

Orness Plaza

Building Commons – Atrium Final Results



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Building Commons – Community Room Before Construction



Cool colors
Closed kitchen
Dated materials

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Building Commons – Community Room Final Results



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Building Commons – Balconies Before Construction



Three balconies

Exterior

7th floor open to sky

Unused during cooler months

Uninviting

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Building Commons – Balconies During & After Construction



Added roof at 7th floor

Enclosed all spaces

Included filtered light,
but with views

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Exterior– Building Façade Before Construction



Gray, gray, &
more gray

Discolored

Some textural
variation, but
nothing eye
catching

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Exterior– Building Façade Cracks & Leaks



Various cracks

Non-structural

Leaking

Delaminating

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Exterior– Building Façade Cracks & Leaks



Identifying
trouble locations

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Exterior– Building Façade During Construction



Scaffolding

Winter
protection

Insulation

Finish coat

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Exterior– Building Façade During Construction



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Exterior– Entrance Canopy



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Interior- Corridors



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Interior- Elevators



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Interior- Fitness Room



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Interior- Game Room



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Interior- Mechanical Room



Orness Plaza Mechanical Systems



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Exterior- Patio



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Interior- Units Before Construction



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Interior- Units During Construction



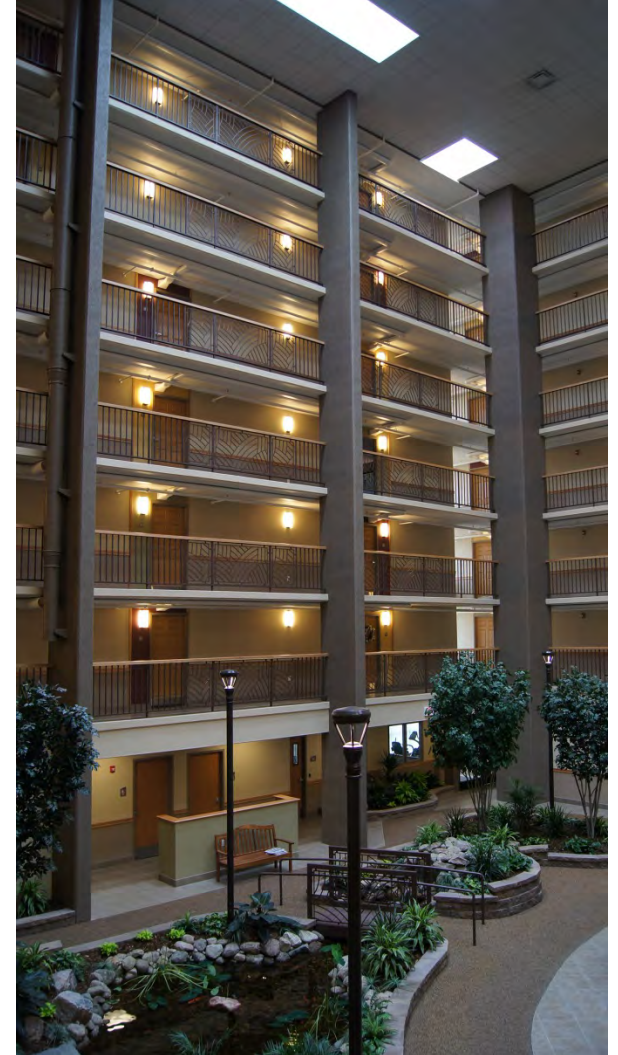
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Interior- Units Final Results



Orness Plaza

Design & Construction



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Design & Construction



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Design & Construction



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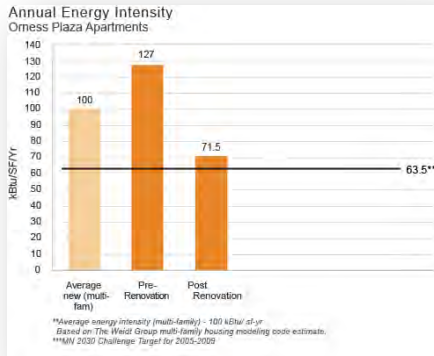


Orness Plaza

Design & Construction



Testing/Evaluation/Outcomes



Expanded Commissioning
confirm ventilation and exhaust rates in units and commons

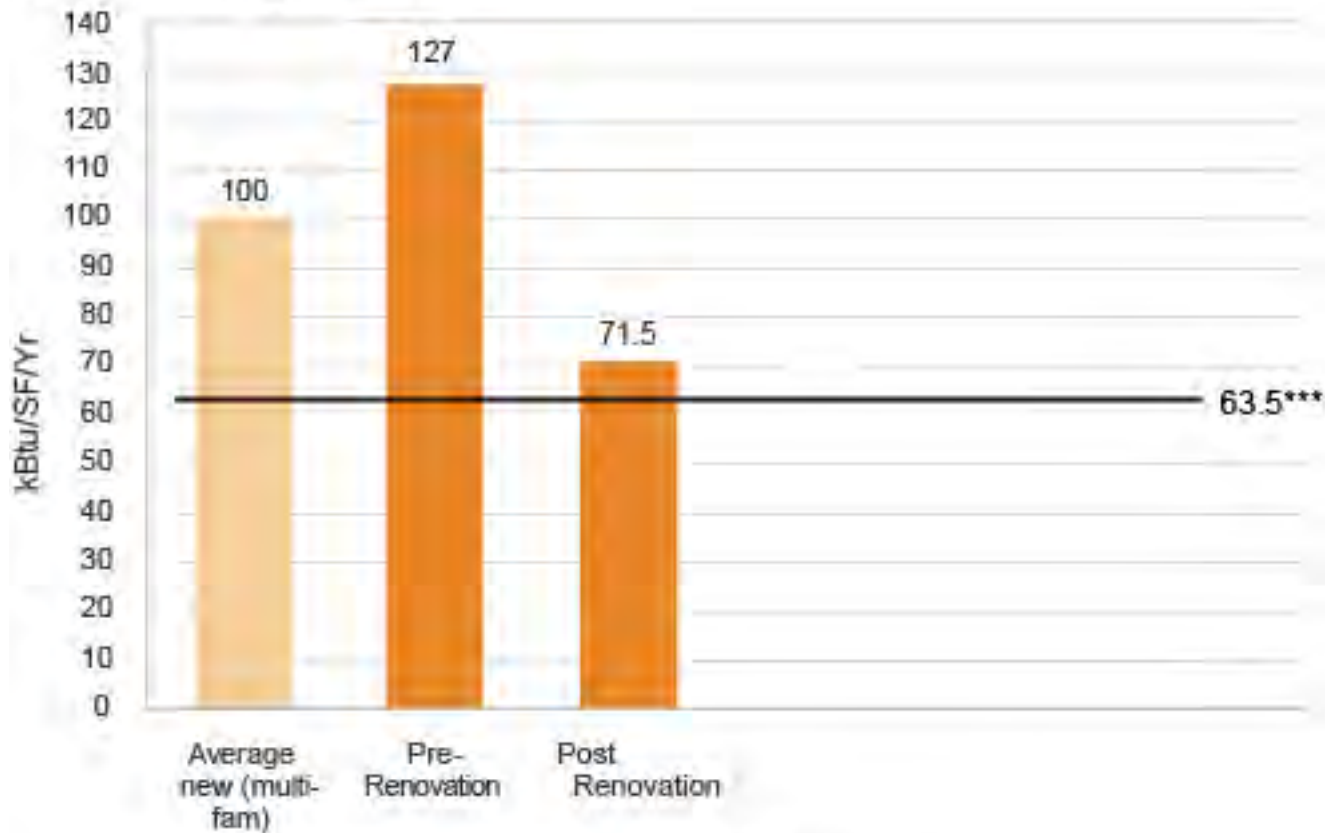
Air Testing (pre + post)
TVOC, formaldehyde, allergens

Monitoring
Unit temperature, relative humidity, CO2 and CO

Utility Bill Analysis
electric, gas and water



Annual Energy Intensity Omness Plaza Apartments

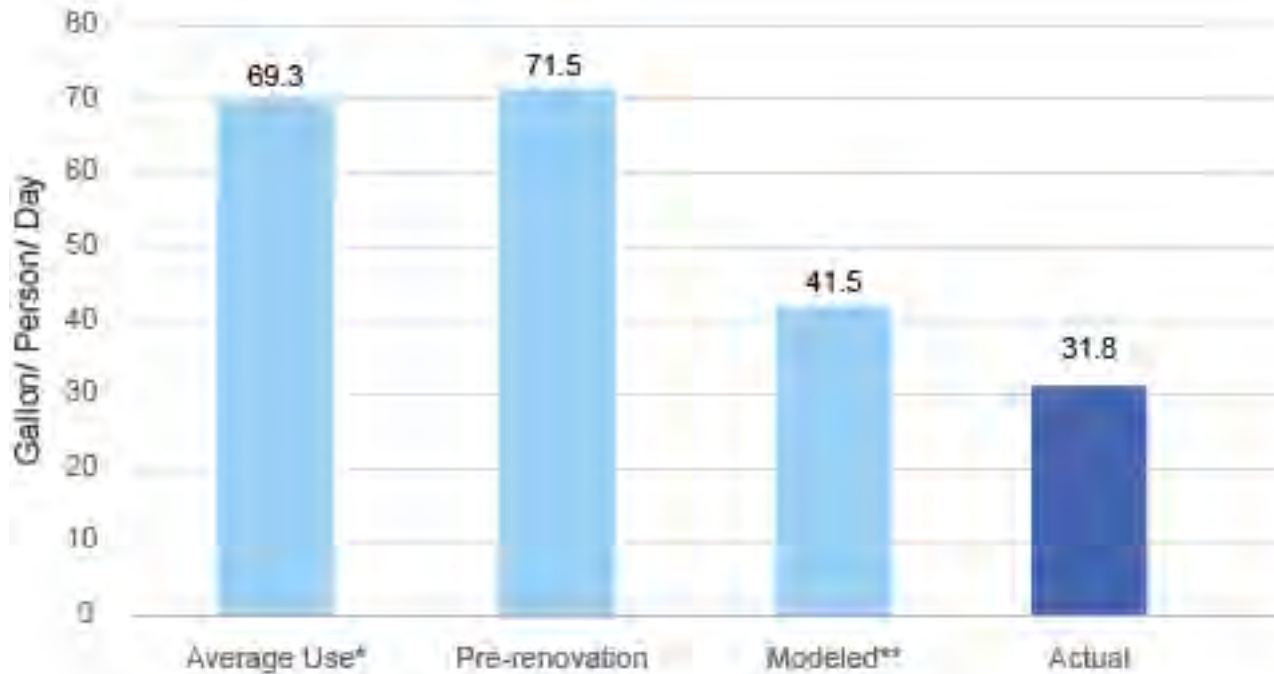


**Average energy intensity (multi-family) - 100 kBtu/ sf-yr
Based on The Weidt Group multi-family housing modeling code estimate.
***MN 2030 Challenge Target for 2005-2009

44% reduction in energy use



Indoor Water Use Ormess Plaza Apartments



**Average energy intensity (multi-family) - 100 kBtu/ sf-yr

Based on The Weidt Group multi-family housing modeling code estimate.

***MN 2030 Challenge Target for 2005-2009

54% less water use per person



Testing/Evaluation/Outcomes

Ventilation Parameter	Min	Max	Mean	Design Criterion	Design Criterion Reference	# units outside design criterion
Fresh Air Delivery to 1-bedroom Units (cfm) (n=20)	20	92	53	20	ASHRAE 62.1-2004, Tbl E-2	0
				29.24-34.58	ASHRAE 62.1-2010, Tbl 6-1	3
Fresh Air Delivery to 2-bedroom Units (cfm) (n=1)	23	23	23	45	ASHRAE 62.1-2004, Tbl E-2	1
				50.98	ASHRAE 62-1, Tbl 6-1	1
Apt Exhaust Testing PRV On/EF Off (cfm) (n=21)	21	38	29	30	Design spec	13
				25	ASHRAE 62.1-2010, Tbl 6-4	2
Apt Exhaust Testing PRV On/EF On (cfm) (n=21)	40	84	64	30	Design spec	13
					ASHRAE 62.1-2010, Tbl 6-4	2
Apt Temp. Control (°F) (n=21)	68	73	70	72±2	Design spec	4
Interstitial pressure between units ("wc) (n=21)	-0.01	0.01	0	0	Design spec	8
Interstitial pressure between units and hallway	-0.05	0.01	-0.01	Negative wrt hall	Design spec	9
Interstitial pressure between units and outside	-0.01	0.05	0.02	Positive wrt outside	Design spec	1

ventilation data

