

# THE NINES: A STARWOOD LUXURY COLLECTION HOTEL

SAGE Hospitality  
LEED Silver Target



# EXECUTIVE SUMMARY

## CASE STUDY PARAMETERS

The case study quantifies the cost premium for LEED Silver above the cost of a doing the same hotel on the same site without pursuing LEED. For example the credit for Public Transportation Access was considered zero cost because the site met the requirement. However, the Bicycle Storage and Changing Room credit called for program space and equipment not typically in the program, therefore a cost was assessed. Both hard and soft costs were analyzed. Incentives and utility cost reduction paybacks were also factored in.

## RESULTS

The final analysis shows a 1.2% soft cost & hard cost premium to the project to pursue LEED Silver. After factoring in the incentives, the premium is reduced to 0.2%. The energy and water cost savings cover that remaining premium in 17 months and after 10 years the property will have saved over one million dollars in operating costs.

The property will benefit from a 26% reduction in energy costs and 28% reduction in water and sewer charges. It will also provide a healthy indoor environment to guests and employees. The green initiatives that will be achieved and verified via LEED certification will set the property apart from others. It will give the property the ability to gain market share from the growing number of groups and individuals who are concerned about the environmental performance of the hotels they choose.

# SUSTAINABLE SITES

## CREDITS (9 of 14 possible)

	cost premium above typical
Site Selection	\$ 0
Development Density & Community Connectivity	\$ 0
Brownfield Redevelopment	\$ 0
Alternative Transportation, Public Transportation Access	\$ 0
Alternative Transportation, Bicycle Storage & Changing Rooms	\$ 26,400
Alternative Transportation, Parking Capacity	\$ 0
Heat Island Effect, Non-Roof	\$ 35,660
Heat Island, Roof	\$ 0
Light Pollution Reduction	\$ 0
<hr/> Total Cost for Category	<hr/> \$ 62,060

## BENEFITS

- Increased convenience for guests via car share program.
- Reduced impacts of transportation and associated carbon emissions.
- Mitigate on and off site environmental degradation.

# WATER EFFICIENCY

## CREDITS (3 of 5 possible)

	cost premium above typical
Water Efficient Landscaping, reduce by 50%	\$ 0
Water Efficient Landscaping, no potable use or no irrigation	\$ 0
Water Use Reduction, 20%	<u>\$ 32,300</u>
Total Cost for Category	\$ 32,300

## BENEFITS

Reduced water consumption by 28%, more than enough to fill an Olympic swimming pool.  
Expected water utility cost savings for property of \$7,854 per year.  
\$280,963 reduction of City System Development Charges for efficiencies.

# ENERGY & ATMOSPHERE

## CREDITS (8 of 17 possible)

Prerequisite: Fundamental Commissioning (soft cost)

Optimize Energy Performance, 25% (5 points)

Enhanced Systems Commissioning (soft cost)

Ozone Depletion

Green Power, 50% for 2 year contract (operations cost)

Total Cost for Category

cost premium  
above typical

\$ 41,800

\$ 281,750

\$ 17,100

\$ 10,000

\$ 13,483

\$ 364,088

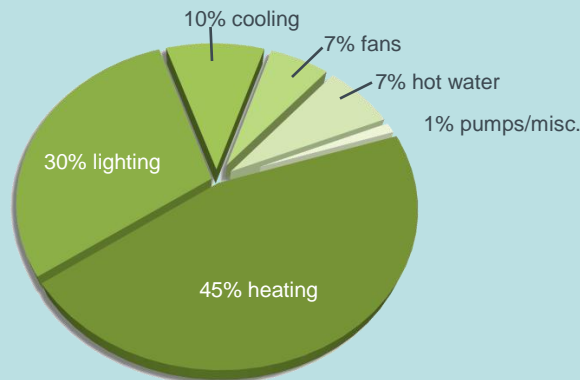
## BENEFITS

Reduced energy consumption by 26%, equivalent to consumption of 80 households per year.  
Expected utility cost savings for property of \$101,924 per year.

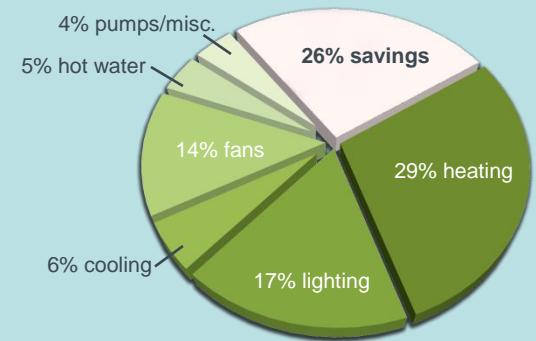
## ENERGY MODEL

Energy Conservation Measures:

- High Performance Glazing
- Increased Building Insulation
- High Efficiency Lighting
- High Efficiency HVAC Equipment
- Simple Heat Recovery
- Resealing Historic Windows



Baseline/Typical Construction Energy Consumption



As Designed Energy Consumption

# MATERIALS AND RESOURCES

## CREDITS (6 of 13 possible)

	cost premium above typical
Building Reuse, 50% & 75% of Existing Walls, Floors & Roof	\$ 0
Construction Waste Management, Divert 75% from Landfill	\$ 100,000
Recycled Content, 10%	\$ 0
Regional Materials, 20%	\$ 0
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Total Cost for Category	\$ 100,000

## BENEFITS

- Reuse of existing historic structure.
- 24 million pounds of material diverted from landfill or 785 truckloads.
- Reduced use of virgin material.

# INDOOR ENVIRONMENTAL QUALITY

## CREDITS (7 of 15 possible)

- Prerequisite: Fundamental Commissioning (soft cost)
- Low-Emitting Materials, Adhesives & Sealants
- Low-Emitting Materials, Paints & Coatings
- Low-Emitting Materials, Carpet Systems
- Controllability of Systems, Lighting
- Controllability of Systems, Thermal Comfort
- Indoor Chemical & Pollutant Source Control
- Thermal Comfort

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- Total Cost for Category

cost premium  
above typical

\$ 10,000
\$ 0
\$ 0
\$ 0
\$ 0
\$ 0
\$ 7,000
<u>\$ 15,000</u>
\$ 32,000

## BENEFITS

Comfortable & healthy indoor environment for guests and employees.



# INNOVATION AND DESIGN

## CREDITS (5 of 5 possible)

	cost premium above typical
Green Housekeeping Policy (operations cost)	\$ 1,200
Exemplary Performance – public transportation access	\$ 0
100% Green Power for 2 years (operations cost)	\$ 9,854
100% Covered Parking	\$ 0
LEED Accredited Professional	\$ 0
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Total Cost for Category	\$ 11,054

## BENEFITS

Healthy environment for guests and employees.  
Support of renewable energy.

<b>TOTAL LEED CREDITS TARGETED (LEED Silver 33 to 38 points)</b>	<b>38</b>
<b>TOTAL COST ABOVE TYPICAL BUILDING FOR SUSTAINABLE INITIATIVES</b>	<b>\$ 605,102</b>
<b>TOTAL COST ABOVE TYPICAL BUILDING HARD COSTS ONLY</b>	<b>\$ 519,710</b>

# COST FOR LEED / SUSTAINABILITY BENEFITS ANALYSIS

The Nines, A Starwood Luxury Collection Property, Portland, OR - LEED Silver Target

\*Preliminary Numbers - Values specific to the Pacific NW

## Soft Costs

Incentive Registration	\$ 3,000
LEED Registration Fee	\$ 9,000
Commissioning	\$ 56,660
Energy model	\$ 30,720
LEED credit calculation	\$ 55,880
LEED process management	\$ 55,000
<b>Total Soft Costs</b>	<b>\$ 210,260</b>

## Hard Cost Premiums above typical to achieve sustainability goals

Sustainable Sites	\$ 62,060
Water Efficiency	\$ 32,300
Energy & Atmosphere	\$ 291,750
Materials & Resources	\$ 100,000
Indoor Environmental Quality	\$ 32,000
Innovation & Design	\$ 0
<b>Total Premiums</b>	<b>\$ 518,110</b>

**Soft & Hard Cost Premium** 1.2% of cons. **\$ 728,370**

## Incentives

State Grant Incentives	\$ 101,104
State Tax Credit Incentives (pass through)	\$ 216,104
<u>Reduced City Development Charges</u>	<u>\$ 280,963</u>
<b>Total Incentives</b>	<b>\$ 598,171</b>

**Costs Premium Less Incentives**

**\$130,199**

0.2% of construction

## Utility Cost Pay Backs & Operating Expenses

Energy Cost Savings per year	\$ 101,924
Water & Sewage Cost Savings per year	\$ 7,854
Additional Ops Costs per year	\$ 1,200
<u>Green Power cost per year (2yrs)</u>	<u>\$ 11,646</u>
ROI per years 1&2	\$ 97,332
ROI per year 3 >	\$ 108,778
ROI 10 years w/2% utility cost escalation	\$ 1,016,664

**Pay Back Period to Cover Premium**

**17 Months**

Nationwide Resource for Incentives: Database of Incentives for Renewables & Efficiency [www.dsireusa.org](http://www.dsireusa.org)

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energy & water efficiency - healthy indoor environment - ability to increase market share - 3<sup>rd</sup> party verification

