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Yolo County Housing Authority

Resident Paid Allowances Report

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1. Introduction

Siemens Industry Inc. (Siemens) is pleased to provide the ***Yolo County Housing Authority (YCHA)*** with this 2020 Resident Paid Allowances Report. This report details the utility allowances for the public housing developments managed by YCHA on a monthly and annual basis for each dwelling unit type.

The establishment of the building allowances is based on accepted engineering heat loss and gain calculations that recognize the thermal design characteristics of each unique dwelling unit type. The utility allowances are based on all building related required end-uses including heating, lighting, refrigeration, small appliances, domestic water heating, and cooking, as required in 24 CFR, Part 965 of the Code of Federal Regulations.

This Resident Paid Allowances Report is divided into the following sections:

- Methodology – This section presents a detailed overview of how the allowances were created.
- Utility Allowances – This section includes summary tables of the pre-project utility allowances, the post-project utility allowances as set in the 2019 Resident Paid Allowances Report, and an analysis of the variation between the pre-project and post-project allowances. Also included through utility-type subsections are tables showing monthly and annual utility consumptions, as well as costs by end-use with itemized listings for each typical housing unit.
- Appendix – This section provides supporting data including 2020 utility rates, observed heating degree days used in the development of the utility allowances, and consumption calculations for lighting and domestic water heating.

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2. Allowance Study Methodology

2.1. Goal

The main goal of setting Resident Paid Utility Allowances is to encourage tenants to make energy conscious decisions. Residents are expected to consume energy in a fashion that meets their needs and affords them to live comfortably, while staying within the guidelines or regulations established by the United States Department of Housing and Urban Development (HUD).

2.2. Methods

There are two generally accepted methodologies to setting Resident Paid Utility Allowances:

- Engineering-Based Methodology – Allowances based on engineering calculations and standard consumption tables[1]
- Average Consumption-Based Methodology – Allowances based on actual resident utility bills

HUD gives the freedom to any housing authority to develop their allowances choosing the methodology that works best for their organization, with mandatory restrictions as to which end uses are covered by the allowances. Regardless of which methodology is chosen, setting the allowances starts with a thorough understanding of the housing units as well as the typical energy consuming behaviors of the residents. Siemens conducted on-site surveys by visiting a sample of each dwelling unit type (i.e. floorplan) at each housing development to obtain the following key information:

- Construction type
- Condition and age
- Size
- Occupancy characteristics
- Space heating design temperatures
- Hot water heating design temperatures
- Full inventory of energy using equipment

[1] For a detailed overview of the Engineering Based Methodology used, please refer to the U.S. Department of Housing and Urban Development's "Utility Allowance Guidebook," 1998.

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- Efficiency ratings of retrofitted appliances and equipment
- Typical standards of living

The on-site surveys included management and staff interviews, review of housing development floor plans, and unique dwelling unit surveys. In keeping with the Engineering-Based Methodology, findings from the site surveys were integrated into simple engineering models to develop typical heating, cooking, lighting, and water heating equipment loads by housing unit type. These calculated equipment loads were combined with HUD standard consumption averages to determine suggested post-project Resident Paid Utility Allowances for each particular dwelling unit type within each housing development. The proposed post-project allowances were set in the 2019 Resident Paid Allowances Report.

2.3. Operational Standards

In an effort to further encourage residents to consume energy responsibly, operational standards can be implemented as guidelines by each housing authority at their own discretion. YCHA has opted to implement the following operational standards:

- Gallons per person per day of hot water
- Lighting burn-hours
- Domestic hot water heating set-point temperatures

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3. Utility Allowances

Table 1 reflects the monthly utility allowances in place prior to the project in both energy units and dollars. These pre-project allowances are superseded by the post-project allowances proposed by Siemens in the 2019 Resident Paid Allowances Report and detailed in Table 2.

Table 1: Monthly Pre-Project Utility Allowances

Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-1	Yolano Dr. (City of Woodland)	1 BR Duplex	188	$57	23	$37	$94
		2 BR Duplex	229	$69	28	$48	$117
		2 BR T/H	230	$70	28	$47	$117
		3 BR T/H	269	$82	35	$62	$144
		4 BR Duplex	317	$96	42	$80	$176
44-2	El Rio Villa 1 (City of Winters)	1 BR	185	$56	23	$38	$94
		2 BR	226	$68	30	$53	$121
		3 BR	251	$76	38	$78	$154
		4 BR	314	$95	46	$94	$190
44-4	Vista Montecito (Esparto)	2 BR	232	$70	31	$54	$125
		3 BR	267	$81	39	$80	$161
44-5	Ridgecut Homes (Knights Landing)	2 BR	803	$283	0	$0	$283
		3 BR	1045	$452	0	$0	$452
44-6	Yolito (Yolo)	2 BR	228	$69	31	$54	$123
		3 BR	276	$84	39	$80	$163

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Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-7	Donnelly Circle (City of Woodland)	1 BR	192	$58	24	$38	$97
		2 BR	238	$72	32	$56	$128
		3 BR	266	$81	42	$86	$166
		4 BR	306	$93	48	$98	$191
44-8	El Rio Villa 2 (City of Winters)	1 BR	186	$56	25	$42	$98
		2 BR	215	$65	32	$56	$121
		3 BR	284	$86	45	$92	$178
		4 BR	318	$96	53	$109	$205
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	341	$116	0	$0	$116
		1 BR	400	$137	0	$0	$137
		2 BR	474	$164	0	$0	$164
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	382	$131	9	$13	$144
		1 BR	434	$150	11	$16	$165
44-18	El Rio Villa 3 (City of Winters)	1 BR	217	$66	21	$35	$101
		2 BR	247	$75	26	$44	$119
		3 BR	287	$87	34	$61	$148
		4 BR	352	$107	43	$88	$195
		5 BR	389	$118	47	$97	$214
44-25	El Rio Villa 4 (City of Winters)	3 BR	309	$94	35	$63	$156

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Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	198	$60	21	$34	$94
		1 BR Top	199	$60	20	$32	$92
		2 BR Bottom	243	$74	25	$42	$116
		2 BR Top	243	$74	25	$42	$116
		2 BR T/H	249	$75	28	$47	$123
		3 BR Bottom	284	$86	33	$57	$143
		3 BR Top	284	$86	34	$59	$145
		3 BR T/H	309	$94	38	$67	$161
		4 BR T/H	344	$104	42	$77	$181

Table 2 details the post-project monthly utility allowances in both energy units and dollars proposed to YCHA in the 2019 Resident Paid Allowances Report. Detailed breakdowns of how the values were calculated, the approved HUD end-uses, and the utility rate application are provided in the Appendix of this report. Proposed post-project utility allowances in this table reflect allowance levels associated with an energy-conscious household.

Table 2: Monthly Post-Project (Current) Utility Allowances

Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-1	Yolano Dr. (City of Woodland)	1 BR Duplex	151	$46	22	$36	$81
		2 BR Duplex	178	$54	26	$44	$98
		2 BR T/H	178	$54	26	$44	$98
		3 BR T/H	206	$62	33	$58	$121
		4 BR Duplex	231	$70	38	$72	$142

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Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-2	El Rio Villa 1 (City of Winters)	1 BR	154	$47	23	$38	$84
		2 BR	182	$55	30	$53	$108
		3 BR	214	$65	38	$78	$143
		4 BR	242	$73	46	$94	$167
44-4	Vista Montecito (Esparto)	2 BR	189	$57	31	$54	$111
		3 BR	218	$66	39	$80	$146
44-5	Ridgecut Homes (Knights Landing)	2 BR	676	$238	0	$0	$238
		3 BR	888	$384	0	$0	$384
44-6	Yolito (Yolo)	2 BR	186	$56	31	$54	$110
		3 BR	212	$64	39	$80	$145
44-7	Donnelly Circle (City of Woodland)	1 BR	169	$51	23	$37	$88
		2 BR	200	$61	29	$51	$112
		3 BR	234	$71	39	$80	$150
		4 BR	267	$81	44	$90	$171
44-8	El Rio Villa 2 (City of Winters)	1 BR	144	$44	23	$38	$82
		2 BR	179	$54	31	$54	$108
		3 BR	220	$67	42	$85	$152
		4 BR	258	$78	49	$100	$179
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	309	$106	0	$0	$106
		1 BR	361	$123	0	$0	$123
		2 BR	437	$151	0	$0	$151
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	368	$127	8	$11	$138
		1 BR	416	$143	10	$14	$158

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Project Number	Project Name	Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
			Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
44-18	El Rio Villa 3 (City of Winters)	1 BR	180	$55	21	$36	$90
		2 BR	213	$65	26	$44	$109
		3 BR	243	$74	34	$61	$135
		4 BR	277	$84	43	$88	$172
		5 BR	301	$91	47	$97	$189
44-25	El Rio Villa 4 (City of Winters)	3 BR	242	$73	35	$62	$136
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	181	$55	18	$28	$83
		1 BR Top	182	$55	18	$29	$84
		2 BR Bottom	207	$63	21	$36	$99
		2 BR Top	208	$63	22	$37	$100
		2 BR T/H	211	$64	24	$41	$105
		3 BR Bottom	249	$76	28	$49	$124
		3 BR Top	250	$76	29	$51	$127
		3 BR T/H	256	$77	33	$58	$136
		4 BR T/H	291	$88	37	$69	$157

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Table 3 presents the pre-project and post-project utility consumption allowances side-by-side with the variance calculated.

Table 3: Utility Consumption Allowance Variances

Project Number	Project Name	Unit Type	Electricity			Natural Gas		
			Pre-Project Consumption (kWh)	Post-Project Consumption (kWh)	Variance	Pre-Project Consumption (therms)	Post-Project Consumption (therms)	Variance
44-1	Yolano Dr. (City of Woodland)	1 BR Duplex	188	151	-20%	23	22	-4%
		2 BR Duplex	229	178	-22%	28	26	-8%
		2 BR T/H	230	178	-23%	28	26	-7%
		3 BR T/H	269	206	-23%	35	33	-6%
		4 BR Duplex	317	231	-27%	42	38	-9%
44-2	El Rio Villa 1 (City of Winters)	1 BR	185	154	-17%	23	23	-1%
		2 BR	226	182	-19%	30	30	0%
		3 BR	251	214	-15%	38	38	0%
		4 BR	314	242	-23%	46	46	0%
44-4	Vista Montecito (Esparto)	2 BR	232	189	-19%	31	31	-1%
		3 BR	267	218	-19%	39	39	0%
44-5	Ridgecut Homes (Knights Landing)	2 BR	803	676	-16%	0	0	0%
		3 BR	1045	888	-15%	0	0	0%
44-6	Yolito (Yolo)	2 BR	228	186	-19%	31	31	0%
		3 BR	276	212	-23%	39	39	1%
44-7	Donnelly Circle (City of Woodland)	1 BR	192	169	-12%	24	23	-3%
		2 BR	238	200	-16%	32	29	-8%
		3 BR	266	234	-12%	42	39	-7%
		4 BR	306	267	-13%	48	44	-9%

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Project Number	Project Name	Unit Type	Electricity			Natural Gas		
			Pre-Project Consumption (kWh)	Post-Project Consumption (kWh)	Variance	Pre-Project Consumption (therms)	Post-Project Consumption (therms)	Variance
44-8	El Rio Villa 2 (City of Winters)	1 BR	186	144	-22%	25	23	-8%
		2 BR	215	179	-17%	32	31	-4%
		3 BR	284	220	-22%	45	42	-8%
		4 BR	318	258	-19%	53	49	-8%
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	341	309	-9%	0	0	0%
		1 BR	400	361	-10%	0	0	0%
		2 BR	474	437	-8%	0	0	0%
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	382	368	-4%	9	8	-11%
		1 BR	434	416	-4%	11	10	-9%
44-18	El Rio Villa 3 (City of Winters)	1 BR	217	180	-17%	21	21	2%
		2 BR	247	213	-14%	26	26	-1%
		3 BR	287	243	-15%	34	34	0%
		4 BR	352	277	-21%	43	43	0%
		5 BR	389	301	-23%	47	47	1%
44-25	El Rio Villa 4 (City of Winters)	3 BR	309	242	-22%	35	35	0%
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	198	181	-9%	21	18	-16%
		1 BR Top	199	182	-9%	20	18	-8%
		2 BR Bottom	243	207	-15%	25	21	-15%
		2 BR Top	243	208	-14%	25	22	-13%
		2 BR T/H	249	211	-15%	28	24	-14%
		3 BR Bottom	284	249	-12%	33	28	-14%
		3 BR Top	284	250	-12%	34	29	-14%
		3 BR T/H	309	256	-17%	38	33	-13%
		4 BR T/H	344	291	-15%	42	37	-11%

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3.1. Electric Allowances

Table 4 provides the annual electricity (kWh) allowances by HUD approved electric end-use. Domestic hot water and lighting consumptions were calculated for each housing unit type discretely based on data collected during on-site surveys. All other end uses rely on the HUD standard consumption averages.

Table 4: Annual Electric Consumption Allowance by End-Use

Project Number	Project Name	Unit Type	Heating (kWh)	Hot Water (kWh)	Range (kWh)	Lighting (kWh)	Refrig (kWh)	Sm. Appl (kWh)	Furnace Motor (kWh)	Total Annual (kWh)
44-1	Yolano Dr. (City of Woodland)	1 BR	*Gas*	*Gas*	*Gas*	139	510	1,100	60	**1,864**
		2 BR	*Gas*	*Gas*	*Gas*	164	510	1,400	57	**2,186**
		2 BR T/H	*Gas*	*Gas*	*Gas*	175	502	1,400	64	**2,195**
		3 BR	*Gas*	*Gas*	*Gas*	186	510	1,700	75	**2,525**
		4 BR	*Gas*	*Gas*	*Gas*	179	510	2,000	83	**2,826**
44-2	El Rio Villa 1 (City of Winters)	1 BR	*Gas*	*Gas*	*Gas*	124	550	1,100	67	**1,841**
		2 BR	*Gas*	*Gas*	*Gas*	149	550	1,400	89	**2,188**
		3 BR	*Gas*	*Gas*	*Gas*	158	600	1,700	107	**2,565**
		4 BR	*Gas*	*Gas*	*Gas*	168	600	2,000	131	**2,899**
44-4	Vista Montecito (Esparto)	2 BR	*Gas*	*Gas*	*Gas*	123	660	1,400	85	**2,268**
		3 BR	*Gas*	*Gas*	*Gas*	145	660	1,700	105	**2,610**
44-5	Ridgecut Homes (Knights Landing)	2 BR	2,758	2,515	744	126	510	1,400	65	**8,119**
		3 BR	3,614	3,773	852	129	510	1,700	85	**10,663**
44-6	Yolito (Yolo)	2 BR	*Gas*	*Gas*	*Gas*	120	650	1,400	60	**2,230**
		3 BR	*Gas*	*Gas*	*Gas*	138	650	1,700	60	**2,548**
44-7	Donnelly Circle (City of Woodland)	1 BR	*Gas*	*Gas*	*Gas*	193	650	1,100	85	**2,028**
		2 BR	*Gas*	*Gas*	*Gas*	197	700	1,400	104	**2,400**
		3 BR	*Gas*	*Gas*	*Gas*	209	750	1,700	144	**2,803**
		4 BR	*Gas*	*Gas*	*Gas*	262	800	2,000	149	**3,210**

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Project Number	Project Name	Unit Type	Heating (kWh)	Hot Water (kWh)	Range (kWh)	Lighting (kWh)	Refrig (kWh)	Sm. Appl (kWh)	Furnace Motor (kWh)	Total Annual (kWh)
44-8	El Rio Villa 2 (City of Winters)	1 BR	*Gas*	*Gas*	*Gas*	141	389	1,100	103	**1,733**
		2 BR	*Gas*	*Gas*	*Gas*	136	499	1,400	115	**2,150**
		3 BR	*Gas*	*Gas*	*Gas*	169	609	1,700	165	**2,644**
		4 BR	*Gas*	*Gas*	*Gas*	187	719	2,000	186	**3,093**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	1,487	*Gas*	564	146	600	900	19	**3,716**
		1 BR	1,807	*Gas*	624	183	600	1,100	23	**4,336**
		2 BR	2108	*Gas*	744	274	700	1,400	26	**5,253**
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	1,381	*Gas*	564	538	1000	900	38	**4,422**
		1 BR	1,674	*Gas*	624	548	1000	1,100	47	**4,992**
44-18	El Rio Villa 3 (City of Winters)	1 BR	*Gas*	*Gas*	*Gas*	293	700	1,100	71	**2,164**
		2 BR	*Gas*	*Gas*	*Gas*	296	800	1,400	65	**2,561**
		3 BR	*Gas*	*Gas*	*Gas*	318	827	1,700	77	**2,922**
		4 BR	*Gas*	*Gas*	*Gas*	329	890	2,000	108	**3,328**
		5 BR	*Gas*	*Gas*	*Gas*	358	954	2,200	100	**3,612**
44-25	El Rio Villa 4 (City of Winters)	3BR	*Gas*	*Gas*	*Gas*	339	770	1,700	97	**2,906**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	*Gas*	*Gas*	*Gas*	476	550	1,100	48	**2,174**
		1 BR Top	*Gas*	*Gas*	*Gas*	476	550	1,100	54	**2,180**
		2 BR Bottom	*Gas*	*Gas*	*Gas*	386	650	1,400	51	**2,487**
		2 BR Top	*Gas*	*Gas*	*Gas*	386	650	1,400	57	**2,493**
		2 BR T/H	*Gas*	*Gas*	*Gas*	410	650	1,400	75	**2,536**
		3 BR Bottom	*Gas*	*Gas*	*Gas*	469	770	1,700	56	**2,995**
		3 BR Top	*Gas*	*Gas*	*Gas*	469	770	1,700	63	**3,003**
		3 BR T/H	*Gas*	*Gas*	*Gas*	508	770	1,700	89	**3,068**
		4 BR T/H	*Gas*	*Gas*	*Gas*	596	800	2,000	94	**3,490**

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Table 5 and Table 6 show how the annual electricity allowances (in kWh and dollars, respectively) by HUD approved electric end-use in Table 4 were prorated for each month for all weather dependent equipment and plug loads. The prorated monthly loads were then averaged to create the allowances presented previously in Table 2.

Table 5: Monthly Electric Consumption Allowance by End-Use (kWh)

Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-1	Yolano Dr. (City of Woodland)	1 BR	160	155	153	150	147	146	146	146	146	147	154	160	**151**
		2 BR	187	182	179	176	174	173	173	173	173	174	181	186	**178**
		2 BR T/H	188	183	180	177	174	173	173	173	173	175	182	188	**178**
		3 BR	218	212	208	204	201	200	200	200	200	202	210	217	**206**
		4 BR	244	237	234	229	226	224	224	224	224	226	235	244	**231**
44-2	El Rio Villa 1 (City of Winters)	1 BR	164	159	156	152	149	148	148	148	148	150	157	164	**154**
		2 BR	196	189	185	181	177	175	175	175	175	177	187	196	**182**
		3 BR	230	222	217	212	207	205	205	205	205	208	219	230	**214**
		4 BR	262	252	246	239	233	231	231	231	231	234	248	262	**242**
44-4	Vista Montecito (Esparto)	2 BR	202	195	192	187	184	182	182	182	182	184	194	202	**189**
		3 BR	234	225	221	215	211	209	209	209	209	212	223	234	**218**
44-5	Ridgecut Homes (Knights Landing)	2 BR	1,115	891	768	620	495	446	441	441	446	518	825	1,111	**676**
		3 BR	1,463	1,170	1,008	815	651	587	580	580	587	681	1,084	1,458	**888**
44-6	Yolito (Yolo)	2 BR	195	190	188	185	182	181	181	181	181	182	189	195	**186**
		3 BR	222	217	214	211	208	207	207	207	207	209	215	222	**212**
44-7	Donnelly Circle (City of Woodland)	1 BR	182	175	172	167	164	162	162	162	162	164	173	182	**169**
		2 BR	216	208	203	198	193	192	191	191	192	194	205	216	**200**
		3 BR	256	245	238	231	224	222	222	222	222	225	241	256	**234**
		4 BR	291	279	272	265	258	255	255	255	255	259	275	290	**267**
44-8	El Rio Villa 2 (City of Winters)	1 BR	160	152	148	142	138	136	136	136	136	139	150	160	**144**
		2 BR	197	188	183	177	172	170	170	170	170	173	185	197	**179**
		3 BR	246	233	226	217	210	207	207	207	207	211	229	246	**220**
		4 BR	287	272	264	254	246	243	242	242	243	247	268	286	**258**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	543	424	358	280	213	187	184	184	187	225	389	541	**309**
		1 BR	645	501	420	325	244	212	209	209	212	259	458	643	**361**
		2 BR	769	600	507	395	301	263	260	260	263	318	550	766	**437**

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Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	589	476	414	340	277	253	250	250	253	289	443	587	**368**
		1 BR	683	547	472	382	306	276	273	273	276	319	507	681	**416**
44-18	El Rio Villa 3 (City of Winters)	1 BR	191	186	183	179	176	174	174	174	174	176	184	191	**180**
		2 BR	223	218	215	212	209	208	208	208	208	210	217	223	**213**
		3 BR	255	249	246	242	239	237	237	237	237	239	248	255	**243**
		4 BR	294	286	281	275	270	268	268	268	268	271	283	294	**277**
		5 BR	317	309	304	299	295	293	293	293	293	295	306	316	**301**
44-25	El Rio Villa 4 (City of Winters)	3BR	257	249	245	240	236	234	234	234	234	236	247	257	**242**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	189	185	183	180	178	177	177	177	177	178	184	189	**181**
		1 BR Top	190	186	183	181	178	177	177	177	177	179	185	190	**182**
		2 BR Bottom	215	211	209	206	204	203	203	203	203	204	210	215	**207**
		2 BR Top	217	212	210	207	204	203	203	203	203	205	211	216	**208**
		2 BR T/H	223	217	214	210	206	205	205	205	205	207	215	223	**211**
		3 BR Bottom	258	254	251	248	246	245	245	245	245	246	253	258	**249**
		3 BR Top	260	255	252	249	246	245	245	245	245	247	254	260	**250**
		3 BR T/H	270	262	259	254	250	248	248	248	248	251	260	269	**256**
		4 BR T/H	306	298	294	289	285	283	283	283	283	286	296	305	**291**

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Table 6: Monthly Electric Consumption Allowance by End-Use ($)

Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-1	Yolano Dr. (City of Woodland)	1 BR	$48	$47	$46	$45	$45	$44	$44	$44	$44	$45	$47	$48	**$46**
		2 BR	$57	$55	$54	$53	$53	$52	$52	$52	$52	$53	$55	$56	**$54**
		2 BR T/H	$57	$55	$55	$54	$53	$52	$52	$52	$52	$53	$55	$57	**$54**
		3 BR	$66	$64	$63	$62	$61	$61	$61	$61	$61	$61	$64	$66	**$62**
		4 BR	$74	$72	$71	$69	$68	$68	$68	$68	$68	$68	$71	$74	**$70**
44-2	El Rio Villa 1 (City of Winters)	1 BR	$50	$48	$47	$46	$45	$45	$45	$45	$45	$45	$48	$50	**$47**
		2 BR	$59	$57	$56	$55	$54	$53	$53	$53	$53	$54	$57	$59	**$55**
		3 BR	$70	$67	$66	$64	$63	$62	$62	$62	$62	$63	$66	$70	**$65**
		4 BR	$79	$76	$75	$72	$71	$70	$70	$70	$70	$71	$75	$79	**$73**
44-4	Vista Montecito (Esparto)	2 BR	$61	$59	$58	$57	$56	$55	$55	$55	$55	$56	$59	$61	**$57**
		3 BR	$71	$68	$67	$65	$64	$63	$63	$63	$63	$64	$68	$71	**$66**
44-5	Ridgecut Homes (Knights Landing)	2 BR	$409	$327	$282	$227	$182	$135	$134	$134	$135	$190	$303	$408	**$238**
		3 BR	$879	$429	$370	$299	$239	$215	$213	$213	$215	$250	$398	$876	**$384**
44-6	Yolito (Yolo)	2 BR	$59	$58	$57	$56	$55	$55	$55	$55	$55	$55	$57	$59	**$56**
		3 BR	$67	$66	$65	$64	$63	$63	$63	$63	$63	$63	$65	$67	**$64**
44-7	Donnelly Circle (City of Woodland)	1 BR	$55	$53	$52	$51	$50	$49	$49	$49	$49	$50	$52	$55	**$51**
		2 BR	$65	$63	$62	$60	$58	$58	$58	$58	$58	$59	$62	$65	**$61**
		3 BR	$78	$74	$72	$70	$68	$67	$67	$67	$67	$68	$73	$78	**$71**
		4 BR	$88	$85	$82	$80	$78	$77	$77	$77	$77	$78	$83	$88	**$81**
44-8	El Rio Villa 2 (City of Winters)	1 BR	$48	$46	$45	$43	$42	$41	$41	$41	$41	$42	$45	$48	**$44**
		2 BR	$60	$57	$55	$54	$52	$52	$52	$52	$52	$52	$56	$60	**$54**
		3 BR	$75	$71	$68	$66	$64	$63	$63	$63	$63	$64	$69	$75	**$67**
		4 BR	$87	$82	$80	$77	$75	$74	$73	$73	$74	$75	$81	$87	**$78**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	$199	$156	$131	$85	$65	$57	$56	$56	$57	$68	$143	$198	**$106**
		1 BR	$237	$184	$154	$98	$74	$64	$63	$63	$64	$78	$168	$236	**$123**
		2 BR	$282	$220	$186	$145	$91	$80	$79	$79	$80	$96	$202	$281	**$151**
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	$216	$175	$152	$125	$84	$77	$76	$76	$77	$88	$163	$215	**$127**
		1 BR	$251	$201	$173	$140	$93	$84	$83	$83	$84	$97	$186	$250	**$143**

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Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-18	El Rio Villa 3 (City of Winters)	1 BR	$58	$56	$55	$54	$53	$53	$53	$53	$53	$53	$56	$58	**$55**
		2 BR	$68	$66	$65	$64	$63	$63	$63	$63	$63	$64	$66	$68	**$65**
		3 BR	$77	$75	$75	$73	$72	$72	$72	$72	$72	$72	$75	$77	**$74**
		4 BR	$89	$87	$85	$83	$82	$81	$81	$81	$81	$82	$86	$89	**$84**
		5 BR	$96	$94	$92	$91	$89	$89	$89	$89	$89	$89	$93	$96	**$91**
44-25	El Rio Villa 4 (City of Winters)	3BR	$78	$75	$74	$73	$72	$71	$71	$71	$71	$72	$75	$78	**$73**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	$57	$56	$55	$55	$54	$54	$54	$54	$54	$54	$56	$57	**$55**
		1 BR Top	$58	$56	$55	$55	$54	$54	$54	$54	$54	$54	$56	$58	**$55**
		2 BR Bottom	$65	$64	$63	$62	$62	$62	$62	$62	$62	$62	$64	$65	**$63**
		2 BR Top	$66	$64	$64	$63	$62	$62	$62	$62	$62	$62	$64	$65	**$63**
		2 BR T/H	$68	$66	$65	$64	$62	$62	$62	$62	$62	$63	$65	$68	**$64**
		3 BR Bottom	$78	$77	$76	$75	$75	$74	$74	$74	$74	$75	$77	$78	**$76**
		3 BR Top	$79	$77	$76	$75	$75	$74	$74	$74	$74	$75	$77	$79	**$76**
		3 BR T/H	$82	$79	$78	$77	$76	$75	$75	$75	$75	$76	$79	$82	**$77**
		4 BR T/H	$93	$90	$89	$88	$86	$86	$86	$86	$86	$87	$90	$92	**$88**

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3.2. Natural Gas Allowances

Table 7 provides the annual natural gas (therms) allowances by HUD approved natural gas end-use. Domestic hot water and heating consumptions were calculated for each housing unit type discretely based on data collected during on-site surveys. Cooking consumptions rely on the HUD standard consumption averages.

Table 7: Annual Natural Gas Consumption Allowance by End-Use

Project Number	Project Name	Unit Type	Heating (therms)	Hot Water (therms)	Range (therms)	Total Annual (therms)
44-1	Yolano Dr. (City of Woodland)	1 BR	116	96	54	**266**
		2 BR	107	149	54	**310**
		2 BR T/H	117	142	54	**313**
		3 BR	134	193	66	**393**
		4 BR	146	249	66	**461**
44-2	El Rio Villa 1 (City of Winters)	1 BR	120	99	54	**273**
		2 BR	147	159	54	**360**
		3 BR	171	221	66	**458**
		4 BR	202	283	66	**551**
44-4	Vista Montecito (Esparto)	2 BR	148	165	54	**367**
		3 BR	174	231	66	**471**
44-5	Ridgecut Homes (Knights Landing)	2 BR	*Electric*	Electric	Electric	**0**
		3 BR	*Electric*	Electric	Electric	**0**
44-6	Yolito (Yolo)	2 BR	155	161	54	**370**
		3 BR	183	224	66	**473**
44-7	Donnelly Circle (City of Woodland)	1 BR	141	84	54	**279**
		2 BR	165	136	54	**355**
		3 BR	216	187	66	**469**
		4 BR	222	238	66	**526**

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Project Number	Project Name	Unit Type	Heating (therms)	Hot Water (therms)	Range (therms)	Total Annual (therms)
44-8	El Rio Villa 2 (City of Winters)	1 BR	122	102	54	**278**
		2 BR	149	165	54	**368**
		3 BR	203	230	66	**499**
		4 BR	226	296	66	**588**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	*Electric*	*Authority Paid*	*Electric*	**0**
		1 BR	*Electric*		*Electric*	**0**
		2 BR	*Electric*		*Electric*	**0**
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	*Electric*	89	*Electric*	**89**
		1 BR	*Electric*	113	*Electric*	**113**
44-18	El Rio Villa 3 (City of Winters)	1 BR	102	99	54	**255**
		2 BR	93	164	54	**311**
		3 BR	111	229	66	**406**
		4 BR	155	294	66	**515**
		5 BR	144	359	66	**569**
44-25	El Rio Villa 4 (City of Winters)	3BR	123	229	66	**418**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	63	95	54	**212**
		1 BR Top	71	95	54	**220**
		2 BR Bottom	76	123	54	**253**
		2 BR Top	84	123	54	**261**
		2 BR T/H	111	123	54	**288**
		3 BR Bottom	91	182	66	**339**
		3 BR Top	103	182	66	**351**
		3 BR T/H	146	182	66	**394**
		4 BR T/H	154	226	66	**446**

Table 8 and Table 9 show how the annual natural gas allowances (in therms and dollars, respectively) by HUD approved electric end-use in Table 4 were prorated for each month for all weather dependent equipment and plug loads. The prorated monthly loads were then averaged to create the allowances presented previously in Table 2.

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Table 8: Monthly Natural Gas Consumption Allowance by End-Use (therms)

Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-1	Yolano Dr. (City of Woodland)	1 BR	40	31	26	20	15	13	12	12	13	16	28	40	**22**
		2 BR	42	34	29	24	19	17	17	17	17	20	31	42	**26**
		2 BR T/H	44	35	30	24	19	17	16	16	17	20	32	44	**26**
		3 BR	54	43	37	30	24	22	22	22	22	25	40	53	**33**
		4 BR	61	50	43	35	29	26	26	26	26	30	46	61	**38**
44-2	El Rio Villa 1 (City of Winters)	1 BR	41	32	27	20	15	13	13	13	13	16	29	41	**23**
		2 BR	53	41	35	27	21	18	18	18	18	22	38	53	**30**
		3 BR	65	51	44	35	27	24	24	24	24	29	47	64	**38**
		4 BR	77	61	52	42	33	29	29	29	29	35	57	77	**46**
44-4	Vista Montecito (Esparto)	2 BR	54	42	35	28	21	19	18	18	19	22	38	53	**31**
		3 BR	66	52	45	36	28	25	25	25	25	29	48	66	**39**
44-5	Ridgecut Homes (Knights Landing)	2 BR	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		3 BR	0	0	0	0	0	0	0	0	0	0	0	0	**0**
44-6	Yolito (Yolo)	2 BR	55	43	36	28	21	18	18	18	18	22	39	55	**31**
		3 BR	68	53	45	36	28	24	24	24	24	29	49	68	**39**
44-7	Donnelly Circle (City of Woodland)	1 BR	45	34	28	20	14	12	12	12	12	15	31	45	**23**
		2 BR	55	42	35	26	19	16	16	16	16	20	38	55	**29**
		3 BR	73	56	46	35	25	21	21	21	21	27	50	72	**39**
		4 BR	78	61	51	39	30	26	25	25	26	31	56	78	**44**
44-8	El Rio Villa 2 (City of Winters)	1 BR	42	32	27	21	15	13	13	13	13	16	30	42	**23**
		2 BR	54	42	35	28	21	19	18	18	19	22	39	54	**31**
		3 BR	73	57	48	38	29	25	25	25	25	30	52	73	**42**
		4 BR	84	66	56	44	34	31	30	30	31	36	61	84	**49**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		1 BR	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		2 BR	0	0	0	0	0	0	0	0	0	0	0	0	**0**
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	8	8	8	8	8	8	8	8	8	8	8	8	**8**
		1 BR	10	10	10	10	10	10	10	10	10	10	10	10	**10**

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Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-18	El Rio Villa 3 (City of Winters)	1 BR	37	29	25	19	15	13	13	13	13	16	27	37	**21**
		2 BR	40	33	29	24	20	18	18	18	18	21	31	40	**26**
		3 BR	51	42	37	32	27	25	25	25	25	28	40	51	**34**
		4 BR	67	55	48	40	33	30	30	30	30	34	51	67	**43**
		5 BR	70	58	52	45	38	36	35	35	36	39	55	70	**47**
44-25	El Rio Villa 4 (City of Winters)	3BR	54	44	39	32	27	25	25	25	25	28	41	54	**35**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	27	22	20	16	14	13	12	12	13	14	21	27	**18**
		1 BR Top	29	24	21	17	14	13	12	12	13	14	22	29	**18**
		2 BR Bottom	33	27	24	20	16	15	15	15	15	17	25	33	**21**
		2 BR Top	35	28	25	20	16	15	15	15	15	17	26	35	**22**
		2 BR T/H	41	33	28	22	17	15	15	15	15	18	30	41	**24**
		3 BR Bottom	42	35	31	27	22	21	21	21	21	23	33	42	**28**
		3 BR Top	45	37	33	27	23	21	21	21	21	24	35	45	**29**
		3 BR T/H	56	44	38	30	24	21	21	21	21	25	41	55	**33**
		4 BR T/H	61	49	42	34	27	25	25	25	25	29	45	61	**37**

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Table 9: Monthly Natural Gas Consumption Allowance by End-Use ($)

Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-1	Yolano Dr. (City of Woodland)	1 BR	$62	$48	$41	$14	$32	$27	$19	$19	$27	$34	$44	$62	**$36**
		2 BR	$66	$53	$45	$22	$40	$36	$36	$36	$36	$42	$48	$66	**$44**
		2 BR T/H	$69	$55	$47	$22	$40	$36	$34	$34	$36	$42	$50	$69	**$44**
		3 BR	$84	$90	$58	$35	$51	$46	$46	$46	$46	$53	$62	$83	**$58**
		4 BR	$95	$105	$90	$45	$61	$55	$55	$55	$55	$63	$97	$95	**$72**
44-2	El Rio Villa 1 (City of Winters)	1 BR	$64	$50	$42	$14	$32	$27	$27	$27	$27	$34	$45	$64	**$38**
		2 BR	$83	$86	$55	$28	$44	$38	$38	$38	$38	$46	$59	$83	**$53**
		3 BR	$137	$107	$93	$45	$57	$51	$51	$51	$51	$61	$99	$135	**$78**
		4 BR	$162	$128	$109	$60	$69	$61	$61	$61	$61	$74	$120	$162	**$94**
44-4	Vista Montecito (Esparto)	2 BR	$84	$88	$55	$30	$44	$40	$38	$38	$40	$46	$59	$83	**$54**
		3 BR	$139	$109	$95	$47	$59	$53	$53	$53	$53	$61	$101	$139	**$80**
44-5	Ridgecut Homes (Knights Landing)	2 BR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
		3 BR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
44-6	Yolito (Yolo)	2 BR	$86	$90	$56	$30	$44	$38	$38	$38	$38	$46	$61	$86	**$54**
		3 BR	$143	$112	$95	$47	$59	$51	$51	$51	$51	$61	$103	$143	**$80**
44-7	Donnelly Circle (City of Woodland)	1 BR	$70	$53	$44	$14	$29	$25	$19	$19	$25	$32	$48	$70	**$37**
		2 BR	$86	$88	$55	$26	$40	$34	$34	$34	$34	$42	$59	$86	**$51**
		3 BR	$154	$118	$97	$45	$53	$44	$44	$44	$44	$57	$105	$152	**$80**
		4 BR	$164	$128	$107	$54	$63	$55	$53	$53	$55	$65	$118	$164	**$90**
44-8	El Rio Villa 2 (City of Winters)	1 BR	$66	$50	$42	$16	$32	$27	$27	$27	$27	$34	$47	$66	**$38**
		2 BR	$84	$88	$55	$30	$44	$40	$38	$38	$40	$46	$61	$84	**$54**
		3 BR	$154	$120	$101	$51	$61	$53	$53	$53	$53	$63	$109	$154	**$85**
		4 BR	$177	$139	$118	$64	$72	$65	$63	$63	$65	$76	$128	$177	**$100**
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
		1 BR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
		2 BR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	$12	$12	$12	$0	$12	$12	$12	$12	$12	$12	$12	$12	**$11**
		1 BR	$16	$16	$16	$0	$16	$16	$16	$16	$16	$16	$16	$16	**$14**

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Project Number	Project Name	Unit Type	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.
44-18	El Rio Villa 3 (City of Winters)	1 BR	$58	$45	$39	$11	$32	$27	$27	$27	$27	$34	$42	$58	**$36**
		2 BR	$62	$52	$45	$22	$42	$38	$38	$38	$38	$44	$48	$62	**$44**
		3 BR	$80	$88	$58	$39	$57	$53	$53	$53	$53	$59	$62	$80	**$61**
		4 BR	$141	$116	$101	$56	$69	$63	$63	$63	$63	$72	$107	$141	**$88**
		5 BR	$147	$122	$109	$66	$80	$76	$74	$74	$76	$82	$116	$147	**$97**
44-25	El Rio Villa 4 (City of Winters)	3BR	$84	$93	$61	$39	$57	$53	$53	$53	$53	$59	$64	$84	**$62**
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	$42	$34	$31	$5	$29	$27	$19	$19	$27	$29	$33	$42	**$28**
		1 BR Top	$45	$37	$33	$7	$29	$27	$19	$19	$27	$29	$34	$45	**$29**
		2 BR Bottom	$52	$42	$37	$14	$34	$32	$32	$32	$32	$36	$39	$52	**$36**
		2 BR Top	$55	$44	$39	$14	$34	$32	$32	$32	$32	$36	$41	$55	**$37**
		2 BR T/H	$64	$52	$44	$18	$36	$32	$32	$32	$32	$38	$47	$64	**$41**
		3 BR Bottom	$66	$55	$48	$28	$46	$44	$44	$44	$44	$48	$52	$66	**$49**
		3 BR Top	$70	$58	$52	$28	$48	$44	$44	$44	$44	$51	$55	$70	**$51**
		3 BR T/H	$87	$93	$59	$35	$51	$44	$44	$44	$44	$53	$64	$86	**$58**
		4 BR T/H	$95	$103	$66	$43	$57	$53	$53	$53	$53	$61	$95	$95	**$69**

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3.3. Water Allowances

Table 10 details the post-project monthly utility allowances proposed to YCHA in the 2019 Resident Paid Allowances Report.

Table 10: Annual Water Consumption Allowance

Project Number	Project Name	Unit Type	Water (ccf)
44-1	Yolano Dr. (City of Woodland)	1 BR	3
		2 BR	4
		2 BR T/H	4
		3 BR	7
		4 BR	9
44-2	El Rio Villa 1 (City of Winters)	1 BR	3
		2 BR	4
		3 BR	7
		4 BR	9
44-4	Vista Montecito (Esparto)	2 BR	6
		3 BR	10
44-5	Ridgecut Homes (Knights Landing)	2 BR	4
		3 BR	7
44-6	Yolito (Yolo)	2 BR	4
		3 BR	7
44-7	Donnelly Circle (City of Woodland)	1 BR	3
		2 BR	5
		3 BR	9
		4 BR	12
44-8	El Rio Villa 2 (City of Winters)	1 BR	3
		2 BR	5
		3 BR	9
		4 BR	12
44-15	Riverbend Senior Manor 1 (City of W. Sacramento)	0 BR	2
		1 BR	4
		2 BR	6
44-17	Riverbend Senior Manor 2 (City of W. Sacramento)	0 BR	2
		1 BR	4
44-18	El Rio Villa 3 (City of Winters)	1 BR	3
		2 BR	4
		3 BR	7
		4 BR	9
		5 BR	12
44-25	El Rio Villa 4 (City of Winters)	3BR	7

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Project Number	Project Name	Unit Type	Water (ccf)
44-28	Las Casitas (City of W. Sacramento)	1 BR Bottom	3
		1 BR Top	3
		2 BR Bottom	4
		2 BR Top	4
		2 BR T/H	4
		3 BR Bottom	7
		3 BR Top	7
		3 BR T/H	7
		4 BR T/H	9

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Appendix A: Heating Degree Days

Table 11 details the 30-year normal heating degree days by month. The monthly HDD were used when calculating dwelling unit typical heating loads for the furnace usage.

Table 11: Monthly Heating Degree Days

Woodland, CA	
January	561
February	375
March	272
April	149
May	45
June	4
July	0
August	0
September	4
October	64
November	320
December	558
TOTAL	2,352

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Appendix B: Consumption Calculations

Appendix B.1. Lighting Usage

Table 12 though **Table 23** reflect the expected annual lighting usage based on the new equipment (bulb wattages) and YCHA's operational standards.

Table 12: Yolano Village Lighting Usage Tables

PROJECT NAME: **Yolano Village**
PROJECT NUMBER: **44-01**

NUMBER OF BEDROOMS: **1 BR Duplex**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	46	4	1460	67
Bathroom	1	5	3	1095	5
Bedroom	1	10	3	1095	11
Lamps	0	8	4	1460	0
Living Room	1	16	4	1460	23
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	0	0	2	730	0
Utility	1	13	1	365	5
Kitchen (range)	0	0	4	1460	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**139**

NUMBER OF BEDROOMS: **2 BR Duplex**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1		3	1095	3
Kitchen	1	3	4	1460	61
Bathroom	1	42	3	1095	9
Bedroom	2	8	3	1095	22
Bathroom	1	10	4	1460	15
Living Room	1	10	4	1460	23
Hall/Stairs	1	16	2	730	4
Closet	0	5	1	365	0
Dining Room	0	0	2	730	0
Utility	1	0	1	365	2
Pantry	1	5	1	365	5
Address Light (Solar)	1	13	11.2	4100	21
				TOTAL...	**164**

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NUMBER OF BEDROOMS: **2 BR Town House**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	2	10	3	1095	22
Lamps	0	0	4	1460	0
Living Room	1	16	4	1460	23
Hall	1	25	2	730	18
Stairs	1	10	2	730	7
Dining Room	1	12	2	730	9
Utility	1	5	1	365	2
Kitchen (range)	0	0	4	1460	0
Address Light (Solar)	1	5	11	4100	21
				TOTAL...	**175**

NUMBER OF BEDROOMS: **3 BR Town House**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	3	10	3	1095	33
Lamps	0	0	4	1460	0
Living Room	1	16	4	1460	23
Hall	1	25	2	730	18
Stairs	1	10	2	730	7
Dining Room	1	12	2	730	9
Utility	1	5	1	365	2
Storage	0	0	4	1460	0
Address Light (Solar)	1	5	11	4100	21
				TOTAL...	**186**

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NUMBER OF BEDROOMS: **4 BR Town House**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	4	10	3	1095	44
Lamps	0	0	4	1460	0
Living Room	1	16	4	1460	23
Hall/Stairs	1	10	2	730	7
Closet	0	10	2	730	0
Dining Room	1	12	2	730	9
Utility	1	5	1	365	2
Storage	0	0	4	1460	0
Address Light (Solar)	1	5	11	4100	21
				TOTAL...	**179**

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Table 13: El Rio Villa 1 Lighting Usage Table

PROJECT NAME: **El Rio Villa 1**
PROJECT NUMBER: **44-02**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	44	4	1460	64
Bathroom	1	8	3	1095	9
Bedroom	1	10	3	1095	11
Lamps	0	0	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	0	0	2	730	0
Closet	0	0	1	365	0
Dining Room	0	0	2	730	0
Utility	0	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11	4100	21
				TOTAL...	**124**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	2	10	3	1095	22
Lamps	0	0	4	1460	0
Living Room	1	13	4	1460	19
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	10	2	730	7
Bathroom	1	10	1	365	4
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11	4100	21
				TOTAL...	**149**

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NUMBER OF BEDROOMS: 3 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	45	4	1460	66
Bathroom	1	8	3	1095	9
Bedroom	3	10	3	1095	33
Lamps	0	0	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	1	5	2	730	4
Hall/Stairs	1	5	1	365	2
Dining Room	1	10	2	730	7
Utility	0	0	1	365	0
Address Light (Solar)	1	5	11	4100	21
Bathroom	0	0	3	1095	0
				TOTAL...	**158**

NUMBER OF BEDROOMS: 4 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	45	4	1460	66
Bathroom	1	8	3	1095	9
Bedroom	4	10	3	1095	44
Lamps	0	0	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	10	2	730	7
Utility	0	0	1	365	0
Address Light (Solar)	1	5	11	4100	21
Pantry	0	0	3	1095	0
				TOTAL...	**168**

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Table 14: Vista Montecito Lighting Usage Table

PROJECT NAME: **Vista Montecito**
PROJECT NUMBER: **44-04**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	21	4	1460	31
Bathroom	1	9	3	1095	10
Bedroom	2	10	3	1095	22
Lamps	0	0	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	9	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**123**

NUMBER OF BEDROOMS: **3 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	21	4	1460	31
Bathroom	1	8	3	1095	9
Bedroom	3	10	3	1095	33
Bathroom	1	8	4	1460	12
Living Room	1	10	4	1460	15
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	9	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**145**

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Table 15: Ridgecut Homes Lighting Usage Table

PROJECT NAME: **Ridgecut**
PROJECT NUMBER: **44-05**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	21	4	1460	31
Bathroom	1	8	3	1095	9
Bedroom	2	10	3	1095	22
Bathroom ceiling	1	8	3	1095	9
Living Room	1	8	4	1460	12
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**126**

NUMBER OF BEDROOMS: **3 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	21	4	1460	31
Bathroom	1	8	3	1095	9
Bedroom	3	10	3	1095	33
Lamps	0	8	3	1095	0
Living Room	1	8	4	1460	12
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**129**

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Table 16: Yolito Lighting Usage Table

PROJECT NAME: **Yolito**
PROJECT NUMBER: **44-06**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	21	4	1460	31
Bathroom	1	8	3	1095	9
Bedroom	2	10	3	1095	22
Lamps	0	0	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	0	0	2	730	0
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	13	1	365	5
Storage	0	0	1	365	0
Porch (Solar)	1	5	11.2	4100	21
				TOTAL...	**120**

NUMBER OF BEDROOMS: **3 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	7
Kitchen	1	21	4	1460	31
Bathroom	1	8	3	1095	9
Bedroom	3	10	3	1095	33
Lamps	0	8	4	1460	0
Living Room	1	10	4	1460	15
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	21	2	730	15
Utility	1	13	1	365	5
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**138**

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Table 17: Donnelly Circle Lighting Usage Table

PROJECT NAME: **Donnelly Circle**
PROJECT NUMBER: **44-07**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	23	4	1460	34
Bathroom	1	18	3	1095	20
Bedroom	1	8	3	1095	9
Lamps	1	60	4	1460	88
Living Room	0	0	4	1460	0
Hall/Stairs	0	0	2	730	0
Closet	0	0	1	365	0
Dining Room	1	23	2	730	17
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**193**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	23	4	1460	34
Bathroom	2	10	3	1095	11
Bedroom	2	8	3	1095	18
Lamps	1	60	4	1460	88
Living Room	0	0	4	1460	0
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	23	2	730	17
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**197**

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NUMBER OF BEDROOMS: 3 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	23	4	1460	34
Bathroom	1	10	3	1095	11
Bedroom	3	9	3	1095	30
Lamps	1	60	4	1460	88
Living Room	0	0	4	1460	0
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	23	2	730	17
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**209**

NUMBER OF BEDROOMS: 4 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	23	4	1460	34
Bathroom	2	10	3	1095	22
Bedroom	4	8	3	1095	35
Lamps	1	60	4	1460	88
Living Room	0	0	4	1460	0
Hall/Stairs	1	11	2	730	40
Closet	0	0	1	365	0
Dining Room	1	23	2	730	17
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.2	4100	21
				TOTAL...	**262**

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Table 18: El Rio Villa 2 Lighting Usage Table

PROJECT NAME: **El Rio Villa 2**
PROJECT NUMBER: **44-08**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	44	4	1460	64
Bathroom	1	10	3	1095	11
Bathroom	1	8	3	1095	9
Bedroom	1	8	3	1095	9
Living Room	1	8	4	1460	12
Hall/Stairs	0	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	10	2	730	7
Utility	1	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	***141***

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	2	10	3	1095	22
Bathroom	1	5	3	1095	5
Living Room	1	5	4	1460	7
Hall/Stairs	1	8	2	730	6
Closet	0	0	1	365	0
Dining Room	0	0	2	730	0
Utility	0	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**136**

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NUMBER OF BEDROOMS: 3 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	2	8	3	1095	18
Bedroom	3	10	3	1095	33
Lamps	0	0	3	1095	0
Living Room	1	8	4	1460	12
Hall/Stairs	1	10	2	730	7
Hall/Stairs	1	5	2	730	4
Dining Room	1	10	2	730	7
Utility	0	5	1	365	2
Address Light (Solar)	1	5	11.233	4100	21
Entry	1	5	1	365	2
				TOTAL...	**169**

NUMBER OF BEDROOMS: 4 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	8	3	1095	9
Bedroom	4	10	3	1095	44
Bathroom	1	10	3	1095	10
Living Room	1	8	4	1460	12
Hall/Stairs	2	10	2	730	15
Hall/Stairs	1	5	2	730	4
Dining Room	1	10	2	730	7
Hall/Stairs	0	0	2	730	0
Utility	1	5	1	365	2
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**187**

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Table 19: Riverbend Senior Manor 1 Lighting Usage Table

PROJECT NAME: **Riverbend 1**
PROJECT NUMBER: **44-15**

NUMBER OF BEDROOMS: **0 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	0	0	3	1095	0
Kitchen	1	16	4	1460	23
Bathroom	1	20	3	1095	22
Bedroom	0	0	3	1095	0
Lamps	1	60	4	1460	88
Living Room	1	8	4	1460	12
Hall/Stairs	0	0	2	730	0
Closet	0	0	1	365	0
Dining Room	0	0	2	730	0
Utility	0	5	1	365	2
Storage	0	0	1	365	0
Address Light (Solar)	0	0	11.2	4100	0
				TOTAL...	**146**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	0	0	3	1095	0
Kitchen	1	16	4	1460	23
Bathroom	1	20	3	1095	22
Bedroom	0	0	3	1095	0
Lamps	1	60	4	1460	88
Living Room	1	8	4	1460	12
Hall/Stairs	1	26	2	730	19
Closet	0	0	1	365	0
Dining Room	1	26	2	730	19
Utility	0	0	1	365	0
Storage	0	0	1	365	0
Address Light (Solar)	0	0	11.2	4100	0
				TOTAL...	**183**

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NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	0	0	3	1095	0
Kitchen	1	23	4	1460	34
Bathroom	1	20	3	1095	22
Bedroom	0	0	3	1095	0
Lamps	2	60	4	1460	175
Living Room	1	8	4	1460	12
Hall/Stairs	1	5	2	730	4
Closet	0	0	1	365	0
Dining Room	1	23	2	730	17
Utility	0	0	1	365	0
Bathroom Ceiling	1	31	1	365	11
Address Light (Solar)	0	0	11.2	4100	0
				TOTAL...	**274**

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Table 20: Riverbend Senior Manor 2 Lighting Usage Table

PROJECT NAME: **Riverbend 2**
PROJECT NUMBER: **44-17**

NUMBER OF BEDROOMS: **0 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	46	4	1460	67
Bathroom	1	36	3	1095	39
Bedroom	0	0	3	1095	0
Lamps	2	60	4	1460	175
Living Room	0	0	4	1460	0
Hall/Stairs	1	10	2	730	7
Closet	0	0	1	365	0
Dining Room	0	0	2	730	0
Utility	0	0	1	365	0
Storage	0	0	1	365	0
Address Light (Solar)	1	60	11.2	4100	246
				TOTAL...	**538**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	46	4	1460	67
Bathroom	1	36	3	1095	39
Bedroom	0	0	3	1095	0
Lamps	2	60	4	1460	175
Living Room	0	0	4	1460	0
Hall/Stairs	1	13	2	730	9
Kitchen	0	0	1	365	0
Dining Room	1	10	2	730	7
Utility	0	0	1	365	0
Storage	0	0	1	365	0
Address Light (Solar)	1	60	11.2	4100	246
				TOTAL...	**548**

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Table 21: El Rio Villa 3 Lighting Usage Table

PROJECT NAME: **El Rio Villa 3**
PROJECT NUMBER: **44-18**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	44	4	1460	64
Bathroom	1	10	3	1095	11
Bedroom	1	10	3	1095	10
Lamps	0	0	4	1460	0
Living Room	1	120	4	1460	175
Hall/Stairs	1	12	2	730	9
Closet	0	0	1	365	0
Dining Room	1	5	2	730	4
Utility	0	0	1	365	0
Storage	0	0	1	365	0
Address Light (Solar)	1	4	11.2	4100	16
				TOTAL...	**293**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	10	3	1095	11
Bedroom	1	10	3	1095	11
Lamps	0	0	4	1460	0
Living Room	1	120	4	1460	175
Hall/Stairs	1	10	2	730	7
Closet	0	0	1	365	0
Dining Room	1	5	2	730	4
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**296**

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NUMBER OF BEDROOMS: 3 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	10	3	1095	11
Bedroom	3	10	3	1095	33
Lamps	0	0	4	1460	0
Living Room	1	120	4	1460	175
Hall/Stairs	1	10	2	730	7
Closet	0	0	1	365	0
Dining Room	1	5	2	730	4
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**318**

NUMBER OF BEDROOMS: 4 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	10	3	1095	11
Bedroom	4	10	3	1095	44
Lamps	0	0	4	1460	0
Living Room	1	120	4	1460	175
Hall/Stairs	1	10	2	730	7
Closet	0	0	1	365	0
Dining Room	1	5	2	730	4
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Address Light (Solar)	1	5	11.233	4100	21
				TOTAL...	**329**

NUMBER OF BEDROOMS: 5 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	2	10	3	1095	22
Bedroom	5	10	3	1095	55
Lamps	0	0	4	1460	0
Living Room	1	120	4	1460	175
Hall/Stairs	2	10	2	730	15
Closet	0	0	1	365	0
Dining Room	1	5	2	730	4
Utility	1	8	1	365	3
Storage	0	0	1	365	0
Porch (Solar)	1	5	11.233	4100	21
				TOTAL...	**358**

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Table 22: El Rio Villa 4 Lighting Usage Table

PROJECT NAME: **El Rio Villa 4**
PROJECT NUMBER: **44-25**

NUMBER OF BEDROOMS: **3 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	3	3	1095	3
Kitchen	1	42	4	1460	61
Bathroom	1	10	3	1095	11
Bedroom	3	10	3	1095	33
Lamps	1	120	4	1460	175
Living Room	0	0	4	1460	0
Hall/Stairs	1	13	2	730	9
Closet	0	0	1	365	0
Dining Room	1	10	2	730	7
Utility	0	0	1	365	0
Storage	0	0	1	365	0
Address Light (Solar)	1	9	11.233	4100	39
				TOTAL...	**339**

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Table 23: Las Casitas Lighting Usage Table

PROJECT NAME: **Las Casitas**

PROJECT NUMBER: **44-28**

NUMBER OF BEDROOMS: **1 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	2	8	3	1095	18
Kitchen	1	28	4	1460	41
Bathroom	1	9	3	1095	10
Bathroom	1	9	3	1095	10
Bedroom	0	0	3	1095	0
Lamps	1	60	4	1460	88
Living Room	1	26	4	1460	38
Hall/Stairs	1	26	2	730	19
Dining Room	1	8	2	730	6
Utility	0	0	1	365	0
Entry	0	0	1	365	0
Address Light (Solar)	1	60	11.233	4100	248
				TOTAL...	**476**

NUMBER OF BEDROOMS: **2 BR**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	2	8	3	1095	18
Kitchen	1	28	4	1460	41
Bathroom	1	20	3	1095	22
Bathroom	1	4	3	1095	4
Bedroom	0	0	3	1095	0
Lamps	2	60	4	1460	175
Living Room	1	26	4	1460	38
Hall/Stairs	2	10	2	730	15
Dining Room	1	8	2	730	6
Utility	0	0	1	365	0
Entry	0	0	1	365	0
Address Light (Solar)	1	17	11.233	4100	68
				TOTAL...	**386**

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NUMBER OF BEDROOMS: 2 BR Town House

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	2	8	3	1095	18
Kitchen	1	28	4	1460	41
Bathroom	1	20	3	1095	22
Bathroom	1	4	3	1095	4
Kitchen	1	6	4	1460	8
Lamps	2	60	4	1460	175
Living Room	1	26	4	1460	38
Hall/Stairs	2	13	2	730	19
Dining Room	1	8	2	730	6
Hall/Stairs	1	10	2	730	7
Storage	1	10	1	365	4
Address Light (Solar)	1	17	11.233	4100	69
				TOTAL...	**410**

NUMBER OF BEDROOMS: 3 BR

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	8	3	1095	9
Kitchen	1	28	4	1460	41
Bathroom	1	20	3	1095	22
Bathroom	1	4	3	1095	4
Bedroom	0	0	3	1095	0
Lamps	3	60	4	1460	263
Living Room	1	26	4	1460	38
Hall/Stairs	1	13	2	730	9
Dining Room	1	8	2	730	6
Hall/Stairs	1	10	2	730	7
Laundry	0	0	1	365	0
Address Light (Solar)	1	17	11.233	4100	70
				TOTAL...	**469**

NUMBER OF BEDROOMS: 3 BR Town House

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	8	3	1095	9
Kitchen	1	28	4	1460	41
Bathroom	1	20	3	1095	22
Bathroom	1	4	3	1095	4
Kitchen	1	6	4	1460	8
Lamps	3	60	4	1460	263
Living Room	1	26	4	1460	38
Hall/Stairs	4	13	2	730	38
Dining Room	1	8	2	730	6
Hall/Stairs	1	10	2	730	7
Storage	1	8	1	365	3
Address Light (Solar)	1	17	11.233	4100	70
				TOTAL...	**508**

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NUMBER OF BEDROOMS: **4 BR Town House**

Area	# OF Fixtures	Watts / Fixtures	Hours /Day	Hours /Year	kWh /Year
Porches	1	8	3	1095	9
Kitchen	1	28	4	1460	41
Bathroom	1	20	3	1095	22
Bathroom	1	4	3	1095	4
Kitchen	1	6	4	1460	8
Lamps	4	60	4	1460	350
Living Room	1	26	4	1460	38
Hall/Stairs	4	13	2	730	38
Hall/Stairs	1	8	2	730	6
Dining Room	1	10	2	730	7
Storage	1	8	1	365	3
Address Light (Solar)	1	17	11.233	4100	70
				TOTAL...	**596**

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Appendix B.2. Domestic Water Heating Usage

Table 24 through Table 34 detail the annual fuel usage for domestic water heating based on the current equipment in place.

Table 24: Yolano Domestic Water Heaters

Project Name: Yolano Drive		
Project Number: 44-01		
Unit Type:	1 BR Duplex	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.50	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	6,532	kBtu/yr
Total Energy Required:	10,036	kBtu/yr
Primary Fuel Required:	**96**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2.00	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.55	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	

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Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	11,876	kBtu/yr
Total Energy Required:	15,380	kBtu/yr
Primary Fuel Required:	**149**	**CCF/Year**

Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3.00	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	16,330	kBtu/yr
Total Energy Required:	19,834	kBtu/yr
Primary Fuel Required:	**193**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4.00	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	22,142	kBtu/yr

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Total Energy Required:	25,646	kBtu/yr
Primary Fuel Required:	**249**	**CCF/Year**

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Table 25: El Rio Villa 1 Domestic Water Heaters

Project Name: El Rio Villa 1

Project Number: 44-02

Unit Type:	1 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	6,743	kBtu/yr
Total Energy Required:	10,247	kBtu/yr
Primary Fuel Required:	**99**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2.00	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	12,835	kBtu/yr
Total Energy Required:	16,339	kBtu/yr
Primary Fuel Required:	**159**	**CCF/Year**

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Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3.00	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	19,252	kBtu/yr
Total Energy Required:	22,756	kBtu/yr
Primary Fuel Required:	**221**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4.00	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	25,668	kBtu/yr
Total Energy Required:	29,172	kBtu/yr
Primary Fuel Required:	**283**	**CCF/Year**

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Table 26: Vista Montecito Domestic Water Heaters

Project Name: Vista Montecito

Project Number: 44-04

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.57	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	13,511	kBtu/yr
Total Energy Required:	17,015	kBtu/yr
Primary Fuel Required:	**165**	**CCF/Year**

Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.57	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	20,265	kBtu/yr
Total Energy Required:	23,769	kBtu/yr
Primary Fuel Required:	**231**	**CCF/Year**

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Table 27: Ridgecut Homes Domestic Water Heaters

Project Name: Ridgecut
Project Number: 44-05

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.92	
Assumed Standing Pilot?	No	
Pilot Consumption Rate:		Btu/hr
Fuel Type:	Electric	
Pilot Consumption Rate:		kBtu/yr
Consumption Energy Required:	8,575	kBtu/yr
Total Energy Required:	8,575	kBtu/yr
Primary Fuel Required:	**2,515**	**kWh/Year**

Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.92	
Assumed Standing Pilot?	No	
Pilot Consumption Rate:		Btu/hr
Fuel Type:	Electric	
Pilot Consumption Rate:		kBtu/yr
Consumption Energy Required:	12,877	kBtu/yr
Total Energy Required:	12,877	kBtu/yr
Primary Fuel Required:	**3,773**	**kWh/Year**

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Table 28: Yolito Domestic Water Heaters

Project Name: Yolito
Project Number: 44-06

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	13,053	kBtu/yr
Total Energy Required:	16,557	kBtu/yr
Primary Fuel Required:	**161**	**CCF/Year**

Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	19,578	kBtu/yr
Total Energy Required:	23,082	kBtu/yr
Primary Fuel Required:	**224**	**CCF/Year**

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Table 29: Donnelly Circle Domestic Water Heaters

Project Name: Donnelly
Project Number: 44-07

Unit Type:	1 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	5,647	kBtu/yr
Total Energy Required:	9,151	kBtu/yr
Primary Fuel Required:	**88**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.60	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	11,295	kBtu/yr
Total Energy Required:	14,799	kBtu/yr
Primary Fuel Required:	**144**	**CCF/Year**

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Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	16,942	kBtu/yr
Total Energy Required:	20,446	kBtu/yr
Primary Fuel Required:	**199**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	22,588	kBtu/yr
Total Energy Required:	26,092	kBtu/yr
Primary Fuel Required:	**253**	**CCF/Year**

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Table 30: El Rio Villa 2 Domestic Water Heaters

Project Name: El Rio Villa 2

Project Number: 44-08

Unit Type:	1 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.55	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	7,000	kBtu/yr
Total Energy Required:	10,504	kBtu/yr
Primary Fuel Required:	**102**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.57	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	13,487	kBtu/yr
Total Energy Required:	16,991	kBtu/yr
Primary Fuel Required:	**165**	**CCF/Year**

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Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.57	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	20,229	kBtu/yr
Total Energy Required:	23,733	kBtu/yr
Primary Fuel Required:	**230**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.57	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	26,972	kBtu/yr
Total Energy Required:	30,476	kBtu/yr
Primary Fuel Required:	**296**	**CCF/Year**

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Table 31: Riverbend Senior Manor 2 Domestic Water Heaters

Project Name: Riverbend 2

Project Number: 44-17

Unit Type:	0 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	17	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.56	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	6,346	kBtu/yr
Total Energy Required:	9,850	kBtu/yr
Primary Fuel Required:	**96**	**CCF/Year**

Unit Type:	1 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	18	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.45	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	9,082	kBtu/yr
Total Energy Required:	12,586	kBtu/yr
Primary Fuel Required:	**123**	**CCF/Year**

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Table 32: El Rio Villa 3 Domestic Water Heaters

Project Name: El Rio Villa 3
Project Number: 44-18

Unit Type:	1 BR	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	6,693	kBtu/yr
Total Energy Required:	10,197	kBtu/yr
Primary Fuel Required:	**99**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	13,386	kBtu/yr
Total Energy Required:	16,890	kBtu/yr
Primary Fuel Required:	**164**	**CCF/Year**

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Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	20,080	kBtu/yr
Total Energy Required:	23,584	kBtu/yr
Primary Fuel Required:	**229**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	26,773	kBtu/yr
Total Energy Required:	30,277	kBtu/yr
Primary Fuel Required:	**294**	**CCF/Year**

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Table 33: El Rio Villa 4 Domestic Water Heaters

Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	20	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.59	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	20,080	kBtu/yr
Total Energy Required:	23,584	kBtu/yr
Primary Fuel Required:	**229**	**CCF/Year**

Table 34: Las Casitas Domestic Water Heaters

Project Name: Las Casitas

Project Number: 44-28

Unit Type:	1 BR Bottom	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	16	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.40	
Assumed Standing Pilot?	yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	7,898	kBtu/yr
Total Energy Required:	11,402	kBtu/yr
Primary Fuel Required:	**95**	**CCF/Year**

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Unit Type:	1 BR Top	
Number of Bedrooms:	1	Bedrooms
Estimated Number of Occupants:	1	Occupants
Estimated Consumption Rate:	16	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.49	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	7,898	kBtu/yr
Total Energy Required:	11,402	kBtu/yr
Primary Fuel Required:	**95**	**CCF/Year**

Unit Type:	2 BR	
Number of Bedrooms:	2	Bedrooms
Estimated Number of Occupants:	2	Occupants
Estimated Consumption Rate:	16	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.56	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	11,284	kBtu/yr
Total Energy Required:	14,788	kBtu/yr
Primary Fuel Required:	**124**	**CCF/Year**

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Unit Type:	3 BR	
Number of Bedrooms:	3	Bedrooms
Estimated Number of Occupants:	3	Occupants
Estimated Consumption Rate:	16	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.56	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	16,925	kBtu/yr
Total Energy Required:	20,429	kBtu/yr
Primary Fuel Required:	**183**	**CCF/Year**

Unit Type:	4 BR	
Number of Bedrooms:	4	Bedrooms
Estimated Number of Occupants:	4	Occupants
Estimated Consumption Rate:	16	Gallons/Occupant/Day
Specific Heat of Water:	1.00	Btu/lb/F
Specific Volume of Water:	62.32	lb/cf
Volume Conversion:	7.48	gal/cf
Heuristic Exponent:	0.68	
Estimated Service Water Inlet Temperature:	55	F
Hot Water Supply Temperature:	120	F
Delta T:	65	F
Calendar Schedule:	365	days/yr
Daily Schedule:	24	hrs/day
Total Operating Hours:	8,760	hrs/yr
Estimated Air Temperature At Tank:	70	F
Water Heater Energy Factor:	0.62	
Assumed Standing Pilot?	Yes	
Pilot Consumption Rate:	400	Btu/hr
Fuel Type:	Natural Gas	
Pilot Consumption Rate:	3504	kBtu/yr
Consumption Energy Required:	20,382	kBtu/yr
Total Energy Required:	23,886	kBtu/yr
Primary Fuel Required:	**228**	**CCF/Year**

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Appendix B.3. Heat Load Tables

The following tables detail the annual fuel usage for space heating based on the current equipment in place.

Table 35: Yolano Heat Load Tables

PROJECT NAME: Yolano Village		Heating Degree Days =	2352
PROJECT NUMBER: 44-01		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		69	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1562	Btu/h
Roof Square Footage:		613	ft^2
Roof U-Value:		0.026	Btuh/F- ft^2
Roof Heat Loss:		613	Btu/h
Exterior Wall Area:		442	ft^2.
Wall U-Value:		0.067	Btuh/F- ft^2
Wall Heat Loss		1120	Btu/h
Window Area:		68	ft^2.
Window U-Value:		0.500	Btuh/F- ft^2
Window Heat Loss:		1292	Btu/h
Door Area:		38	sq.ft.
Door U-Value:		0.050	Btuh/F- ft^2
Door Heat Loss:		72	Btu/h
Air Changes Per Hour		0.52	AC/H
Apt Volume		4906	ft^3
Infiltration Loss:		1745	ft^3/min
Total Apartment Heat Loss Rate:		6404	Btu/h
Estimated Heating System Overall Efficiency:		87%	
Standing Pilot?		Yes	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr

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Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	116	CCF
Heating System Fan?	Yes	
Heating Output:	34800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	242	hours
Fan Energy:	60	KWH

PROJECT NAME: Yolano Village	Heating Degree Days =	2352
PROJECT NUMBER: 44-01	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	84	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1911	Btu/h
Roof Square Footage:	769	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	769	Btu/h
Exterior Wall Area:	533	ft^2.
Wall U-Value:	0.067	Btuh/F- ft^2
Wall Heat Loss	1350	Btu/h
Window Area:	100	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	1900	Btu/h
Door Area:	38	sq.ft.
Door U-Value:	0.050	Btuh/F- ft^2
Door Heat Loss:	72	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	6155.98	ft^3
Infiltration Loss:	1052.673264	ft^3/min
Total Apartment Heat Loss Rate:	7055	Btu/h

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Estimated Heating System Overall Efficiency:	87%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	200	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	1752	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	107	CCF
Heating System Fan?	Yes	
Heating Output:	40368	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	230	hours
Fan Energy:	57	KWH

PROJECT NAME: Yolano Village	Heating Degree Days =	2352
PROJECT NUMBER: 44-01	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR Town House	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	121	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2759	Btu/h
Roof Square Footage:	406	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	406	Btu/h
Exterior Wall Area:	848	ft^2.
Wall U-Value:	0.067	Btuh/F- ft^2
Wall Heat Loss	2149	Btu/h
Window Area:	82	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	1558	Btu/h
Door Area:	38	sq.ft.
Door U-Value:	0.050	Btuh/F- ft^2
Door Heat Loss:	72	Btu/h

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Air Changes Per Hour	0.19	AC/H
Apt Volume	6948.00	ft^3
Infiltration Loss:	902.96208	ft^3/min
Total Apartment Heat Loss Rate:	7847	Btu/h
Estimated Heating System Overall Efficiency:	87%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	200	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	1752	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	117	CCF
Heating System Fan?	Yes	
Heating Output:	40020	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	258	hours
Fan Energy:	64	KWH

PROJECT NAME: Yolano Village	Heating Degree Days =	2352
PROJECT NUMBER: 44-01	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR Town House	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	137	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	3124	Btu/h
Roof Square Footage:	552	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	552	Btu/h
Exterior Wall Area:	960	ft^2.
Wall U-Value:	0.067	Btuh/F- ft^2
Wall Heat Loss	2433	Btu/h
Window Area:	98	ft^2.

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Window U-Value:	0.500	Btuh/F- ft²
Window Heat Loss:	1862	Btu/h
Door Area:	38	sq.ft.
Door U-Value:	0.050	Btuh/F- ft²
Door Heat Loss:	72	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	8476.00	ft³
Infiltration Loss:	1101.54096	ft³/min
Total Apartment Heat Loss Rate:	9144	Btu/h
Estimated Heating System Overall Efficiency:	87%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	200	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	1752	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	134	CCF
Heating System Fan?	Yes	
Heating Output:	40020	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	300	hours
Fan Energy:	75	KWH

PROJECT NAME: Yolano Village	Heating Degree Days =	2352
PROJECT NUMBER: 44-01	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	110	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2508	Btu/h
Roof Square Footage:	1159	ft²
Roof U-Value:	0.026	Btuh/F- ft²
Roof Heat Loss:	1159	Btu/h

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Exterior Wall Area:	656	ft².
Wall U-Value:	0.067	Btuh/F- ft²
Wall Heat Loss	1662	Btu/h
Window Area:	186	ft².
Window U-Value:	0.500	Btuh/F- ft²
Window Heat Loss:	3534	Btu/h
Door Area:	38	sq.ft.
Door U-Value:	0.050	Btuh/F- ft²
Door Heat Loss:	72	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	9274.00	ft³
Infiltration Loss:	1205.24904	ft³/min
Total Apartment Heat Loss Rate:	10141	Btu/h
Estimated Heating System Overall Efficiency:	87%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	200	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	1752	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	146	CCF
Heating System Fan?	Yes	
Heating Output:	40020	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	333	hours
Fan Energy:	83	KWH

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Table 36: El Rio Villa 1 Load

PROJECT NAME: El Rio Villa 1		Heating Degree Days =	2352
PROJECT NUMBER: 44-02		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		60	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1368	Btu/h
Roof Square Footage:		486	ft^2
Roof U-Value:		0.055	Btuh/F- ft^2
Roof Heat Loss:		1022	Btu/h
Exterior Wall Area:		371	ft^2.
Wall U-Value:		0.111	Btuh/F- ft^2
Wall Heat Loss		1566	Btu/h
Window Area:		69	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		1633	Btu/h
Door Area:		40	sq.ft.
Door U-Value:		0.067	Btuh/F- ft^2
Door Heat Loss:		101	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		3886.00	ft^3
Infiltration Loss:		664.506	ft^3/min
Total Apartment Heat Loss Rate:		6354	Btu/h
Estimated Heating System Overall Efficiency:		82%	
Standing Pilot?		Yes	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		120	CCF

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Heating System Fan?	Yes	
Heating Output:	32800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	270	hours
Fan Energy:	67	KWH

PROJECT NAME: El Rio Villa 1	Heating Degree Days =	2352
PROJECT NUMBER: 44-02	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	81	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1835	Btu/h
Roof Square Footage:	646	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1358	Btu/h
Exterior Wall Area:	519	ft^2.
Wall U-Value:	0.111	Btuh/F- ft^2
Wall Heat Loss	2191	Btu/h
Window Area:	85	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2009	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.067	Btuh/F- ft^2
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	5164.00	ft^3
Infiltration Loss:	883.044	ft^3/min
Total Apartment Heat Loss Rate:	8378	Btu/h
Estimated Heating System Overall Efficiency:	82%	
Standing Pilot?	Yes	

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Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	147	CCF
Heating System Fan?	Yes	
Heating Output:	32800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	356	hours
Fan Energy:	89	KWH

PROJECT NAME: El Rio Villa 1	Heating Degree Days =	2352
PROJECT NUMBER: 44-02	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	92	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2098	Btu/h
Roof Square Footage:	791	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1665	Btu/h
Exterior Wall Area:	582	ft^2.
Wall U-Value:	0.111	Btuh/F- ft^2
Wall Heat Loss	2458	Btu/h
Window Area:	114	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2687	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.067	Btuh/F- ft^2
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.25	AC/H

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Apt Volume	6330.00	ft^3
Infiltration Loss:	1082.43	ft^3/min
Total Apartment Heat Loss Rate:	10092	Btu/h
Estimated Heating System Overall Efficiency:	82%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	171	CCF
Heating System Fan?	Yes	
Heating Output:	32800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	429	hours
Fan Energy:	107	KWH

PROJECT NAME: El Rio Villa 1	Heating Degree Days =	2352
PROJECT NUMBER: 44-02	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	109	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2485	Btu/h
Roof Square Footage:	989	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	2080	Btu/h
Exterior Wall Area:	684	ft^2.
Wall U-Value:	0.111	Btuh/F- ft^2
Wall Heat Loss	2889	Btu/h
Window Area:	148	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3485	Btu/h

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Door Area:	40	sq.ft.
Door U-Value:	0.067	Btuh/F- ft²
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	7908.00	ft³
Infiltration Loss:	1352.268	ft³/min
Total Apartment Heat Loss Rate:	12394	Btu/h
Estimated Heating System Overall Efficiency:	82%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	202	CCF
Heating System Fan?	Yes	
Heating Output:	32800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	527	hours
Fan Energy:	131	KWH

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Table 37: Vista Montecito Heat Load Table

PROJECT NAME: Vista Montecito		Heating Degree Days =	2352
PROJECT NUMBER: 44-04		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	2 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		84	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1904	Btu/h
Roof Square Footage:		695	ft^2
Roof U-Value:		0.055	Btuh/F- ft^2
Roof Heat Loss:		1463	Btu/h
Exterior Wall Area:		523	ft^2.
Wall U-Value:		0.093	Btuh/F- ft^2
Wall Heat Loss		1848	Btu/h
Window Area:		105	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		2483	Btu/h
Door Area:		40	sq.ft.
Door U-Value:		0.067	Btuh/F- ft^2
Door Heat Loss:		101	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		5562.00	ft^3
Infiltration Loss:		951.102	ft^3/min
Total Apartment Heat Loss Rate:		8751	Btu/h
Estimated Heating System Overall Efficiency:		85%	
Standing Pilot?		Yes	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		148	CCF

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Heating System Fan?	Yes	
Heating Output:	34196	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	342	hours
Fan Energy:	85	KWH

PROJECT NAME: Vista Montecito	Heating Degree Days =	2352
PROJECT NUMBER: 44-04	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	98	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2223	Btu/h
Roof Square Footage:	892	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1876	Btu/h
Exterior Wall Area:	604	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	2133	Btu/h
Window Area:	137	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3222	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.067	Btuh/F- ft^2
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	7132.00	ft^3
Infiltration Loss:	1219.572	ft^3/min
Total Apartment Heat Loss Rate:	10775	Btu/h
Estimated Heating System Overall Efficiency:	85%	
Standing Pilot?	Yes	

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Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas		
Estimated Heating System Consumption:		174	CCF
Heating System Fan?		Yes	
Heating Output:		34196	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		422	hours
Fan Energy:		105	KWH

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Table 38: Ridgecut Heat Load Table

PROJECT NAME: Ridgecut		Heating Degree Days =	2352
PROJECT NUMBER: 44-05		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	2 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		75	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1710	Btu/h
Roof Square Footage:		600	ft^2
Roof U-Value:		0.060	Btuh/F- ft^2
Roof Heat Loss:		1374	Btu/h
Exterior Wall Area:		601	ft^2.
Wall U-Value:		0.064	Btuh/F- ft^2
Wall Heat Loss		1458	Btu/h
Window Area:		47	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		1107	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.067	Btuh/F- ft^2
Door Heat Loss:		51	Btu/h
Air Changes Per Hour		0.52	AC/H
Apt Volume		4800.00	ft^3
Infiltration Loss:		1707.264	ft^3/min
Total Apartment Heat Loss Rate:		7407	Btu/h
Estimated Heating System Overall Efficiency:		90%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Electric	

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Estimated Heating System Consumption:	2758	kWh
Heating System Fan?	Yes	
Heating Output:	36000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	261	hours
Fan Energy:	65	KWH

PROJECT NAME: Ridgecut	Heating Degree Days =	2352
PROJECT NUMBER: 44-05	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	98	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2223	Btu/h
Roof Square Footage:	800	ft^2
Roof U-Value:	0.060	Btuh/F- ft^2
Roof Heat Loss:	1832	Btu/h
Exterior Wall Area:	682	ft^2.
Wall U-Value:	0.064	Btuh/F- ft^2
Wall Heat Loss	1653	Btu/h
Window Area:	78	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	1846	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.067	Btuh/F- ft^2
Door Heat Loss:	51	Btu/h
Air Changes Per Hour	0.48	AC/H
Apt Volume	6400.00	ft^3
Infiltration Loss:	2101.248	ft^3/min
Total Apartment Heat Loss Rate:	9706	Btu/h
Estimated Heating System Overall Efficiency:	90%	

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Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Electric		
Estimated Heating System Consumption:		3614	kWh
Heating System Fan?		Yes	
Heating Output:		36000	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		343	hours
Fan Energy:		85	KWH

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Table 39: Yolito Heat Load Table

PROJECT NAME: Yolito		Heating Degree Days =	2352
PROJECT NUMBER: 44-06		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	2 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		84	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1904	Btu/h
Roof Square Footage:		695	ft^2
Roof U-Value:		0.060	Btuh/F- ft^2
Roof Heat Loss:		1592	Btu/h
Exterior Wall Area:		523	ft^2.
Wall U-Value:		0.093	Btuh/F- ft^2
Wall Heat Loss		1848	Btu/h
Window Area:		105	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		2483	Btu/h
Door Area:		40	sq.ft.
Door U-Value:		0.067	Btuh/F- ft^2
Door Heat Loss:		101	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		5562.00	ft^3
Infiltration Loss:		951.102	ft^3/min
Total Apartment Heat Loss Rate:		8880	Btu/h
Estimated Heating System Overall Efficiency:		81%	
Standing Pilot?		Yes	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		155	ccf

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Heating System Fan?	Yes	
Heating Output:	32596	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	382	hours
Fan Energy:	95	KWH

PROJECT NAME: Yolito	Heating Degree Days =	2352
PROJECT NUMBER: 44-06	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	98	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2223	Btu/h
Roof Square Footage:	892	ft^2
Roof U-Value:	0.060	Btuh/F- ft^2
Roof Heat Loss:	2042	Btu/h
Exterior Wall Area:	604	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	2133	Btu/h
Window Area:	137	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3222	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.067	Btuh/F- ft^2
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	7132.00	ft^3
Infiltration Loss:	1219.572	ft^3/min
Total Apartment Heat Loss Rate:	10941	Btu/h
Estimated Heating System Overall Efficiency:	81%	
Standing Pilot?	Yes	

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Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas		
Estimated Heating System Consumption:		183	ccf
Heating System Fan?		Yes	
Heating Output:		32596	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		471	hours
Fan Energy:		117	KWH

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Table 40: Donnelly Heat Load Table

PROJECT NAME: Donnelly Circle		Heating Degree Days =	2352
PROJECT NUMBER: 44-07		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		45	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1026	Btu/h
Roof Square Footage:		575	ft^2
Roof U-Value:		0.067	Btuh/F- ft^2
Roof Heat Loss:		1457	Btu/h
Exterior Wall Area:		261	ft^2.
Wall U-Value:		0.093	Btuh/F- ft^2
Wall Heat Loss		922	Btu/h
Window Area:		79	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		1871	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.082	Btuh/F- ft^2
Door Heat Loss:		63	Btu/h
Air Changes Per Hour		0.79	AC/H
Apt Volume		4600.00	ft^3
Infiltration Loss:		2485.656	ft^3/min
Total Apartment Heat Loss Rate:		7824	Btu/h
Estimated Heating System Overall Efficiency:		81%	
Standing Pilot?		Yes	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		141	ccf

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Heating System Fan?	Yes	
Heating Output:	32400	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	341	hours
Fan Energy:	85	KWH

PROJECT NAME: Donnelly Circle	Heating Degree Days =	2352
PROJECT NUMBER: 44-07	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	53	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1197	Btu/h
Roof Square Footage:	748	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	1895	Btu/h
Exterior Wall Area:	313	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	1107	Btu/h
Window Area:	87	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2052	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.082	Btuh/F- ft^2
Door Heat Loss:	63	Btu/h
Air Changes Per Hour	0.79	AC/H
Apt Volume	5984.00	ft^3
Infiltration Loss:	3233.51424	ft^3/min
Total Apartment Heat Loss Rate:	9546	Btu/h
Estimated Heating System Overall Efficiency:	81%	
Standing Pilot?	Yes	

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Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	165	ccf
Heating System Fan?	Yes	
Heating Output:	32400	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	416	hours
Fan Energy:	104	KWH

PROJECT NAME: Donnelly Circle	Heating Degree Days =	2352
PROJECT NUMBER: 44-07	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	84	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1904	Btu/h
Roof Square Footage:	924	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	2341	Btu/h
Exterior Wall Area:	514	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	1817	Btu/h
Window Area:	134	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3159	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.082	Btuh/F- ft^2
Door Heat Loss:	63	Btu/h
Air Changes Per Hour	0.79	AC/H

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Apt Volume	7392.00	ft^3
Infiltration Loss:	3994.34112	ft^3/min
Total Apartment Heat Loss Rate:	13278	Btu/h
Estimated Heating System Overall Efficiency:	81%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	216	ccf
Heating System Fan?	Yes	
Heating Output:	32400	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	579	hours
Fan Energy:	144	KWH

PROJECT NAME: Donnelly Circle	Heating Degree Days =	2352
PROJECT NUMBER: 44-07	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	91	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2075	Btu/h
Roof Square Footage:	1127	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	2855	Btu/h
Exterior Wall Area:	574	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	2030	Btu/h
Window Area:	134	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3159	Btu/h

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Door Area:	20	sq.ft.
Door U-Value:	0.082	Btuh/F- ft²
Door Heat Loss:	63	Btu/h
Air Changes Per Hour	0.57	AC/H
Apt Volume	9016.00	ft³
Infiltration Loss:	3515.15808	ft³/min
Total Apartment Heat Loss Rate:	13696	Btu/h
Estimated Heating System Overall Efficiency:	81%	
Standing Pilot?	Yes	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	3504	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	222	ccf
Heating System Fan?	Yes	
Heating Output:	32400	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	597	hours
Fan Energy:	149	KWH

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Table 41: El Rio Villa 2 Load Table

PROJECT NAME: El Rio Villa 2		Heating Degree Days =	2352
PROJECT NUMBER: 44-08		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		45	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1026	Btu/h
Roof Square Footage:		575	ft^2
Roof U-Value:		0.067	Btuh/F- ft^2
Roof Heat Loss:		1457	Btu/h
Exterior Wall Area:		239	ft^2.
Wall U-Value:		0.417	Btuh/F- ft^2
Wall Heat Loss		3780	Btu/h
Window Area:		101	ft^2.
Window U-Value:		0.320	Btuh/F- ft^2
Window Heat Loss:		1231	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.082	Btuh/F- ft^2
Door Heat Loss:		63	Btu/h
Air Changes Per Hour		0.52	AC/H
Apt Volume		4600	ft^3
Infiltration Loss:		1636	ft^3/min
Total Apartment Heat Loss Rate:		9193	Btu/h
Estimated Heating System Overall Efficiency:		84%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		122	ccf

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Heating System Fan?	Yes	
Heating Output:	36960	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	339	hours
Fan Energy:	84	KWH

PROJECT NAME: El Rio Villa 2	Heating Degree Days =	2352
PROJECT NUMBER: 44-08	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	53	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1197	Btu/h
Roof Square Footage:	762	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	1930	Btu/h
Exterior Wall Area:	276	ft^2.
Wall U-Value:	0.417	Btuh/F- ft^2
Wall Heat Loss	4370	Btu/h
Window Area:	124	ft^2.
Window U-Value:	0.32	Btuh/F- ft^2
Window Heat Loss:	1508	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.082	Btuh/F- ft^2
Door Heat Loss:	63	Btu/h
Air Changes Per Hour	0.52	AC/H
Apt Volume	6096	ft^3
Infiltration Loss:	2168	ft^3/min
Total Apartment Heat Loss Rate:	11236	Btu/h
Estimated Heating System Overall Efficiency:	84%	
Standing Pilot?	No	

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Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	149	ccf
Heating System Fan?	Yes	
Heating Output:	36960	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	414	hours
Fan Energy:	103	KWH

PROJECT NAME: El Rio Villa 2	Heating Degree Days =	2352
PROJECT NUMBER: 44-08	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	84	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1904	Btu/h
Roof Square Footage:	560	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	1419	Btu/h
Exterior Wall Area:	507	ft^2.
Wall U-Value:	0.417	Btuh/F- ft^2
Wall Heat Loss	8031	Btu/h
Window Area:	141	ft^2.
Window U-Value:	0.320	Btuh/F- ft^2
Window Heat Loss:	1712	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.082	Btuh/F- ft^2
Door Heat Loss:	63	Btu/h
Air Changes Per Hour	0.38	AC/H

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Apt Volume	8456	ft^3
Infiltration Loss:	2198	ft^3/min
Total Apartment Heat Loss Rate:	15326	Btu/h
Estimated Heating System Overall Efficiency:	84%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	203	ccf
Heating System Fan?	Yes	
Heating Output:	36960	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	565	hours
Fan Energy:	141	KWH

PROJECT NAME: El Rio Villa 2	Heating Degree Days =	2352
PROJECT NUMBER: 44-08	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	91	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2075	Btu/h
Roof Square Footage:	684	ft^2
Roof U-Value:	0.067	Btuh/F- ft^2
Roof Heat Loss:	1733	Btu/h
Exterior Wall Area:	544	ft^2.
Wall U-Value:	0.417	Btuh/F- ft^2
Wall Heat Loss	8611	Btu/h
Window Area:	164	ft^2.
Window U-Value:	0.320	Btuh/F- ft^2
Window Heat Loss:	1996	Btu/h

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Door Area:		20	sq.ft.
Door U-Value:		0.082	Btuh/F- ft²
Door Heat Loss:		63	Btu/h
Air Changes Per Hour		0.38	AC/H
Apt Volume		10088	ft³
Infiltration Loss:		2622	ft³/min
Total Apartment Heat Loss Rate:		17099	Btu/h
Estimated Heating System Overall Efficiency:		84%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas		
Estimated Heating System Consumption:		226	ccf
Heating System Fan?		Yes	
Heating Output:		36960	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		747	hours
Fan Energy:		157	KWH

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Table 42: Riverbend Senior Manor 1 Load Table

PROJECT NAME: Riverbend 1		Heating Degree Days =	2352
PROJECT NUMBER: 44-08		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	0 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		64	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1453	Btu/h
Roof Square Footage:		436	ft^2
Roof U-Value:		0.107	Btuh/F- ft^2
Roof Heat Loss:		1777	Btu/h
Exterior Wall Area:		456	ft^2.
Wall U-Value:		0.086	Btuh/F- ft^2
Wall Heat Loss		1491	Btu/h
Window Area:		34	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		793	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.184	Btuh/F- ft^2
Door Heat Loss:		140	Btu/h
Air Changes Per Hour		0.79	AC/H
Apt Volume		3490.62	ft^3
Infiltration Loss:		1886.189694	ft^3/min
Total Apartment Heat Loss Rate:		7541	Btu/h
Estimated Heating System Overall Efficiency:		170%	
Standing Pilot?		No	
Pilot BTU/hr.:		0	Btu/h
Pilot Operating Hours:		8760	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Electric	
Estimated Heating System Consumption:		1487	KWH

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Heating System Fan?	Yes	
Heating Output:	68000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	75	hours
Fan Energy:	19	KWH

PROJECT NAME: Riverbend 1	Heating Degree Days =	2352
PROJECT NUMBER: 44-08	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 1 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	72	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1652	Btu/h
Roof Square Footage:	546	ft^2
Roof U-Value:	0.107	Btuh/F- ft^2
Roof Heat Loss:	2224	Btu/h
Exterior Wall Area:	513	ft^2.
Wall U-Value:	0.086	Btuh/F- ft^2
Wall Heat Loss	1675	Btu/h
Window Area:	47	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	1115	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.184	Btuh/F- ft^2
Door Heat Loss:	140	Btu/h
Air Changes Per Hour	0.79	AC/H
Apt Volume	4367.94	ft^3
Infiltration Loss:	2360.258762	ft^3/min
Total Apartment Heat Loss Rate:	9165	Btu/h
Estimated Heating System Overall Efficiency:	170%	
Standing Pilot?	No	

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Pilot BTU/hr.:	0	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Electric	
Estimated Heating System Consumption:	1807	KWH
Heating System Fan?	Yes	
Heating Output:	68000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	91	hours
Fan Energy:	23	KWH

PROJECT NAME: Riverbend 1	Heating Degree Days =	2352
PROJECT NUMBER: 44-08	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	53	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1197	Btu/h
Roof Square Footage:	748	ft^2
Roof U-Value:	0.107	Btuh/F- ft^2
Roof Heat Loss:	3047	Btu/h
Exterior Wall Area:	313	ft^2.
Wall U-Value:	0.086	Btuh/F- ft^2
Wall Heat Loss	1023	Btu/h
Window Area:	87	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2052	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.184	Btuh/F- ft^2
Door Heat Loss:	140	Btu/h
Air Changes Per Hour	0.79	AC/H

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Apt Volume	5984.00	ft^3
Infiltration Loss:	3233.51424	ft^3/min
Total Apartment Heat Loss Rate:	10692	Btu/h
Estimated Heating System Overall Efficiency:	170%	
Standing Pilot?	No	
Pilot BTU/hr.:	0	Btu/h
Pilot Operating Hours:	8760	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Electric	
Estimated Heating System Consumption:	2108	KWH
Heating System Fan?	Yes	
Heating Output:	68000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	106	hours
Fan Energy:	26	KWH

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Table 43: Riverbend Senor Manor 2 Load Table

PROJECT NAME: Riverbend 2		Heating Degree Days =	2352
PROJECT NUMBER: 44-17		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	0 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		64	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1453	Btu/h
Roof Square Footage:		436	ft^2
Roof U-Value:		0.073	Btuh/F- ft^2
Roof Heat Loss:		1214	Btu/h
Exterior Wall Area:		456	ft^2.
Wall U-Value:		0.087	Btuh/F- ft^2
Wall Heat Loss		1517	Btu/h
Window Area:		34	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		793	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.184	Btuh/F- ft^2
Door Heat Loss:		140	Btu/h
Air Changes Per Hour		0.79	AC/H
Apt Volume		3490.62	ft^3
Infiltration Loss:		1886.189694	ft^3/min
Total Apartment Heat Loss Rate:		7003	Btu/h
Estimated Heating System Overall Efficiency:		170%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Electric	
Estimated Heating System Consumption:		1381	KWH

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Heating System Fan?	Yes	
Heating Output:	30600	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	154	hours
Fan Energy:	38	KWH

PROJECT NAME: Riverbend 2	Heating Degree Days =	2352
PROJECT NUMBER: 44-17	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 1 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	72	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1652	Btu/h
Roof Square Footage:	546	ft^2
Roof U-Value:	0.073	Btuh/F- ft^2
Roof Heat Loss:	1519	Btu/h
Exterior Wall Area:	513	ft^2.
Wall U-Value:	0.087	Btuh/F- ft^2
Wall Heat Loss	1704	Btu/h
Window Area:	47	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	1115	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.184	Btuh/F- ft^2
Door Heat Loss:	140	Btu/h
Air Changes Per Hour	0.79	AC/H
Apt Volume	4367.94	ft^3
Infiltration Loss:	2360.258762	ft^3/min
Total Apartment Heat Loss Rate:	8490	Btu/h
Estimated Heating System Overall Efficiency:	170%	
Standing Pilot?	No	

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Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Electric		
Estimated Heating System Consumption:		1674	KWH
Heating System Fan?		Yes	
Heating Output:		30600	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		187	hours
Fan Energy:		47	KWH

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Table 44: El Rio Villa 3 Load Table

PROJECT NAME: El Rio Villa 3		Heating Degree Days =	2352
PROJECT NUMBER: 44-18		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		93	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		2139	Btu/h
Roof Square Footage:		585	ft^2
Roof U-Value:		0.055	Btuh/F- ft^2
Roof Heat Loss:		1230	Btu/h
Exterior Wall Area:		641	ft^2.
Wall U-Value:		0.093	Btuh/F- ft^2
Wall Heat Loss		2266	Btu/h
Window Area:		83	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		1959	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.105	Btuh/F- ft^2
Door Heat Loss:		80	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		4678.00	ft^3
Infiltration Loss:		799.938	ft^3/min
Total Apartment Heat Loss Rate:		8474	Btu/h
Estimated Heating System Overall Efficiency:		92%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		102	ccf

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Heating System Fan?	Yes	
Heating Output:	36800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	286	hours
Fan Energy:	71	KWH

PROJECT NAME: El Rio Villa 3	Heating Degree Days =	2352
PROJECT NUMBER: 44-18	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	71	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1622	Btu/h
Roof Square Footage:	640	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1347	Btu/h
Exterior Wall Area:	452	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	1598	Btu/h
Window Area:	92	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2171	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.105	Btuh/F- ft^2
Door Heat Loss:	80	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	5120.00	ft^3
Infiltration Loss:	875.52	ft^3/min
Total Apartment Heat Loss Rate:	7693	Btu/h
Estimated Heating System Overall Efficiency:	92%	
Standing Pilot?	No	

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Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	93	ccf
Heating System Fan?	Yes	
Heating Output:	36800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	260	hours
Fan Energy:	65	KWH

PROJECT NAME: El Rio Villa 3	Heating Degree Days =	2352
PROJECT NUMBER: 44-18	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	77	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1760	Btu/h
Roof Square Footage:	895	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1883	Btu/h
Exterior Wall Area:	486	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	1718	Btu/h
Window Area:	106	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	2502	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.105	Btuh/F- ft^2
Door Heat Loss:	80	Btu/h
Air Changes Per Hour	0.25	AC/H

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Apt Volume	7158.00	ft^3
Infiltration Loss:	1224.018	ft^3/min
Total Apartment Heat Loss Rate:	9166	Btu/h
Estimated Heating System Overall Efficiency:	92%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	111	ccf
Heating System Fan?	Yes	
Heating Output:	36800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	310	hours
Fan Energy:	77	KWH

PROJECT NAME: El Rio Villa 3	Heating Degree Days =	2352
PROJECT NUMBER: 44-18	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	151	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	3473	Btu/h
Roof Square Footage:	508	ft^2
Roof U-Value:	0.055	Btuh/F- ft^2
Roof Heat Loss:	1068	Btu/h
Exterior Wall Area:	1046	ft^2.
Wall U-Value:	0.093	Btuh/F- ft^2
Wall Heat Loss	3699	Btu/h
Window Area:	142	ft^2.
Window U-Value:	0.621	Btuh/F- ft^2
Window Heat Loss:	3340	Btu/h

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Door Area:	20	sq.ft.
Door U-Value:	0.105	Btuh/F- ft²
Door Heat Loss:	80	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	9320.00	ft³
Infiltration Loss:	1211.2272	ft³/min
Total Apartment Heat Loss Rate:	12871	Btu/h
Estimated Heating System Overall Efficiency:	92%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	155	ccf
Heating System Fan?	Yes	
Heating Output:	36800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	435	hours
Fan Energy:	108	KWH

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Table 45: El Rio Villa 4 Load Table

PROJECT NAME: El Rio Villa 4		Heating Degree Days =	2352
PROJECT NUMBER: 44-25		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	3 BR	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		73	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1664	Btu/h
Roof Square Footage:		888	ft^2
Roof U-Value:		0.055	Btuh/F- ft^2
Roof Heat Loss:		1868	Btu/h
Exterior Wall Area:		458	ft^2.
Wall U-Value:		0.093	Btuh/F- ft^2
Wall Heat Loss		1619	Btu/h
Window Area:		106	ft^2.
Window U-Value:		0.621	Btuh/F- ft^2
Window Heat Loss:		2502	Btu/h
Door Area:		20	sq.ft.
Door U-Value:		0.105	Btuh/F- ft^2
Door Heat Loss:		80	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		7104.00	ft^3
Infiltration Loss:		1214.784	ft^3/min
Total Apartment Heat Loss Rate:		8949	Btu/h
Estimated Heating System Overall Efficiency:		81%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		123	ccf

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Heating System Fan?	Yes	
Heating Output:	32400	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	390	hours
Fan Energy:	97	KWH

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Table 46: Las Casitas Load Table

PROJECT NAME: Las Casitas		Heating Degree Days =	2352
PROJECT NUMBER: 44-28		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	1 BR Bottom	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		1	
Perimeter Linear Footage:		73	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		1659	Btu/h
Roof Square Footage:		0	ft^2
Roof U-Value:		0.000	Btuh/F- ft^2
Roof Heat Loss:		0	Btu/h
Exterior Wall Area:		491	ft^2.
Wall U-Value:		0.091	Btuh/F- ft^2
Wall Heat Loss		1696	Btu/h
Window Area:		51	ft^2.
Window U-Value:		0.500	Btuh/F- ft^2
Window Heat Loss:		969	Btu/h
Door Area:		40	sq.ft.
Door U-Value:		0.133	Btuh/F- ft^2
Door Heat Loss:		203	Btu/h
Air Changes Per Hour		0.25	AC/H
Apt Volume		5105.36	ft^3
Infiltration Loss:		873.01713	ft^3/min
Total Apartment Heat Loss Rate:		5400	Btu/h
Estimated Heating System Overall Efficiency:		95%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	
Estimated Heating System Consumption:		63	ccf

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Heating System Fan?	Yes	
Heating Output:	33535	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	194	hours
Fan Energy:	48	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 1 BR Top	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	73	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1659	Btu/h
Roof Square Footage:	638	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	638	Btu/h
Exterior Wall Area:	491	ft^2.
Wall U-Value:	0.091	Btuh/F- ft^2
Wall Heat Loss	1696	Btu/h
Window Area:	51	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	969	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft^2
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	5105.36	ft^3
Infiltration Loss:	873.01713	ft^3/min
Total Apartment Heat Loss Rate:	6038	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	

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Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	71	ccf
Heating System Fan?	Yes	
Heating Output:	33535	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	217	hours
Fan Energy:	54	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR Bottom	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	87	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1989	Btu/h
Roof Square Footage:	0	ft^2
Roof U-Value:	0.000	Btuh/F- ft^2
Roof Heat Loss:	0	Btu/h
Exterior Wall Area:	592	ft^2.
Wall U-Value:	0.091	Btuh/F- ft^2
Wall Heat Loss	2045	Btu/h
Window Area:	66	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	1254	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft^2
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.25	AC/H

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Apt Volume	5768.00	ft^3
Infiltration Loss:	986.328	ft^3/min
Total Apartment Heat Loss Rate:	6477	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	76	ccf
Heating System Fan?	Yes	
Heating Output:	38000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	205	hours
Fan Energy:	51	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR Top	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	87	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1989	Btu/h
Roof Square Footage:	721	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	721	Btu/h
Exterior Wall Area:	592	ft^2.
Wall U-Value:	0.091	Btuh/F- ft^2
Wall Heat Loss	2045	Btu/h
Window Area:	66	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	1254	Btu/h

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Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft²
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.25	AC/H
Apt Volume	5767.08	ft³
Infiltration Loss:	986.17125	ft³/min
Total Apartment Heat Loss Rate:	7198	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	84	ccf
Heating System Fan?	Yes	
Heating Output:	38000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	228	hours
Fan Energy:	57	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 2 BR T/H	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	78	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	1788	Btu/h
Roof Square Footage:	563	ft²
Roof U-Value:	0.026	Btuh/F- ft²
Roof Heat Loss:	563	Btu/h
Exterior Wall Area:	1130	ft².

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Wall U-Value:	0.091	Btuh/F- ft²
Wall Heat Loss	3902	Btu/h
Window Area:	105	ft².
Window U-Value:	0.500	Btuh/F- ft²
Window Heat Loss:	1995	Btu/h
Door Area:	20	sq.ft.
Door U-Value:	0.133	Btuh/F- ft²
Door Heat Loss:	101	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	9012.76	ft³
Infiltration Loss:	1171.298232	ft³/min
Total Apartment Heat Loss Rate:	9521	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	111	ccf
Heating System Fan?	Yes	
Heating Output:	38000	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	302	hours
Fan Energy:	75	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR Bottom	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	96	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2195	Btu/h

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Roof Square Footage:	0	ft²
Roof U-Value:	0.000	Btuh/F- ft²
Roof Heat Loss:	0	Btu/h
Exterior Wall Area:	619	ft².
Wall U-Value:	0.091	Btuh/F- ft²
Wall Heat Loss	2138	Btu/h
Window Area:	111	ft².
Window U-Value:	0.500	Btuh/F- ft²
Window Heat Loss:	2109	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft²
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	8632.00	ft³
Infiltration Loss:	1121.81472	ft³/min
Total Apartment Heat Loss Rate:	7766	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	91	ccf
Heating System Fan?	Yes	
Heating Output:	41800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	224	hours
Fan Energy:	56	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 3 BR Top	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77

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APARTMENT DATA:		
Number of Stories:	1	
Perimeter Linear Footage:	96	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	2195	Btu/h
Roof Square Footage:	1079	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	1079	Btu/h
Exterior Wall Area:	619	ft^2.
Wall U-Value:	0.091	Btuh/F- ft^2
Wall Heat Loss	2138	Btu/h
Window Area:	111	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	2109	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft^2
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	8634.02	ft^3
Infiltration Loss:	1122.076922	ft^3/min
Total Apartment Heat Loss Rate:	8846	Btu/h
Estimated Heating System Overall Efficiency:	95%	
Standing Pilot?	No	
Pilot BTU/hr.:	400	Btu/h
Pilot Operating Hours:	0	hrs/yr
Pilot Consumption:	0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas	
Estimated Heating System Consumption:	103	ccf
Heating System Fan?	Yes	
Heating Output:	41800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	255	hours
Fan Energy:	63	KWH

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PROJECT NAME: Las Casitas		Heating Degree Days =	2352
PROJECT NUMBER: 44-28		Balance Pt. Temp Diff.(F)=	33
UNIT TYPE:	3 BR T/H	Design Temp. Diff.(F) =	38
		Correction Factor (CD) =	0.77
APARTMENT DATA:			
Number of Stories:		2	
Perimeter Linear Footage:		167	ft.
Perimeter HTM:		23	Btuh/lf
Perimeter Heat Loss:		3811	Btu/h
Roof Square Footage:		563	ft^2
Roof U-Value:		0.026	Btuh/F- ft^2
Roof Heat Loss:		563	Btu/h
Exterior Wall Area:		1162	ft^2.
Wall U-Value:		0.091	Btuh/F- ft^2
Wall Heat Loss		4015	Btu/h
Window Area:		135	ft^2.
Window U-Value:		0.500	Btuh/F- ft^2
Window Heat Loss:		2565	Btu/h
Door Area:		40	sq.ft.
Door U-Value:		0.133	Btuh/F- ft^2
Door Heat Loss:		203	Btu/h
Air Changes Per Hour		0.19	AC/H
Apt Volume		10073.61	ft^3
Infiltration Loss:		1309.166904	ft^3/min
Total Apartment Heat Loss Rate:		12467	Btu/h
Estimated Heating System Overall Efficiency:		95%	
Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)		Natural Gas	

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Estimated Heating System Consumption:	146	ccf
Heating System Fan?	Yes	
Heating Output:	41800	Btu/h
Fan Size:	249	Watts
Fan Operating Hours:	359	hours
Fan Energy:	89	KWH

PROJECT NAME: Las Casitas	Heating Degree Days =	2352
PROJECT NUMBER: 44-28	Balance Pt. Temp Diff.(F)=	33
UNIT TYPE: 4 BR T/H	Design Temp. Diff.(F) =	38
	Correction Factor (CD) =	0.77
APARTMENT DATA:		
Number of Stories:	2	
Perimeter Linear Footage:	167	ft.
Perimeter HTM:	23	Btuh/lf
Perimeter Heat Loss:	3815	Btu/h
Roof Square Footage:	668	ft^2
Roof U-Value:	0.026	Btuh/F- ft^2
Roof Heat Loss:	668	Btu/h
Exterior Wall Area:	1134	ft^2.
Wall U-Value:	0.091	Btuh/F- ft^2
Wall Heat Loss	3916	Btu/h
Window Area:	165	ft^2.
Window U-Value:	0.500	Btuh/F- ft^2
Window Heat Loss:	3135	Btu/h
Door Area:	40	sq.ft.
Door U-Value:	0.133	Btuh/F- ft^2
Door Heat Loss:	203	Btu/h
Air Changes Per Hour	0.19	AC/H
Apt Volume	10891.81	ft^3
Infiltration Loss:	1415.499368	ft^3/min
Total Apartment Heat Loss Rate:	13153	Btu/h
Estimated Heating System Overall Efficiency:	95%	

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Standing Pilot?		No	
Pilot BTU/hr.:		400	Btu/h
Pilot Operating Hours:		0	hrs/yr
Pilot Consumption:		0	kBTU/yr
Heating Fuel? (Natural Gas, Electric, Propane)	Natural Gas		
Estimated Heating System Consumption:		154	ccf
Heating System Fan?		Yes	
Heating Output:		41800	Btu/h
Fan Size:		249	Watts
Fan Operating Hours:		379	hours
Fan Energy:		94	KWH

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Appendix C: Rate Schedules

Appendix C.1. Electricity Schedule

Table 47: Electricity Rate Schedule

Summer Rate (May – October)		
Tier 1:	$ 0.28824	for consumption 0 kWh - 15.8 kWh (per day)
Tier 2:	$ 0.34902	for consumption 15.8 kWh - 63.2 kWh (per day)
Tier 3:	$ 0.57162	for consumption greater than 63.2 kWh (per day)

Winter Rate (November – April)		
Tier 1:	$ 0.28824	for consumption 0 kWh - 11.1 kWh (per day)
Tier 2:	$ 0.34902	for consumption 11.1 kWh - 44.4 kWh (per day)
Tier 3:	$ 0.57162	for consumption greater than 44.4 kWh (per day)

Source: https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-1.pdf

Appendix C.2. Natural Gas Schedule

Table 48: Natural Gas Rate Schedule

Summer Rate (April – October)		
Tier 1:	$1.48472	for consumption 0 Therms - 0.39 Therms (per day)
Tier 2:	$2.00207	for consumption greater than 0.39 Therms (per day)

Winter Off-Peak Rate (November, February, March)		
Tier 1:	$1.48472	for consumption 0 Therms – 1.38 Therms (per day)
Tier 2:	$2.00207	for consumption greater than 1.38 Therms (per day)

Winter On-Peak Rate (December – January)		
Tier 1:	$1.48472	for consumption 0 Therms – 2.06 Therms (per day)
Tier 2:	$2.00207	for consumption greater than 2.06 Therms (per day)

Source: https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_SCHEDS_G-1.pdf

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Appendix D: Allowances Postings

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Yolano Drive
(City of Woodland)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR Duplex	151	$46	22	$36	$81
2 BR Duplex	178	$54	26	$44	$98
2 BR T/H	178	$54	26	$44	$98
3 BR T/H	206	$62	33	$58	$121
4 BR Duplex	231	$70	38	$72	$142

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El Rio Villa 1
(City of Winters)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR	154	$47	23	$38	$84
2 BR	182	$55	30	$53	$108
3 BR	214	$65	38	$78	$143
4 BR	242	$73	46	$94	$167

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Vista Montecito
(Esparto)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
2 BR	189	$57	31	$54	$111
3 BR	218	$66	39	$80	$146

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Ridgecut Homes
(Knights Landing)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
2 BR	676	$238	0	$0	$238
3 BR	888	$384	0	$0	$384

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Yolito
(Yolo)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
2 BR	186	$56	31	$54	$110
3 BR	212	$64	39	$80	$145

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Donnelly Circle
(City of Woodland)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR	169	$51	23	$37	$88
2 BR	200	$61	29	$51	$112
3 BR	234	$71	39	$80	$150
4 BR	267	$81	44	$90	$171

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El Rio Villa 2
(City of Winters)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR	144	$44	23	$38	$82
2 BR	179	$54	31	$54	$108
3 BR	220	$67	42	$85	$152
4 BR	258	$78	49	$100	$179

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Riverbend Senior Manor 1
(City of W. Sacramento)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
0 BR	309	$106	0	$0	$106
1 BR	361	$123	0	$0	$123
2 BR	437	$151	0	$0	$151

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Riverbend Senior Manor 2
(City of W. Sacramento)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
0 BR	368	$127	8	$11	$138
1 BR	416	$143	10	$14	$158

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El Rio Villa 3
(City of Winters)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR	180	$55	21	$36	$90
2 BR	213	$65	26	$44	$109
3 BR	243	$74	34	$61	$135
4 BR	277	$84	43	$88	$172
5 BR	301	$91	47	$97	$189

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El Rio Villa 4
(City of Winters)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
3 BR	242	$73	35	$62	$136

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Las Casitas
(City of W. Sacramento)

Unit Type	Electricity		Natural Gas		Total Monthly Cost Allowances
	Average Monthly Consumption (kWh)	Average Monthly Cost	Average Monthly Consumption (therms)	Average Monthly Costs	
1 BR Bottom	181	$55	18	$28	$83
1 BR Top	182	$55	18	$29	$84
2 BR Bottom	207	$63	21	$36	$99
2 BR Top	208	$63	22	$37	$100
2 BR T/H	211	$64	24	$41	$105
3 BR Bottom	249	$76	28	$49	$124
3 BR Top	250	$76	29	$51	$127
3 BR T/H	256	$77	33	$58	$136
4 BR T/H	291	$88	37	$69	$157

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