



Seattle Housing Authority's
Denny Terrace
Energy and Water Survey

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Energy and Water Survey For Denny Terrace Apartments

Table of Contents

I.	Project Description.....	2
II.	Energy and Water Survey	2
	A. Objective of Energy and Water Survey.....	2
	B. Description of Data Collection Method	3
	C. Utility Data	3
	D. Baseline Building Data	3
	E. Energy Simulation Procedures.....	5
	F. Water Consumption Calculation Procedures.....	6
	G. Baseline Accuracy Objectives.....	6
	H. Expected Uncertainty in Savings	6
	I. Results and Recommendations	7
III.	Quality Assurance	9
IV.	Appendices	10
	Appendix A	10
	Energy Simulation Inputs	10
	Energy Simulation Results – Run 1	12
	Energy Simulation Results – Run 2	14
	Energy Simulation Results – Run 3	16
	Appendix B - Water Use Calculations.....	18
	Water Use Calculations – 1.28 GPF Toilets.....	18
	Laundry Water Use Calculations	21
	Water Use Calculations – 1.1 GPF Toilets.....	22
	Appendix C – Utility Data.....	25
	Common Area Electric Meters	25
	Residential Electric Meters	28
	Water Meter	33

I. Project Description

Denny Terrace Apartments is a 10-story public housing complex owned and operated by the Seattle Housing Authority (SHA). The building was built in 1969 of masonry construction. Portions of the building have been upgraded over the years, including windows, toilets, roofing and roof insulation.

The building provides 218 low income dwelling units in a mix of studios, 1 bedroom and 2 bedroom units. Each dwelling unit has a kitchen and a bathroom.

There are a few parking stalls tucked under the first floor of the building, but most of the parking is in an adjacent surface lot to the north and east of building.

The site slopes steeply uphill from west to east. Floors 1-4 are below grade on the uphill side of the building. There is building access from Melrose Avenue on the west and from the alley to the 5th floor on the east.

II. Energy and Water Survey

A. Objective of Energy and Water Survey

SHA is submitting an application to HUD for funding under the Capital Fund Recovery Competition Grant. The funding category is Category 4: Creation of Energy Efficient Green Communities, Option 2. DKA has requested assistance with Rating Factor 2 – Strategies for Energy Efficient Communities, which is worth up to 45 points. Applicants are awarded funding based on ranking. Ranking is determined by the number of points a project scores. For Rating Factor 2, points are awarded for the percentage of reduction in energy and water consumption as follows:

Greater than 35% savings in energy/water consumption: 45 points

Greater than 25%, but less than or equal to 35% savings in energy/water consumption: 35 points

Greater than 15%, but less than or equal to 25% savings in energy/water consumption: 25 points

Greater than 5%, but less than or equal to 15% savings in energy/water consumption: 10 points

5% or less savings in energy/water consumption: 0 points.

The percent savings in energy and water consumption is determined by the following formula:

$(\% \text{ energy savings} \times 70\%) + (\% \text{ water savings} \times 30\%) = \text{Total percentage of energy/water consumption savings.}$

The objective of the survey is to identify capital improvements and corresponding utility savings to achieve the highest possible score for Rating Factor 2, and qualify the project for federal funding.

B. Description of Data Collection Method

A site tour was conducted on June 23, 2009. Attendees included representatives from ArchEcology, Seattle Housing Authority and DKA. Major characteristics of the building, occupancy types, and patterns were noted. The building was not inspected exhaustively. All building common areas were toured along with several vacant residential units. DKA provided ArchEcology with original drawings of the building, a detailed building evaluation prepared by DKA, and AutoCAD files.

C. Utility Data

The owner provided utility data for each meter in the building. The residential electric meter data is for five years (2004-2008). The house meter data (common areas) covers three years (April 2006-April 2009), and the water meter data is for the same time period.

The utility meter information provided to ArchEcology is attached in Appendix C.

D. Baseline Building Data

The following information was compiled from the site tour, drawings and interview with property manager. Detailed inputs are provided in Appendix A.

1. Building Area

The building area is derived from original architectural drawings, and AutoCAD files provided by DKA.

2. Space Use and Occupancy Type

Baseline building reflects an estimate of occupant, visitor, employee, and part time worker's profiles and schedules. The estimate was provided by SHA's on-site manager. SHA does not keep records of occupants or their guests. There are 218 leasable residential units housing 220 residents. The majority of occupants has some form of physical or developmental disability, and do not work outside the home. The occupancy rate averages 95% and consists mostly of single occupants and a few couples. 92-95% of residents are on a fixed income. The gender split is about even.

3. Schedules

Schedule information was provided by the on-site property manager, and is representative of his observations and does not represent an actual tracking of occupant movements.

Resident Schedules:

Since the majority of residents stay at home during the day with about 10-15% working seasonal part-time, we assumed a high daytime use of the building.

Non-Resident Schedules:

Office hours are 9am-5pm M-F; closed on weekends and observed holidays. There are 2.2 FTE's, including office staff and a counselor that comes for eight hours a week. In addition, there are an estimated ten chore workers a day who provide services to the residents.

The property manager estimates there are fifteen visitors hourly for about 165 daily with the average stay of one hour.

Common Area Use:

The lounge is used daily for a few hours each morning for coffee, reading, and socializing. The community room is often empty during the weekday, but is used on weekends. The adjoining kitchen is also seldom used.

One vocational and one computer room are in use a few times a week for a couple of hours at a time.

4. Utility Meters

There are five electric meters for building common areas. Each residential unit has a separate meter. There is one water meter for the building.

5. HVAC Equipment

The common areas of the building are served by two rooftop package air handling units with electric heating, zone ventilation, and no cooling. There are eight vent stacks at 30cfm of which about four work per hour.

Residential units are heated by electric baseboards. Bathroom fans and windows are the means of zone ventilation. About 10% of units currently have window AC units.

The heating setpoint was assumed to be 72 degrees, although the heating equipment does not have a thermostat, only a crude "on-off" dial. There is no cooling system in the building, although some tenants have window air conditioners. These are reflected in the appliance W/SF.

6. Lighting

Lighting power densities were determined by fixture counts and types of bulbs installed.

Interior Area Lighting:

In all common areas light fixtures were counted and type and wattage noted. Residential lighting power densities were determined by touring several units and noting the installed lighting in each room. We then calculated the total lighting watts per unit and divided it by the area of the residential units.

There are no automatic lighting controls for interior spaces. Corridor lights are on 24/7.

Exterior Lighting:

Exterior light fixtures were counted and wattage recorded. The total lighting wattage is divided by building area. Exterior lighting is controlled by photocell.

7. Receptacle Loads

A value of 0.30 W/SF was estimated for residential units based on occupancy profiles and schedules. 1.50 W/SF was assumed for the office space and computer rooms based on occupancy and type of equipment being used. Kitchen and vocational were estimated at 1.00 W/SF. Community spaces and mechanical spaces were also estimated based on observation and provided schedules.

8. Water Heating**Water Heaters:**

Domestic hot water is provided to all of the building and is supplied by three 150kW 3,926 gallon (assumed) electric water heaters located in the basement. Each water heater serves a separate hot water loop. Water heaters were installed August of 1968. Supplied water temperature is set at 125 degrees with an assumed loss of 15 degrees. Daily hot water use is estimated at 20 gallons/person/day.

Pumps:

The water heaters have recirculation pumps. We have assumed a constant flow. The pumps are 7.5HP each.

9. Water Fixtures

The building fixtures meet 1992 EPA fixture flow requirements. Consistent with this are 1.6 gpf water closets throughout the building and 2.5 gpm showerheads in all residential units. Over time aerators of varying flow rates have been installed on many of the kitchen and lavatory faucets. We did not inspect every unit, so chose to use an average of 2.2 gpm.

10. Laundry Equipment

The building has a laundry facility with coin operated leased equipment. The facility has five large capacity washers and five dryers accessible 24 hours a day serving the entire building. Based on information from the vendor, we calculated an average of 1.2 loads of laundry per week per occupant.

E. Energy Simulation Procedures

The project team developed two energy simulations – a baseline case which reflects “as-built” conditions and a proposed case, which incorporates several energy conservation measures (ECM’s). Three runs of the proposed case simulation were provided with different combinations of ECM’s.

Energy simulation Software:

Equest version 3.6.

Weather File:

The weather file used is a TMY3 (Typical Meteorological Year) file for Boeing Field (WA_Seattle_Boeing_Field.bin).

Definition of Thermal Zones:

Thermal zones were defined in accordance with ASHRAE 90.1-2004 Appendix G: Residential units are one thermal zone, except where units have the same solar orientation they are combined into one thermal block. Corner units and units with floor or roof exposure are separate thermal blocks. The baseline model was calibrated to reflect actual zoning of HVAC system and size of area served.

F. Water Consumption Calculation Procedures

Total building water use was from utility data. The team estimated daily use patterns based on occupancy type and schedules. The laundry water use was estimated based on information provided by the appliance vendor on the number of times the washers are used monthly. Detailed water consumption calculations are provided in Appendix B.

There are two calculation runs for water conservation measures. The difference between the two is the water closet consumption. The first run has a 1.28 gpf water closet, and the second run has a 1.1 gpf water closet.

G. Baseline Accuracy Objectives

Energy Use: The baseline model energy use was calibrated within 5% of the averaged annual utility data for each electric meter. The baseline was not modeled with separate meters for individual residential units. The annual average utility data for all residential meters combined was used as the baseline from which to calibrate the residential electric meter.

Water Use: The baseline water use was calibrated within 5% of the actual metered water consumption.

H. Expected Uncertainty in Savings

The baseline simulation calibration was rigorous. The software used is commercially available and is capable of modeling the facility and the ECM's. However, there are specific areas of uncertainty which reduce the confidence level. The areas of uncertainty include:

- Number of occupants is estimated
- Occupant schedules are estimated
- Gender split of occupants is estimated
- Receptacle load for residential units is estimated
- Malfunctioning equipment is not accounted for
- Window performance data is estimated
- Energy consumption could not be calibrated by end use. Although overall energy consumption is calibrated very closely, there may be considerable discrepancy

between the actual end use consumption and that projected by the simulation. This could have a significant impact on the actual energy savings realized by the proposed ECM's.

- The building has one water meter, and therefore, water consumption could not be calibrated by end use. Overall water use is also calibrated very closely; however there may be discrepancy between the actual end use consumption and the calculated baseline.
- Weather file represents a typical year. Actual weather may be different and affect the savings realized.

Given these uncertainties, we anticipate the actual savings to be within 20% of the projected savings with an 80% confidence level.

I. Results and Recommendations

The proposed case looked at three simulation runs with a number of ECM's. The results of these runs were then combined with the results of the water reduction calculations. Details of the energy simulation runs and the combined energy/water conservation results are found in Appendix A. Water calculations are detailed in Appendix B. A summary of the results is listed below.

The combined energy/water conservation percentage for each of the runs is calculated according the formula provided by HUD:

$$(\% \text{ energy savings} \times 70\%) + (\% \text{ water savings} \times 30\%) = \text{Total percentage of energy/water consumption savings.}$$

Summary of Results:

Run 1 (electric water heaters, no ERV)

Energy Savings:	37.4%
Water Savings:	33%
Combined Energy/Water Savings:	36.1%

Run 2 (gas domestic boilers)

Energy Savings:	32.8%
Water Savings:	36%
Combined Energy/Water Savings:	33.7%

Run 3 (electric water heaters, ERV on corridor AHU's)

Energy Savings:	38.5%
Water Savings:	33%
Combined Energy/Water Savings:	36.9%

Recommended upgrades:

Both runs 1 & 3 achieve the maximum score available for the grant application. Although run 3 achieves an additional 1% reduction in energy use, it also implements an expensive energy recovery ventilator (ERV) on the corridor air handling units. We do not believe the modest savings from the ERV's warrant the expense. We believe Run 1 represents the most cost effective upgrades and recommend the following upgrades be implemented:

A. Envelope

1. Add Exterior Insulation Finish System (EIFS) with R-10.5 insulation
2. Replace windows with new high performance windows. West facing windows to be triple glazed with a lower SHGC to minimize heat gain, and mitigate noise from the adjacent freeway.
3. Reroof with an energy star rated roofing material.

B. Lighting:

1. Replace incandescent residential light fixtures with fluorescent fixtures.
2. Replace older T12 fluorescent fixtures with more efficient T8 fluorescent fixtures.
3. Reduce lighting power density throughout common areas.
4. Add daylight controls and occupancy sensors in corridors and common areas.
5. Replace exterior light fixtures, with more efficient fixtures.

C. HVAC:

1. Replace all residential baseboard heaters with new lower wattage heaters.
2. Add thermostats in residential units.
3. Replace corridor AHU's
4. Replace residential intermittent exhaust fans with lower volume continuously operating exhaust fans.

D. Domestic Hot Water

1. Replace all existing electric water heaters with new electric water heaters. Add demand controls and variable speed drives to the pumps.

E. Water Fixtures and Appliances

1. Replace all existing toilets with 1.28 gpf
2. Replace all existing lavatory faucets with 0.5 gpm, or add aerators to existing faucets. Add autoflow control to common area fixtures.
3. Replace all existing shower heads with new 1.8 gpm fixtures.
4. Replace all kitchen faucets with new 1.8 gpm, or add aerators
5. Replace laundry equipment with new low water use models.

III. Quality Assurance

A post-retrofit analysis will be performed to determine the realized savings from building upgrades. A process similar to that described above will be undertaken after the building upgrades have been in stable operation for a period of one year.

Appendix A

Energy Simulation Inputs

Denny Terrace Input Data

General Project Site Description

Building Description	Baseline SF	Proposed Run #1	Proposed Run #2	Proposed Run #3
Site/Utility Data				
Building Location	Seattle, WA	Same	Same	Same
Weather File	TMY3 Boeing Field	Same	Same	Same
Natural Gas Provider	None	None	Puget Sound Energy	None
Electricity Provider	Seattle, City Light	Same	Same	Same
Water Provider	Seattle Public Utilities	Same	Same	Same
Building Operation Hours	24/7, year round	Same	Same	Same
Space Type/Use				
Residential Dwelling Units	85,735 SF	Same	Same	Same
Office	657 SF	Same	Same	Same
Common Areas (Lounge, kitchen)	4,100 SF	Same	Same	Same
Corridors/Maintenance	27,250 SF	Same	Same	Same
Parking	xx	Same	Same	Same

Occupant/Schedule Data

Occupancy Type	Baseline	Proposed Run #1	Proposed Run #2	Proposed Run #3
Residents	220 Full Time Residents	Same	Same	Same
Working Residents	22	Same	Same	Same
Office	2.2 FTE's	Same	Same	Same
Counselor	8 hr/week	Same	Same	Same
Chore Workers	10 per day	Same	Same	Same
Visitors	15 per/hr; 165 daily	Same	Same	Same

Energy Simulation Input Data

Building Component	Baseline	Proposed Run #1	Proposed Run #2	Proposed Run #3
Building Shell				
Exterior Wall Construction	8" hollow brick, R-4 furred insulation on interior	8" hollow brick, R-4 furred insulation, R-10.5 exterior insulation	Same as Proposed Run #1	Same as Proposed Run #1
Roof Construction	8" Concrete, built-up medium SRI, R-30 insulation	8" Concrete, built-up white, high SRI, R-30 insulation	Same as Proposed Run #1	Same as Proposed Run #1
Floor/Slab Construction	6" uninsulated SOG, 8" uninsulated Floor Slabs (2" rigid insulation at parking)	Same as baseline	Same as baseline	Same as baseline
Shading Devices	None	Interior horizontal blinds	Same as Proposed Run #1	Same as Proposed Run #1
Fenestration				
Window-to-gross wall ratio	17%	Same as baseline	Same as baseline	Same as baseline
Fenestration type	Air Filled, Double Glazed, Clear	SW : Low-E Argon Filled, Triple Glazed, Tinted NE : Low-E Argon Filled, Double Glazed Clear	Same as Proposed Run #1	Same as Proposed Run #1
Fenestration U-factor	U = 0.57	SW: U = 0.14; NE: U = 0.30	Same as Proposed Run #1	Same as Proposed Run #1
Fenestration SHGC	SHGC = 0.76	SW/E: SHGC = 0.39 N: SHGC = 0.49	Same as Proposed Run #1	Same as Proposed Run #1
Lighting and Equipment				
Area Lighting				
Interior Lighting Power Density (W/SF)	Residential Units: 1.00 W/sf, Office: 1.24 W/sf, Mech/Elec: 0.81 W/sf, Corridor: 0.85 W/sf, Computer Room: 0.43 W/sf, Vocational: 0.43 W/sf, Lobby: 1.77 W/sf, Restrooms: 0.77 W/sf, Kitchen: 1.28 W/sf, Community: 1.24 W/sf, Storage: 1.19 W/sf, Laundry: 1.74 W/sf	Residential Units: 0.27 W/sf, Office: 1.00 W/sf, Mech/Elec: 0.50 W/sf, Corridor: 0.75W/sf, Computer Room: 0.43 W/sf, Vocational: 0.43 W/sf, Lobby: 0.80 W/sf, Restrooms: 0.48 W/sf, Kitchen: 0.80 W/sf, Community: 0.50 W/sf, Storage: 0.75 W/sf, Laundry: 0.80 W/sf	Same as Proposed Run #1	Same as Proposed Run #1

Appendix A

Energy Simulation Inputs

Denny Terrace Input Data

Daylighting Controls	None	Step-Down Daylight Sensors added to Corridors	Same as Proposed Run #1	Same as Proposed Run #1
Other Lighting Controls	None	Occupancy Sensors in Stairs, Community Room and Common Bath Rooms	Same as Proposed Run #1	Same as Proposed Run #1
Exterior Lighting Power (kW)	2.4 KW	Replace existing fixtures with new lower Wattage fixtures - 1.2 KW	Same as Proposed Run #1	Same as Proposed Run #1
Process Lighting	None	None	None	None
Receptacle Equipment Power Density (W/SF)	Residential Units: 0.30 W/sf, Office: 1.50 W/sf, Mech/Elec: 0.10 W/sf, Computer Room: 1.50 W/sf, Vocational: 1.00 W/sf, Lobby 0.00 W/sf, Restrooms: 0.00 W/sf, Kitchen: 1.00 W/sf, Community: 0.30 W/sf,	Residential Units: 0.30 W/sf, Office: 1.50 W/sf, Mech/Elec: 0.10 W/sf, Computer Room: 1.50 W/sf, Vocational: 1.00 W/sf, Lobby 0.00 W/sf, Restrooms: 0.00 W/sf, Kitchen: 1.00 W/sf, Community: 0.30 W/sf,	Same as baseline	Same as baseline
Appliance Power Density (W/SF)	Residential Units: 0.02 W/sf	Same as baseline	Same as baseline	Same as baseline
HVAC				
Heating System Description	Residential: Electric Baseboard Heaters, no thermostat Common Areas: Rooftop Air Handling Units with electric heat.	Residential: Replace with new lower wattage electric baseboards with thermostats. Common Areas: New rooftop air handling units with electric heat.	Same as Proposed Run #1	Rooftop Air handling units are ERV's which recover unit exhaust. Sensible Heat Exchanger. Operates only in heating mode. ERV equipped with an outside air bypass.
Cooling System Description	None	None	None	None
Cooling Equipment Efficiency	NA	NA	NA	NA
Ventilation System Description	Units: Intermittent bath fans at 70 CFM. Most units bath fans exhaust to roof 54 units exhaust horizontally; Common Areas: fresh air from rooftop AHU.	Continuously operating bath fans at 35 CFM. Most to roof. 54 units vent horizontally. Fans may be increased to 80 CFM by occupant.	Same as Proposed Run #1	Same as Proposed Run #1
Fan Power Efficiency	Standard	High Efficiency	Same as Proposed Run #1	Same as Proposed Run #1
Domestic Hot water				
Domestic Hot Water loop and pump parameters	3 electric water heaters with recirculation pump. Assume constant flow. 125 degrees with loss of 15 degrees.	Replace with new electric water heaters and add VSD and demand control. 125 degrees with loss of 15 degrees.	Replace with new natural gas boilers. Pumps to have VSD and demand control.	Same as Proposed Run #1

Water Use Input Data

Water Fixtures	Baseline	Proposed Run #1	Proposed Run #2	Proposed Run #3
Flush Fixtures				
Water Closets	1.6 gpf	New 1.28 gpf water closets	New 1.1 gpf water closets	New 1.28 gpf water closets
Urinals	NA	NA	NA	NA
Flow Fixtures				
Lavatories	2.2 gpm	0.5 gpm aerator, or new faucet	Same as Proposed Run #1	Same as Proposed Run #1
Kitchen Faucets	2.2 gpm	1.5 gpm aerator, or new faucet	Same as Proposed Run #1	Same as Proposed Run #1
Showers	2.5 gpm	New 1.8 gpm	Same as Proposed Run #1	Same as Proposed Run #1
Washers	18 gal per cycle	11 gal per cycle	Same as Proposed Run #1	Same as Proposed Run #1

Appendix A

Energy Simulation Results - Run 1

Denny Terrace Run 1 Data

Proposed Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost	
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]	
Area Lighting	Electricity	157,356.00			537,056.03	\$8,599.03	
Space Heating	Electricity	471,954.00			1,610,779.00	\$25,790.87	
Pumps & Aux	Electricity	100.00			341.30	\$5.46	
Ventilation Fans	Electricity	65,170.00			222,425.21	\$3,561.34	
Domestic Hot Water	Electricity	337,515.00			1,151,938.70	\$18,444.18	
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01	
Exterior Usage	Electricity	5,500.00			18,771.50	\$300.56	
TOTAL BUILDING CONSUMPTION		1,227,139.00	0.00	0.00	4,188,225.41	\$67,059.46	
						Electric	\$67,059.46
						Gas	\$0.00

Baseline Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost	
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]	
Area Lighting	Electricity	459,327.00			1,567,683.05	\$25,100.84	
Space Heating	Electricity	783,956.00			2,675,641.83	\$42,840.84	
Pumps & Aux	Electricity	134.00			457.34	\$7.32	
Ventilation Fans	Electricity	65,114.00			222,234.08	\$3,558.28	
Domestic Hot Water	Electricity	450,738.00			1,538,368.79	\$24,631.48	
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01	
Exterior Usage	Electricity	11,562.00			39,461.11	\$631.83	
TOTAL BUILDING CONSUMPTION		1,960,375.00	0.00	0.00	6,690,759.88	\$107,128.61	
						Electric	\$107,128.61
						Gas	\$0.00

Appendix A
Energy Simulation Results - Run 1

Denny Terrace Run 1 Performance

Energy Summary by End Use

End Use	Energy Type	Proposed Building	Baseline Building	Optimized Energy Performance
		Energy [10 ³ Btu]	Energy [10 ³ Btu]	[%]
Area Lighting	Electricity	537,056.03	1,567,683.05	34%
Space Heating	Electricity	1,610,779.00	2,675,641.83	60%
Pumps & Aux	Electricity	341.30	457.34	75%
Ventilation Fans	Electricity	222,425.21	222,234.08	100%
Domestic Water Heating	Electricity	1,151,938.70	1,538,368.79	75%
Misc. Equipment	Electricity	646,913.67	646,913.67	100%
Exterior Usage	Electricity	18,771.50	39,461.11	48%
TOTAL BUILDING CONSUMPTION		4,188,225.4	6,690,759.9	63%
By Fuel				
		Gas/Steam	0.0	0.0
		Electricity	4,188,225.4	6,690,759.9

Energy and Cost Summary by Fuel Type

Type	Proposed Use [10 ³ Btu/hr]	Proposed Cost [\$]	Baseline Use [10 ³ Btu/hr]	Baseline Cost [\$]
Electricity	4,188,225	\$67,059	6,690,760	\$107,129
Natural Gas	-	\$0	\$0	\$0
Total Nonrenewable	4,188,225	\$67,059	6,690,760	\$107,129
Renewable				
Total including Renewable	4,188,225	\$67,059	6,690,760	\$107,129
Percent Cost Savings				37.4%
Percent Energy Savings				37.4%

Water and Energy Combination Savings Calculation

(% energy savings x 70%) + (% water savings x 30%)

Energy Savings	37.4%
Water Savings	33.0%
70% of Energy Savings	26.2%
30% of Water Savings	9.9%
Total Energy/Water savings	36.1%

Appendix A

Energy Simulation Results - Run 2

Denny Terrace Run 2 Data

Proposed Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]
Area Lighting	Electricity	157,356.00			537,056.03	\$8,599.03
Space Heating	Electricity	471,988.00			1,610,895.04	\$25,792.73
Pumps & Aux	Electricity	134.00			457.34	\$7.32
Ventilation Fans	Electricity	65,170.00			222,425.21	\$3,561.34
Domestic Hot Water	Gas		1,461.90		1,461,900.00	\$19,881.84
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01
Exterior Usage	Electricity	5,500.00			18,771.50	\$300.56
TOTAL BUILDING CONSUMPTION		889,692.00	1,461.90	0.00	4,498,418.80	\$68,500.84
					Electric	\$48,619.00
					Gas	\$19,881.84

Baseline Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]
Area Lighting	Electricity	459,327.00			1,567,683.05	\$25,100.84
Space Heating	Electricity	783,956.00			2,675,641.83	\$42,840.84
Pumps & Aux	Electricity	134.00			457.34	\$7.32
Ventilation Fans	Electricity	65,114.00			222,234.08	\$3,558.28
Domestic Hot Water	Electricity	450,738.00			1,538,368.79	\$24,631.48
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01
Exterior Usage	Electricity	11,562.00			39,461.11	\$631.83
TOTAL BUILDING CONSUMPTION		1,960,375.00	0.00	0.00	6,690,759.88	\$107,128.61
					Electric	\$107,128.61
					Gas	\$0.00

Appendix A
Energy Simulation Results - Run 2

Denny Terrace Run 2 Performance

Energy Summary by End Use

End Use	Energy Type	Proposed Building	Baseline Building	Optimized Energy Performance
		Energy [10 ³ Btu]	Energy [10 ³ Btu]	[%]
Area Lighting	Electricity	537,056.03	1,567,683.05	34%
Space Heating	Electricity	1,610,895.04	2,675,641.83	60%
Pumps & Aux	Electricity	457.34	457.34	100%
Ventilation Fans	Electricity	222,425.21	222,234.08	100%
Domestic Water Heating	Gas	1,461,900.00	1,538,368.79	95%
Misc. Equipment	Electricity	646,913.67	646,913.67	100%
Exterior Usage	Electricity	18,771.50	39,461.11	48%
TOTAL BUILDING CONSUMPTION		4,498,418.8	6,690,759.9	67%
By Fuel				
		Gas/Steam	1,461,900.0	1,538,368.8
		Electricity	3,036,518.8	5,152,391.1

Energy and Cost Summary by Fuel Type

Type	Proposed Use [10 ³ Btu/hr]	Proposed Cost [\$]	Baseline Use [10 ³ Btu/hr]	Baseline Cost [\$]
Electricity	3,036,519	\$48,619	5,152,391	\$107,129
Natural Gas	1,461,900	\$19,882	1,538,369	
Total Nonrenewable	4,498,419	\$68,501	6,690,760	\$107,129
Renewable				
Total including Renewable	4,498,419	\$68,501	6,690,760	\$107,129
Percent Cost Savings				36.1%
Percent Energy Savings				32.8%

Water and Energy Combination Savings Calculation

(% energy savings x 70%) + (% water savings x 30%)	
Energy Savings	32.8%
Water Savings	36.0%
70% of Energy Savings	22.9%
30% of Water Savings	10.8%
Total Energy/Water savings	33.7%

Appendix A

Energy Simulation Results - Run 3

Denny Terrace Run 3 Data

Proposed Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]
Area Lighting	Electricity	157,356.00			537,056.03	\$8,599.03
Space Heating	Electricity	456,966.00			1,559,624.96	\$24,971.82
Pumps & Aux	Electricity	1,102.00			3,761.13	\$60.22
Ventilation Fans	Electricity	57,694.00			196,909.62	\$3,152.80
Domestic Hot Water	Electricity	336,745.00			1,149,310.69	\$18,402.10
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01
Exterior Usage	Electricity	5,500.00			18,771.50	\$300.56
TOTAL BUILDING CONSUMPTION		1,204,907.00	0.00	0.00	4,112,347.59	\$65,844.55
						Electric
						\$65,844.55
						Gas

Baseline Case Data

Energy Summary by End Use

End Use		Electric	Gas	Steam	Energy Use	Cost
		[kWh]	[MBtu]	[MBtu]	[10 ³ Btu]	[\$]
Area Lighting	Electricity	459,327.00			1,567,683.05	\$25,100.84
Space Heating	Electricity	783,956.00			2,675,641.83	\$42,840.84
Pumps & Aux	Electricity	134.00			457.34	\$7.32
Ventilation Fans	Electricity	65,114.00			222,234.08	\$3,558.28
Domestic Hot Water	Electricity	450,738.00			1,538,368.79	\$24,631.48
Misc. Equipment (plug loads & appliances)	Electricity	189,544.00			646,913.67	\$10,358.01
Exterior Usage	Electricity	11,562.00			39,461.11	\$631.83
TOTAL BUILDING CONSUMPTION		1,960,375.00	0.00	0.00	6,690,759.88	\$107,128.61
						Electric
						\$107,128.61
						Gas
						\$0.00

Appendix A
Energy Simulation Results - Run 3

Denny Terrace Run 3 Performance

Energy Summary by End Use

End Use	Energy Type	Proposed Building Energy [10 ³ Btu]	Baseline Building Energy [10 ³ Btu]	Optimized Energy Performance [%]
Area Lighting	Electricity	537,056.03	1,567,683.05	34%
Space Heating	Electricity	1,559,624.96	2,675,641.83	58%
Pumps & Aux	Electricity	3,761.13	457.34	822%
Ventilation Fans	Electricity	196,909.62	222,234.08	89%
Domestic Water Heating	Electricity	1,149,310.69	1,538,368.79	75%
Misc. Equipment	Electricity	646,913.67	646,913.67	100%
Exterior Usage	Electricity	18,771.50	39,461.11	48%
TOTAL BUILDING CONSUMPTION		4,112,347.6	6,690,759.9	61%
By Fuel				
	Gas/Steam			
	Electricity	4,112,347.6	6,690,759.9	

Energy and Cost Summary by Fuel Type

Type	Proposed Use [10 ³ Btu/hr]	Proposed Cost [\$]	Baseline Use [10 ³ Btu/hr]	Baseline Cost [\$]
Electricity	4,112,348	\$65,845	6,690,760	\$107,129
Natural Gas	-	\$0	0	
Total Nonrenewable	4,112,348	\$65,845	6,690,760	\$107,129
Renewable				
Total including Renewable	4,112,348	\$65,845	6,690,760	\$107,129
Percent Cost Savings				38.5%
Percent Energy Savings				38.5%

Water and Energy Combination Savings Calculation

(% energy savings x 70%) + (% water savings x 30%)	
Energy Savings	38.5%
Water Savings	33.0%
70% of Energy Savings	27.0%
30% of Water Savings	9.9%
Total Energy/Water savings	36.9%

Appendix B

Water Use Calculations

Water Use Reduction Calculation with 1.28 GPF Toilets

Denny Terrace - Design Case Table

Flush Fixture	Daily Uses	Flowrate [GPF]	Duration [flush]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Low-Flow Water Closet	▼	1.28 gpf					Resident - stay at home
Male		8	1.3	1	--	99	1,014
Female		8	1.3	1	--	99	1,014
Low-Flow Water Closet	▼	1.28 gpf					Working Res + Choreworkers
Male		5	1.3	1	--	16	102
Female		5	1.3	1	--	16	102
Low-Flow Water Closet	▼	1.28 gpf					Visitors + (male) Staff
Male		3	1.3	1	--	85	324
Female		3	1.3	1	--	83	317

Flow Fixture	Daily Uses	Flowrate [GPM]	Duration [sec]	Auto Controls [% savings]	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Low-Flow Lavatory	▼	8	0.5	12		198	158	Resident - stay at home
Low-Flow Lavatory	▼	5	0.5	12		32	16	Working Res + Choreworkers
Low-Flow Lavatory	▼	.50	0.5	12		122	6	Visitor + (male) Staff
Low-Flow Kitchen Sink	▼	4	1.5	60		198	1,188	Resident - stay at home
Low-Flow Kitchen Sink	▼	3	1.5	60		32	144	Working Res + Choreworkers
Low-Flow Kitchen Sink	▼	.50	1.5	60		122	92	Visitor + (male) Staff
Low-Flow Shower	▼	.5	1.8	600		198	1,782	Resident - stay at home
Low-Flow Shower	▼	1	1.8	300		22	198	Working Resident

Total Daily Volume [gal] 6,458

Days 365

Annual Volume [gal] 2,357,024

Annual Graywater or Stormwater Reuse [gal] 0

TOTAL ANNUAL DESIGN CASE VOLUME [gal] 2,357,024

TOTAL ANNUAL DESIGN CASE - PROCESS WATER [gal] 498,784

TOTAL DESIGN VOLUME [gal] 2,855,808

Appendix B

Water Use Calculations

Water Use Reduction Calculation with 1.28 GPF Toilets

Denny Terrace - *Baseline Case Table

Flush Fixture	(LEED default) Daily Uses	Flowrate [GPF]	Duration [flush]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Conventional Water Closet	▼						Resident - stay at home
Stay at home Male		8	1.6	1	--	99	1,267
Stay at home Female		8	1.6	1	--	99	1,267
Conventional Water Closet	▼						Working Res + Choreworkers
Working Male		5	1.6	1	--	16	128
Working Female		5	1.6	1	--	16	128
Conventional Water Closet	▼						Visitors + (male) Staff
Vistor Male		3	1.6	1	--	85	408
Visitor Female		3	1.6	1	--	83	398

Flow Fixture	Daily Uses	Flowrate [GPM]	Duration [sec]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10 daily

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Conventional Lavatory	▼	8	2.2	15	--	198	871	Resident - stay at home
Conventional Lavatory	▼	5	2.2	15	--	32	88	Working Res + Choreworkers
Conventional Lavatory	▼	.50	2.2	15	--	122	34	Visitor + (male) Staff
Low-Flow Kitchen Sink	▼	4	2.2	60	--	198	1,742	Resident - stay at home
Low-Flow Kitchen Sink	▼	3	2.2	60	--	32	211	Working Res + Choreworkers
Low-Flow Kitchen Sink	▼	.50	2.2	60	-	122	134	Visitor + (male) Staff
Low-Flow Shower	▼	.5	2.5	600	--	198	2,475	Resident - stay at home
Low-Flow Shower	▼	1	2.5	300	--	22	275	Resident - working

Total Daily Volume [gal] 9,427

Days 365

TOTAL ANNUAL BASELINE CASE - NON-PROCESS WATER [gal] 3,440,983

TOTAL ANNUAL BASELINE CASE - PROCESS WATER [gal] 816,192

TOTAL ANNUAL BASELINE CASE VOLUME [gal] 4,257,175

TOTAL ACTUAL ANNUAL VOLUME [gal] 4,091,560

DIFFERENCE 165,615

Water Use Reduction 33%

Appendix B

Water Use Calculations

Water Use Reduction Calculation with 1.28 GPF Toilets

Flush Fixture Chart

Flush Fixture Type	Water Use [GPF]
Conventional Water Closet	1.6
Low-Flow Water Closet	1.28 = 1.3
Ultra Low-Flow Water Closet	0.8
Composting Toilet	0.0
Conventional Urinal	1.0
Low Flow Urinal	0.1

Flow Fixture Chart

Flow Fixture Type	Water Use [GPM]
Conventional Lavatory	2.2
Low-Flow Lavatory	0.5
Kitchen Sink	2.2
Low-Flow Kitchen Sink	1.8
Shower	2.5
Low-Flow Shower	1.8

Usage based on 6/23/09 AE walk-through of facility and follow-up emails.

* **Baseline is based on actual consumption figures:**

12/8/2007 - 12/8/2008 AND assumed daily use and time of use

Factors contributing to consumption include:

- daily use pattern
- time(s) of use
- fixtures installed

Appendix B
Water Use Calculations

Laundry Water Use Calculations

Design Case Table

Appliance	Annual Uses Per Dwelling Unit ⁴	Water Use per Cycle [gal]	# of Dwelling Units	Annual Water Use [gal]
Energy Star Washer	208	11.0	218	498,784
TOTAL ANNUAL VOLUME [gal]				498,784

Baseline Case Table

Appliance	Annual Uses per Dwelling Unit ⁴	Water Use per Cycle ¹ [gal]	Dwelling Units	Water Use [gal]
Maytag Front Load Washer	208	18.00	218	816,192
TOTAL ANNUAL VOLUME [gal]				816,192

Non-Regulated Water Use Reduction	39%
Volume of Non-Regulated Water Reduction	317,408
Percent of Design Regulated Water Use	29%

Water Consumption Per Cycle is based on the following:

- Conventional washer is based on Energy Star average of 32.5 gallons per cycle.
- Energy Star washer is based on annual water use from Energy Star database.
- Maytag Front Load Washer est'd water use per load is 18 gallons (based on Energy Star).
- Est of 4 laundry loads/week is an average of 208 uses per dwelling unit annually.

Appendix B

Water Use Calculations

Water Use Reduction Calculations with 1.1 GPF Toilets

Denny Terrace - Design Case Table

Flush Fixture	Daily Uses	Flowrate [GPF]	Duration [flush]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Low-Flow Water Closet	▼ 1.1gpf						Resident - stay at home
Male	8	1.1	1	--	99	871	
Female	8	1.1	1	--	99	871	
Low-Flow Water Closet	▼ 1.1gpf						Working Res + Choreworkers
Male	5	1.1	1	--	16	88	
Female	5	1.1	1	--	16	88	
Low-Flow Water Closet	▼ 1.1gpf						Visitors + (male) Staff
Male	3	1.1	1	--	85	279	
Female	3	1.1	1	--	83	272	

Flow Fixture	Daily Uses	Flowrate [GPM]	Duration [sec]	Auto Controls [% savings]	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Low-Flow Lavatory w/aerator	▼ 8	0.5	12		198	158	Resident - stay at home
Low-Flow Lavatory w/aerator	▼ 5	0.5	12		32	16	Working Res + Choreworkers
Low-Flow Lavatory w/aerator	▼ .50	0.5	12		122	6	Visitor + (male) Staff
Low-Flow Kitchen Sink	▼ 4	1.5	60		198	1,188	Resident - stay at home
Low-Flow Kitchen Sink	▼ 3	1.5	60		32	144	Working Res + Choreworkers
Low-Flow Kitchen Sink	▼ .50	1.5	60		122	92	Visitor + (male) Staff
Low-Flow Shower	▼ .5	1.8	600		198	1,782	Resident - stay at home
Low-Flow Shower	▼ 1	1.8	300		22	198	Working Resident

Total Daily Volume [gal] 6,054

Work Outside Home/ Days 365

Annual Volume [gal] 2,209,528

Annual Graywater or Stormwater Reuse [gal] 0

TOTAL ANNUAL DESIGN CASE VOLUME [gal] 2,209,528

TOTAL ANNUAL DESIGN CASE - PROCESS WATER [gal] 498,784

TOTAL DESIGN VOLUME [gal] 2,708,312

Appendix B

Water Use Calculations

Water Use Reduction Calculations with 1.1 GPF Toilets

Denny Terrace - *Baseline Case Table

Flush Fixture	Daily Uses	Flowrate [GPF]	Duration [flush]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Conventional Water Closet	▼						Resident - stay at home
Stay at home Male		8	1.6	1	--	99	1,267
Stay at home Female		8	1.6	1	--	99	1,267
Conventional Water Closet	▼						Working Res + Choreworkers
Working Male		5	1.6	1	--	16	128
Working Female		5	1.6	1	--	16	128
Conventional Water Closet	▼						Visitors + (male) Staff
Vistor Male		3	1.6	1	--	85	408
Visitor Female		3	1.6	1	--	83	398

Flow Fixture	Daily Uses	Flowrate [GPM]	Duration [sec]	Auto Controls N/A	Occupants	Water Use [gal]	User Definition
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Assumes FTE Residents of 220 (in 218 units); (90%) 198 stay-at-home and (10%) 22 Working Res 5 days/week (incl PT live-in worker)

Assumes Choreworkers - 10 daily

Assumes Visitors - 165/daily (hours 9a-8p/15 Visitors/per hour)

Assumes Staff - 2.20/daily = 2 (non-resident/male) FT staff/1 PT Counselor (8hrs/wk)

Conventional Lavatory	▼	8	2.2	15	--	198	871	Resident - stay at home
Conventional Lavatory	▼	5	2.2	15	--	32	88	Working Res + Choreworkers
Conventional Lavatory	▼	.50	2.2	15	--	122	34	Visitor + (male) Staff
Low-Flow Kitchen Sink	▼	4	2.2	60	--	198	1,742	Resident - stay at home
Low-Flow Kitchen Sink	▼	3	2.2	60	--	32	211	Working Res + Choreworkers
Low-Flow Kitchen Sink	▼	.50	2.2	60	-	122	134	Visitor + (male) Staff
Low-Flow Shower	▼	.5	2.5	600	--	198	2,475	Resident - stay at home
Low-Flow Shower	▼	1	2.5	300	--	22	275	Resident - working

Total Daily Volume [gal] 9,427

Fulltime Home/ Days 365

TOTAL ANNUAL BASELINE CASE - NON-PROCESS WATER [gal] 3,440,983

TOTAL ANNUAL BASELINE CASE - PROCESS WATER [gal] 816,192

TOTAL ANNUAL BASELINE CASE VOLUME [gal] 4,257,175

TOTAL ACTUAL ANNUAL VOLUME [gal] 4,091,560

DIFFERENCE 165,615

Water Use Reduction

36%

Appendix B

Water Use Calculations

Water Use Reduction Calculations with 1.1 GPF Toilets

Flush Fixture Chart

Flush Fixture Type	Water Use [GPF]
Conventional Water Closet	1.6
Low-Flow Water Closet	1.1
Ultra Low-Flow Water Closet	0.8
Composting Toilet	0.0
Conventional Urinal	1.0
Low Flow Urinal	0.1

Flow Fixture Chart

Flow Fixture Type	Water Use [GPM]
Conventional Lavatory	2.2
Low-Flow Lavatory w/aerator	0.5
Kitchen Sink	2.2
Low-Flow Kitchen Sink	1.8
Shower	2.5
Low-Flow Shower	1.8
Janitor Sink	2.5

Usage based on 6/23/09 AE walk-through of facility and follow-up emails.

* **Baseline is based on actual consumption :**

12/8/2007 - 12/8/2008 AND assumed daily use and time of use

Factors contributing to consumption include:

- daily use pattern
- time(s) of use
- fixtures installed

Appendix C

Utility Data - Common Area Electric Meter

Seattle City Light House Account

Account Number: 1-447692-380051

Service Address: 100 MELROSE AVENUE

Fiscal_Yr	Meter_Id	U_Rate_Cd	From_Date	To_Date	Amt_Consumed_kWh	Amt_Due
2009	47001	31	3/18/2009	4/16/2009	9900	\$545.49
2009	622219	34	3/18/2009	4/16/2009	47800	\$2,600.07
2009	636142	31	3/18/2009	4/16/2009	11520	\$634.75
2009	787690	34	3/18/2009	4/16/2009	65520	\$3,286.38
2009	47001	31	2/13/2009	3/18/2009	11296	\$622.41
2009	622219	34	2/13/2009	3/18/2009	54170	\$2,915.78
2009	636142	31	2/13/2009	3/18/2009	13480	\$742.75
2009	787690	34	2/13/2009	3/18/2009	43760	\$2,175.84
2009	47001	31	1/15/2009	2/13/2009	10096	\$556.29
2009	622219	34	1/15/2009	2/13/2009	49540	\$2,696.06
2009	636142	31	1/15/2009	2/13/2009	13360	\$736.14
2009	787690	34	1/15/2009	2/13/2009	33040	\$1,687.77
2009	47001	31	12/15/2008	1/15/2009	10864	\$598.61
2009	622219	34	12/15/2008	1/15/2009	51340	\$2,851.30
2009	636142	31	12/15/2008	1/15/2009	17320	\$954.33
2009	787690	34	12/15/2008	1/15/2009	34320	\$1,661.90
2008	47001	31	11/12/2008	12/15/2008	11723	\$645.94
2008	622219	34	11/12/2008	12/15/2008	47030	\$2,553.09
2008	636142	31	11/12/2008	12/15/2008	17160	\$945.52
2008	787690	34	11/12/2008	12/15/2008	31920	\$1,548.42
2008	47001	31	10/13/2008	11/12/2008	10915	\$601.42
2008	622219	34	10/13/2008	11/12/2008	35710	\$2,035.79
2008	636142	31	10/13/2008	11/12/2008	12480	\$687.65
2008	787690	34	10/13/2008	11/12/2008	21760	\$1,073.29
2008	47001	31	9/12/2008	10/13/2008	11193	\$616.73
2008	622219	34	9/12/2008	10/13/2008	31960	\$1,839.44
2008	636142	31	9/12/2008	10/13/2008	10720	\$590.67
2008	787690	34	9/12/2008	10/13/2008	4800	\$280.84
2008	47001	31	8/13/2008	9/12/2008	10437	\$575.08
2008	622219	34	8/13/2008	9/12/2008	27600	\$1,604.62
2008	636142	31	8/13/2008	9/12/2008	10080	\$555.41
2008	787690	34	8/13/2008	9/12/2008	3200	\$161.92
2008	47001	31	7/15/2008	8/13/2008	10051	\$553.81
2008	622219	34	7/15/2008	8/13/2008	26970	\$1,699.55
2008	636142	31	7/15/2008	8/13/2008	9840	\$542.18
2008	787690	34	7/15/2008	8/13/2008	3360	\$204.35
2008	47001	31	6/11/2008	7/15/2008	11724	\$645.99
2008	622219	34	6/11/2008	7/15/2008	38370	\$2,180.94
2008	636142	31	6/11/2008	7/15/2008	11000	\$606.10
2008	787690	34	6/11/2008	7/15/2008	4400	\$249.67
2008	47001	31	5/13/2008	6/11/2008	10147	\$559.10
2008	622219	34	5/13/2008	6/11/2008	33960	\$1,912.54
2008	636142	31	5/13/2008	6/11/2008	9360	\$515.74
2008	787690	34	5/13/2008	6/11/2008	8160	\$556.16
2008	47001	31	4/15/2008	5/13/2008	9902	\$545.60
2008	622219	34	4/15/2008	5/13/2008	43220	\$2,439.36
2008	636142	31	4/15/2008	5/13/2008	12600	\$694.26

Appendix C
Utility Data - Common Area Electric Meter

2008	787690	34	4/15/2008	5/13/2008	25440	\$1,271.69
2008	47001	31	3/14/2008	4/15/2008	11143	\$613.98
2008	622219	34	3/14/2008	4/15/2008	51330	\$2,947.02
2008	636142	31	3/14/2008	4/15/2008	17960	\$989.60
2008	787690	34	3/14/2008	4/15/2008	44160	\$2,145.25
2008	47001	31	2/13/2008	3/14/2008	10448	\$575.68
2008	622219	34	2/13/2008	3/14/2008	49720	\$2,883.50
2008	636142	31	2/13/2008	3/14/2008	14560	\$802.26
2008	787690	34	2/13/2008	3/14/2008	41440	\$2,034.38
2008	47001	31	1/15/2008	2/13/2008	10171	\$560.42
2008	622219	34	1/15/2008	2/13/2008	45350	\$2,502.25
2008	636142	31	1/15/2008	2/13/2008	16920	\$932.29
2008	787690	34	1/15/2008	2/13/2008	52720	\$2,668.77
2008	47001	31	12/12/2007	1/15/2008	12002	\$661.31
2008	622219	34	12/12/2007	1/15/2008	52470	\$2,934.54
2008	636142	31	12/12/2007	1/15/2008	19040	\$1,049.10
2008	787690	34	12/12/2007	1/15/2008	42880	\$2,105.99
2007	622219	34	11/8/2007	12/12/2007	49590	\$2,723.86
2007	636142	31	11/8/2007	12/12/2007	17120	\$943.31
2007	787690	34	11/8/2007	12/12/2007	27920	\$1,430.98
2007	47001	31	11/8/2007	12/12/2007	12175	\$670.84
2007	158827	34	10/11/2007	11/8/2007	-16205	(\$893.86)
2007	47001	31	10/11/2007	11/8/2007	9716	\$535.35
2007	158827	34	10/11/2007	11/8/2007	16205	\$893.86
2007	622219	34	10/11/2007	11/8/2007	35390	\$2,026.81
2007	636142	31	10/11/2007	11/8/2007	14120	\$820.47
2008	787690	34	11/2/2007	11/2/2007	0	\$0.00
2008	158827	34	10/11/2007	11/2/2007	16140	\$826.48
2007	47001	31	9/11/2007	10/11/2007	9961	\$548.85
2007	158827	34	9/11/2007	10/11/2007	20190	\$1,079.96
2007	622219	34	9/11/2007	10/11/2007	33490	\$1,899.45
2007	636142	31	9/11/2007	10/11/2007	11040	\$608.30
2008	47001	31	8/10/2007	9/11/2007	10751	\$592.38
2008	158827	34	8/10/2007	9/11/2007	4130	\$239.63
2008	622219	34	8/10/2007	9/11/2007	34680	\$1,929.08
2008	636142	31	8/10/2007	9/11/2007	8800	\$484.88
2007	47001	31	7/13/2007	8/10/2007	9410	\$518.49
2007	158827	34	7/13/2007	8/10/2007	4800	\$273.60
2007	622219	34	7/13/2007	8/10/2007	29180	\$1,662.44
2007	636142	31	7/13/2007	8/10/2007	7720	\$425.37
2007	47001	31	6/13/2007	7/13/2007	10190	\$561.47
2007	158827	34	6/13/2007	7/13/2007	3450	\$169.15
2007	622219	34	6/13/2007	7/13/2007	34050	\$1,916.96
2007	636142	31	6/13/2007	7/13/2007	8560	\$471.66
2007	47001	31	5/14/2007	6/13/2007	10365	\$571.11
2007	158827	34	5/14/2007	6/13/2007	4780	\$340.34
2007	622219	34	5/14/2007	6/13/2007	37190	\$2,048.86
2007	636142	31	5/14/2007	6/13/2007	9240	\$509.12
2007	47001	31	4/13/2007	5/14/2007	10441	\$575.30
2007	158827	34	4/13/2007	5/14/2007	42750	\$2,203.77
2007	622219	34	4/13/2007	5/14/2007	43470	\$2,410.33
2007	636142	31	4/13/2007	5/14/2007	14360	\$791.24

Appendix C
 Utility Data - Common Area Electric Meter

2007	47001	31	3/16/2007	4/13/2007	9571	\$527.36
2007	158827	34	3/16/2007	4/13/2007	55470	\$2,800.88
2007	622219	34	3/16/2007	4/13/2007	41310	\$2,311.10
2007	636142	31	3/16/2007	4/13/2007	13440	\$740.54
2007	47001	31	2/13/2007	3/16/2007	10704	\$589.79
2007	158827	34	2/13/2007	3/16/2007	77930	\$3,854.81
2007	622219	34	2/13/2007	3/16/2007	46270	\$2,556.43
2007	636142	31	2/13/2007	3/16/2007	16520	\$910.25
2007	47001	31	1/12/2007	2/13/2007	11278	\$621.42
2007	158827	34	1/12/2007	2/13/2007	90370	\$4,528.67
2007	622219	34	1/12/2007	2/13/2007	48530	\$2,629.43
2007	636142	31	1/12/2007	2/13/2007	17200	\$947.72
2007	47001	31	12/12/2006	1/12/2007	10974	\$628.22
2007	158827	34	12/12/2006	1/12/2007	97480	\$5,383.69
2007	622219	34	12/12/2006	1/12/2007	43570	\$2,665.97
2007	636142	31	12/12/2006	1/12/2007	15400	\$881.58
2006	47001	31	11/8/2006	12/12/2006	12302	\$720.90
2006	158827	34	11/8/2006	12/12/2006	54780	\$3,320.89
2006	622219	34	11/8/2006	12/12/2006	44110	\$2,862.36
2006	636142	31	11/8/2006	12/12/2006	17000	\$996.20
2006	47001	31	10/9/2006	11/8/2006	11032	\$646.48
2006	158827	34	10/9/2006	11/8/2006	19280	\$1,225.64
2006	622219	34	10/9/2006	11/8/2006	34680	\$2,350.96
2006	636142	31	10/9/2006	11/8/2006	11000	\$644.60
2006	47001	31	9/8/2006	10/9/2006	11723	\$686.97
2006	158827	34	9/8/2006	10/9/2006	3890	\$229.32
2006	622219	34	9/8/2006	10/9/2006	31110	\$2,008.29
2006	636142	31	9/8/2006	10/9/2006	9200	\$539.12
2006	47001	31	8/10/2006	9/8/2006	11264	\$660.07
2006	158827	34	8/10/2006	9/8/2006	3700	\$218.55
2006	622219	34	8/10/2006	9/8/2006	26440	\$1,794.76
2006	636142	31	8/10/2006	9/8/2006	8280	\$485.21
2006	47001	31	7/13/2006	8/10/2006	11061	\$648.17
2006	158827	34	7/13/2006	8/10/2006	2530	\$152.41
2006	622219	34	7/13/2006	8/10/2006	24660	\$1,711.13
2006	636142	31	7/13/2006	8/10/2006	7680	\$450.05
2006	47001	31	6/12/2006	7/13/2006	12119	\$710.17
2006	158827	34	6/12/2006	7/13/2006	2630	\$155.92
2006	622219	34	6/12/2006	7/13/2006	30550	\$2,033.26
2006	636142	31	6/12/2006	7/13/2006	8880	\$520.37
2006	47001	31	5/11/2006	6/12/2006	12444	\$729.22
2006	158827	34	5/11/2006	6/12/2006	2870	\$199.81
2006	622219	34	5/11/2006	6/12/2006	36850	\$2,471.43
2006	636142	31	5/11/2006	6/12/2006	10640	\$623.50
2006	47001	31	4/13/2006	5/11/2006	11122	\$651.75
2006	158827	34	4/13/2006	5/11/2006	9660	\$713.55
2006	622219	34	4/13/2006	5/11/2006	38500	\$2,565.49
2006	636142	31	4/13/2006	5/11/2006	11880	\$696.17
					1,059,506	57,899

Appendix C

Utility Data - Residential Electric Meters

Seattle City Light Residential Accounts

Service Address: 100 MELRSOE E

ADDRESS	BDRMS	UNIT TYPE	Prem Code	KWH 2008	KWH 2007	KWH 2006	KWH 2005	KWH 2004
APT 102	0	ASI UNIT	380052	19,582	12,408	9,174	13,477	20,514
SHA pays this bill. Unit #102 & 103 were remodeled into one unit. This unit has two meters.								
APT 204	1	STANDARD UNIT	380053	6,365	5,549	3,251	1,704	4,031
APT 205	1	STANDARD UNIT	380054	9,542	10,166	11,045	14,081	8,931
APT 206	0	STANDARD UNIT	380055	7,270	4,272	4,665	4,183	5,450
APT 207	0	STANDARD UNIT	380056	4,517	5,800	7,095	5,884	5,854
APT 208	0	STANDARD UNIT	380057	6,163	7,402	7,041	6,389	5,901
APT 209	0	STANDARD UNIT	380058	4,390	4,837	5,308	4,084	5,361
APT 210	0	STANDARD UNIT	380059	3,286	2,340	3,837	2,517	2,802
APT 211	0	STANDARD UNIT	380060	2,758	4,619	5,696	8,095	10,061
APT 212	0	STANDARD UNIT	380061	1,789	3,021	1,457	4,174	3,675
APT 213	0	STANDARD UNIT	380062	702	1,698	2,223	2,661	1,239
APT 214		ASI UNIT	380063	1,383	1,042	2,110	1,191	2,222
SHA pays this bill								
APT 215	0	STANDARD UNIT	380064	3,403	3,553	4,516	4,390	3,749
APT 216	0	STANDARD UNIT	380065	1,666	1,054	1,132	838	833
APT 217	0	STANDARD UNIT	380066	3,643	2,803	2,562	2,880	2,313
APT 218	0	STANDARD UNIT	380067	3,767	3,454	3,958	2,542	1,840
APT 219	1	STANDARD UNIT	380068	8,584	7,628	6,489	7,033	5,848
APT 220	1	STANDARD UNIT	380069	2,032	2,787	2,194	2,039	5,016
APT 221	1	STANDARD UNIT	380070	2,660	1,999	2,229	2,085	2,131
APT 303	1	STANDARD UNIT	380071	3,840	3,590	3,125	3,007	2,872
APT 304	1	STANDARD UNIT	380072	958	967	935	880	753
APT 305	1	STANDARD UNIT	380073	3,323	2,338	3,034	2,147	2,486
APT 306	0	STANDARD UNIT	380074	1,172	1,211	1,212	1,268	1,303
APT 307	0	STANDARD UNIT	380075	2,367	2,878	2,662	2,706	2,610
APT 308	0	STANDARD UNIT	380076	10,630	7,286	5,883	5,016	5,905
APT 309	0	STANDARD UNIT	380077	1,072	1,237	1,412	1,334	1,361
APT 310	0	STANDARD UNIT	380078	2,341	2,055	4,737	3,676	3,523
APT 311	0	STANDARD UNIT	380079	2,546	2,388	2,435	2,248	1,773
APT 312	0	STANDARD UNIT	380080	4,437	4,417	4,751	4,861	4,367
APT 313	0	STANDARD UNIT	380081	2,650	1,750	961	754	1,390
APT 314	0	STANDARD UNIT	380082	1,545	1,637	1,532	1,605	2,109
APT 315	0	STANDARD UNIT	380083	1,520	1,526	1,551	1,757	1,512
APT 316	0	STANDARD UNIT	380084	14,915	14,317	14,026	15,739	16,548
APT 317	0	STANDARD UNIT	380085	1,568	1,846	1,500	1,635	1,310
APT 318	0	STANDARD UNIT	380086	1,676	2,241	3,187	3,514	3,553
APT 319	1	STANDARD UNIT	380087	7,534	6,720	4,724	4,217	4,634
APT 320	1	STANDARD UNIT	380088	2,579	1,023	6,241	7,527	3,183
APT 321	1	STANDARD UNIT	380089	1,715	2,098	2,488	2,092	1,680
APT 322	1	STANDARD UNIT	380090	3,893	3,547	3,275	3,793	4,842
APT 401	1	STANDARD UNIT	380091	4,916	3,879	1,694	1,044	533
APT 402	1	STANDARD UNIT	380092	2,271	1,203	5,236	1,592	518
APT 403	1	STANDARD UNIT	380093	3,292	5,707	5,453	2,738	2,828
APT 404	1	STANDARD UNIT	380094	6,446	6,464	7,073	4,725	4,058
APT 405	1	STANDARD UNIT	380095	2,652	3,797	4,185	4,990	5,717
APT 406	0	STANDARD UNIT	380096	2,305	1,748	1,668	1,529	1,392
APT 407	0	STANDARD UNIT	380097	6,154	5,274	5,338	5,182	3,868
APT 408	0	STANDARD UNIT	380098	3,667	1,872	4,205	3,796	3,107
APT 409	0	STANDARD UNIT	380099	5,986	5,630	2,125	1,904	6,765

Appendix C
Utility Data - Residential Electric Meters

APT 410	0	STANDARD UNIT	380100	3,376	3,837	3,950	3,578	2,991
APT 411	0	STANDARD UNIT	380101	1,818	1,860	2,067	1,943	2,800
APT 412	0	STANDARD UNIT	380102	4,360	2,448	4,040	2,958	2,399
APT 413	0	STANDARD UNIT	380103	4,962	5,853	3,164	5,886	3,775
APT 414	0	STANDARD UNIT	380104	5,154	5,008	5,093	4,705	4,309
APT 415	0	STANDARD UNIT	380105	5,503	5,115	4,407	3,572	3,049
APT 416	0	STANDARD UNIT	380106	3,543	3,784	3,373	3,300	3,526
APT 417	0	STANDARD UNIT	380107	2,669	3,717	4,170	4,998	4,616
APT 418	0	STANDARD UNIT	380108	13,649	13,150	11,281	10,134	10,984
APT 419	1	STANDARD UNIT	380109	5,176	4,781	6,370	5,662	7,360
APT 420	1	STANDARD UNIT	380266	3,220	2,527	2,479	2,417	1,636
APT 421	1	STANDARD UNIT	380110	2,188	1,957	1,842	1,774	1,506
APT 422	1	STANDARD UNIT	380111	10,534	7,111	6,452	6,263	5,266
APT 501	1	STANDARD UNIT	380112	5,800	4,999	5,322	4,892	4,107
APT 502	1	STANDARD UNIT	380113	8,341	4,452	8,300	8,698	8,549
APT 503	1	STANDARD UNIT	380114	2,557	1,692	1,655	3,056	3,566
APT 504	1	STANDARD UNIT	380115	1,871	1,567	588	787	2,644
APT 505	1	STANDARD UNIT	380116	4,800	4,791	6,822	6,231	5,199
APT 506	0	STANDARD UNIT	380117	4,167	2,928	4,247	4,791	4,556
APT 507	0	STANDARD UNIT	380118	4,322	3,748	3,177	3,293	3,430
APT 508	0	STANDARD UNIT	380119	8,148	5,201	5,246	4,751	4,723
APT 509	0	STANDARD UNIT	380120	5,002	4,486	4,538	3,966	3,024
APT 510	0	STANDARD UNIT	380267	1,813	1,421	2,813	1,442	1,808
APT 511	0	STANDARD UNIT	380121	10,168	7,753	5,881	6,532	5,014
APT 512	0	STANDARD UNIT	380122	1,418	1,573	1,769	1,676	2,307
APT 513	0	STANDARD UNIT	380123	5,896	4,815	2,352	1,799	2,161
APT 514	0	STANDARD UNIT	380124	2,118	2,257	1,898	3,148	3,969
APT 515	0	STANDARD UNIT	380125	902	763	2,311	6,429	5,141
APT 516	0	STANDARD UNIT	380126	1,995	2,220	1,963	1,781	1,399
APT 517	0	STANDARD UNIT	380127	2,150	1,939	1,797	1,696	1,905
APT 518	0	STANDARD UNIT	380128	312	1,819	4,349	5,089	4,644
APT 519	1	STANDARD UNIT	380129	1,888	4,010	3,642	4,579	5,952
APT 520	1	STANDARD UNIT	380130	4,871	1,183	1,295	1,168	1,118
APT 521	1	STANDARD UNIT	380131	3,461	5,698	8,432	6,804	6,429
APT 522	1	STANDARD UNIT	380132	3,370	3,539	2,857	2,769	4,876
APT 601	1	STANDARD UNIT	380268	1,240	1,072	6,666	8,050	7,676
APT 602	1	STANDARD UNIT	380133	2,714	2,427	2,230	2,733	1,744
APT 603	1	STANDARD UNIT	380134	3,802	1,521	3,562	2,208	3,051
APT 604	1	STANDARD UNIT	380135	2,172	2,140	2,681	3,870	6,042
APT 605	1	STANDARD UNIT	380136	2,292	2,196	2,275	1,981	1,885
APT 606	0	STANDARD UNIT	380137	2,484	2,448	2,146	2,274	992
APT 607	0	STANDARD UNIT	380138	3,444	3,114	2,723	2,934	2,314
APT 608	0	STANDARD UNIT	380139	2,158	3,093	1,748	799	582
APT 609	0	STANDARD UNIT	380140	1,216	875	3,011	4,488	8,217
APT 610	0	STANDARD UNIT	380141	2,949	2,231	4,512	5,524	6,143
APT 611	0	STANDARD UNIT	380142	4,103	3,017	4,408	3,646	4,281
APT 612	0	STANDARD UNIT	380143	3,257	3,547	5,131	3,553	3,793
APT 613	0	STANDARD UNIT	380144	-	-	3,284	1,887	3,544
APT 614	0	STANDARD UNIT	380145	5,173	3,985	4,004	3,848	4,115
APT 615	0	STANDARD UNIT	380146	5,217	4,662	2,398	8,754	4,458
APT 616	0	STANDARD UNIT	380147	2,277	2,275	2,425	2,300	2,207
APT 617	0	STANDARD UNIT	380148	4,074	3,227	2,920	3,701	3,756
APT 618	0	STANDARD UNIT	380269	3,992	2,444	1,025	1,591	1,462
APT 619	1	STANDARD UNIT	380149	5,796	4,986	4,262	4,937	4,675
APT 620	1	STANDARD UNIT	380150	3,393	3,154	3,139	2,501	2,311

Appendix C

Utility Data - Residential Electric Meters

APT 621	1	STANDARD UNIT	380151	4,444	3,654	2,242	2,707	3,228
APT 622	1	STANDARD UNIT	380152	5,541	4,863	5,314	5,270	4,864
APT 623	2	STANDARD UNIT	380270	3,266	2,645	3,973	13,052	11,914
APT 701	1	STANDARD UNIT	380153	10,502	11,030	9,812	11,069	10,168
APT 702	1	STANDARD UNIT	380154	1,584	2,049	2,728	4,418	4,917
APT 703	1	STANDARD UNIT	380155	1,391	3,001	2,722	2,426	1,396
APT 704	1	STANDARD UNIT	380156	3,734	3,143	3,940	2,855	4,235
APT 705	1	STANDARD UNIT	380157	5,386	6,018	7,476	8,339	9,561
APT 706	0	STANDARD UNIT	380158	3,965	3,679	3,707	3,965	4,051
APT 707	0	STANDARD UNIT	380159	898	1,002	2,120	1,142	747
APT 708	0	STANDARD UNIT	380160	3,545	4,154	3,731	2,951	3,106
APT 709	0	STANDARD UNIT	380161	3,406	4,686	3,801	1,309	1,704
APT 710	0	STANDARD UNIT	380162	4,105	4,833	4,429	3,252	3,450
APT 711	0	STANDARD UNIT	380163	3,584	2,910	3,085	3,116	3,641
APT 712	0	STANDARD UNIT	380164	2,567	2,784	2,943	4,693	4,422
APT 713	0	STANDARD UNIT	380165	3,338	766	1,364	2,300	2,517
APT 714	0	STANDARD UNIT	380166	6,310	6,306	6,247	4,802	3,241
APT 715	0	STANDARD UNIT	380167	1,930	1,891	1,925	1,926	2,643
APT 716	0	STANDARD UNIT	380168	4,941	5,315	5,559	4,064	3,404
APT 717	0	STANDARD UNIT	380169	986	999	1,317	1,969	8,786
APT 718	0	STANDARD UNIT	380170	2,787	3,483	2,712	2,473	3,356
APT 719	1	STANDARD UNIT	380171	1,905	1,342	1,762	3,909	5,154
APT 720	1	STANDARD UNIT	380172	3,451	2,998	1,749	8,664	11,695
APT 721	1	STANDARD UNIT	380173	4,259	4,398	4,145	3,171	2,145
APT 722	1	STANDARD UNIT	380174	2,846	3,692	3,060	3,123	3,235
APT 723	2	STANDARD UNIT	380175	3,615	2,994	2,726	2,665	2,386
APT 801	1	STANDARD UNIT	380176	2,686	2,393	2,504	2,499	2,411
APT 802	1	STANDARD UNIT	380177	3,478	4,436	1,882	3,281	3,363
APT 803	1	STANDARD UNIT	380178	3,914	3,103	3,498	2,167	7,187
APT 804	1	STANDARD UNIT	380179	7,425	6,104	1,767	6,141	880
APT 805	1	STANDARD UNIT	380180	8,139	7,340	7,845	4,291	4,884
APT 806	0	STANDARD UNIT	380181	3,620	1,739	2,173	3,356	4,760
APT 807	0	STANDARD UNIT	380182	3,477	3,731	6,024	1,908	2,301
APT 808	0	STANDARD UNIT	380183	4,210	2,534	2,223	3,847	3,736
APT 809	0	STANDARD UNIT	380184	1,725	1,515	1,592	1,587	1,653
APT 810	0	STANDARD UNIT	380185	4,327	3,475	3,508	4,659	4,053
APT 811	0	STANDARD UNIT	380186	3,707	3,876	4,370	4,125	601
APT 812	0	STANDARD UNIT	380187	9,040	7,550	6,674	6,199	5,994
APT 813	0	STANDARD UNIT	380188	4,041	4,628	2,742	2,451	2,815
APT 814	0	STANDARD UNIT	380189	5,755	3,698	2,792	3,207	4,343
APT 815	0	STANDARD UNIT	380190	2,351	2,386	2,062	2,642	2,559
APT 816	0	STANDARD UNIT	380191	3,686	3,121	996	953	1,039
APT 817	0	STANDARD UNIT	380192	4,753	4,186	4,214	3,266	3,809
APT 818	0	STANDARD UNIT	380193	1,602	1,535	1,497	1,800	1,886
APT 819	1	STANDARD UNIT	380194	7,466	6,425	5,846	4,062	5,018
APT 820	1	STANDARD UNIT	380195	1,920	1,644	1,774	1,732	1,892
APT 821	1	STANDARD UNIT	380196	5,915	6,232	5,013	4,422	4,083
APT 822	1	STANDARD UNIT	380197	3,822	2,841	3,341	3,049	2,191
APT 823	2	EMPLOYEE UNIT	380198	7,537	8,942	7,636	6,897	7,059
SHA pays this bill								
APT 901	1	STANDARD UNIT	380199	5,853	5,982	7,431	6,545	5,756
APT 902	1	STANDARD UNIT	380200	5,750	5,439	5,381	5,391	4,071
APT 903	1	STANDARD UNIT	380201	6,492	5,708	5,374	5,758	5,360
APT 904	1	STANDARD UNIT	380202	2,945	4,035	2,573	3,162	1,435
APT 905	1	EMPLOYEE UNIT	380203	4,899	4,631	4,797	4,853	5,321

Appendix C

Utility Data - Residential Electric Meters

APT 906	0	STANDARD UNIT	380204	5,644	5,010	5,027	4,442	4,560
APT 907	0	STANDARD UNIT	380205	3,338	3,961	3,036	3,976	3,998
APT 908	0	STANDARD UNIT	380206	5,266	4,969	4,248	3,001	3,604
APT 909	0	STANDARD UNIT	380271	2,504	2,614	2,827	2,911	3,375
APT 910	0	STANDARD UNIT	380207	3,440	2,720	1,924	2,536	2,132
APT 911	0	STANDARD UNIT	380208	9,017	8,447	6,931	5,607	7,450
APT 912	0	STANDARD UNIT	380209	2,135	2,224	2,032	1,978	2,224
APT 913	0	STANDARD UNIT	380210	1,090	1,519	1,533	1,435	1,395
APT 914	0	STANDARD UNIT	380211	3,335	3,241	2,893	2,738	3,293
APT 915	0	STANDARD UNIT	380212	4,892	5,287	4,718	4,455	4,872
APT 916	0	STANDARD UNIT	380213	2,093	2,605	3,575	3,605	1,943
APT 917	0	STANDARD UNIT	380214	2,167	1,554	885	1,034	2,392
APT 918	0	STANDARD UNIT	380215	1,044	1,095	1,091	1,149	1,315
APT 919	1	STANDARD UNIT	380216	3,215	2,255	2,505	2,223	2,338
APT 920	1	STANDARD UNIT	380217	8,673	9,335	10,158	9,785	9,206
APT 921	1	STANDARD UNIT	380218	2,707	1,250	895	1,675	1,554
APT 922	1	STANDARD UNIT	380219	2,461	2,903	2,225	3,444	2,208
APT 923	2	STANDARD UNIT	380220	5,752	3,430	3,169	3,144	3,537
APT 1001	1	STANDARD UNIT	380221	8,017	6,666	6,007	7,592	8,555
APT 1002	1	STANDARD UNIT	380222	4,828	5,799	4,921	6,111	4,910
APT 1003	1	STANDARD UNIT	380223	4,160	3,602	3,617	4,303	3,682
APT 1004	1	STANDARD UNIT	380224	2,764	2,164	1,503	482	455
APT 1005	1	STANDARD UNIT	380225	4,764	4,613	4,528	4,175	4,699
APT 1006	0	STANDARD UNIT	380226	4,648	5,433	3,615	5,101	4,459
APT 1007	0	STANDARD UNIT	380227	1,595	1,171	3,275	3,674	2,835
APT 1008	0	STANDARD UNIT	380228	6,321	5,490	4,202	2,863	2,346
APT 1009	0	STANDARD UNIT	380229	3,882	3,495	1,603	2,767	3,023
APT 1010	0	STANDARD UNIT	380230	1,376	2,722	5,217	5,372	5,981
APT 1011	0	STANDARD UNIT	380231	7,463	7,918	8,150	7,527	7,601
APT 1012	0	STANDARD UNIT	380232	517	506	1,088	774	706
APT 1013	0	STANDARD UNIT	380233	6,726	7,113	6,110	6,560	6,832
APT 1014	0	STANDARD UNIT	380234	1,365	1,572	2,900	4,369	4,464
APT 1015	0	STANDARD UNIT	380235	3,305	1,836	904	806	1,082
APT 1016	0	STANDARD UNIT	380272	2,480	4,777	5,461	5,009	3,896
APT 1017	0	STANDARD UNIT	380236	2,117	2,053	2,078	2,195	2,542
APT 1018	0	STANDARD UNIT	380237	1,179	677	2,161	4,706	4,487
APT 1019	1	STANDARD UNIT	380238	5,165	4,718	4,988	4,645	4,245
APT 1020	1	STANDARD UNIT	380239	921	533	1,098	1,195	1,424
APT 1021	1	STANDARD UNIT	380240	3,095	3,298	3,356	3,166	2,950
APT 1022	1	STANDARD UNIT	380241	4,229	3,563	4,533	2,081	3,822
APT 1023	2	EMPLOYEE UNIT	380242	8,489	10,283	9,034	9,346	9,529
APT 1101	1	STANDARD UNIT	380243	4,624	4,428	5,648	4,739	4,877
APT 1102	1	STANDARD UNIT	380244	1,890	1,782	2,009	2,139	1,697
APT 1103	1	STANDARD UNIT	380245	6,582	5,481	5,826	5,871	6,254
APT 1104	1	STANDARD UNIT	380246	817	814	702	1,162	1,651
APT 1105	1	STANDARD UNIT	380247	18,233	19,860	14,152	14,175	8,880
APT 1106	0	STANDARD UNIT	380248	1,510	889	2,901	3,321	3,513
APT 1107	0	STANDARD UNIT	380249	3,426	3,286	3,154	2,858	3,162
APT 1108	0	STANDARD UNIT	380250	832	3,533	4,554	4,704	3,788
APT 1109	0	STANDARD UNIT	380251	3,114	2,965	3,422	5,266	6,784
APT 1110	0	STANDARD UNIT	380252	3,427	2,538	2,048	2,117	2,397
APT 1111	0	STANDARD UNIT	380253	3,573	3,719	4,045	4,056	4,240
APT 1112	0	STANDARD UNIT	380254	1,338	1,359	1,856	4,959	3,965
APT 1113	0	STANDARD UNIT	380255	3,078	1,418	3,194	1,591	1,437
APT 1114	0	STANDARD UNIT	380256	1,525	1,728	1,703	1,631	1,701

Appendix C

Utility Data - Residential Electric Meters

APT 1115	0	STANDARD UNIT	380257	1,120	882	939	736	946
APT 1116	0	STANDARD UNIT	380258	7,006	6,672	6,821	6,119	5,392
APT 1117	0	STANDARD UNIT	380259	5,105	4,451	4,714	5,732	4,947
APT 1118	0	STANDARD UNIT	380260	6,935	6,269	4,844	1,310	1,503
APT 1119	1	STANDARD UNIT	380261	7,599	6,227	3,836	3,172	3,271
APT 1120	1	STANDARD UNIT	380262	1,562	1,444	2,116	2,475	2,936
APT 1121	1	STANDARD UNIT	380263	3,479	3,215	2,800	2,625	3,196
APT 1122	1	STANDARD UNIT	380264	4,345	5,167	5,227	5,642	6,423
APT 1123	2	STANDARD UNIT	380265	3,857	4,299	2,988	3,621	3,671
				894,724	834,205	838,760	859,527	871,235

Appendix C

Utility Data - Water Meter

Seattle Public Utilities

Account Number: 2-531142-485728
 Service Address: 100 MELROSE AVENUE E
 Meter Number: MET-17001215-1
 HER-04774745-3
 Rate Type: COM

Fiscal_Yr	From_Date	To_Date	Amt_Consumed_CCF	Water_Amt_Due	Sewer_Amt_Due	Bill Total
2009	3/6/2009	4/7/2009	846	\$1,547.14	\$5,792.71	\$7,339.85
2009	2/5/2009	3/6/2009	557	\$1,760.89	\$4,971.73	\$6,732.62
2009	1/12/2009	2/5/2009	528	\$1,655.04	\$4,693.92	\$6,348.96
2009	12/8/2008	1/12/2009	616	\$1,828.17	\$5,034.77	\$6,862.94
2008	11/7/2008	12/8/2008	326	\$983.29	\$2,526.50	\$3,509.79
2008	10/7/2008	11/7/2008	503	\$1,447.03	\$3,898.25	\$5,345.28
2008	9/10/2008	10/7/2008	297	\$930.79	\$2,301.75	\$3,232.54
2008	8/8/2008	9/10/2008	490	\$1,779.00	\$3,797.50	\$5,576.50
2008	7/8/2008	8/8/2008	495	\$1,787.42	\$3,836.25	\$5,623.67
2008	6/9/2008	7/8/2008	491	\$1,765.68	\$3,805.25	\$5,570.93
2008	5/7/2008	6/9/2008	375	\$1,784.30	\$4,022.25	\$5,806.55
2008	4/5/2008	5/7/2008	516	\$1,485.25	\$3,999.00	\$5,484.25
2008	3/11/2008	4/5/2008	418	\$1,199.33	\$3,249.50	\$4,448.83
2008	2/8/2008	3/11/2008	566	\$1,616.25	\$4,396.50	\$6,012.75
2008	1/9/2008	2/8/2008	480	\$1,382.60	\$3,720.00	\$5,102.60
2008	12/8/2007	1/9/2008	513	\$1,352.66	\$3,875.13	\$5,227.79
2007	11/8/2007	12/8/2007	484	\$1,229.36	\$3,605.80	\$4,835.16
2007	10/9/2007	11/8/2007	494	\$1,252.26	\$3,690.30	\$4,942.56
2007	9/10/2007	10/9/2007	457	\$1,247.02	\$3,414.65	\$4,661.67
2007	8/9/2007	9/10/2007	534	\$1,917.97	\$3,988.30	\$5,906.27
2007	7/11/2007	8/9/2007	582	\$2,066.67	\$4,345.90	\$6,412.57
2007	6/8/2007	7/11/2007	552	\$1,982.30	\$4,122.40	\$6,104.70
2007	5/7/2007	6/8/2007	593	\$1,958.47	\$4,427.85	\$6,386.32
2007	4/6/2007	5/7/2007	526	\$1,329.57	\$3,918.70	\$5,248.27
2007	3/7/2007	4/6/2007	463	\$1,181.27	\$3,449.35	\$4,630.62
2007	2/8/2007	3/7/2007	423	\$1,077.57	\$3,161.35	\$4,238.92
2007	1/10/2007	2/8/2007	460	\$1,170.37	\$3,437.00	\$4,607.37
2007	12/9/2006	1/10/2007	481	\$1,242.91	\$3,355.28	\$4,598.19
2006	11/8/2006	12/9/2006	485	\$1,253.84	\$3,278.60	\$4,532.44
2006	10/5/2006	11/8/2006	581	\$1,489.50	\$3,927.56	\$5,417.06
2006	9/8/2006	10/5/2006	497	\$1,397.26	\$3,359.72	\$4,756.98
2006	8/7/2006	9/8/2006	562	\$2,010.49	\$3,799.12	\$5,809.61
2006	7/7/2006	8/7/2006	546	\$1,952.89	\$3,690.96	\$5,643.85
2006	6/7/2006	7/7/2006	518	\$1,855.10	\$3,501.68	\$5,356.78
2006	5/5/2006	6/7/2006	607	\$1,923.14	\$4,103.32	\$6,026.46
2006	4/7/2006	5/5/2006	463	\$1,044.53	\$3,129.88	\$4,174.41