

RALPH J. POMEROY APARTMENTS
5650 South Kenmore Avenue, Chicago, IL
Chicago Housing Authority

HUD Energy Savings Description and Model

A. Project Narrative

The Pomeroy Apartments is a CHA public housing development that originally consisted of 120 units of senior rental housing. Constructed in 1923, the property is a 9-story brick building with a penthouse level, approximately 110 feet in height and contains 120 vacant dwelling units distributed in studio and one-bedroom apartments. The building had a flat roof construction with two (2) elevators servicing all residential floors.

The Chicago Housing Authority (CHA) received funding under the HUD Capital Fund Recovery Competition grant for the Pomeroy Apartments Rehabilitation Program. CHA is seeking LEED certification for the property at the Platinum level. A variety of energy efficient features – effective insulation, high performance windows, tight construction and ducts, efficient heating and cooling equipment, and Energy Star qualified lighting and appliances - were included in the rehab units and reduce the monthly cost of operations and maintenance through energy-efficiency, conservation, and durability of materials. Energy Star-labeled products and appliances - washers and dryers, water conserving toilets and faucets, high efficiency Furnaces (80% and 90% AFUE), high efficiency split system AC units, fluorescent lighting fixtures and programmable thermostats - were installed in all units. In addition, the CHA installed a ground source heat pump system (Geothermal) that is projected to use 30% less energy than a standard heat pump.

C. Comparison of Original Building Design versus Renovated Property’s Energy Case

Building Element:	Original Building Design	Renovated Property Enterprise Green Communities Performance Rating Method Case
BUILDING ENVELOPE	As originally designed	Values from LEED Energy Model
Wall Construction	<ul style="list-style-type: none"> • 12” solid masonry with 1” plaster R-3.36 approx U-.30 	<ul style="list-style-type: none"> • Modeled with new insulation average R-19
Roof		
	<ul style="list-style-type: none"> • Built-up roofing with air 	<ul style="list-style-type: none"> • Insulation frame roof existing

	cavity and plaster • R-3 approx • U-.5	R-49; U=.02 Required
Doors		
Exterior Doors	• Swinging Door U-factor = 0	• Door, U-factor = .44
Windows		• 17.36% window-to-wall ratio (including glass doors)
Metal Frame, Double-Pane	• Double insulated glass U=.35 approx	Double Hung aluminum window (with thermal break), insulated panel, double pane, low-E glass, argon fill. • U-factor = 0.33 • SHGC = 0.27 2) Standard hollow glass block • U-factor = 0.51 • SHGC = 0.559
Floor Slab		
Infiltration	Unknown	• N/A modeled same as existing 1.65 ACH (typical)
ELECTRICAL SYSTEMS		
Lighting Power Density	Unknown	• .57W/sf
Equipment Power Density*	Unknown	• .35 W/ft2 residential • .10 W/ft2 mechanical spaces allowable
Outdoor Lighting	None	• 1.405 kW controlled via photocell (on from dusk to dawn)
HVAC System		
HVAC System Type	• 1/2 pipe steam boiler system w/gas burner	• Condenser water system with heat pumps and geothermal input
Fans	• Exhaust fans	• Exhaust fans
Boiler Efficiency	Unknown	94% AFUE

Service Hot Water	Unknown	<ul style="list-style-type: none"> Storage gas water heater, 250 gallon, 95% EF w/Recirculation time control.
Ventilation System	<ul style="list-style-type: none"> Natural 	<ul style="list-style-type: none"> ventilation rate .25, Heat recovery efficiency 41.25%

Original Construction Notes:

Wall construction: 3.36
 12" solid masonry: 2.4
 1" plaster: .18
 air film int: .61
 air film ext: .17

Roof construction: 2.0
 Roofing: .5
 Concrete: 1.0
 Air cavity: 2

