-2.49
-8.21	-5.77	-2.59
-8.22	-5.77	-2.60
-8.18	-5.72	-2.53
-8.20	-5.75	-2.57

BASE LOAD = 258.27 MBTU-YR

BASE LOAD = 27.14 MBTU-YR

AREA	MULTIPLIERS
1500	.837
1600	.883
1700	.928
1800	.972
1900	1.014
2000	1.055
2100	1.089
2200	1.121
2300	1.398
2400	1.949
2500	2.542
2600	2.631
2700	2.719
2800	2.813

AREA	MULTIPLIERS
1500	.956
1600	.986
1700	1.012
1800	1.033
1900	1.051
2000	1.064
2100	1.065
2200	1.061
2300	1.062
2400	1.068
2500	1.070
2600	1.085
2700	1.097
2800	1.123

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-28.03	R-11	-21.71	R-5 4FT	-7.60
R-19	-31.37	R-19	-26.58	R-5 8FT	-9.65
R-30	-33.73	R-27	-29.20	R-10 8FT	-11.79
R-38	-34.57			R-19 FLR	-3.96
R-49	-35.27				
R-60	-35.76				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-4.10	R-11	-1.79	R-5 4FT	-0.58
R-19	-4.51	R-19	-2.20	R-5 8FT	-0.71
R-30	-4.80	R-27	-2.21	R-10 8FT	-1.03
R-38	-4.94			R-19 FLR	-0.12
R-49	-5.00				
R-60	-5.06				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-9.69
LOW (.4 ACH)	-19.38

INFILTRATION

HI (1 ACH)	-0.19
MED (.7 ACH)	-0.10
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-11.84	-7.48	-2.00
	WTRD	-13.63	-10.13	-5.97
	ALUM	-10.95	-6.15	0.
	ALUM+TB	-12.74	-8.81	-3.99
2 PANE 1/4IN.	PLATN	-22.55	-21.78	-20.49
	WTRD	-23.02	-22.47	-21.53
	ALUM	-20.24	-18.35	-15.35
	ALUM+TB	-22.10	-21.10	-19.48
2 PANE 1/2IN.	PLATN	-23.99	-23.92	-23.70
	WTRD	-24.39	-24.51	-24.58
	ALUM	-21.93	-20.86	-19.11
	ALUM+TB	-23.60	-23.34	-22.82
3 PANE 1/4IN.	PLATN	-26.08	-26.24	-24.12
	WTRD	-26.24	-26.47	-26.46
	ALUM	-23.60	-22.55	-20.58
	ALUM+TB	-24.34	-23.66	-22.24
3 PANE 1/2IN.	PLATN	-27.36	-28.14	-29.95
	WTRD	-27.48	-28.32	-29.23
	ALUM	-25.38	-25.20	-24.55
	ALUM+TB	-26.74	-27.21	-27.57

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.80	-3.75	-0.01
-6.81	-3.76	-0.02
-6.79	-3.74	0.
-6.80	-3.75	-0.02
-7.43	-4.64	-1.18
-7.43	-4.65	-1.18
-7.42	-4.63	-1.16
-7.43	-4.64	-1.17
-7.44	-4.65	-1.19
-7.44	-4.66	-1.19
-7.43	-4.64	-1.17
-7.44	-4.65	-1.19
-7.73	-5.14	-1.77
-7.73	-5.15	-1.77
-7.72	-5.13	-1.75
-7.72	-5.13	-1.76
-7.74	-5.15	-1.78
-7.74	-5.15	-1.79
-7.72	-5.14	-1.77
-7.73	-5.15	-1.78

BASE LOAD = 140.23 MBTU-YR

BASE LOAD = 25.69 MBTU-YR

AREA	MULTIPLIERS
1500	.830
1600	.877
1700	.923
1800	.969
1900	1.012
2000	1.055
2100	1.091
2200	1.125
2300	1.403
2400	1.957
2500	2.551
2600	2.642
2700	2.731
2800	2.826

AREA	MULTIPLIERS
1500	.961
1600	.991
1700	1.016
1800	1.036
1900	1.052
2000	1.064
2100	1.064
2200	1.059
2300	1.058
2400	1.062
2500	1.063
2600	1.077
2700	1.088
2800	1.113

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-37.00	R-11	-28.29	R-5 4FT	-9.71
R-19	-41.47	R-19	-34.78	R-5 8FT	-12.31
R-30	-44.66	R-27	-38.25	R-10 8FT	-15.04
R-38	-45.92			R-19 FLR	-4.96
R-49	-46.91				
R-60	-47.46				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.59	R-11	-2.60	R-5 4FT	-0.79
R-19	-6.27	R-19	-3.29	R-5 8FT	-0.97
R-30	-6.72	R-27	-3.55	R-10 8FT	-1.20
R-38	-6.89			R-19 FLR	-0.24
R-49	-7.02				
R-60	-7.05				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-12.92
LOW (.4 ACH)	-25.84

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.49
LOW (.4 ACH)	-0.98

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-15.75	-9.90	-2.60
	WOOD	-18.08	-13.35	-7.78
	ALUM	-14.58	-8.16	0.
	ALUM+TB	-16.92	-11.63	-5.21
2 PANE 1/4IN.	PLATN	-28.67	-27.09	-24.69
	WOOD	-29.29	-28.01	-25.07
	ALUM	-25.59	-22.52	-17.84
	ALUM+TB	-28.06	-26.19	-23.34
2 PANE 1/2IN.	PLATN	-30.59	-29.93	-28.96
	WOOD	-31.11	-30.71	-30.12
	ALUM	-27.84	-25.86	-22.85
	ALUM+TB	-30.06	-29.16	-27.79
3 PANE 1/4IN.	PLATN	-33.28	-32.95	-32.11
	WOOD	-33.49	-33.25	-32.57
	ALUM	-29.97	-28.03	-24.74
	ALUM+TB	-30.96	-29.51	-26.95
3 PANE 1/2IN.	PLATN	-34.58	-35.46	-35.89
	WOOD	-35.14	-35.71	-36.26
	ALUM	-32.34	-31.55	-30.02
	ALUM+TB	-34.15	-34.24	-34.04

11 PCT AREA	15 PCT AREA	20 PCT AREA
-8.14	-4.59	-0.02
-8.17	-4.62	-0.07
-8.13	-4.57	0.
-8.16	-4.61	-0.05
-9.41	-6.28	-2.13
-9.42	-6.29	-2.15
-9.37	-6.23	-2.06
-9.40	-6.27	-2.12
-9.44	-6.31	-2.18
-9.44	-6.32	-2.19
-9.40	-6.27	-2.11
-9.43	-6.30	-2.17
-10.12	-7.12	-3.29
-10.12	-7.12	-3.29
-10.07	-7.06	-3.21
-10.09	-7.08	-3.23
-10.15	-7.15	-3.33
-10.15	-7.15	-3.33
-10.11	-7.10	-3.26
-10.13	-7.13	-3.31

BASE LOAD = 186.64 MBTU-YR

BASE LOAD = 35.44 MBTU-YR

AREA	MULTIPLIERS
1500	.834
1600	.881
1700	.926
1800	.970
1900	1.013
2000	1.055
2100	1.090
2200	1.123
2300	1.400
2400	1.953
2500	2.546
2600	2.636
2700	2.724
2800	2.819

AREA	MULTIPLIERS
1500	.936
1600	.969
1700	.998
1800	1.023
1900	1.045
2000	1.062
2100	1.069
2200	1.071
2300	1.076
2400	1.087
2500	1.095
2600	1.114
2700	1.130
2800	1.158

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-31.10	R-11	-23.97	R-5 4FT	-8.41
R-19	-34.92	R-19	-29.33	R-5 8FT	-10.68
R-30	-37.43	R-27	-32.23	R-10 8FT	-13.05
R-38	-38.37			R-19 FLR	-4.37
R-49	-39.17				
R-60	-39.59				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.63
LOW (.4 ACH)	-21.25

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.01
R-11	-5.21	R-11	-2.14	R-5 4FT	-1.00
R-19	-5.72	R-19	-2.36	R-5 8FT	-1.19
R-30	-6.14	R-27	-2.60	R-10 8FT	-1.53
R-38	-6.41			R-19 FLR	0.
R-49	-6.54				
R-60	-6.51				

INFILTRATION

HI (1 ACH)	-0.24
MED (.7 ACH)	-0.12
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-13.72	-8.61	-2.20
	WOOD	-15.69	-11.53	-6.59
	ALUM	-12.73	-7.14	0.
	ALUM+TB	-14.71	-10.08	-4.41
2 PANE 1/4IN.	PLATN	-25.09	-23.83	-21.96
	WOOD	-25.60	-24.59	-23.10
	ALUM	-22.54	-20.06	-16.29
	ALUM+TB	-24.58	-23.09	-20.84
2 PANE 1/2IN.	PLATN	-26.67	-26.19	-25.49
	WOOD	-27.10	-26.83	-26.45
	ALUM	-24.40	-22.82	-20.43
	ALUM+TB	-26.24	-25.54	-24.52
3 PANE 1/4IN.	PLATN	-28.96	-28.77	-29.24
	WOOD	-29.13	-29.02	-28.62
	ALUM	-26.22	-24.70	-22.15
	ALUM+TB	-27.04	-25.92	-23.98
3 PANE 1/2IN.	PLATN	-30.36	-30.85	-31.37
	WOOD	-30.50	-31.05	-31.67
	ALUM	-28.18	-27.62	-26.52
	ALUM+TB	-29.68	-29.83	-29.84

BASE LOAD = 156.98 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-7.29	-4.05	-0.01
-7.30	-4.07	-0.03
-7.29	-4.05	0.
-7.30	-4.06	-0.02
-8.01	-5.14	-1.41
-8.01	-5.14	-1.42
-8.00	-5.13	-1.40
-8.01	-5.13	-1.41
-8.01	-5.14	-1.42
-8.01	-5.14	-1.42
-8.01	-5.13	-1.41
-8.01	-5.14	-1.42
-8.18	-5.33	-1.71
-8.18	-5.33	-1.71
-8.17	-5.32	-1.70
-8.18	-5.32	-1.70
-8.19	-5.34	-1.72
-8.19	-5.34	-1.72
-8.18	-5.33	-1.71
-8.18	-5.33	-1.71

BASE LOAD = 31.64 MBTU-YR

AREA	MULTIPLIERS				
1500	.832	2000	1.055	2500	2.549
1600	.878	2100	1.090	2600	2.639
1700	.924	2200	1.124	2700	2.728
1800	.969	2300	1.402	2800	2.823
1900	1.012	2400	1.955		

AREA	MULTIPLIERS				
1500	.943	2000	1.063	2500	1.087
1600	.975	2100	1.067	2600	1.104
1700	1.002	2200	1.068	2700	1.119
1800	1.026	2300	1.072	2800	1.147
1900	1.047	2400	1.081		

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HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	K-0 0.
R-11 -9.89	K-11 -6.37	K-11 FLR -5.92
R-19 -11.10	K-19 -7.76	K-19 FLR -6.69
R-30 -11.85	K-27 -8.41	
R-38 -12.14		
R-49 -12.38		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -6.74
LOW (.4 ACH) -13.48

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	K-0 0.	R-0 0.
R-11 -20.19	R-11 -12.79	R-11 FLR -15.61
R-19 -22.98	K-19 -15.70	R-19 FLR -17.74
R-30 -24.81	R-27 -17.14	
R-38 -25.54		
R-49 -26.17		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -46.74
LOW (.4 ACH) -93.47

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-2.04	-1.48	-0.59
	WOOD	-2.57	-2.26	-1.75
	ALUM	-1.78	0.	0.
2 PANE 1/4IN.	ALUM+TB	-2.30	-1.87	-1.17
	PLAIN	-4.63	-4.88	-4.92
	WOOD	-4.77	-5.09	-5.23
	ALUM	-3.94	-3.85	-3.38
	ALUM+TB	-4.49	-4.62	-4.62
2 PANE 1/2IN.	PLAIN	-5.06	-5.52	-5.88
	WOOD	-5.18	-5.69	-6.14
	ALUM	-4.44	-4.60	-4.51
	ALUM+TB	-4.94	-5.34	-5.62
3 PANE 1/4IN.	PLAIN	-5.56	-6.03	-6.34
	WOOD	-5.61	-6.10	-6.44
	ALUM	-4.82	-4.93	-4.68
	ALUM+TB	-5.04	-5.26	-5.18
3 PANE 1/2IN.	PLAIN	-5.94	-6.60	-7.19
	WOOD	-5.98	-6.65	-7.27
	ALUM	-5.35	-5.72	-5.87
	ALUM+TB	-5.76	-6.32	-6.77

BASE LOAD = 45.95 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-17.29	-9.56	-0.15
-17.47	-9.79	-0.46
-17.19	-9.45	0.
-17.38	-9.67	-0.31
-22.19	-15.86	-7.91
-22.23	-15.92	-7.99
-21.95	-15.56	-7.51
-22.14	-15.80	-7.83
-22.38	-16.05	-8.17
-22.12	-16.10	-8.23
-22.30	-15.78	-7.80
-22.44	-16.00	-8.10
-24.46	-18.59	-11.14
-24.46	-18.61	-11.17
-24.18	-18.26	-10.70
-24.26	-18.36	-10.83
-24.57	-18.75	-11.36
-24.59	-18.77	-11.38
-24.37	-18.49	-11.01
-24.51	-18.67	-11.25

BASE LOAD = 177.03 MBTU-YR

AREA	MULTIPLIERS
1500 .785	2000 1.054
1600 .839	2100 1.101
1700 .892	2200 1.147
1800 .946	2300 1.436
1900 1.000	2400 1.999

MULTIPLIERS

AREA

MULTIPLIERS

AREA	MULTIPLIERS
1500 .885	2000 1.058
1600 .924	2100 1.078
1700 .961	2200 1.095
1800 .996	2300 1.115
1900 1.028	2400 1.139

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-30.29
R-11	-33.85	R-11	-26.25	R-5 4FT	-39.41
R-19	-37.91	R-19	-32.21	R-5 8FT	-41.85
R-30	-40.79	R-27	-35.47	R-10 8FT	-44.44
R-38	-41.93			R-19 FLR	0.
R-49	-77.62				
R-60	-43.32				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-7.96
R-11	-4.83	R-11	-1.95	R-5 4FT	-8.17
R-19	-5.30	R-19	-2.35	R-5 8FT	-8.20
R-30	-5.62	R-27	-2.53	R-10 8FT	-8.26
R-38	-5.75			R-19 FLR	0.
R-49	-13.73				
R-60	-5.95				

INFILTRATION

HT (1 ACH)	-46.67
MED (.7 ACH)	-23.34
LOW (.4 ACH)	0.

INFILTRATION

HI (1 ACH)	-15.66
MED (.7 ACH)	-7.83
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-15.59	-9.74	-2.42
	WOOD	-17.75	-12.94	-7.22
	ALUM	-14.51	-8.13	0.
	ALUM+TB	-16.68	-11.35	-4.83
2 PANE 1/4IN.	PLAIN	-27.83	-26.11	-23.65
	WOOD	-28.40	-26.96	-24.92
	ALUM	-25.00	-21.91	-17.35
	ALUM+TB	-27.27	-25.28	-22.40
2 PANE 1/2IN.	PLAIN	-29.59	-28.73	-27.57
	WOOD	-30.07	-29.44	-28.64
	ALUM	-27.07	-24.98	-21.95
	ALUM+TB	-29.11	-28.01	-26.50
3 PANE 1/4IN.	PLAIN	-32.15	-31.66	-30.74
	WOOD	-32.34	-31.94	-31.16
	ALUM	-29.11	-27.14	-23.96
	ALUM+TB	-30.02	-28.49	-25.00
3 PANE 1/2IN.	PLAIN	-33.71	-33.97	-34.21
	WOOD	-33.87	-34.20	-34.55
	ALUM	-31.29	-30.38	-28.82
	ALUM+TB	-32.95	-32.84	-32.52

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.90	-3.86	-.01
-6.90	-3.87	-.02
-6.89	-3.85	0.
-6.90	-3.86	-.01
-7.53	-4.67	-1.05
-7.53	-4.67	-1.05
-7.52	-4.66	-1.04
-7.53	-4.67	-1.05
-7.54	-4.68	-1.06
-7.54	-4.68	-1.06
-7.53	-4.67	-1.04
-7.53	-4.68	-1.05
-8.02	-5.37	-1.72
-8.02	-5.37	-1.72
-8.01	-5.36	-1.71
-8.01	-5.36	-1.71
-8.02	-5.38	-1.73
-8.02	-5.38	-1.73
-8.02	-5.37	-1.72
-8.02	-5.37	-1.72

BASE LOAD = 214.58 MBTU-YR

BASE LOAD = 40.36 MBTU-YR

AREA	MULTIPLIERS	
1500	.833	2000 1.055
1600	.897	2100 1.090
1700	.925	2200 1.124
1800	.962	2300 1.401
1900	1.013	2400 1.954

AREA	MULTIPLIERS	
1500	.974	2000 1.065
1600	1.001	2100 1.062
1700	1.024	2200 1.053
1800	1.043	2300 1.049
1900	1.056	2400 1.050

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-35.49	R-11	-27.40	R-5 4FT	-9.43
R-19	-39.73	R-19	-33.62	R-5 8FT	-11.95
R-30	-42.74	R-27	-36.98	R-10 8FT	-14.61
R-38	-43.95			R-19 FLR	-4.92
R-49	-44.79				
R-60	-45.40				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-11.29
LTW (.4 ACH)	-22.58

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.17	R-11	-3.37	R-5 4FT	-0.58
R-19	-8.08	R-19	-4.08	R-5 8FT	-0.74
R-30	-8.58	R-27	-4.29	R-10 8FT	-0.91
R-38	-8.79			R-19 FLR	-0.06
R-49	-9.00				
R-60	-9.14				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-0.35
LOW (.4 ACH)	-0.71

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-15.20	-9.59	-2.52
	WOOD	-17.45	-12.94	-7.53
	ALUM	-14.07	-7.91	0.
	ALUM+TB	-16.33	-11.27	-5.04
2 PANE 1/4IN.	PLATN	-27.59	-26.15	-23.93
	WOOD	-28.18	-27.03	-25.26
	ALUM	-24.63	-21.76	-17.36
	ALUM+TB	-27.00	-25.28	-22.63
2 PANE 1/2IN.	PLATN	-29.43	-28.88	-29.03
	WOOD	-29.93	-29.63	-29.15
	ALUM	-26.79	-24.97	-22.16
	ALUM+TB	-28.92	-28.13	-26.91
3 PANE 1/4IN.	PLATN	-32.02	-31.80	-31.14
	WOOD	-32.22	-32.10	-31.58
	ALUM	-28.84	-27.09	-24.06
	ALUM+TB	-29.80	-28.50	-26.18
3 PANE 1/2IN.	PLATN	-33.65	-34.22	-34.76
	WOOD	-33.81	-34.46	-35.11
	ALUM	-31.12	-30.47	-29.13
	ALUM+TB	-32.86	-33.04	-32.99

BASE LOAD = 175.49 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-8.25	-4.70	-0.02
-8.27	-4.73	-0.07
-8.23	-4.68	0.
-8.26	-4.72	-0.05
-9.83	-6.83	-2.84
-9.84	-6.84	-2.85
-9.80	-6.79	-2.79
-9.82	-6.82	-2.83
-9.85	-6.86	-2.88
-9.86	-6.86	-2.89
-9.82	-6.82	-2.83
-9.84	-6.85	-2.87
-10.65	-7.93	-4.28
-10.65	-7.93	-4.28
-10.62	-7.89	-4.22
-10.63	-7.90	-4.24
-10.67	-7.95	-4.31
-10.67	-7.96	-4.31
-10.64	-7.92	-4.26
-10.66	-7.94	-4.29

BASE LOAD = 33.68 MBTU-YR

AREA	MULTIPLIERS
1500	.833
1600	.899
1700	.925
1800	.959
1900	1.013
2000	1.055
2100	1.090
2200	1.124
2300	1.401
2400	1.954
2500	2.547
2600	2.637
2700	2.726
2800	2.820

AREA	MULTIPLIERS
1500	.956
1600	.986
1700	1.011
1800	1.033
1900	1.050
2000	1.064
2100	1.065
2200	1.062
2300	1.062
2400	1.068
2500	1.071
2600	1.086
2700	1.098
2800	1.124

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-23.90	R-11	-17.88	R-5 2FT	-9.98
R-19	-26.65	R-19	-21.91	R-5 4FT	-11.42
R-30	-28.54	R-27	-24.06		
R-38	-29.36				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.39	R-11	-4.27	R-5 2FT	-2.00
R-19	-11.64	R-19	-5.25	R-5 4FT	-2.25
R-30	-12.41	R-27	-5.60		
R-38	-12.73				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-7.62
LOW (.4 ACH)	-15.25

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.22
LOW (.4 ACH)	-4.43

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-7.68	-5.07	-1.65
	WOOD	-9.15	-7.25	-4.92
	ALUM	-6.95	-3.97	0.
	ALUM+TB	-8.42	-6.17	-3.29
2 PANE 1/4IN.	PLATN	-15.84	-15.96	-15.72
	WOOD	-16.23	-16.54	-16.59
	ALUM	-13.90	-13.08	-11.40
	ALUM+TB	-15.45	-15.39	-14.87
2 PANE 1/2IN.	PLATN	-17.05	-17.76	-18.41
	WOOD	-17.38	-18.25	-19.14
	ALUM	-15.32	-15.19	-14.56
	ALUM+TB	-16.71	-17.27	-17.67
3 PANE 1/4IN.	PLATN	-18.64	-19.51	-20.16
	WOOD	-18.77	-19.70	-20.45
	ALUM	-16.55	-16.41	-15.52
	ALUM+TB	-17.18	-17.34	-16.91
3 PANE 1/2IN.	PLATN	-19.71	-21.09	-22.54
	WOOD	-19.81	-21.25	-22.77
	ALUM	-18.05	-18.63	-19.85
	ALUM+TB	-19.18	-20.32	-21.38

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.51	-5.46	-0.06
-9.58	-5.55	-1.18
-9.47	-5.41	0.
-9.55	-5.50	-1.12
-11.08	-7.60	-2.83
-11.10	-7.62	-2.86
-10.99	-7.48	-2.67
-11.06	-7.57	-2.80
-11.14	-7.67	-2.93
-11.16	-7.69	-2.95
-11.06	-7.56	-2.79
-11.12	-7.65	-2.90
-11.97	-8.74	-4.39
-11.97	-8.74	-4.40
-11.87	-8.61	-4.22
-11.90	-8.65	-4.27
-12.02	-8.80	-4.48
-12.02	-8.81	-4.49
-11.94	-8.70	-4.34
-11.99	-8.77	-4.44

BASE LOAD = 110.67 MBTU-YR

BASE LOAD = 44.31 MBTU-YR

AREA	MULTIPLIERS				
1500	.825	2000	1.055	2500	2.557
1600	.872	2100	1.092	2600	2.648
1700	.919	2200	1.128	2700	2.739
1800	.965	2300	1.407	2800	2.834
1900	1.010	2400	1.961		

AREA	MULTIPLIERS				
1500	.935	2000	1.062	2500	1.097
1600	.968	2100	1.069	2600	1.116
1700	.997	2200	1.071	2700	1.132
1800	1.022	2300	1.077	2800	1.161
1900	1.044	2400	1.089		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.65	R-11	-13.50	R-5 4FT	-4.33
R-19	-19.79	R-19	-16.56	R-5 8FT	-5.47
R-30	-21.79	R-27	-18.18	R-10 8FT	-6.63
R-38	-21.97			R-19 FLR	-2.28
R-49	-22.77				
R-60	-22.57				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.26
R-11	-6.89	R-11	-2.76	R-5 4FT	-2.16
R-19	-7.44	R-19	-3.23	R-5 8FT	-2.72
R-30	-7.90	R-27	-3.61	R-10 8FT	-3.22
R-38	-8.07			R-19 FLR	0.
R-49	-8.21				
R-60	-8.34				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-6.54
LOW (.4 ACH)	-13.08

INFILTRATION

HT (1 ACH)	-1.58
MED (.7 ACH)	-0.79
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-6.44	-4.18	-1.24
	WOOD	-7.55	-5.83	-3.71
	ALUM	-5.89	-3.35	0.
2 PANE 1/4IN.	ALUM+TB	-7.00	-5.01	-2.48
	PLATN	-12.81	-12.66	-12.19
	WOOD	-13.10	-13.10	-12.84
2 PANE 1/2IN.	ALUM	-11.35	-10.50	-8.95
	ALUM+TB	-12.52	-12.24	-11.55
	PLATN	-13.71	-14.01	-14.21
3 PANE 1/4IN.	WOOD	-13.96	-14.38	-14.76
	ALUM	-12.42	-12.08	-11.32
	ALUM+TB	-13.47	-13.64	-13.66
3 PANE 1/2IN.	PLATN	-14.97	-15.37	-15.58
	WOOD	-15.07	-15.52	-15.80
	ALUM	-13.40	-13.05	-12.10
3 PANE 1/2IN.	ALUM+TB	-13.87	-13.75	-13.14
	PLATN	-15.77	-16.57	-17.37
	WOOD	-15.85	-16.68	-17.54
	ALUM	-14.53	-14.72	-14.60
	ALUM+TB	-15.38	-15.98	-16.50

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.98	-5.57	-0.01
-9.99	-5.59	-0.03
-9.97	-5.56	0.
-9.99	-5.58	-0.02
-10.36	-6.15	-0.94
-10.36	-6.15	-0.94
-10.35	-6.14	-0.92
-10.36	-6.15	-0.93
-10.37	-6.16	-0.95
-10.37	-6.16	-0.95
-10.35	-6.15	-0.93
-10.36	-6.16	-0.95
-11.07	-6.95	-1.92
-11.08	-6.95	-1.93
-11.06	-6.93	-1.90
-11.07	-6.94	-1.91
-11.08	-6.96	-1.94
-11.08	-6.96	-1.94
-11.07	-6.95	-1.92
-11.08	-6.96	-1.94

BASE LOAD = 84.50 MBTU-YR

BASE LOAD = 45.28 MBTU-YR

AREA	MULTIPLIERS
1500	.818
1600	.857
1700	.915
1800	.952
1900	1.009
2000	1.055
2100	1.093
2200	1.131
2300	1.412
2400	1.968
2500	2.565
2600	2.657
2700	2.749
2800	2.845

AREA	MULTIPLIERS
1500	.921
1600	.956
1700	.987
1800	1.015
1900	1.040
2000	1.061
2100	1.071
2200	1.078
2300	1.088
2400	1.102
2500	1.114
2600	1.136
2700	1.155
2800	1.185

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.66	R-11	-13.49	R-5 2FT	-6.79
R-19	-19.77	R-19	-16.54	R-5 4FT	-7.74
R-30	-21.77	R-27	-18.14		
R-38	-21.81				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.84	R-11	-2.61	R-5 2FT	-2.84
R-19	-7.44	R-19	-2.99	R-5 4FT	-3.21
R-30	-7.96	R-27	-3.36		
R-38	-8.10				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-6.72
LOW (.4 ACH)	-13.45

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.06
LOW (.4 ACH)	-0.13

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-6.44	-4.18	-1.24
	WTRD	-7.55	-5.83	-3.71
	ALUM	-5.88	-3.35	0.
	ALUM+TB	-7.00	-5.01	-2.48
2 PANE 1/4IN.	PLATN	-12.81	-12.66	-12.18
	WTRD	-13.10	-13.10	-12.84
	ALUM	-11.34	-10.49	-8.92
	ALUM+TB	-12.52	-12.23	-11.54
2 PANE 1/2IN.	PLATN	-13.72	-14.01	-14.21
	WTRD	-13.97	-14.38	-14.77
	ALUM	-12.41	-12.07	-11.31
	ALUM+TB	-13.47	-13.64	-13.66
3 PANE 1/4IN.	PLATN	-14.95	-15.35	-15.55
	WTRD	-15.04	-15.49	-15.77
	ALUM	-13.37	-13.01	-12.05
	ALUM+TB	-13.84	-13.71	-13.10
3 PANE 1/2IN.	PLATN	-15.75	-16.55	-17.35
	WTRD	-15.83	-16.66	-17.53
	ALUM	-14.50	-14.69	-14.56
	ALUM+TB	-15.36	-15.96	-16.47

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.98	-5.57	-0.01
-9.99	-5.59	-0.03
-9.97	-5.56	0.
-9.99	-5.58	-0.02
-10.50	-6.29	-1.08
-10.50	-6.30	-1.08
-10.49	-6.27	-1.05
-10.50	-6.29	-1.07
-10.51	-6.31	-1.10
-10.51	-6.31	-1.10
-10.50	-6.29	-1.07
-10.51	-6.30	-1.09
-11.16	-7.04	-2.01
-11.16	-7.04	-2.01
-11.15	-7.02	-1.98
-11.15	-7.02	-1.99
-11.17	-7.05	-2.03
-11.17	-7.05	-2.03
-11.16	-7.03	-2.00
-11.17	-7.04	-2.02

BASE LOAD = 85.67 MBTU-YR

BASE LOAD = 44.88 MBTU-YR

AREA	MULTIPLIERS				
1500	.820	2000	1.055	2500	2.563
1600	.869	2100	1.093	2600	2.655
1700	.916	2200	1.130	2700	2.747
1800	.963	2300	1.411	2800	2.843
1900	1.009	2400	1.966		

AREA	MULTIPLIERS				
1500	.920	2000	1.061	2500	1.116
1600	.955	2100	1.072	2600	1.138
1700	.986	2200	1.078	2700	1.158
1800	1.014	2300	1.089	2800	1.188
1900	1.039	2400	1.104		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.99	R-11	-13.63	R-11 FLR	-11.79
R-19	-20.07	R-19	-16.71	R-19 FLR	-13.31
R-30	-21.53	R-27	-18.32		
R-38	-22.07				
R-49	-22.53				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.54	R-11	-3.72	R-11 FLR	-4.43
R-19	-8.45	R-19	-4.36	R-19 FLR	-4.97
R-30	-8.99	R-27	-4.83		
R-38	-9.14				
R-49	-9.12				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-6.69
LOW (.4 ACH)	-13.38

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.20
LOW (.4 ACH)	-.40

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-6.45	-4.19	-1.25
	WOOD	-7.57	-5.85	-3.75
	ALUM	-5.89	-3.36	0.
	ALUM+TB	-7.02	-5.03	-2.51
2 PANE 1/4IN.	PLATN	-12.81	-12.66	-12.17
	WOOD	-13.11	-13.10	-12.84
	ALUM	-11.33	-10.46	-9.88
	ALUM+TB	-12.52	-12.22	-11.52
2 PANE 1/2IN.	PLATN	-13.73	-14.02	-14.22
	WOOD	-13.98	-14.40	-14.78
	ALUM	-12.41	-12.07	-11.29
	ALUM+TB	-13.48	-13.65	-13.66
3 PANE 1/4IN.	PLATN	-14.94	-15.34	-15.54
	WOOD	-15.04	-15.49	-15.77
	ALUM	-13.35	-12.98	-12.00
	ALUM+TB	-13.83	-13.69	-13.07
3 PANE 1/2IN.	PLATN	-15.76	-16.55	-17.36
	WOOD	-15.84	-16.67	-17.54
	ALUM	-14.49	-14.67	-14.54
	ALUM+TB	-15.36	-15.96	-16.47

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.98	-5.58	-.01
-10.00	-5.60	-.04
-9.97	-5.57	0.
-9.99	-5.59	-.03
-10.96	-6.75	-1.54
-10.96	-6.76	-1.54
-10.94	-6.72	-1.50
-10.96	-6.75	-1.53
-10.97	-6.77	-1.56
-10.98	-6.77	-1.56
-10.95	-6.74	-1.53
-10.97	-6.76	-1.55
-11.68	-7.55	-2.52
-11.68	-7.56	-2.53
-11.65	-7.52	-2.48
-11.66	-7.53	-2.50
-11.69	-7.57	-2.54
-11.69	-7.57	-2.55
-11.67	-7.55	-2.51
-11.68	-7.56	-2.53

BASE LOAD = 92.98 MBTU-YR

BASE LOAD = 49.38 MBTU-YR

AREA	MULTIPLIERS
1500	.821
1600	.870
1700	.917
1800	.964
1900	1.017
2000	1.055
2100	1.093
2200	1.129
2300	1.409
2400	1.965
2500	2.561
2600	2.653
2700	2.744
2800	2.840

AREA	MULTIPLIERS
1500	.919
1600	.954
1700	.986
1800	1.014
1900	1.039
2000	1.061
2100	1.072
2200	1.079
2300	1.089
2400	1.104
2500	1.117
2600	1.139
2700	1.158
2800	1.189

CEILING

Room	CEILING	FOUNDATION	WALL	FOUNDATION
R-0	0.	K-0	R-0	K-U
R-11	-56.07	K-5 4FT	R-11	K-5 4FT
R-19	-62.92	R-5 8FT	R-19	K-5 8FT
R-30	-67.80	K-10 8FT	R-27	K-10 8FT
R-38	-69.57	R-19 FLR	R-27	K-19 FLR
R-49	-71.10			
R-60	-72.08			

INFILTRATION

Room	CEILING	FOUNDATION	WALL	FOUNDATION
R-0	0.	K-0	R-0	K-U
R-11	-4.21	K-5 4FT	R-11	K-5 4FT
R-19	-4.72	R-5 8FT	R-19	K-5 8FT
R-30	-5.00	K-10 8FT	R-27	K-10 8FT
R-38	-5.13	R-19 FLR	R-27	K-19 FLR
R-49	-5.25			
R-60	-5.34			

INFILTRATION

Room	CEILING	FOUNDATION	WALL	FOUNDATION
R-0	0.	K-0	R-0	K-U
R-11	-4.21	K-5 4FT	R-11	K-5 4FT
R-19	-4.72	R-5 8FT	R-19	K-5 8FT
R-30	-5.00	K-10 8FT	R-27	K-10 8FT
R-38	-5.13	R-19 FLR	R-27	K-19 FLR
R-49	-5.25			
R-60	-5.34			

WINDOM

Window	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-26.67	-16.42	-4.02	-3.21	-0.01	
	WOOD	-30.26	-21.76	-12.02	-3.23	-0.04	
	ALUM	-24.86	-13.74	0.	-3.20	0.	
2 PANE 1/4IN.	ALUM+TB	-28.48	-19.11	-8.05	-3.22	-0.03	
	PLAIN	-46.40	-42.40	-36.89	-4.54	-1.74	
	WOOD	-47.36	-43.82	-39.03	-4.55	-1.75	
	ALUM	-41.65	-35.34	-26.31	-4.51	-1.70	
2 PANE 1/2IN.	ALUM+TB	-45.47	-41.00	-34.80	-4.54	-1.73	
	PLAIN	-49.37	-46.80	-43.49	-4.56	-1.76	
	WOOD	-50.18	-48.00	-45.29	-4.56	-1.77	
	ALUM	-45.12	-40.50	-34.04	-4.53	-1.73	
3 PANE 1/4IN.	ALUM+TB	-48.56	-45.59	-41.68	-4.55	-1.76	
	PLAIN	-53.65	-51.69	-48.73	-5.23	-2.63	
	WOOD	-53.97	-52.16	-49.44	-5.23	-2.63	
	ALUM	-48.54	-44.09	-37.34	-5.20	-2.59	
3 PANE 1/2IN.	ALUM+TB	-50.07	-46.37	-40.75	-5.21	-2.60	
	PLAIN	-56.28	-55.58	-54.56	-5.24	-2.65	
	WOOD	-56.53	-55.96	-55.13	-5.24	-2.65	
	ALUM	-52.20	-49.53	-45.50	-5.22	-2.62	
	ALUM+TB	-55.00	-53.68	-51.72	-5.24	-2.64	

BASE LOAD = 292.40 MBTU-YR

BASE LOAD = 21.34 MBTU-YR

AREA MULTIPLIERS

AREA MULTIPLIERS

Room	Area	Multipliers
1500	.838	2000
1600	.884	2100
1700	.929	2200
1800	.972	2300
1900	1.014	2400

Room	Area	Multipliers
1500	.988	2000
1600	1.014	2100
1700	1.035	2200
1800	1.050	2300
1900	1.061	2400

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-56.07	R-11	-43.74	R-5 4FT	-15.59
R-19	-62.92	R-19	-53.76	R-5 8FT	-19.79
R-30	-67.97	R-27	-59.18	R-10 8FT	-24.15
R-38	-69.57			R-19 FLR	-7.97
R-49	-71.17				
R-60	-72.09				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.16
R-11	-4.21	R-11	-2.06	R-5 4FT	-0.26
R-19	-4.72	R-19	-2.52	R-5 8FT	-0.28
R-30	-5.00	R-27	-2.67	R-10 8FT	-0.31
R-38	-5.13			R-19 FLR	0.
R-49	-5.25				
R-60	-5.34				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-18.21
LOW (.4 ACH)	-36.42

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.09
LOW (.4 ACH)	-0.19

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-26.67	-16.42	-4.02
	WOOD	-30.26	-21.76	-12.02
	ALUM	-24.86	-13.74	0.
	ALUM+TB	-28.48	-19.11	-9.05
2 PANE 1/4IN.	PLATN	-46.40	-42.40	-35.89
	WOOD	-47.36	-43.82	-39.03
	ALUM	-41.65	-35.34	-26.31
	ALUM+TB	-45.47	-41.00	-34.80
2 PANE 1/2IN.	PLATN	-49.37	-46.80	-43.49
	WOOD	-50.18	-48.00	-45.29
	ALUM	-45.12	-40.50	-34.04
	ALUM+TB	-48.56	-45.59	-41.68
3 PANE 1/4IN.	PLATN	-53.65	-51.69	-48.73
	WOOD	-53.97	-52.16	-49.44
	ALUM	-48.54	-44.09	-37.34
	ALUM+TB	-50.07	-46.37	-40.75
3 PANE 1/2IN.	PLATN	-56.28	-55.58	-54.56
	WOOD	-56.53	-55.96	-55.13
	ALUM	-52.20	-49.53	-45.50
	ALUM+TB	-55.00	-53.68	-51.72

11 PCT AREA	15 PCT AREA	20 PCT AREA
-5.64	-3.21	-0.01
-5.65	-3.23	-0.04
-5.63	-3.20	0.
-5.64	-3.22	-0.03
-6.62	-4.54	-1.74
-6.63	-4.55	-1.75
-6.60	-4.51	-1.70
-6.62	-4.54	-1.73
-6.64	-4.56	-1.76
-6.64	-4.56	-1.77
-6.62	-4.53	-1.73
-6.63	-4.55	-1.76
-7.16	-5.23	-2.63
-7.16	-5.23	-2.63
-7.14	-5.20	-2.59
-7.14	-5.21	-2.60
-7.17	-5.24	-2.65
-7.17	-5.24	-2.65
-7.15	-5.22	-2.62
-7.17	-5.24	-2.64

BASE LOAD = 292.40 MBTU-YR

BASE LOAD = 21.34 MBTU-YR

AREA	MULTIPLIERS
1500	.818
1600	.867
1700	.915
1800	.962
1900	1.009
2000	1.055
2100	1.094
2200	1.131
2300	1.412
2400	1.968
2500	2.565
2600	2.653
2700	2.749
2800	2.846

AREA	MULTIPLIERS
1500	.988
1600	1.014
1700	1.035
1800	1.050
1900	1.061
2000	1.066
2100	1.059
2200	1.046
2300	1.038
2400	1.036
2500	1.029
2600	1.038
2700	1.044
2800	1.065

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-32.70	R-11	-25.02	R-5 4FT	-9.42
R-19	-36.62	R-19	-30.73	R-5 8FT	-10.70
R-30	-39.39	R-27	-33.77	R-10 8FT	-13.10
R-38	-40.40			R-19 FLR	-4.26
R-49	-41.77				
R-60	-41.93				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.38
LOW (.4 ACH)	-20.76

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.07
R-11	-6.22	R-11	-3.05	R-5 4FT	-.31
R-19	-6.98	R-19	-3.75	R-5 8FT	-.38
R-30	-7.42	R-27	-3.92	R-10 8FT	-.47
R-38	-7.61			R-19 FLR	0.
R-49	-7.79				
R-60	-7.92				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.27
LOW (.4 ACH)	-.54

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-14.64	-9.19	-2.30
	WOOD	-16.70	-12.24	-6.88
	ALUM	-13.61	-7.65	0.
	ALUM+TB	-15.68	-10.72	-4.60
2 PANE 1/4IN.	PLATN	-25.79	-24.11	-21.63
	WOOD	-26.34	-24.92	-22.85
	ALUM	-23.08	-20.09	-15.60
	ALUM+TB	-25.26	-23.32	-20.44
2 PANE 1/2IN.	PLATN	-27.48	-26.62	-25.39
	WOOD	-27.94	-27.30	-26.41
	ALUM	-25.06	-23.03	-20.01
	ALUM+TB	-27.02	-25.93	-24.36
3 PANE 1/4IN.	PLATN	-29.84	-29.32	-28.30
	WOOD	-30.02	-29.59	-28.70
	ALUM	-26.93	-24.99	-21.81
	ALUM+TB	-27.80	-26.29	-23.76
3 PANE 1/2IN.	PLATN	-31.33	-31.54	-31.62
	WOOD	-31.48	-31.75	-31.95
	ALUM	-29.02	-28.09	-26.46
	ALUM+TB	-30.61	-30.46	-30.00

BASE LOAD = 160.79 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.96	-3.97	-.02
-6.98	-3.99	-.05
-6.95	-3.95	0.
-6.97	-3.98	-.04
-8.23	-5.66	-2.24
-8.24	-5.67	-2.25
-8.21	-5.63	-2.19
-8.23	-5.65	-2.23
-8.25	-5.68	-2.27
-8.26	-5.69	-2.27
-8.23	-5.65	-2.23
-8.25	-5.67	-2.26
-8.89	-6.49	-3.35
-8.89	-6.50	-3.35
-8.86	-6.46	-3.30
-8.87	-6.47	-3.31
-8.91	-6.51	-3.37
-8.91	-6.51	-3.38
-8.88	-6.48	-3.33
-8.90	-6.50	-3.36

BASE LOAD = 28.18 MBTU-YR

AREA	MULTIPLIERS	
1500	.832	2000 1.055
1600	.879	2100 1.090
1700	.924	2200 1.124
1800	.969	2300 1.402
1900	1.012	2400 1.955

AREA	MULTIPLIERS	
1500	.971	2000 1.065
1600	.999	2100 1.062
1700	1.022	2200 1.055
1800	1.041	2300 1.051
1900	1.055	2400 1.053

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-33.14	R-11	-25.31	R-11 FLR	-22.19
R-19	-37.17	R-19	-31.08	R-19 FLR	-25.13
R-30	-39.95	R-27	-34.16		
R-38	-40.99				
R-49	-41.87				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.59
LOW (.4 ACH)	-21.17

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.41	R-11	-3.05	R-11 FLR	-3.27
R-19	-7.21	R-19	-3.76	R-19 FLR	-3.74
R-30	-7.67	R-27	-3.97		
R-38	-7.86				
R-49	-8.05				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.28
LOW (.4 ACH)	-.55

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-14.67	-9.21	-2.33
	WOOD	-16.75	-12.30	-6.96
	ALUM	-13.62	-7.66	0.
	ALUM+TB	-15.72	-10.76	-4.66
2 PANE 1/4IN.	PLATN	-25.83	-24.15	-21.65
	WOOD	-26.39	-24.97	-22.88
	ALUM	-23.09	-20.07	-15.54
	ALUM+TB	-25.29	-23.34	-20.44
2 PANE 1/2IN.	PLATN	-27.54	-26.68	-25.45
	WOOD	-28.01	-27.38	-26.49
	ALUM	-25.09	-23.05	-20.00
	ALUM+TB	-27.08	-25.99	-24.41
3 PANE 1/4IN.	PLATN	-29.93	-29.40	-29.36
	WOOD	-30.12	-29.67	-29.77
	ALUM	-26.98	-25.02	-21.79
	ALUM+TB	-27.86	-26.33	-23.76
3 PANE 1/2IN.	PLATN	-31.45	-31.65	-31.73
	WOOD	-31.59	-31.87	-32.06
	ALUM	-29.10	-28.16	-26.50
	ALUM+TB	-30.71	-30.55	-30.09

BASE LOAD = 176.13 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.96	-3.97	-.02
-6.98	-3.99	-.05
-6.95	-3.95	0.
-6.97	-3.98	-.04
-8.26	-5.68	-2.26
-8.26	-5.69	-2.27
-8.23	-5.65	-2.22
-8.25	-5.68	-2.25
-8.28	-5.70	-2.29
-8.28	-5.71	-2.30
-8.25	-5.67	-2.25
-8.27	-5.70	-2.28
-8.93	-6.53	-3.38
-8.93	-6.53	-3.39
-8.90	-6.49	-3.33
-8.91	-6.50	-3.35
-8.94	-6.55	-3.41
-8.94	-6.55	-3.41
-8.92	-6.52	-3.37
-8.94	-6.54	-3.40

BASE LOAD = 33.03 MBTU-YR

AREA	MULTIPLIERS
1500	.833
1600	.890
1700	.925
1800	.959
1900	1.013
2000	1.055
2100	1.090
2200	1.124
2300	1.401
2400	1.953
2500	2.547
2600	2.637
2700	2.726
2800	2.820

AREA	MULTIPLIERS
1500	.954
1600	.984
1700	1.010
1800	1.032
1900	1.050
2000	1.064
2100	1.065
2200	1.062
2300	1.063
2400	1.070
2500	1.073
2600	1.088
2700	1.101
2800	1.126

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-35.25	R-11	-27.55	R-5 4FT	-9.59
R-19	-39.45	R-19	-33.69	R-5 8FT	-12.15
R-30	-42.41	R-27	-36.97	R-10 8FT	-14.80
R-38	-43.47			R-19 FLR	-5.09
R-49	-44.35				
R-60	-44.95				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.19
R-11	-2.42	R-11	-1.32	R-5 4FT	-0.21
R-19	-2.69	R-19	-1.51	R-5 8FT	-0.22
R-30	-2.87	R-27	-1.64	R-10 8FT	-0.22
R-38	-2.94			R-19 FLR	0.
R-49	-3.03				
R-60	-3.04				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-11.66
LOW (.4 ACH)	-23.33

INFILTRATION

HI (1 ACH)	-0.17
MED (.7 ACH)	-0.08
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-16.07	-10.07	-2.54
	WOOD	-18.34	-13.43	-7.58
	ALUM	-14.93	-8.38	0.
	ALUM+TB	-17.21	-11.76	-5.07
2 PANE 1/4IN.	PLATN	-29.72	-28.30	-26.12
	WOOD	-30.31	-29.17	-27.43
	ALUM	-26.81	-23.98	-19.64
	ALUM+TB	-29.14	-27.45	-24.84
2 PANE 1/2IN.	PLATN	-31.53	-31.00	-30.16
	WOOD	-32.03	-31.73	-31.27
	ALUM	-28.93	-27.14	-24.38
	ALUM+TB	-31.04	-30.26	-29.06
3 PANE 1/4IN.	PLATN	-34.20	-33.97	-33.28
	WOOD	-34.39	-34.27	-33.72
	ALUM	-31.06	-29.32	-26.31
	ALUM+TB	-32.00	-30.72	-28.40
3 PANE 1/2IN.	PLATN	-35.80	-36.36	-35.86
	WOOD	-35.56	-36.59	-37.21
	ALUM	-33.31	-32.66	-31.31
	ALUM+TB	-35.02	-35.20	-35.12

11 PCT AREA	15 PCT AREA	20 PCT AREA
-4.62	-2.52	-0.03
-4.66	-2.57	-0.09
-4.60	-2.50	0.
-4.64	-2.54	-0.06
-5.25	-3.32	-1.01
-5.25	-3.32	-1.02
-5.22	-3.28	-0.96
-5.24	-3.31	-1.00
-5.27	-3.34	-1.04
-5.27	-3.35	-1.05
-5.24	-3.31	-1.00
-5.26	-3.33	-1.03
-5.60	-3.84	-1.56
-5.60	-3.84	-1.57
-5.57	-3.80	-1.51
-5.58	-3.81	-1.52
-5.62	-3.86	-1.59
-5.62	-3.86	-1.59
-5.59	-3.83	-1.55
-5.61	-3.85	-1.58

BASE LOAD = 178.79 MBTU-YR

BASE LOAD = 16.60 MBTU-YR

AREA	MULTIPLIERS
1500 .833	2000 1.055
1600 .897	2500 2.547
1700 .925	2600 2.637
1800 .959	2700 2.726
1900 1.013	2800 2.820
	2400 1.953

AREA	MULTIPLIERS
1500 .999	2000 1.067
1600 1.023	2500 1.016
1700 1.042	2600 1.023
1800 1.056	2700 1.027
1900 1.064	2800 1.046
	2400 1.025

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-3.94	R-11	-2.75	R-5 2FT	-.44
R-19	-4.77	R-19	-3.30	R-5 4FT	-.49
R-30	-4.57	R-27	-3.55		
R-38	-4.61				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.82	R-11	-7.90	R-5 2FT	-4.52
R-19	-13.17	R-19	-9.56	R-5 4FT	-5.17
R-30	-14.18	R-27	-10.50		
R-38	-14.52				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-1.19
LOW (.4 ACH)	-2.38

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.97
LOW (.4 ACH)	-13.94

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-1.04	-.71	-.25
	WOOD	-1.26	-1.05	-.76
	ALUM	-.92	-.54	0.
	ALUM+TB	-1.15	-.88	-.51
2 PANE 1/4IN.	PLATN	-2.23	-2.28	-2.24
	WOOD	-2.29	-2.37	-2.38
	ALUM	-1.93	-1.83	-1.58
	ALUM+TB	-2.17	-2.19	-2.11
2 PANE 1/2IN.	PLATN	-2.42	-2.55	-2.66
	WOOD	-2.47	-2.63	-2.77
	ALUM	-2.15	-2.16	-2.06
	ALUM+TB	-2.37	-2.48	-2.54
3 PANE 1/4IN.	PLATN	-2.58	-2.68	-2.70
	WOOD	-2.60	-2.71	-2.75
	ALUM	-2.26	-2.20	-1.99
	ALUM+TB	-2.36	-2.35	-2.20
3 PANE 1/2IN.	PLATN	-2.74	-2.92	-3.07
	WOOD	-2.76	-2.95	-3.10
	ALUM	-2.49	-2.54	-2.50
	ALUM+TB	-2.66	-2.80	-2.89

11 PCT AREA	15 PCT AREA	20 PCT AREA
-22.50	-12.48	-.20
-22.73	-12.77	-.58
-22.38	-12.34	0.
-22.61	-12.63	-.39
-26.85	-18.21	-7.46
-26.91	-18.28	-7.57
-26.54	-17.83	-6.95
-26.79	-18.13	-7.36
-27.04	-18.44	-7.78
-27.09	-18.51	-7.87
-26.77	-18.10	-7.32
-26.98	-18.38	-7.69
-29.10	-20.95	-10.85
-29.12	-20.97	-10.89
-28.78	-20.54	-10.30
-28.87	-20.66	-10.47
-29.27	-21.16	-11.13
-29.29	-21.18	-11.16
-29.01	-20.83	-10.69
-29.19	-21.06	-11.00

BASE LOAD = 14.01 MBTU-YR

BASE LOAD = 127.47 MBTU-YR

AREA	MULTIPLIERS
1500 .691	2000 1.054
1600 .759	2500 2.715
1700 .829	2600 2.829
1800 .901	2700 2.944
1900 .975	2800 3.056
	2400 2.088

AREA	MULTIPLIERS
1500 .883	2000 1.058
1600 .923	2500 1.163
1700 .960	2600 1.192
1800 .995	2700 1.219
1900 1.028	2800 1.255
	2400 1.141

HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
K-0 0.	R-0 0.	K-0 0.
R-11 -46.59	R-11 -36.44	K-5 4FT -12.58
R-19 -52.23	R-19 -44.78	K-5 8FT -15.92
R-30 -56.27	K-27 -49.31	K-10 8FT -19.47
K-38 -57.73		K-19 FLR -6.39
R-49 -58.97		
K-60 -59.78		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -16.13
LOW (.4 ACH) -32.26

COOLING (IN MBTU-YR)

CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	K-0 0.
R-11 -2.41	R-11 -1.17	K-5 4FT -0.22
R-19 -2.70	R-19 -1.46	K-5 8FT -0.23
R-30 -2.86	K-27 -1.54	K-10 8FT -0.23
R-38 -2.93		K-19 FLR 0.
R-49 -3.04		
R-60 -3.10		

INFILTRATION

HI (1 ACH) 0.
MED (.7 ACH) -0.08
LOW (.4 ACH) -0.15

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-22.28	-13.83	-3.35
	WOOD	-25.28	-18.27	-10.02
	ALUM	-20.78	-11.59	0.
2 PANE 1/4IN.	ALUM+TB	-23.79	-16.06	-6.71
	PLAIN	-38.85	-35.91	-31.82
	WOOD	-39.65	-37.10	-33.59
	ALUM	-34.89	-30.04	-23.01
2 PANE 1/2IN.	ALUM+TB	-38.07	-34.75	-30.08
	PLAIN	-41.31	-39.57	-37.30
	WOOD	-41.99	-40.57	-38.80
	ALUM	-37.78	-34.33	-29.45
3 PANE 1/4IN.	ALUM+TB	-40.64	-38.57	-35.80
	PLAIN	-44.88	-43.64	-41.70
	WOOD	-45.14	-44.03	-42.29
	ALUM	-40.62	-37.32	-32.22
3 PANE 1/2IN.	ALUM+TB	-41.90	-39.21	-35.07
	PLAIN	-47.06	-46.87	-46.56
	WOOD	-47.27	-47.19	-47.03
	ALUM	-43.67	-41.85	-39.02
	ALUM+TB	-46.00	-45.30	-44.19

BASE LOAD = 242.78 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-3.66	-2.09	-0.00
-3.66	-2.10	-0.01
-3.65	-2.08	0.
-3.66	-2.09	-0.01
-4.17	-2.75	-0.88
-4.17	-2.76	-0.89
-4.16	-2.74	-0.87
-4.16	-2.75	-0.88
-4.17	-2.76	-0.89
-4.17	-2.75	-0.88
-4.16	-2.74	-0.87
-4.48	-3.06	-1.28
-4.48	-3.07	-1.28
-4.47	-3.05	-1.26
-4.48	-3.07	-1.27
-4.49	-3.07	-1.29
-4.49	-3.07	-1.29
-4.48	-3.06	-1.27
-4.48	-3.07	-1.28

BASE LOAD = 12.71 MBTU-YR

AREA	MULTIPLIERS
1500 .837	2000 1.055
1600 .883	2100 1.084
1700 .928	2200 1.122
1800 .971	2300 1.398
1900 1.014	2400 1.950

AREA	MULTIPLIERS
1500 1.026	2000 1.069
1600 1.047	2100 1.052
1700 1.061	2200 1.029
1800 1.070	2300 1.010
1900 1.072	2400 .998

.981
.982
.981
.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-46.59	R-11	-36.44	R-5 4FT	-12.58
R-19	-52.73	R-19	-44.78	R-5 8FT	-15.92
R-30	-56.27	R-27	-49.31	R-10 8FT	-19.47
R-38	-57.73			R-19 FLR	-6.39
R-49	-58.97				
R-60	-59.79				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.23
R-11	-2.41	R-11	-1.17	R-5 4FT	-0.22
R-19	-2.70	R-19	-1.46	R-5 8FT	-0.23
R-30	-2.86	R-27	-1.54	R-10 8FT	-0.23
R-38	-2.93			R-19 FLR	0.
R-49	-3.04				
R-60	-3.10				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-16.13
LOW (.4 ACH)	-32.26

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.08
LOW (.4 ACH)	-0.15

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-22.28	-13.83	-3.35
	WOOD	-25.28	-18.27	-10.02
	ALUM	-20.78	-11.59	0.
	ALUM+TB	-23.79	-16.06	-6.71
2 PANE 1/4IN.	PLATN	-38.85	-35.91	-31.82
	WOOD	-39.65	-37.10	-33.59
	ALUM	-34.89	-30.04	-23.01
	ALUM+TB	-38.07	-34.75	-30.08
2 PANE 1/2IN.	PLATN	-41.31	-39.57	-37.30
	WOOD	-41.99	-40.57	-38.80
	ALUM	-37.78	-34.33	-29.45
	ALUM+TB	-40.64	-38.57	-35.80
3 PANE 1/4IN.	PLATN	-44.88	-43.64	-41.70
	WOOD	-45.14	-44.03	-42.29
	ALUM	-40.62	-37.32	-32.22
	ALUM+TB	-41.90	-39.21	-35.07
3 PANE 1/2IN.	PLATN	-47.06	-46.87	-46.56
	WOOD	-47.27	-47.19	-47.03
	ALUM	-43.67	-41.85	-39.02
	ALUM+TB	-46.00	-45.30	-44.19

11 PCT AREA	15 PCT AREA	20 PCT AREA
-3.66	-2.09	-0.00
-3.66	-2.10	-0.01
-3.65	-2.08	0.
-3.66	-2.09	-0.01
-4.17	-2.75	-0.88
-4.17	-2.76	-0.89
-4.16	-2.74	-0.87
-4.16	-2.75	-0.88
-4.17	-2.76	-0.89
-4.17	-2.76	-0.89
-4.16	-2.75	-0.88
-4.17	-2.76	-0.89
-4.48	-3.06	-1.28
-4.48	-3.07	-1.28
-4.47	-3.05	-1.26
-4.48	-3.06	-1.27
-4.49	-3.07	-1.29
-4.49	-3.07	-1.29
-4.48	-3.06	-1.27
-4.48	-3.07	-1.28

BASE LOAD = 242.78 MBTU-YR

BASE LOAD = 12.71 MBTU-YR

AREA	MULTIPLIERS
1500	.749
1600	.809
1700	.859
1800	.929
1900	.991
2000	1.054
2100	1.109
2200	1.165
2300	1.462
2400	2.033
2500	2.647
2600	2.751
2700	2.855
2800	2.960

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-35.94	R-11	-27.95	R-5 4FT	-9.83
R-19	-40.18	R-19	-34.29	R-5 8FT	-12.43
R-30	-43.25	R-27	-37.71	R-10 8FT	-15.18
R-38	-44.35			R-19 FLR	-5.05
R-49	-45.30				
R-60	-45.91				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.11
R-11	-3.88	R-11	-1.99	R-5 4FT	-0.42
R-19	-4.31	R-19	-2.46	R-5 8FT	-0.49
R-30	-4.63	R-27	-2.76	R-10 8FT	-0.55
R-38	-4.75			R-19 FLR	0.
R-49	-4.78				
R-60	-4.84				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-12.33
LOW (.4 ACH)	-24.65

INFILTRATION

HI (1 ACH)	-0.01
MED (.7 ACH)	-0.00
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-16.15	-10.13	-2.57
	WOOD	-18.44	-13.54	-7.68
	ALUM	-14.99	-8.42	0.
	ALUM+TB	-17.30	-11.85	-5.14
2 PANE 1/4IN.	PLATN	-28.92	-27.18	-24.63
	WOOD	-29.52	-28.08	-25.98
	ALUM	-25.91	-22.72	-17.93
	ALUM+TB	-28.32	-26.30	-23.31
2 PANE 1/2IN.	PLATN	-30.79	-29.96	-29.80
	WOOD	-31.30	-30.73	-29.94
	ALUM	-28.11	-25.98	-22.83
	ALUM+TB	-30.28	-29.20	-27.66
3 PANE 1/4IN.	PLATN	-33.45	-32.97	-31.97
	WOOD	-33.66	-33.27	-32.42
	ALUM	-30.22	-28.17	-24.76
	ALUM+TB	-31.19	-29.61	-26.92
3 PANE 1/2IN.	PLATN	-35.11	-35.44	-35.66
	WOOD	-35.28	-35.68	-36.02
	ALUM	-32.54	-31.61	-29.93
	ALUM+TB	-34.30	-34.24	-33.86

11 PCT AREA	15 PCT AREA	20 PCT AREA
-5.47	-2.98	-0.03
-5.51	-3.03	-0.10
-5.46	-2.95	0.
-5.49	-3.00	-0.07
-6.25	-4.13	-1.26
-6.26	-4.14	-1.27
-6.19	-4.06	-1.17
-6.24	-4.12	-1.24
-6.28	-4.17	-1.31
-6.29	-4.18	-1.33
-6.23	-4.11	-1.23
-6.27	-4.16	-1.30
-6.58	-4.50	-1.96
-6.58	-4.51	-1.97
-6.52	-4.43	-1.87
-6.54	-4.45	-1.89
-6.61	-4.54	-2.01
-6.61	-4.54	-2.02
-6.56	-4.48	-1.93
-6.59	-4.52	-1.99

BASE LOAD = 183.22 MBTU-YR

BASE LOAD = 21.38 MBTU-YR

AREA	MULTIPLIERS				
1500	.834	2000	1.055	2500	2.546
1600	.880	2100	1.090	2600	2.636
1700	.925	2200	1.123	2700	2.725
1800	.970	2300	1.400	2800	2.819
1900	1.013	2400	1.953		

AREA	MULTIPLIERS				
1500	.985	2000	1.066	2500	1.033
1600	1.011	2100	1.060	2600	1.043
1700	1.032	2200	1.048	2700	1.050
1800	1.048	2300	1.041	2800	1.071
1900	1.060	2400	1.039		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-13.94	R-11	-10.28	R-11 FLR	-8.98
R-19	-15.63	R-19	-12.57	R-19 FLR	-10.03
R-30	-16.76	R-27	-13.76		
R-38	-17.17				
R-49	-17.51				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-8.06	R-11	-4.10	R-11 FLR	-4.87
R-19	-8.91	R-19	-4.70	R-19 FLR	-5.41
R-30	-9.43	R-27	-5.13		
R-38	-9.63				
R-49	-9.71				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-4.99
LOW (.4 ACH)	-9.99

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.45
LOW (.4 ACH)	-2.91

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-4.40	-2.91	-.95
	WOOD	-5.24	-4.17	-2.83
	ALUM	-3.97	-2.28	0.
	ALUM+TB	-4.82	-3.54	-1.89
2 PANE 1/4IN.	PLATN	-9.04	-9.11	-9.93
	WOOD	-9.27	-9.45	-9.43
	ALUM	-7.93	-7.46	-6.45
	ALUM+TB	-8.82	-8.79	-8.44
2 PANE 1/2IN.	PLATN	-9.74	-10.15	-10.48
	WOOD	-9.93	-10.43	-10.90
	ALUM	-8.74	-8.67	-9.26
	ALUM+TB	-9.55	-9.86	-10.05
3 PANE 1/4IN.	PLATN	-10.59	-11.06	-11.40
	WOOD	-10.66	-11.17	-11.56
	ALUM	-9.39	-9.28	-9.73
	ALUM+TB	-9.75	-9.82	-9.53
3 PANE 1/2IN.	PLATN	-11.20	-11.98	-12.77
	WOOD	-11.26	-12.06	-12.90
	ALUM	-10.25	-10.56	-10.64
	ALUM+TB	-10.90	-11.53	-12.10

11 PCT AREA	15 PCT AREA	20 PCT AREA
-13.98	-7.81	-.08
-14.07	-7.92	-2.23
-13.94	-7.76	0.
-14.03	-7.87	-.15
-15.56	-9.89	-2.70
-15.59	-9.92	-2.74
-15.44	-9.74	-2.50
-15.54	-9.86	-2.66
-15.63	-9.98	-2.82
-15.65	-10.00	-2.85
-15.53	-9.85	-2.64
-15.61	-9.96	-2.79
-16.67	-11.23	-4.48
-16.67	-11.24	-4.49
-16.54	-11.08	-4.26
-16.58	-11.12	-4.33
-16.73	-11.31	-4.59
-16.74	-11.32	-4.60
-16.63	-11.19	-4.42
-16.70	-11.28	-4.53

BASE LOAD = 68.53 MBTU-YR

BASE LOAD = 68.13 MBTU-YR

AREA	MULTIPLIERS
1500 .811	2000 1.055
1600 .851	2500 2.573
1700 .910	2600 2.667
1800 .959	2700 2.759
1900 1.007	2800 2.857
	2400 1.974

AREA	MULTIPLIERS
1500 .901	2000 1.060
1600 .939	2500 1.140
1700 .973	2600 1.165
1800 1.005	2700 1.188
1900 1.034	2800 1.221
	2400 1.122

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-29.25	R-11	-22.76	R-5 4FT	-7.94
R-19	-32.77	R-19	-28.00	R-5 8FT	-10.06
R-30	-35.29	R-27	-30.83	R-10 8FT	-12.32
R-38	-36.71			R-19 FLR	-4.00
R-49	-37.00				
R-60	-37.50				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.63	R-11	-2.53	R-5 4FT	-0.80
R-19	-6.24	R-19	-3.22	R-5 8FT	-0.97
R-30	-6.69	R-27	-3.53	R-10 8FT	-1.19
R-38	-6.83			R-19 FLR	-0.22
R-49	-6.98				
R-60	-7.10				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.47
LOW (.4 ACH)	-20.95

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.38
LOW (.4 ACH)	-0.75

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-12.93	-8.13	-2.09
	WOOD	-14.80	-10.90	-5.26
	ALUM	-11.99	-6.73	0.
	ALUM+TB	-13.87	-9.52	-4.19
2 PANE 1/4IN.	PLATN	-23.53	-22.31	-20.49
	WOOD	-24.04	-23.05	-21.61
	ALUM	-21.05	-18.62	-14.96
	ALUM+TB	-23.04	-21.58	-19.40
2 PANE 1/2IN.	PLATN	-25.08	-24.61	-23.94
	WOOD	-25.51	-25.23	-24.88
	ALUM	-22.87	-21.31	-19.00
	ALUM+TB	-24.66	-23.98	-23.00
3 PANE 1/4IN.	PLATN	-27.29	-27.12	-26.60
	WOOD	-27.45	-27.36	-26.97
	ALUM	-24.61	-23.15	-20.65
	ALUM+TB	-25.41	-24.34	-22.43
3 PANE 1/2IN.	PLATN	-28.66	-29.15	-29.65
	WOOD	-28.79	-29.35	-29.95
	ALUM	-26.53	-25.99	-24.92
	ALUM+TB	-27.99	-28.16	-27.17

11 PCT AREA	15 PCT AREA	20 PCT AREA
-8.41	-4.71	-0.00
-8.41	-4.72	-0.01
-8.41	-4.71	0.
-8.41	-4.72	-0.01
-9.32	-5.96	-1.63
-9.32	-5.96	-1.63
-9.32	-5.96	-1.62
-9.32	-5.96	-1.63
-9.33	-5.97	-1.64
-9.32	-5.96	-1.63
-9.33	-5.97	-1.64
-9.33	-5.97	-1.63
-10.06	-6.80	-2.74
-10.06	-6.80	-2.75
-10.05	-6.79	-2.74
-10.05	-6.79	-2.74
-10.06	-6.80	-2.75
-10.06	-6.80	-2.75
-10.06	-6.80	-2.75
-10.05	-6.80	-2.74
-10.06	-6.80	-2.75

BASE LOAD = 149.20 MBTU-YR

BASE LOAD = 34.63 MBTU-YR

AREA	MULTIPLIERS				
1500	.831	2000	1.055	2500	2.550
1600	.878	2100	1.090	2600	2.640
1700	.924	2200	1.125	2700	2.729
1800	.968	2300	1.402	2800	2.824
1900	1.012	2400	1.955		

AREA	MULTIPLIERS				
1500	.939	2000	1.062	2500	1.091
1600	.972	2100	1.068	2600	1.109
1700	1.000	2200	1.069	2700	1.125
1800	1.025	2300	1.074	2800	1.153
1900	1.045	2400	1.084		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.91	R-11	-10.70	R-5 2FT	-5.57
R-19	-16.56	R-19	-13.09	R-5 4FT	-6.36
R-30	-17.95	R-27	-14.31		
R-38	-18.79				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.92	R-11	-5.94	R-5 2FT	-3.12
R-19	-13.38	R-19	-7.20	R-5 4FT	-3.55
R-30	-14.32	R-27	-7.78		
R-38	-14.68				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-5.03
LOW (.4 ACH)	-10.05

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.36
LOW (.4 ACH)	-.72

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-4.16	-2.81	-.98
	WOOD	-5.04	-4.11	-2.94
	ALUM	-3.72	-2.15	0.
	ALUM+TB	-4.60	-3.46	-1.97
2 PANE 1/4IN.	PLATN	-8.90	-9.13	-9.12
	WOOD	-9.14	-9.48	-9.64
	ALUM	-7.74	-7.41	-6.54
	ALUM+TB	-8.67	-8.79	-8.61
2 PANE 1/2IN.	PLATN	-9.63	-10.21	-10.73
	WOOD	-9.82	-10.50	-11.17
	ALUM	-8.59	-8.67	-8.43
	ALUM+TB	-9.43	-9.91	-10.29
3 PANE 1/4IN.	PLATN	-10.53	-11.17	-11.66
	WOOD	-10.61	-11.28	-11.83
	ALUM	-9.28	-9.31	-9.88
	ALUM+TB	-9.66	-9.87	-9.71
3 PANE 1/2IN.	PLATN	-11.17	-12.12	-13.08
	WOOD	-11.23	-12.21	-13.22
	ALUM	-10.18	-10.64	-10.87
	ALUM+TB	-10.86	-11.65	-12.39

11 PCT AREA	15 PCT AREA	20 PCT AREA
-13.84	-7.76	-.07
-13.91	-7.85	-.20
-13.80	-7.71	0.
-13.88	-7.81	-.13
-16.34	-11.18	-4.48
-16.36	-11.20	-4.52
-16.24	-11.05	-4.31
-16.32	-11.15	-4.45
-16.40	-11.26	-4.59
-16.42	-11.28	-4.62
-16.31	-11.14	-4.44
-16.38	-11.23	-4.56
-17.68	-12.81	-6.66
-17.68	-12.82	-6.67
-17.56	-12.68	-6.47
-17.60	-12.72	-6.52
-17.73	-12.89	-6.75
-17.74	-12.89	-6.76
-17.64	-12.78	-6.60
-17.70	-12.85	-6.70

BASE LOAD = 65.70 MBTU-YR

BASE LOAD = 66.18 MBTU-YR

AREA	MULTIPLIERS
1500	.817
1600	.850
1700	.909
1800	.958
1900	1.007
2000	1.055
2100	1.095
2200	1.135
2300	1.418
2400	1.976
2500	2.575
2600	2.669
2700	2.762
2800	2.859

AREA	MULTIPLIERS
1500	.907
1600	.943
1700	.977
1800	1.008
1900	1.035
2000	1.060
2100	1.074
2200	1.084
2300	1.098
2400	1.117
2500	1.133
2600	1.157
2700	1.179
2800	1.211

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.47	R-11	-10.65	R-5 2FT	-5.37
R-19	-16.17	R-19	-13.05	R-5 4FT	-6.13
R-30	-17.35	R-27	-14.30		
R-38	-17.77				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-11.61	R-11	-6.94	R-5 2FT	-4.38
R-19	-12.99	R-19	-8.54	R-5 4FT	-5.06
R-30	-14.01	R-27	-9.52		
R-38	-14.40				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-5.33
LOW (.4 ACH)	-10.66

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.96
LOW (.4 ACH)	-5.92

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-4.38	-2.92	-.98
	WOOD	-5.25	-4.22	-2.93
	ALUM	-3.94	-2.27	0.
	ALUM+TB	-4.82	-3.58	-1.96
2 PANE 1/4IN.	PLATN	-9.27	-9.46	-9.40
	WOOD	-9.50	-9.80	-9.91
	ALUM	-8.11	-7.74	-6.83
	ALUM+TB	-9.04	-9.12	-9.89
2 PANE 1/2IN.	PLATN	-9.99	-10.53	-11.00
	WOOD	-10.19	-10.82	-11.44
	ALUM	-8.96	-9.00	-8.70
	ALUM+TB	-9.79	-10.23	-10.56
3 PANE 1/4IN.	PLATN	-10.88	-11.47	-11.90
	WOOD	-10.96	-11.58	-12.07
	ALUM	-9.64	-9.62	-9.13
	ALUM+TB	-10.01	-10.18	-9.96
3 PANE 1/2IN.	PLATN	-11.52	-12.41	-13.32
	WOOD	-11.58	-12.51	-13.46
	ALUM	-10.53	-10.95	-11.12
	ALUM+TB	-11.21	-11.95	-12.63

11 PCT AREA	15 PCT AREA	20 PCT AREA
-15.07	-8.40	-.13
-15.22	-8.58	-.38
-15.00	-8.30	0.
-15.15	-8.49	-.25
-18.11	-12.39	-5.30
-18.15	-12.43	-5.37
-17.91	-12.14	-4.97
-18.07	-12.34	-5.24
-18.23	-12.54	-5.51
-18.26	-12.58	-5.57
-18.05	-12.32	-5.21
-18.19	-12.50	-5.45
-19.65	-14.40	-7.79
-19.66	-14.42	-7.81
-19.44	-14.14	-7.43
-19.50	-14.22	-7.54
-19.76	-14.54	-7.97
-19.77	-14.55	-7.99
-19.59	-14.33	-7.69
-19.71	-14.47	-7.88

BASE LOAD = 66.34 MBTU-YR

BASE LOAD = 86.82 MBTU-YR

AREA	MULTIPLIERS
1500	.811
1600	.861
1700	.910
1800	.959
1900	1.007
2000	1.055
2100	1.095
2200	1.134
2300	1.417
2400	1.975
2500	2.573
2600	2.667
2700	2.760
2800	2.857

AREA	MULTIPLIERS
1500	.893
1600	.932
1700	.968
1800	1.001
1900	1.031
2000	1.059
2100	1.076
2200	1.091
2300	1.108
2400	1.130
2500	1.150
2600	1.176
2700	1.201
2800	1.235

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-16.47	R-11	-22.24	R-5 2FT	-6.15
R-19	-18.31	R-19	-25.73	R-5 4FT	-7.06
R-30	-19.61	R-27	-25.73		
R-38	-20.09				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.87	R-11	-11.96	R-5 2FT	-2.21
R-19	-14.49	R-19	-13.92	R-5 4FT	-2.50
R-30	-15.41	R-27	-13.92		
R-38	-15.79				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-5.93
LOW (.4 ACH)	-11.86

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.14
LOW (.4 ACH)	-2.28

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLAIN	-4.90	-3.26	-1.06
	WOOD	-5.85	-4.66	-3.17
	ALUM	-4.43	-2.55	0.
	ALUM+TB	-5.38	-3.96	-2.12
2 PANE 1/4IN.	PLAIN	-10.00	-10.02	-9.75
	WOOD	-10.25	-10.39	-10.31
	ALUM	-8.75	-8.16	-6.97
	ALUM+TB	-9.75	-9.65	-9.20
2 PANE 1/2IN.	PLAIN	-10.78	-11.17	-11.48
	WOOD	-10.99	-11.49	-11.96
	ALUM	-9.66	-9.52	-9.00
	ALUM+TB	-10.56	-10.86	-11.01
3 PANE 1/4IN.	PLAIN	-11.77	-12.21	-12.44
	WOOD	-11.86	-12.33	-12.62
	ALUM	-10.43	-10.21	-9.44
	ALUM+TB	-10.83	-10.81	-10.34
3 PANE 1/2IN.	PLAIN	-12.46	-13.23	-13.97
	WOOD	-12.53	-13.33	-14.12
	ALUM	-11.39	-11.64	-11.59
	ALUM+TB	-12.13	-12.73	-13.22

11 PCT AREA	15 PCT AREA	20 PCT AREA
-11.79	-6.73	-2.26
-12.09	-7.11	-3.77
-11.63	-6.54	0.
-11.94	-6.92	-3.52
-14.05	-9.72	-4.11
-14.13	-9.82	-4.25
-13.65	-9.22	-3.43
-13.97	-9.62	-3.97
-14.30	-10.03	-4.53
-14.37	-10.11	-4.65
-13.95	-9.58	-3.93
-14.24	-9.94	-4.42
-15.28	-11.31	-6.08
-15.31	-11.34	-6.13
-14.85	-10.77	-5.35
-14.98	-10.93	-5.57
-15.51	-11.59	-6.46
-15.53	-11.61	-6.49
-15.16	-11.16	-5.88
-15.40	-11.45	-6.28

BASE LOAD = 86.11 MBTU-YR

BASE LOAD = 66.50 MBTU-YR

AREA	MULTIPLIERS
1500 .817	2000 1.055
1600 .856	2500 2.567
1700 .914	2100 1.094
1800 .967	2600 2.659
1900 1.079	2200 1.132
	2700 2.751
	2800 2.847
	2400 1.969

AREA	MULTIPLIERS
1500 .914	2000 1.061
1600 .949	2500 1.124
1700 .982	2100 1.073
1800 1.011	2600 1.147
1900 1.037	2200 1.081
	2700 1.168
	2800 1.199
	2400 1.110

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-45.80	R-11	-35.78	R-5 4FT	-12.19
R-19	-51.76	R-19	-43.79	R-5 8FT	-15.45
R-30	-55.10	R-27	-48.06	R-10 8FT	-18.89
R-38	-56.42			R-19 FLR	-6.29
R-49	-57.67				
R-60	-58.44				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.18
R-11	-2.67	R-11	-1.26	R-5 4FT	-0.09
R-19	-2.99	R-19	-1.51	R-5 8FT	-0.07
R-30	-3.17	R-27	-1.58	R-10 8FT	-0.04
R-38	-3.25			R-19 FLR	0.
R-49	-3.33				
R-60	-3.38				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-12.74
LOW (.4 ACH)	-25.48

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.09
LOW (.4 ACH)	-0.18

WINDOW	CASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-22.52	-13.91	-3.29
	WOOD	-25.46	-18.28	-9.84
	ALUM	-21.04	-11.72	0.
	ALUM+TB	-24.00	-16.11	-6.58
2 PANE 1/4IN.	PLAIN	-40.21	-37.50	-37.68
	WOOD	-40.98	-38.64	-35.39
	ALUM	-36.41	-31.86	-25.22
	ALUM+TB	-39.46	-36.39	-32.01
2 PANE 1/2IN.	PLAIN	-42.58	-41.02	-39.95
	WOOD	-43.23	-41.98	-40.39
	ALUM	-39.19	-35.98	-31.40
	ALUM+TB	-41.93	-40.05	-37.51
3 PANE 1/4IN.	PLAIN	-46.17	-45.13	-43.41
	WOOD	-46.43	-45.51	-47.98
	ALUM	-42.08	-39.06	-34.31
	ALUM+TB	-43.31	-40.88	-37.04
3 PANE 1/2IN.	PLAIN	-48.27	-48.24	-48.08
	WOOD	-48.48	-48.55	-48.53
	ALUM	-45.02	-43.41	-40.83
	ALUM+TB	-47.25	-46.73	-45.80

11 PCT AREA	15 PCT AREA	20 PCT AREA
-3.59	-2.05	-0.00
-3.60	-2.05	-0.00
-3.59	-2.04	0.
-3.59	-2.05	-0.00
-4.19	-2.87	-1.09
-4.19	-2.87	-1.09
-4.19	-2.87	-1.08
-4.19	-2.87	-1.09
-4.19	-2.87	-1.09
-4.19	-2.87	-1.09
-4.19	-2.87	-1.09
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68
-4.51	-3.36	-1.68

BASE LOAD = 228.61 MBTU-YR

BASE LOAD = 12.05 MBTU-YR

AREA	MULTIPLIERS
1500	.836
1600	.892
1700	.927
1800	.971
1900	1.013
2000	1.055
2100	1.089
2200	1.122
2300	1.399
2400	1.951
2500	2.544
2600	2.634
2700	2.722
2800	2.816

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-0.01	R-11	0.	R-5 2FT	0.
R-19	-0.01	R-19	0.	R-5 4FT	0.
R-30	-0.01	R-27	0.		
R-38	-0.01				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.77	R-11	-4.63	R-5 2FT	-4.46
R-19	-10.86	R-19	-5.67	R-5 4FT	-5.16
R-30	-11.60	R-27	-6.29		
R-38	-11.87				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.15
LOW (.4 ACH)	-0.30

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLATN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/4IN.	PLATN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
2 PANE 1/2IN.	PLATN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/4IN.	PLATN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.
3 PANE 1/2IN.	PLATN	0.	0.	0.
	WOOD	0.	0.	0.
	ALUM	0.	0.	0.
	ALUM+TB	0.	0.	0.

11 PCT AREA	15 PCT AREA	20 PCT AREA
-25.55	-14.13	-0.04
-25.60	-14.18	-0.11
-25.53	-14.10	0.
-25.58	-14.15	-0.08
-27.99	-17.32	-4.04
-28.00	-17.34	-4.06
-27.93	-17.25	-3.94
-27.98	-17.31	-4.02
-28.03	-17.37	-4.10
-28.04	-17.38	-4.12
-27.97	-17.30	-4.01
-28.02	-17.36	-4.08
-29.84	-19.73	-7.10
-29.85	-19.74	-7.11
-29.78	-19.65	-6.99
-29.80	-19.68	-7.02
-29.88	-19.77	-7.16
-29.88	-19.78	-7.16
-29.82	-19.71	-7.07
-29.86	-19.75	-7.13

BASE LOAD = .01 MBTU-YR

BASE LOAD = 108.22 MBTU-YR

AREA	MULTIPLIERS
1500	.691
1600	.758
1700	.829
1800	.901
1900	.976

AREA	MULTIPLIERS
1500	.886
1600	.925
1700	.962
1800	.997
1900	1.029

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HEATING (IN MBTU-YR)

CEILING	WALL	FOUNDATION	CEILING	WALL	FOUNDATION
R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 0.	R-0 K-0
R-11 -55.99	R-11 -44.10	R-5 4FT -16.14	R-11 -.01	R-11 0.	R-5 4FT -0.00
R-19 -62.84	R-19 -54.37	R-5 8FT -20.44	R-19 -.01	R-19 -.00	R-5 8FT 0.
R-30 -67.80	R-27 -59.95	R-10 8FT -25.00	R-30 -.01	R-27 -.00	R-10 8FT 0.
R-38 -69.61		R-19 FLR -8.25	R-38 -.01		R-19 FLR 0.
R-49 -71.16			R-49 -.01		
R-60 -72.17			R-60 -.01		

INFILTRATION

HI (1 ACH)	MED (.7 ACH)	LOW (.4 ACH)
0.	-18.28	-36.55

INFILTRATION

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-30.92	-18.94	-4.06	-0.00	-0.00	0.
	WOOD	-34.54	-24.31	-12.12	-0.00	-0.00	0.
	ALUM	-29.10	-16.23	0.	-0.00	-0.00	0.
2 PANE 1/4IN.	ALUM+TB	-32.74	-21.64	-8.11	-0.00	-0.00	0.
	PLAIN	-50.40	-44.96	-39.88	-0.00	-0.00	-0.00
	WOOD	-51.38	-46.42	-37.70	-0.00	-0.00	-0.00
	ALUM	-45.53	-37.73	-26.85	-0.00	-0.00	-0.00
2 PANE 1/2IN.	ALUM+TB	-49.44	-43.54	-35.56	-0.00	-0.00	0.
	PLAIN	-53.44	-49.47	-44.46	-0.00	-0.00	-0.00
	WOOD	-54.27	-50.71	-46.30	-0.00	-0.00	-0.00
	ALUM	-49.09	-43.02	-34.78	-0.00	-0.00	-0.00
3 PANE 1/4IN.	ALUM+TB	-52.61	-48.24	-42.61	-0.00	-0.00	-0.00
	PLAIN	-57.92	-54.61	-50.02	-0.00	-0.00	-0.00
	WOOD	-58.25	-55.10	-50.75	-0.00	-0.00	-0.00
	ALUM	-52.67	-46.83	-38.35	-0.00	-0.00	-0.00
3 PANE 1/2IN.	ALUM+TB	-54.25	-49.17	-41.85	-0.00	-0.00	-0.00
	PLAIN	-60.61	-58.60	-56.01	-0.00	-0.00	-0.00
	WOOD	-60.87	-58.99	-56.59	-0.00	-0.00	-0.00
	ALUM	-56.43	-52.41	-46.72	-0.00	-0.00	-0.00
	ALUM+TB	-59.29	-56.66	-53.09	-0.00	-0.00	-0.00

BASE LOAD = .01 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072

AREA MULTIPLIERS

AREA	MULTIPLIERS
1500	.838
1600	.884
1700	.929
1800	.972
1900	1.014

BASE LOAD = 298.79 MBTU-YR

AREA MULTIPLIERS

AREA	MULTIPLIERS
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-55.99	R-11	-44.10	R-5 4FT	-16.14
R-19	-62.94	R-19	-54.37	R-5 8FT	-20.44
R-30	-67.97	R-27	-59.95	R-10 8FT	-25.00
R-38	-69.61			R-19 FLR	-8.25
R-49	-71.16				
R-60	-72.17				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.00
R-11	-0.01	R-11	0.	R-5 4FT	-0.00
R-19	-0.01	R-19	-0.00	R-5 8FT	0.
R-30	-0.01	R-27	-0.00	R-10 8FT	0.
R-38	-0.01			R-19 FLR	0.
R-49	-0.01				
R-60	-0.01				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-18.28
LOW (.4 ACH)	-36.55

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	0.
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-30.92	-18.94	-4.06
	WOOD	-34.54	-24.31	-12.12
	ALUM	-29.10	-16.23	0.
	ALUM+TB	-32.74	-21.64	-8.11
2 PANE 1/4IN.	PLATN	-50.40	-44.96	-37.70
	WOOD	-51.38	-46.42	-39.88
	ALUM	-45.53	-37.73	-26.85
	ALUM+TB	-49.44	-43.54	-35.56
2 PANE 1/2IN.	PLATN	-53.44	-49.47	-44.46
	WOOD	-54.27	-50.71	-45.30
	ALUM	-49.09	-43.02	-34.78
	ALUM+TB	-52.61	-48.24	-42.61
3 PANE 1/4IN.	PLATN	-57.92	-54.61	-50.02
	WOOD	-58.25	-55.10	-50.75
	ALUM	-52.67	-46.83	-39.35
	ALUM+TB	-54.25	-49.17	-41.85
3 PANE 1/2IN.	PLATN	-60.61	-58.60	-56.01
	WOOD	-60.87	-58.99	-56.59
	ALUM	-56.43	-52.41	-46.72
	ALUM+TB	-59.29	-56.66	-53.09

11 PCT AREA	15 PCT AREA	20 PCT AREA
-0.00	-0.00	0.
-0.00	-0.00	0.
-0.00	-0.00	0.
-0.00	-0.00	0.
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	0.
-0.00	-0.00	-0.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00
-0.00	-0.00	.00

BASE LOAD = 298.79 MBTU-YR

BASE LOAD = .01 MBTU-YR

AREA	MULTIPLIERS
1500	.819
1600	.869
1700	.916
1800	.963
1900	1.009
2000	1.055
2100	1.093
2200	1.130
2300	1.411
2400	1.967
2500	2.564
2600	2.656
2700	2.747
2800	2.843

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-30.03	R-11	-22.96	R-5 4FT	-7.90
R-19	-33.53	R-19	-28.09	R-5 8FT	-10.00
R-30	-36.15	R-27	-30.84	R-10 8FT	-12.20
R-38	-37.05			R-19 FLR	-4.04
R-49	-37.85				
R-60	-38.35				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.82	R-11	-3.84	R-5 4FT	-1.20
R-19	-7.67	R-19	-4.81	R-5 8FT	-1.52
R-30	-8.24	R-27	-5.32	R-10 8FT	-1.82
R-38	-8.46			R-19 FLR	-.53
R-49	-8.62				
R-60	-8.75				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.33
LOW (.4 ACH)	-20.66

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-1.27
LOW (.4 ACH)	-2.53

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-13.13	-8.24	-2.11
	WOOD	-15.02	-11.04	-6.31
	ALUM	-12.18	-6.83	0.
	ALUM+TB	-14.08	-9.65	-4.22
2 PANE 1/4IN.	PLATN	-23.68	-22.33	-20.31
	WOOD	-24.18	-23.06	-21.41
	ALUM	-21.25	-18.72	-14.90
	ALUM+TB	-23.20	-21.62	-19.24
2 PANE 1/2IN.	PLATN	-25.20	-24.58	-23.69
	WOOD	-25.62	-25.20	-24.61
	ALUM	-23.03	-21.36	-18.86
	ALUM+TB	-24.79	-23.97	-22.77
3 PANE 1/4IN.	PLATN	-27.38	-27.03	-26.26
	WOOD	-27.55	-27.27	-26.63
	ALUM	-24.76	-23.14	-20.43
	ALUM+TB	-25.55	-24.30	-22.18
3 PANE 1/2IN.	PLATN	-28.73	-29.02	-29.25
	WOOD	-28.86	-29.21	-29.54
	ALUM	-26.64	-25.92	-24.61
	ALUM+TB	-28.07	-28.05	-27.79

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.40	-5.18	-.02
-9.43	-5.21	-.06
-9.39	-5.16	0.
-9.42	-5.19	-.04
-11.14	-7.55	-3.09
-11.15	-7.56	-3.10
-11.10	-7.50	-3.02
-11.13	-7.54	-3.07
-11.16	-7.58	-3.12
-11.17	-7.59	-3.13
-11.13	-7.54	-3.07
-11.16	-7.57	-3.11
-12.04	-8.71	-4.40
-12.04	-8.71	-4.40
-12.00	-8.66	-4.33
-12.01	-8.68	-4.35
-12.06	-8.74	-4.43
-12.06	-8.74	-4.43
-12.03	-8.70	-4.38
-12.05	-8.72	-4.41

BASE LOAD = 151.15 MBTU-YR

BASE LOAD = 47.81 MBTU-YR

AREA	MULTIPLIERS
1500 .831	2000 1.055
1600 .878	2500 2.549
1700 .924	2600 2.639
1800 .959	2700 2.728
1900 1.012	2800 2.823
	2400 1.955

AREA	MULTIPLIERS
1500 .917	2000 1.061
1600 .952	2500 1.120
1700 .984	2600 1.142
1800 1.013	2700 1.162
1900 1.039	2800 1.193
	2400 1.107

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.62	R-11	-7.87	R-5 2FT	-3.44
R-19	-11.99	R-19	-9.64	R-5 4FT	-3.93
R-30	-12.75	R-27	-10.56		
R-38	-13.05				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-10.61	R-11	-6.11	R-5 2FT	-4.78
R-19	-11.79	R-19	-7.43	R-5 4FT	-5.56
R-30	-12.62	R-27	-8.19		
R-38	-12.91				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-4.23
LOW (.4 ACH)	-8.45

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-3.32
LOW (.4 ACH)	-6.65

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLATN	-3.51	-2.31	-.72
	WTRD	-4.15	-3.27	-2.16
	ALUM	-3.18	-1.82	0.
	ALUM+TB	-3.83	-2.79	-1.45
2 PANE 1/4IN.	PLATN	-7.09	-7.06	-6.84
	WTRD	-7.26	-7.32	-7.23
	ALUM	-6.23	-5.80	-4.94
	ALUM+TB	-6.92	-6.81	-6.47
2 PANE 1/2IN.	PLATN	-7.62	-7.85	-9.03
	WTRD	-7.76	-8.07	-9.35
	ALUM	-6.86	-6.72	-6.33
	ALUM+TB	-7.47	-7.64	-7.70
3 PANE 1/4IN.	PLATN	-8.30	-8.57	-9.71
	WTRD	-8.35	-8.65	-9.84
	ALUM	-7.38	-7.20	-6.66
	ALUM+TB	-7.65	-7.61	-7.28
3 PANE 1/2IN.	PLATN	-8.77	-9.26	-9.76
	WTRD	-8.81	-9.33	-9.86
	ALUM	-8.04	-8.18	-9.13
	ALUM+TB	-8.54	-8.92	-9.25

11 PCT AREA	15 PCT AREA	20 PCT AREA
-15.52	-8.64	-.08
-15.61	-8.75	-.23
-15.47	-8.58	0.
-15.56	-8.69	-.15
-17.84	-11.78	-4.10
-17.87	-11.81	-4.14
-17.73	-11.64	-3.90
-17.82	-11.76	-4.06
-17.92	-11.88	-4.22
-17.94	-11.90	-4.26
-17.81	-11.74	-4.04
-17.90	-11.85	-4.19
-19.08	-13.25	-5.97
-19.09	-13.26	-5.99
-18.95	-13.09	-5.76
-18.99	-13.14	-5.82
-19.15	-13.33	-6.08
-19.15	-13.34	-6.09
-19.05	-13.21	-5.91
-19.11	-13.29	-6.03

BASE LOAD = 49.15 MBTU-YR

BASE LOAD = 88.86 MBTU-YR

AREA	MULTIPLIERS
1500	.799
1600	.851
1700	.902
1800	.953
1900	1.004
2000	1.055
2100	1.098
2200	1.140
2300	1.425
2400	1.985
2500	2.587
2600	2.683
2700	2.778
2800	2.876

AREA	MULTIPLIERS
1500	.892
1600	.930
1700	.966
1800	1.000
1900	1.031
2000	1.059
2100	1.077
2200	1.091
2300	1.109
2400	1.132
2500	1.152
2600	1.179
2700	1.204
2800	1.238

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-17.27	R-11	-12.17	R-5 2FT	-7.49
R-19	-19.35	R-19	-15.01	R-5 4FT	-9.59
R-30	-20.95	R-27	-16.52		
R-38	-21.39				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-12.06	R-11	-9.41	R-5 2FT	-4.52
R-19	-13.55	R-19	-11.54	R-5 4FT	-5.15
R-30	-14.59	R-27	-12.61		
R-38	-14.95				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-5.77
LOW (.4 ACH)	-11.55

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.91
LOW (.4 ACH)	-5.81

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-7.09	-4.45	-1.12
	WOOD	-8.09	-5.93	-3.35
	ALUM	-6.59	-3.70	0.
	ALUM+TB	-7.60	-5.19	-2.24
2 PANE 1/4IN.	PLATN	-12.53	-11.70	-10.50
	WOOD	-12.80	-12.10	-11.09
	ALUM	-11.21	-9.74	-7.56
	ALUM+TB	-12.27	-11.32	-9.92
2 PANE 1/2IN.	PLATN	-13.35	-12.92	-12.33
	WOOD	-13.58	-13.26	-12.83
	ALUM	-12.18	-11.18	-9.71
	ALUM+TB	-13.13	-12.59	-11.83
3 PANE 1/4IN.	PLATN	-14.54	-14.25	-13.72
	WOOD	-14.62	-14.38	-13.91
	ALUM	-13.11	-12.14	-10.55
	ALUM+TB	-13.54	-12.77	-11.50
3 PANE 1/2IN.	PLATN	-15.26	-15.33	-15.34
	WOOD	-15.33	-15.43	-15.49
	ALUM	-14.13	-13.65	-12.82
	ALUM+TB	-14.91	-14.80	-14.55

11 PCT AREA	15 PCT AREA	20 PCT AREA
-12.74	-7.09	-0.05
-12.80	-7.16	-0.15
-12.71	-7.05	0.
-12.77	-7.13	-0.10
-17.00	-12.78	-7.27
-17.02	-12.80	-7.29
-16.92	-12.68	-7.14
-16.98	-12.76	-7.24
-17.05	-12.84	-7.35
-17.06	-12.85	-7.37
-16.98	-12.75	-7.23
-17.03	-12.82	-7.32
-18.71	-14.98	-10.06
-18.72	-14.98	-10.06
-18.63	-14.87	-9.92
-18.65	-14.90	-9.96
-18.76	-15.03	-10.13
-18.76	-15.03	-10.14
-18.69	-14.95	-10.02
-18.73	-15.00	-10.09

BASE LOAD = 82.58 MBTU-YR

BASE LOAD = 83.67 MBTU-YR

AREA	MULTIPLIERS
1500 .819	2000 1.055
1600 .857	2500 2.564
1700 .915	2100 1.093
1800 .953	2600 2.656
1900 1.009	2700 2.748
	2800 2.844
	2400 1.967

AREA	MULTIPLIERS
1500 .895	2000 1.059
1600 .933	2500 1.148
1700 .969	2100 1.076
1800 1.002	2600 1.174
1900 1.032	2700 1.090
	2800 1.199
	2400 1.128

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.59	R-11	-13.11	R-5 2FT	-2.90
R-19	-10.71	R-19	-14.95	R-5 4FT	-3.25
R-30	-11.33	R-27	-14.95		
R-38	-11.55				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-2.69
LOW (.4 ACH)	-5.37

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-.23
R-11	-1.74	R-11	-1.10	R-5 2FT	-.04
R-19	-1.94	R-19	-1.24	R-5 4FT	0.
R-30	-2.00	R-27	-1.24		
R-38	-2.02				

INFILTRATION

HI (1 ACH)	-.19
MED (.7 ACH)	-.10
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-1.13	-1.01	-.62
	WOOD	-1.69	-1.84	-1.87
	ALUM	-.85	-.59	0.
	ALUM+TB	-1.41	-1.43	-1.25
2 PANE 1/4IN.	PLATN	-3.96	-4.60	-5.03
	WOOD	-4.11	-4.82	-5.36
	ALUM	-3.22	-3.51	-3.39
	ALUM+TB	-3.81	-4.39	-4.70
2 PANE 1/2IN.	PLATN	-4.42	-5.28	-6.05
	WOOD	-4.54	-5.47	-6.33
	ALUM	-3.76	-4.31	-4.59
	ALUM+TB	-4.29	-5.10	-5.77
3 PANE 1/4IN.	PLATN	-4.77	-5.39	-5.79
	WOOD	-4.82	-5.47	-5.91
	ALUM	-3.98	-4.22	-4.03
	ALUM+TB	-4.21	-4.57	-4.56
3 PANE 1/2IN.	PLATN	-5.17	-6.00	-6.70
	WOOD	-5.21	-6.05	-6.79
	ALUM	-4.54	-5.06	-5.30
	ALUM+TB	-4.98	-5.70	-6.26

BASE LOAD = 40.67 MBTU-YR

11 PCT AREA	15 PCT AREA	20 PCT AREA
-2.06	-1.19	-.01
-2.07	-1.20	-.03
-2.05	-1.18	0.
-2.07	-1.20	-.02
-2.18	-1.41	-.24
-2.19	-1.42	-.24
-2.17	-1.39	-.21
-2.18	-1.41	-.23
-2.19	-1.42	-.26
-2.20	-1.43	-.26
-2.18	-1.41	-.23
-2.19	-1.42	-.25
-2.31	-1.58	-.49
-2.31	-1.58	-.49
-2.29	-1.56	-.46
-2.30	-1.57	-.47
-2.32	-1.59	-.51
-2.32	-1.59	-.51
-2.30	-1.58	-.48
-2.31	-1.59	-.50

BASE LOAD = 6.92 MBTU-YR

AREA	MULTIPLIERS
1500	.751
1600	.809
1700	.869
1800	.930
1900	.991
2000	1.054
2100	1.109
2200	1.164
2300	1.461
2400	2.032
2500	2.645
2600	2.749
2700	2.852
2800	2.957

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-25.93	R-11	-19.52	R-11 FLR	-15.33
R-19	-29.14	R-19	-24.03	R-19 FLR	-19.10
R-30	-31.34	R-27	-26.38		
R-38	-32.14				
R-49	-32.83				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-9.18
LOW (.4 ACH)	-18.35

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.33	R-11	-2.79	R-11 FLR	-2.90
R-19	-7.08	R-19	-3.33	R-19 FLR	-3.32
R-30	-7.47	R-27	-3.41		
R-38	-7.64				
R-49	-7.82				

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.23
LOW (.4 ACH)	-.46

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-10.14	-6.47	-1.80
	WOOD	-11.74	-8.85	-5.37
	ALUM	-9.33	-5.27	0.
	ALUM+TB	-10.94	-7.66	-3.59
2 PANE 1/4IN.	PLATN	-17.55	-16.59	-15.05
	WOOD	-17.97	-17.22	-16.00
	ALUM	-15.43	-13.45	-10.34
	ALUM+TB	-17.13	-15.97	-14.12
2 PANE 1/2IN.	PLATN	-18.87	-18.55	-17.99
	WOOD	-19.23	-19.08	-18.79
	ALUM	-16.98	-15.74	-13.78
	ALUM+TB	-18.51	-18.01	-17.19
3 PANE 1/4IN.	PLATN	-20.53	-20.46	-20.03
	WOOD	-20.67	-20.67	-20.34
	ALUM	-18.25	-17.08	-14.95
	ALUM+TB	-18.93	-18.09	-16.48
3 PANE 1/2IN.	PLATN	-21.69	-22.19	-22.62
	WOOD	-21.81	-22.36	-22.88
	ALUM	-19.88	-19.50	-18.59
	ALUM+TB	-21.12	-21.35	-21.36

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.22	-3.49	-.02
-6.25	-3.53	-.07
-6.21	-3.47	0.
-6.24	-3.51	-.05
-7.18	-4.79	-1.74
-7.19	-4.80	-1.76
-7.14	-4.74	-1.68
-7.17	-4.78	-1.73
-7.20	-4.82	-1.78
-7.21	-4.83	-1.79
-7.17	-4.78	-1.72
-7.20	-4.81	-1.77
-7.73	-5.49	-2.67
-7.73	-5.50	-2.68
-7.69	-5.44	-2.60
-7.70	-5.46	-2.62
-7.75	-5.52	-2.71
-7.75	-5.52	-2.71
-7.71	-5.48	-2.65
-7.74	-5.51	-2.69

BASE LOAD = 134.84 MBTU-YR

BASE LOAD = 28.57 MBTU-YR

AREA	MULTIPLIERS
1500	.830
1600	.877
1700	.923
1800	.969
1900	1.012
2000	1.055
2100	1.091
2200	1.125
2300	1.403
2400	1.957
2500	2.551
2600	2.642
2700	2.731
2800	2.826

AREA	MULTIPLIERS
1500	.976
1600	1.003
1700	1.026
1800	1.044
1900	1.057
2000	1.065
2100	1.061
2200	1.052
2300	1.047
2400	1.048
2500	1.045
2600	1.056
2700	1.064
2800	1.087

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-18.59	R-11	-13.80	R-5 2FT	-7.55
R-19	-20.82	R-19	-16.93	R-5 4FT	-8.62
R-30	-22.37	R-27	-18.58		
R-38	-22.93				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.19	R-11	-5.10	R-5 2FT	-3.83
R-19	-10.16	R-19	-6.24	R-5 4FT	-4.57
R-30	-10.80	R-27	-6.85		
R-38	-11.06				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-6.98
LOW (.4 ACH)	-13.96

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.34
LOW (.4 ACH)	-4.67

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLAIN	-6.40	-4.15	-1.27
	WOOD	-7.54	-5.83	-3.79
	ALUM	-5.83	-3.30	0.
	ALUM+TB	-6.98	-5.00	-2.54
2 PANE 1/4IN.	PLAIN	-12.60	-12.42	-11.94
	WOOD	-12.90	-12.87	-12.61
	ALUM	-11.10	-10.20	-8.61
	ALUM+TB	-12.30	-11.99	-11.28
2 PANE 1/2IN.	PLAIN	-13.53	-13.81	-14.01
	WOOD	-13.78	-14.19	-14.58
	ALUM	-12.19	-11.83	-11.04
	ALUM+TB	-13.27	-13.43	-13.45
3 PANE 1/4IN.	PLAIN	-14.73	-15.15	-15.39
	WOOD	-14.84	-15.30	-15.61
	ALUM	-13.12	-12.76	-11.80
	ALUM+TB	-13.61	-13.47	-12.88
3 PANE 1/2IN.	PLAIN	-15.56	-16.37	-17.22
	WOOD	-15.64	-16.49	-17.40
	ALUM	-14.28	-14.47	-14.37
	ALUM+TB	-15.16	-15.77	-16.33

11 PCT AREA	15 PCT AREA	20 PCT AREA
-11.94	-6.66	-0.04
-11.98	-6.72	-0.12
-11.91	-6.63	0.
-11.96	-6.69	-0.08
-14.01	-9.35	-3.48
-14.02	-9.36	-3.50
-13.94	-9.27	-3.37
-14.00	-9.33	-3.46
-14.05	-9.40	-3.54
-14.06	-9.41	-3.56
-13.99	-9.33	-3.45
-14.04	-9.38	-3.53
-14.98	-10.67	-5.13
-14.98	-10.68	-5.14
-14.91	-10.59	-5.01
-14.93	-10.61	-5.05
-15.01	-10.71	-5.19
-15.02	-10.72	-5.19
-14.96	-10.65	-5.10
-15.00	-10.69	-5.16

BASE LOAD = 89.52 MBTU-YR

BASE LOAD = 68.37 MBTU-YR

AREA	MULTIPLIERS
1500 .821	2000 1.055
1600 .859	2500 2.561
1700 .917	2100 1.093
1800 .954	2600 2.653
1900 1.010	2200 1.129
	2700 2.744
	2300 1.409
	2800 2.840
	2400 1.965

AREA	MULTIPLIERS
1500 .901	2000 1.060
1600 .938	2500 1.140
1700 .973	2100 1.075
1800 1.005	2600 1.166
1900 1.033	2200 1.087
	2700 1.189
	2300 1.103
	2800 1.222
	2400 1.123

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-18.84	R-11	-13.96	R-11 FLR	-12.58
R-19	-21.11	R-19	-17.11	R-19 FLR	-14.23
R-30	-22.70	R-27	-18.78		
R-38	-23.27				
R-49	-23.75				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-9.64	R-11	-5.42	R-11 FLR	-6.58
R-19	-10.75	R-19	-6.52	R-19 FLR	-7.44
R-30	-11.53	R-27	-7.20		
R-38	-11.80				
R-49	-11.97				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-6.93
LOW (.4 ACH)	-13.85

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-2.26
LOW (.4 ACH)	-4.53

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-6.42	-4.16	-1.28
	WOOD	-7.57	-5.87	-3.84
	ALUM	-5.84	-3.31	0.
	ALUM+TB	-7.00	-5.02	-2.57
2 PANE 1/4IN.	PLATN	-12.64	-12.46	-11.97
	WOOD	-12.94	-12.91	-12.65
	ALUM	-11.12	-10.21	-9.60
	ALUM+TB	-12.34	-12.02	-11.30
2 PANE 1/2IN.	PLATN	-13.58	-13.86	-14.07
	WOOD	-13.84	-14.24	-14.64
	ALUM	-12.23	-11.86	-11.06
	ALUM+TB	-13.32	-13.48	-13.49
3 PANE 1/4IN.	PLATN	-14.80	-15.21	-15.44
	WOOD	-14.90	-15.36	-15.67
	ALUM	-13.17	-12.79	-11.81
	ALUM+TB	-13.66	-13.52	-12.90
3 PANE 1/2IN.	PLATN	-15.64	-16.45	-17.30
	WOOD	-15.72	-16.57	-17.48
	ALUM	-14.34	-14.52	-14.41
	ALUM+TB	-15.23	-15.84	-16.39

11 PCT AREA	15 PCT AREA	20 PCT AREA
-11.94	-6.66	-0.04
-11.99	-6.72	-0.13
-11.91	-6.63	0.
-11.96	-6.69	-0.09
-14.00	-9.34	-3.47
-14.01	-9.36	-3.49
-13.93	-9.25	-3.35
-13.99	-9.32	-3.45
-14.04	-9.39	-3.54
-14.05	-9.41	-3.56
-13.98	-9.32	-3.44
-14.03	-9.38	-3.52
-15.16	-10.85	-5.31
-15.16	-10.86	-5.32
-15.09	-10.76	-5.18
-15.11	-10.79	-5.22
-15.20	-10.90	-5.37
-15.20	-10.90	-5.38
-15.14	-10.83	-5.27
-15.18	-10.88	-5.34

BASE LOAD = 96.94 MBTU-YR

BASE LOAD = 72.73 MBTU-YR

AREA	MULTIPLIERS
1500 .823	2000 1.055
1600 .871	2500 2.559
1700 .918	2600 2.651
1800 .954	2700 2.742
1900 1.019	2800 2.837
	2400 1.963

AREA	MULTIPLIERS
1500 .900	2000 1.060
1600 .937	2500 1.141
1700 .972	2600 1.167
1800 1.004	2700 1.191
1900 1.033	2800 1.224
	2400 1.123

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-0.99	R-11	-0.65	R-5 2FT	-0.02
R-19	-1.09	R-19	-0.77	R-5 4FT	-0.03
R-30	-1.14	R-27	-0.82		
R-38	-1.16				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-14.16	R-11	-9.19	R-5 2FT	-6.34
R-19	-15.80	R-19	-11.38	R-5 4FT	-7.27
R-30	-17.05	R-27	-12.65		
R-38	-17.52				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-0.29
LOW (.4 ACH)	-0.58

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-6.91
LOW (.4 ACH)	-13.81

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLAIN	-0.23	-0.16	-0.06
	WOOD	-0.28	-0.24	-0.18
	ALUM	-0.20	-0.12	0.
	ALUM+TB	-0.25	-0.20	-0.12
2 PANE 1/4IN.	PLAIN	-0.47	-0.48	-0.47
	WOOD	-0.49	-0.50	-0.50
	ALUM	-0.40	-0.38	-0.31
	ALUM+TB	-0.46	-0.46	-0.44
2 PANE 1/2IN.	PLAIN	-0.52	-0.55	-0.57
	WOOD	-0.53	-0.56	-0.59
	ALUM	-0.45	-0.45	-0.43
	ALUM+TB	-0.50	-0.53	-0.54
3 PANE 1/4IN.	PLAIN	-0.55	-0.58	-0.58
	WOOD	-0.56	-0.58	-0.59
	ALUM	-0.48	-0.46	-0.41
	ALUM+TB	-0.50	-0.50	-0.46
3 PANE 1/2IN.	PLAIN	-0.59	-0.63	-0.66
	WOOD	-0.59	-0.64	-0.67
	ALUM	-0.53	-0.54	-0.53
	ALUM+TB	-0.57	-0.61	-0.62

11 PCT AREA	15 PCT AREA	20 PCT AREA
-24.24	-13.61	-0.48
-24.80	-14.31	-1.44
-23.95	-13.25	0.
-24.52	-13.96	-0.96
-27.90	-18.47	-6.62
-28.05	-18.66	-6.87
-27.15	-17.54	-5.35
-27.75	-18.29	-6.37
-28.36	-19.05	-7.40
-28.49	-19.21	-7.62
-27.69	-18.22	-6.28
-28.23	-18.89	-7.19
-30.35	-21.28	-10.09
-30.40	-21.34	-10.17
-29.54	-20.28	-8.73
-29.78	-20.58	-9.14
-30.76	-21.80	-10.78
-30.80	-21.85	-10.85
-30.12	-21.00	-9.70
-30.56	-21.55	-10.44

BASE LOAD = 3.15 MBTU-YR

BASE LOAD = 142.28 MBTU-YR

AREA	MULTIPLIERS
1500 .691	2000 1.054
1600 .759	2500 2.715
1700 .828	2100 1.123
1800 .901	2600 2.829
1900 .976	2700 2.944
	2800 3.056
	2400 2.088

AREA	MULTIPLIERS
1500 .881	2000 1.058
1600 .921	2500 1.165
1700 .959	2100 1.079
1800 .994	2600 1.194
1900 1.027	2700 1.222
	2800 1.258
	2400 1.142

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-20.79	R-11	-16.00	R-5 2FT	-8.49
R-19	-23.27	R-19	-19.63	R-5 4FT	-9.72
R-30	-25.04	R-27	-21.60		
R-38	-25.67				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.28	R-11	-3.27	R-5 2FT	-2.43
R-19	-7.99	R-19	-3.72	R-5 4FT	-2.81
R-30	-8.40	R-27	-4.02		
R-38	-8.47				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-7.76
LOW (.4 ACH)	-15.51

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.25
LOW (.4 ACH)	-.50

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-8.57	-5.43	-1.47
	WOOD	-9.89	-7.38	-4.40
	ALUM	-7.91	-4.45	0.
	ALUM+TB	-9.23	-6.41	-2.94
2 PANE 1/4IN.	PLATN	-15.97	-15.33	-14.28
	WOOD	-16.32	-15.85	-15.06
	ALUM	-14.23	-12.76	-10.42
	ALUM+TB	-15.63	-14.82	-13.52
2 PANE 1/2IN.	PLATN	-17.05	-16.94	-16.69
	WOOD	-17.34	-17.38	-17.35
	ALUM	-15.50	-14.64	-13.24
	ALUM+TB	-16.75	-16.50	-16.03
3 PANE 1/4IN.	PLATN	-18.54	-18.62	-18.47
	WOOD	-18.66	-18.79	-19.73
	ALUM	-16.68	-15.85	-14.31
	ALUM+TB	-17.24	-16.68	-15.56
3 PANE 1/2IN.	PLATN	-19.50	-20.04	-20.60
	WOOD	-19.59	-20.18	-20.80
	ALUM	-18.02	-17.84	-17.29
	ALUM+TB	-19.03	-19.35	-19.56

11 PCT AREA	15 PCT AREA	20 PCT AREA
-10.76	-5.97	-.01
-10.77	-5.99	-.04
-10.75	-5.96	0.
-10.76	-5.98	-.02
-12.08	-7.76	-2.26
-12.08	-7.77	-2.27
-12.06	-7.74	-2.23
-12.08	-7.76	-2.26
-12.09	-7.78	-2.28
-12.09	-7.78	-2.29
-12.08	-7.76	-2.26
-12.09	-7.77	-2.28
-12.75	-8.68	-3.38
-12.75	-8.69	-3.38
-12.73	-8.66	-3.34
-12.73	-8.67	-3.35
-12.76	-8.70	-3.39
-12.76	-8.70	-3.39
-12.74	-8.68	-3.37
-12.75	-8.69	-3.38

BASE LOAD = 104.31 MBTU-YR

BASE LOAD = 48.20 MBTU-YR

AREA	MULTIPLIERS
1500	.825
1600	.873
1700	.920
1800	.965
1900	1.011
2000	1.055
2100	1.092
2200	1.128
2300	1.407
2400	1.961
2500	2.557
2600	2.648
2700	2.738
2800	2.834

AREA	MULTIPLIERS
1500	.917
1600	.952
1700	.984
1800	1.013
1900	1.039
2000	1.061
2100	1.072
2200	1.080
2300	1.091
2400	1.106
2500	1.119
2600	1.142
2700	1.162
2800	1.193

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-20.99	R-11	-16.19	R-11 FLR	-14.12
R-19	-23.51	R-19	-19.87	R-19 FLR	-15.98
R-30	-25.29	R-27	-21.82		
R-38	-25.94				
R-49	-26.49				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.90	R-11	-3.86	R-11 FLR	-4.63
R-19	-8.79	R-19	-4.57	R-19 FLR	-5.27
R-30	-9.38	R-27	-4.97		
R-38	-9.57				
R-49	-9.74				

INFILTRATION

HT (1 ACH)	0.
WED (.7 ACH)	-7.71
L7W (.4 ACH)	-15.42

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.35
LOW (.4 ACH)	-0.69

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-8.59	-5.45	-1.49
	WOOD	-9.92	-7.42	-4.45
	ALUM	-7.92	-4.45	0.
	ALUM+TB	-9.26	-6.44	-2.98
2 PANE 1/4IN.	PLATN	-16.00	-15.35	-14.30
	WOOD	-16.35	-15.88	-15.08
	ALUM	-14.24	-12.75	-10.39
	ALUM+TB	-15.65	-14.84	-13.52
2 PANE 1/2IN.	PLATN	-17.09	-16.98	-16.73
	WOOD	-17.39	-17.42	-17.40
	ALUM	-15.52	-14.65	-13.24
	ALUM+TB	-16.79	-16.53	-15.07
3 PANE 1/4IN.	PLATN	-18.60	-18.67	-18.50
	WOOD	-18.71	-18.84	-18.77
	ALUM	-16.71	-15.86	-14.30
	ALUM+TB	-17.27	-16.70	-15.56
3 PANE 1/2IN.	PLATN	-19.56	-20.10	-20.66
	WOOD	-19.66	-20.24	-20.87
	ALUM	-18.06	-17.87	-17.31
	ALUM+TB	-19.09	-19.40	-19.61

11 PCT AREA	15 PCT AREA	20 PCT AREA
-10.76	-5.97	-0.01
-10.78	-5.99	-0.04
-10.75	-5.96	0.
-10.77	-5.98	-0.03
-12.10	-7.78	-2.28
-12.10	-7.79	-2.29
-12.08	-7.75	-2.24
-12.10	-7.78	-2.27
-12.11	-7.80	-2.30
-12.12	-7.80	-2.31
-12.09	-7.77	-2.27
-12.11	-7.79	-2.30
-12.93	-8.86	-3.55
-12.93	-8.86	-3.56
-12.90	-8.83	-3.51
-12.91	-8.84	-3.53
-12.94	-8.88	-3.57
-12.94	-8.88	-3.58
-12.92	-8.85	-3.54
-12.93	-8.87	-3.56

BASE LOAD = 112.52 MBTU-YR

BASE LOAD = 52.66 MBTU-YR

AREA	MULTIPLIERS
1500	.825
1600	.874
1700	.920
1800	.966
1900	1.011
2000	1.055
2100	1.092
2200	1.127
2300	1.406
2400	1.960
2500	2.555
2600	2.646
2700	2.736
2800	2.832

AREA	MULTIPLIERS
1500	.916
1600	.951
1700	.983
1800	1.012
1900	1.038
2000	1.061
2100	1.072
2200	1.080
2300	1.092
2400	1.108
2500	1.122
2600	1.144
2700	1.165
2800	1.196

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-25.55	R-11	-19.57	R-5 2FT	-10.30
R-19	-28.55	R-19	-23.97	R-5 4FT	-11.73
R-30	-30.71	R-27	-26.31		
R-38	-31.49				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.18	R-11	-4.26	R-5 2FT	-2.68
R-19	-8.07	R-19	-5.38	R-5 4FT	-3.04
R-30	-8.67	R-27	-5.92		
R-38	-8.90				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-8.76
LOW (.4 ACH)	-17.53

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-1.80
LOW (.4 ACH)	-3.60

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-10.64	-6.74	-1.80
	WOOD	-12.24	-9.13	-5.38
	ALUM	-9.83	-5.54	0.
	ALUM+TB	-11.44	-7.94	-3.60
2 PANE 1/4IN.	PLATN	-20.34	-19.73	-19.64
	WOOD	-20.77	-20.37	-19.59
	ALUM	-18.22	-16.58	-13.91
	ALUM+TB	-19.92	-19.11	-17.71
2 PANE 1/2IN.	PLATN	-21.66	-21.69	-21.58
	WOOD	-22.03	-22.23	-22.39
	ALUM	-19.77	-18.88	-17.37
	ALUM+TB	-21.30	-21.16	-20.78
3 PANE 1/4IN.	PLATN	-23.47	-23.74	-23.72
	WOOD	-23.61	-23.95	-24.03
	ALUM	-21.19	-20.35	-19.63
	ALUM+TB	-21.87	-21.36	-20.16
3 PANE 1/2IN.	PLATN	-24.64	-25.48	-26.32
	WOOD	-24.75	-25.64	-26.58
	ALUM	-22.82	-22.78	-22.28
	ALUM+TB	-24.07	-24.63	-25.05

11 PCT AREA	15 PCT AREA	20 PCT AREA
-10.93	-6.13	-0.01
-10.94	-6.14	-0.02
-10.92	-6.13	0.
-10.93	-6.14	-0.02
-13.06	-8.91	-3.59
-13.06	-8.91	-3.59
-13.04	-8.89	-3.57
-13.05	-8.90	-3.58
-13.06	-8.92	-3.60
-13.07	-8.92	-3.60
-13.05	-8.90	-3.58
-13.06	-8.91	-3.60
-14.20	-10.30	-5.32
-14.20	-10.30	-5.32
-14.19	-10.28	-5.30
-14.19	-10.28	-5.31
-14.21	-10.30	-5.33
-14.21	-10.30	-5.33
-14.20	-10.29	-5.32
-14.21	-10.30	-5.33

BASE LOAD = 126.36 MBTU-YR

BASE LOAD = 57.93 MBTU-YR

AREA	MULTIPLIERS				
1500	.828	2000	1.055	2500	2.553
1600	.875	2100	1.091	2600	2.644
1700	.922	2200	1.126	2700	2.734
1800	.967	2300	1.404	2800	2.829
1900	1.011	2400	1.958		

AREA	MULTIPLIERS				
1500	.906	2000	1.060	2500	1.134
1600	.943	2100	1.074	2600	1.158
1700	.976	2200	1.085	2700	1.181
1800	1.007	2300	1.099	2800	1.213
1900	1.035	2400	1.118		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-37.00	R-11	-28.29	R-5 4FT	-9.71
R-19	-41.47	R-19	-34.78	R-5 8FT	-12.31
R-30	-44.55	R-27	-38.25	R-10 8FT	-15.04
R-38	-45.92			R-19 FLR	-4.96
R-49	-46.91				
R-60	-47.45				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-5.59	R-11	-2.60	R-5 4FT	-0.79
R-19	-6.27	R-19	-3.29	R-5 8FT	-0.97
R-30	-6.72	R-27	-3.55	R-10 8FT	-1.20
R-38	-6.89			R-19 FLR	-0.24
R-49	-7.02				
R-60	-7.05				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-12.92
LOW (.4 ACH)	-25.84

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-0.49
LOW (.4 ACH)	-0.98

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-15.75	-9.90	-2.60
	WOOD	-18.08	-13.35	-7.78
	ALUM	-14.58	-8.16	0.
	ALUM+TB	-16.92	-11.63	-5.21
2 PANE 1/4IN.	PLAIN	-28.67	-27.09	-24.69
	WOOD	-29.29	-28.01	-26.07
	ALUM	-25.59	-22.52	-17.84
	ALUM+TB	-28.06	-26.19	-23.34
2 PANE 1/2IN.	PLAIN	-30.59	-29.93	-28.96
	WOOD	-31.11	-30.71	-30.12
	ALUM	-27.84	-25.86	-22.85
	ALUM+TB	-30.06	-29.16	-27.79
3 PANE 1/4IN.	PLAIN	-33.28	-32.95	-32.11
	WOOD	-33.49	-33.25	-32.57
	ALUM	-29.97	-28.03	-24.74
	ALUM+TB	-30.96	-29.51	-26.95
3 PANE 1/2IN.	PLAIN	-34.98	-35.46	-35.89
	WOOD	-35.14	-35.71	-36.26
	ALUM	-32.34	-31.55	-30.02
	ALUM+TB	-34.15	-34.24	-34.04

11 PCT AREA	15 PCT AREA	20 PCT AREA
-8.13	-4.57	-0.01
-8.13	-4.58	-0.02
-8.12	-4.57	0.
-8.13	-4.58	-0.01
-9.41	-6.29	-2.15
-9.41	-6.29	-2.15
-9.40	-6.27	-2.13
-9.41	-6.28	-2.14
-9.42	-6.30	-2.16
-9.42	-6.30	-2.16
-9.41	-6.28	-2.14
-9.42	-6.29	-2.16
-10.12	-7.12	-3.30
-10.12	-7.12	-3.30
-10.11	-7.11	-3.28
-10.11	-7.11	-3.28
-10.13	-7.13	-3.31
-10.13	-7.13	-3.31
-10.12	-7.12	-3.29
-10.12	-7.13	-3.30

BASE LOAD = 186.64 MBTU-YR

BASE LOAD = 35.43 MBTU-YR

AREA	MULTIPLIERS
1500	.834
1600	.881
1700	.926
1800	.970
1900	1.013
2000	1.055
2100	1.090
2200	1.123
2300	1.400
2400	1.953
2500	2.546
2600	2.636
2700	2.724
2800	2.819

AREA	MULTIPLIERS
1500	.936
1600	.969
1700	.998
1800	1.023
1900	1.045
2000	1.062
2100	1.069
2200	1.071
2300	1.076
2400	1.087
2500	1.095
2600	1.114
2700	1.130
2800	1.158

HEATING (IN MBTU - YR)

COOLING (IN MBTU - YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-43.19	R-11	-33.40	R-5 4FT	-11.74
R-19	-48.41	R-19	-40.98	R-5 8FT	-14.91
R-30	-52.11	R-27	-45.09	R-10 8FT	-18.21
R-38	-53.45			R-19 FLR	-6.04
R-49	-54.59				
R-60	-55.32				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.50	R-11	-1.11	R-5 4FT	-.10
R-19	-2.86	R-19	-1.36	R-5 8FT	-.07
R-30	-3.01	R-27	-1.40	R-10 8FT	-.05
R-38	-3.09			R-19 FLR	0.
R-49	-3.19				
R-60	-3.24				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-14.78
LOW (.4 ACH)	-29.56

INFILTRATION

HT (1 ACH)	-.14
MED (.7 ACH)	-.07
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-18.46	-11.62	-3.07
	WOOD	-21.20	-15.69	-4.18
	ALUM	-17.08	-9.57	0.
	ALUM+TB	-19.84	-13.67	-6.15
2 PANE 1/4IN.	PLATN	-33.10	-31.13	-28.26
	WOOD	-33.83	-32.21	-29.88
	ALUM	-29.51	-25.79	-20.25
	ALUM+TB	-32.39	-30.08	-26.68
2 PANE 1/2IN.	PLATN	-35.35	-34.46	-33.25
	WOOD	-35.96	-35.37	-34.62
	ALUM	-32.13	-29.70	-26.11
	ALUM+TB	-34.73	-33.55	-31.89
3 PANE 1/4IN.	PLATN	-38.43	-37.92	-36.89
	WOOD	-38.67	-38.28	-37.43
	ALUM	-34.56	-32.18	-28.27
	ALUM+TB	-35.72	-33.90	-30.86
3 PANE 1/2IN.	PLATN	-40.41	-40.87	-41.31
	WOOD	-40.61	-41.16	-41.74
	ALUM	-37.33	-36.30	-34.45
	ALUM+TB	-39.45	-39.43	-39.15

11 PCT AREA	15 PCT AREA	20 PCT AREA
-4.02	-2.30	-.01
-4.03	-2.31	-.03
-4.02	-2.29	0.
-4.03	-2.30	-.02
-4.53	-2.94	-.88
-4.53	-2.94	-.88
-4.52	-2.92	-.86
-4.53	-2.94	-.88
-4.54	-2.95	-.89
-4.54	-2.95	-.90
-4.53	-2.93	-.87
-4.54	-2.95	-.89
-4.84	-3.40	-1.36
-4.84	-3.40	-1.36
-4.82	-3.38	-1.33
-4.83	-3.39	-1.34
-4.85	-3.41	-1.37
-4.85	-3.41	-1.37
-4.84	-3.39	-1.35
-4.84	-3.40	-1.37

BASE LOAD = 218.50 MBTU-YR

BASE LOAD = 12.20 MBTU-YR

AREA	MULTIPLIERS
1500	.836
1600	.897
1700	.927
1800	.971
1900	1.013

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072

HEATING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-29.05	R-11	-22.55	R-11 FLR	-19.71
R-19	-32.58	R-19	-27.72	R-19 FLR	-22.31
R-30	-35.06	R-27	-30.41		
R-38	-35.96				
R-49	-36.72				

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-2.55	R-11	-1.06	R-11 FLR	-1.10
R-19	-2.85	R-19	-1.33	R-19 FLR	-1.27
R-30	-3.05	R-27	-1.38		
R-38	-3.12				
R-49	-3.19				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-9.95
LOW (.4 ACH)	-19.91

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.07
LOW (.4 ACH)	-.14

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-13.05	-8.21	-2.08
	WTRD	-14.90	-10.96	-6.20
	ALUM	-12.12	-6.83	0.
	ALUM+TB	-13.98	-9.60	-4.15
2 PANE 1/4IN.	PLATN	-23.18	-21.71	-19.51
	WTRD	-23.67	-22.45	-20.61
	ALUM	-20.73	-18.08	-14.06
	ALUM+TB	-22.70	-21.00	-18.43
2 PANE 1/2IN.	PLATN	-24.70	-23.98	-22.90
	WTRD	-25.12	-24.59	-23.83
	ALUM	-22.52	-20.74	-18.04
	ALUM+TB	-24.29	-23.36	-21.97
3 PANE 1/4IN.	PLATN	-26.83	-26.37	-25.41
	WTRD	-27.00	-26.61	-25.78
	ALUM	-24.20	-22.46	-19.55
	ALUM+TB	-24.99	-23.63	-21.31
3 PANE 1/2IN.	PLATN	-28.18	-28.37	-27.42
	WTRD	-28.31	-28.56	-27.71
	ALUM	-26.09	-25.26	-23.75
	ALUM+TB	-27.52	-27.39	-26.95

11 PCT AREA	15 PCT AREA	20 PCT AREA
-2.88	-1.69	-.01
-2.89	-1.71	-.04
-2.87	-1.68	0.
-2.89	-1.70	-.03
-3.29	-2.25	-.73
-3.29	-2.26	-.73
-3.27	-2.23	-.69
-3.29	-2.25	-.72
-3.30	-2.27	-.75
-3.31	-2.27	-.75
-3.28	-2.25	-.72
-3.30	-2.26	-.74
-3.53	-2.55	-1.21
-3.53	-2.56	-1.22
-3.51	-2.53	-1.18
-3.52	-2.54	-1.19
-3.54	-2.57	-1.23
-3.55	-2.57	-1.23
-3.53	-2.55	-1.20
-3.54	-2.56	-1.22

BASE LOAD = 156.82 MBTU-YR

BASE LOAD = 11.88 MBTU-YR

AREA	MULTIPLIERS
1500	.832
1600	.878
1700	.924
1800	.969
1900	1.012
2000	1.055
2100	1.090
2200	1.124
2300	1.402
2400	1.955
2500	2.549
2600	2.639
2700	2.728
2800	2.823

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-3	0.
R-11	-29.65	R-11	-22.29	R-5 4FT	-7.21
R-19	-33.19	R-19	-27.40	R-5 8FT	-9.16
R-30	-35.69	R-27	-30.12	R-10 8FT	-11.21
R-38	-36.59			R-19 FLR	-3.64
R-49	-37.37				
R-60	-37.86				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.07
R-11	-7.82	R-11	-2.72	R-5 4FT	-0.45
R-19	-8.77	R-19	-3.36	R-5 8FT	-0.52
R-30	-9.33	R-27	-3.51	R-10 8FT	-0.63
R-38	-9.56			R-19 FLR	0.
R-49	-9.80				
R-60	-9.98				

INFILTRATION

WT (1 ACH)	0.
MED (.7 ACH)	-9.91
LOW (.4 ACH)	-19.82

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.23
LOW (.4 ACH)	-0.46

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-8.50	-5.69	-2.05
	WOOD	-10.33	-8.41	-6.13
	ALUM	-7.58	-4.32	0.
	ALUM+TB	-9.42	-7.06	-4.10
2 PANE 1/4IN.	PLATN	-17.69	-17.96	-17.83
	WOOD	-18.18	-18.69	-19.92
	ALUM	-15.27	-14.37	-12.44
	ALUM+TB	-17.21	-17.25	-16.76
2 PANE 1/2IN.	PLATN	-19.20	-20.20	-21.19
	WOOD	-19.61	-20.81	-22.11
	ALUM	-17.04	-16.99	-16.38
	ALUM+TB	-18.79	-19.59	-20.27
3 PANE 1/4IN.	PLATN	-21.07	-22.23	-23.15
	WOOD	-21.24	-22.47	-23.51
	ALUM	-18.47	-18.36	-17.34
	ALUM+TB	-19.25	-19.52	-19.09
3 PANE 1/2IN.	PLATN	-22.41	-24.21	-26.12
	WOOD	-22.54	-24.40	-26.41
	ALUM	-20.34	-21.13	-21.50
	ALUM+TB	-21.76	-23.24	-24.67

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.25	-3.63	-0.08
-6.34	-3.74	-0.22
-6.21	-3.57	0.
-6.30	-3.69	-0.15
-7.23	-4.92	-1.77
-7.26	-4.95	-1.81
-7.11	-4.77	-1.56
-7.21	-4.89	-1.73
-7.31	-5.02	-1.90
-7.33	-5.04	-1.93
-7.20	-4.88	-1.71
-7.29	-4.99	-1.86
-7.80	-5.72	-2.82
-7.81	-5.73	-2.84
-7.67	-5.56	-2.60
-7.71	-5.61	-2.67
-7.87	-5.81	-2.94
-7.88	-5.82	-2.95
-7.77	-5.68	-2.76
-7.84	-5.77	-2.88

BASE LOAD = 135.02 MBTU-YR

BASE LOAD = 27.32 MBTU-YR

AREA	MULTIPLIERS				
1500	.829	2000	1.055	2500	2.553
1600	.876	2100	1.091	2600	2.643
1700	.927	2200	1.126	2700	2.733
1800	.967	2300	1.404	2800	2.828
1900	1.011	2400	1.958		

AREA	MULTIPLIERS				
1500	.987	2000	1.066	2500	1.031
1600	1.013	2100	1.059	2600	1.040
1700	1.034	2200	1.047	2700	1.046
1800	1.049	2300	1.039	2800	1.067
1900	1.060	2400	1.037		

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-29.59	R-11	-22.30	R-5 2FT	-11.32
R-19	-33.74	R-19	-27.45	R-5 4FT	-12.98
R-30	-35.73	R-27	-30.16		
R-38	-36.54				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-7.87	R-11	-2.75	R-5 2FT	-0.52
R-19	-8.82	R-19	-3.35	R-5 4FT	-0.58
R-30	-9.36	R-27	-3.49		
R-38	-9.60				

INFILTRATION

HV (1 ACH)	0.
MED (.7 ACH)	-10.31
LOW (.4 ACH)	-20.63

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.21
LOW (.4 ACH)	-0.42

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE.	PLATN	-8.50	-5.69	-2.05
	WOOD	-10.33	-8.41	-6.13
	ALUM	-7.58	-4.32	0.
	ALUM+TB	-9.42	-7.06	-4.10
2 PANE 1/4IN.	PLATN	-17.71	-17.98	-17.85
	WOOD	-18.20	-18.70	-18.94
	ALUM	-15.29	-14.39	-12.46
	ALUM+TB	-17.23	-17.27	-16.79
2 PANE 1/2IN.	PLATN	-19.22	-20.22	-21.20
	WOOD	-19.63	-20.83	-22.12
	ALUM	-17.06	-17.01	-16.40
	ALUM+TB	-18.80	-19.61	-20.29
3 PANE 1/4IN.	PLATN	-21.09	-22.24	-23.17
	WOOD	-21.25	-22.49	-23.53
	ALUM	-18.49	-18.38	-17.37
	ALUM+TB	-19.27	-19.54	-19.11
3 PANE 1/2IN.	PLATN	-22.42	-24.22	-26.14
	WOOD	-22.55	-24.42	-26.43
	ALUM	-20.35	-21.15	-21.52
	ALUM+TB	-21.77	-23.26	-24.69

11 PCT AREA	15 PCT AREA	20 PCT AREA
-6.25	-3.63	-0.08
-6.34	-3.74	-0.23
-6.21	-3.57	0.
-6.30	-3.69	-0.15
-7.22	-4.91	-1.76
-7.24	-4.94	-1.80
-7.10	-4.76	-1.56
-7.20	-4.88	-1.72
-7.29	-5.00	-1.88
-7.31	-5.03	-1.92
-7.19	-4.87	-1.70
-7.27	-4.98	-1.85
-7.83	-5.75	-2.85
-7.84	-5.76	-2.86
-7.70	-5.59	-2.63
-7.74	-5.64	-2.70
-7.89	-5.83	-2.96
-7.90	-5.84	-2.97
-7.79	-5.70	-2.79
-7.86	-5.79	-2.91

BASE LOAD = 137.10 MBTU-YR

BASE LOAD = 27.67 MBTU-YR

AREA	MULTIPLIERS
1500 .829	2000 1.055
1600 .875	2100 1.091
1700 .923	2200 1.125
1800 .969	2300 1.403
1900 1.017	2400 1.957
	2500 2.552
	2600 2.642
	2700 2.732
	2800 2.826

AREA	MULTIPLIERS
1500 .977	2000 1.065
1600 1.004	2100 1.061
1700 1.027	2200 1.052
1800 1.044	2300 1.046
1900 1.057	2400 1.047
	2500 1.043
	2600 1.054
	2700 1.062
	2800 1.085

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.89	R-11	-4.63	R-5 2FT	-1.95
R-19	-7.65	R-19	-5.49	R-5 4FT	-2.16
R-30	-8.07	R-27	-5.83		
R-38	-8.20				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.99	R-11	-.69	R-5 2FT	-.05
R-19	-2.23	R-19	-.82	R-5 4FT	-.07
R-30	-2.28	R-27	-.88		
R-38	-2.35				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-1.66
LOW (.4 ACH)	-3.33

INFILTRATION

HI (1 ACH)	-.44
MED (.7 ACH)	-.22
LOW (.4 ACH)	0.

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-.57	-.50	-.22
	WOOD	-.76	-.79	-.66
	ALUM	-.47	-.35	0.
	ALUM+TB	-.66	-.64	-.44
2 PANE 1/4IN.	PLATN	-2.45	-2.89	-3.17
	WOOD	-2.50	-2.97	-3.29
	ALUM	-2.19	-2.51	-2.59
	ALUM+TB	-2.40	-2.82	-3.06
2 PANE 1/2IN.	PLATN	-2.61	-3.13	-3.53
	WOOD	-2.65	-3.20	-3.63
	ALUM	-2.38	-2.79	-3.02
	ALUM+TB	-2.56	-3.07	-3.44
3 PANE 1/4IN.	PLATN	-2.91	-3.33	-3.60
	WOOD	-2.92	-3.35	-3.64
	ALUM	-2.63	-2.91	-2.98
	ALUM+TB	-2.71	-3.04	-3.17
3 PANE 1/2IN.	PLATN	-3.05	-3.54	-3.92
	WOOD	-3.06	-3.56	-3.95
	ALUM	-2.83	-3.21	-3.43
	ALUM+TB	-2.98	-3.44	-3.77

11 PCT AREA	15 PCT AREA	20 PCT AREA
-2.81	-1.71	-.00
-2.81	-1.71	-.00
-2.81	-1.71	0.
-2.81	-1.71	-.00
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.01	-1.90	-.30
-3.11	-2.22	-.77
-3.11	-2.22	-.77
-3.10	-2.21	-.77
-3.10	-2.22	-.77
-3.11	-2.22	-.77
-3.11	-2.22	-.77
-3.11	-2.22	-.77
-3.11	-2.22	-.77

BASE LOAD = 22.46 MBTU-YR

BASE LOAD = 8.51 MBTU-YR

AREA	MULTIPLIERS
1500	.691
1600	.758
1700	.828
1800	.901
1900	.975
2000	1.054
2100	1.123
2200	1.193
2300	1.505
2400	2.088
2500	2.715
2600	2.829
2700	2.944
2800	3.056

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-32.77	R-11	-25.39	R-5 4FT	-8.68
R-19	-36.73	R-19	-31.20	R-5 8FT	-11.00
R-30	-39.00	R-27	-34.32	R-10 8FT	-13.45
R-38	-40.01			R-19 FLR	-4.41
R-49	-40.89				
R-60	-41.45				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	-0.10
R-11	-1.22	R-11	-0.57	R-5 4FT	-0.02
R-19	-1.37	R-19	-0.69	R-5 8FT	-0.01
R-30	-1.45	R-27	-0.72	R-10 8FT	0.
R-38	-1.49			R-19 FLR	-0.00
R-49	-1.52				
R-60	-1.55				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-10.98
LOW (.4 ACH)	-21.96

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.07
LOW (.4 ACH)	-0.13

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-14.13	-8.95	-2.34
	WOOD	-16.22	-12.05	-6.98
	ALUM	-13.08	-7.39	0.
	ALUM+TB	-15.18	-10.51	-4.67
2 PANE 1/4IN.	PLATN	-25.89	-24.58	-22.47
	WOOD	-26.45	-25.40	-23.71
	ALUM	-23.14	-20.49	-16.34
	ALUM+TB	-25.35	-23.77	-21.26
2 PANE 1/2IN.	PLATN	-27.61	-27.13	-26.29
	WOOD	-28.08	-27.82	-27.34
	ALUM	-25.15	-23.48	-20.82
	ALUM+TB	-27.14	-26.43	-25.25
3 PANE 1/4IN.	PLATN	-30.06	-29.78	-29.99
	WOOD	-30.24	-30.06	-29.40
	ALUM	-27.09	-25.38	-22.39
	ALUM+TB	-27.98	-26.70	-24.37
3 PANE 1/2IN.	PLATN	-31.57	-32.04	-32.37
	WOOD	-31.72	-32.26	-32.70
	ALUM	-29.22	-28.54	-27.12
	ALUM+TB	-30.83	-30.94	-30.72

11 PCT AREA	15 PCT AREA	20 PCT AREA
-1.40	-0.81	-0.00
-1.40	-0.81	-0.00
-1.40	-0.81	0.
-1.40	-0.81	-0.00
-1.65	-1.15	-0.44
-1.65	-1.15	-0.44
-1.65	-1.14	-0.44
-1.65	-1.15	-0.44
-1.65	-1.15	-0.45
-1.65	-1.15	-0.45
-1.65	-1.15	-0.44
-1.65	-1.15	-0.44
-1.65	-1.15	-0.44
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71
-1.77	-1.34	-0.71

BASE LOAD = 161.19 MBTU-YR

BASE LOAD = 5.17 MBTU-YR

AREA	MULTIPLIERS
1500	0.837
1600	0.878
1700	0.924
1800	0.969
1900	1.017
2000	1.055
2100	1.090
2200	1.124
2300	1.402
2400	1.955
2500	2.549
2600	2.639
2700	2.728
2800	2.823

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	0.998
2500	0.981
2600	0.982
2700	0.981
2800	0.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-32.49	R-11	-25.42	R-11 FLR	-22.35
R-19	-36.74	R-19	-31.23	R-19 FLR	-25.28
R-30	-39.17	R-27	-34.33		
R-38	-40.14				
R-49	-41.07				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-1.29	R-11	-.58	R-11 FLR	-.55
R-19	-1.45	R-19	-.71	R-19 FLR	-.62
R-30	-1.53	R-27	-.74		
R-38	-1.57				
R-49	-1.61				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-11.20
LOW (.4 ACH)	-22.41

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-.06
LOW (.4 ACH)	-.13

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLATN	-14.13	-8.95	-2.34
	WOOD	-16.22	-12.05	-6.99
	ALUM	-13.08	-7.39	0.
	ALUM+TB	-15.18	-10.51	-4.68
2 PANE 1/4IN.	PLATN	-25.89	-24.58	-22.47
	WOOD	-26.45	-25.40	-23.70
	ALUM	-23.13	-20.48	-16.33
	ALUM+TB	-25.35	-23.77	-21.25
2 PANE 1/2IN.	PLATN	-27.61	-27.13	-26.29
	WOOD	-28.08	-27.82	-27.33
	ALUM	-25.15	-23.47	-20.81
	ALUM+TB	-27.14	-26.43	-25.24
3 PANE 1/4IN.	PLATN	-30.05	-29.77	-29.98
	WOOD	-30.23	-30.05	-29.39
	ALUM	-27.08	-25.37	-22.38
	ALUM+TB	-27.97	-26.69	-24.36
3 PANE 1/2IN.	PLATN	-31.57	-32.03	-32.36
	WOOD	-31.71	-32.25	-32.69
	ALUM	-29.21	-28.53	-27.11
	ALUM+TB	-30.82	-30.93	-30.71

11 PCT AREA	15 PCT AREA	20 PCT AREA
-1.40	-.81	-.00
-1.40	-.81	-.00
-1.40	-.81	0.
-1.40	-.81	-.00
-1.66	-1.16	-.45
-1.66	-1.16	-.45
-1.66	-1.15	-.45
-1.66	-1.16	-.45
-1.66	-1.16	-.46
-1.66	-1.16	-.46
-1.66	-1.16	-.45
-1.66	-1.16	-.45
-1.78	-1.35	-.72
-1.78	-1.35	-.72
-1.78	-1.35	-.71
-1.78	-1.35	-.71
-1.78	-1.35	-.72
-1.78	-1.35	-.72
-1.78	-1.35	-.72
-1.78	-1.35	-.72

BASE LOAD = 175.37 MBTU-YR

BASE LOAD = 6.20 MBTU-YR

AREA	MULTIPLIERS
1500	.833
1600	.880
1700	.925
1800	.969
1900	1.013
2000	1.055
2100	1.090
2200	1.124
2300	1.401
2400	1.954
2500	2.547
2600	2.637
2700	2.726
2800	2.821

AREA	MULTIPLIERS
1500	1.026
1600	1.047
1700	1.061
1800	1.070
1900	1.072
2000	1.069
2100	1.052
2200	1.029
2300	1.010
2400	.998
2500	.981
2600	.982
2700	.981
2800	.997

HEATING (IN MBTU-YR)

COOLING (IN MBTU-YR)

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-24.53	R-11	-18.88	R-5 4FT	-6.63
R-19	-27.49	R-19	-23.23	R-5 8FT	-8.46
R-30	-29.62	R-27	-25.60	R-10 8FT	-10.37
R-38	-30.40			R-19 FLR	-3.36
R-49	-31.07				
R-60	-31.50				

CEILING		WALL		FOUNDATION	
R-0	0.	R-0	0.	R-0	0.
R-11	-6.77	R-11	-3.45	R-5 4FT	-1.16
R-19	-7.61	R-19	-4.26	R-5 8FT	-1.53
R-30	-8.09	R-27	-4.71	R-10 8FT	-1.85
R-38	-8.30			R-19 FLR	-0.56
R-49	-8.48				
R-60	-8.61				

INFILTRATION

HT (1 ACH)	0.
MED (.7 ACH)	-9.10
LOW (.4 ACH)	-18.20

INFILTRATION

HI (1 ACH)	0.
MED (.7 ACH)	-0.91
LOW (.4 ACH)	-1.81

WINDOW	SASH	11 PCT AREA	15 PCT AREA	20 PCT AREA
1 PANE	PLAIN	-9.56	-6.11	-1.74
	WOOD	-11.11	-8.41	-5.19
	ALUM	-8.78	-4.95	0.
	ALUM+TB	-10.34	-7.27	-3.47
2 PANE 1/4IN.	PLAIN	-18.27	-17.74	-16.75
	WOOD	-18.68	-18.36	-17.68
	ALUM	-16.20	-14.67	-13.16
	ALUM+TB	-17.86	-17.13	-15.85
2 PANE 1/2IN.	PLAIN	-19.56	-19.65	-19.62
	WOOD	-19.91	-20.17	-20.40
	ALUM	-17.71	-16.91	-15.52
	ALUM+TB	-19.20	-19.13	-19.84
3 PANE 1/4IN.	PLAIN	-21.34	-21.62	-21.65
	WOOD	-21.48	-21.82	-21.96
	ALUM	-19.12	-18.32	-16.70
	ALUM+TB	-19.79	-19.31	-19.19
3 PANE 1/2IN.	PLAIN	-22.48	-23.31	-24.19
	WOOD	-22.59	-23.47	-24.43
	ALUM	-20.71	-20.68	-20.25
	ALUM+TB	-21.93	-22.48	-22.95

11 PCT AREA	15 PCT AREA	20 PCT AREA
-9.28	-5.10	-0.03
-9.31	-5.14	-0.09
-9.26	-5.08	0.
-9.29	-5.12	-0.06
-10.86	-7.26	-2.76
-10.87	-7.27	-2.77
-10.81	-7.20	-2.68
-10.85	-7.25	-2.74
-10.88	-7.29	-2.80
-10.89	-7.30	-2.82
-10.84	-7.24	-2.73
-10.88	-7.28	-2.79
-11.76	-8.35	-4.16
-11.77	-8.35	-4.17
-11.71	-8.29	-4.08
-11.73	-8.30	-4.11
-11.79	-8.38	-4.21
-11.79	-8.38	-4.21
-11.75	-8.33	-4.14
-11.78	-8.36	-4.19

BASE LOAD = 122.55 MBTU-YR

BASE LOAD = 44.94 MBTU-YR

AREA	MULTIPLIERS			
1500	.829	2000	1.055	
1600	.875	2100	1.091	
1700	.921	2200	1.126	
1800	.967	2300	1.405	
1900	1.011	2400	1.959	
			2500	2.554
			2600	2.644
			2700	2.734
			2800	2.829

AREA	MULTIPLIERS			
1500	.921	2000	1.061	
1600	.956	2100	1.071	
1700	.987	2200	1.078	
1800	1.015	2300	1.088	
1900	1.040	2400	1.102	
			2500	1.114
			2600	1.136
			2700	1.155
			2800	1.186

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