SUSTAINABLE DESIGN CASE STUDY

37% water use reduction

48% projected utility cost savings

78% reduction of potable water use for irrigation

The Allison Inn & Spa

Newberg, Oregon

Completion:	September 2009
Project size:	32 acres | 148,818 sf 85 Guestrooms
Owner:	Springbrook Properties, Inc.
Architecture:	GGLO
Landscape Architecture:	GGLO
Interior Design:	GGLO
Contractor:	Lease Crutcher Lewis
Civil Engineer:	Cardno WRG
Structural:	KGA
Commissioning:	BEA Consulting
MEP Engineer:	Glumac

LEED® GOLD
for New Construction
certification awarded April 2010

LEED Points:	**49**
Sustainable Sites:	9 *of* 14
Water Efficiency	3 *of* 5
Energy & Atmosphere:	15 *of* 17
Materials & Resources:	7 *of* 13
Indoor Environmental Quality:	10 *of* 15
Innovation in Design:	5 *of* 5

GGLO DESIGN

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LEED® CREDIT HIGHLIGHTS

Sustainable Sites

SS 4.2 4.3 4.4	Alternative transportation for guest and employees including biking, low-emitting vehicles, and carpooling are encouraged
SS 5.1 5.2	Native and adaptive planting maximize open space and provide habitat
SS 6.1 6.2	Vegetated roof, swales and permeable paving filter and mitigate stormwater
SS 7.2	Planted roof and low sloped roofing materials reject solar heat buildup to minimize the building's micro-climate impact

Water Efficiency

WE 1.1	Drought tolerant landscape utilizing high-efficiency irrigation reduce potable water use by over 78%
WE 3.1 3.2	High-efficiency toilets, low-flow showerheads and faucet aerators reduce water use by 37%

Energy & Atmosphere

EA 1.1 thru 1.10	Envelope improvements combined with digital controls, high-efficiency mechanical systems, equipment and lighting provide a projected 48% energy costs savings
EA 2.1 2.2 2.3	55 kW photovoltaic array and 3,800 sf solar water heating reduce energy consumption

Materials & Resources

MR 2.1 2.2	90% of construction waste diverted from landfill
MR 4.1 4.2	28% of total building materials contained recycled content
MR 5.1 5.2	24% of materials regionally sourced and manufactured
MR 7	55% FSC certified wood products

Indoor Environmental Quality

EQ 6.1 6.2	Controllability of lighting and HVAC systems promote comfort and well-being for guests and staff
EQ 7.1 7.2	Quality HVAC systems provide thermal comfort
EQ 8.1	Daylight is provided in 75% of the guest, public and staff areas

Background

The Allison Inn & Spa reflects the bounty of Willamette Valley and demonstrates that luxury, comfort and quality do not have to be compromised for energy efficiency and sustainability.

Better Site Design

- Vegetated swales, vegetated open-cell pavement, more than10,000 sf of planted roof, and settling ponds slow down and remove potential pollutants from storm water run-off
- Extensive native and adaptive vegetation used throughout and restored woodland along northern property boundary promote biodiversity

Conserving Water

- Drought tolerant vegetation and high-efficiency irrigation reduces potable water use
- Irrigation system will accept future City of Newberg reclaimed water supply which will eliminate potable water use for landscape irrigation in the future
- Low-flow shower heads, faucets, urinals, and high-efficiency toilets reduce water use in public areas and guest rooms
- High-efficiency kitchen equipment reduces potable water and water heating demand

Conserving Energy

The Allison Inn & Spa consists of many uses which ordinarily would categorize this project as a high energy consuming property. However, incorporation of energy efficiency was a high priority throughout the design process. This focus resulted in an anticipated energy cost savings of almost 50% relative to a conventionally designed building:

- Solar Power: 55 kW photo voltaic array on southern rooftops produces electricity on-site to reduce the need for fossil fuels
- Solar Hot Water: rooftop collectors reduce the large need for heating water related to the kitchen, laundry, guest rooms, and spa
- Thermally broken, double-pane, low-e windows and south facing orientation reduce heating loads
- Variable Refrigerant Volume (VRV) heating and cooling provide superior efficiency in comparison to typical hospitality HVAC system
- Energy efficient lighting & controls reduce electricity usage

Better Materials & Indoor Environment

Materials were selected for their durability, promotion of healthy indoor air quality, recycled content and location of harvest and manufacturing:

- Low-emitting paints, sealants, carpeting, and cabinetry combined with natural daylighting contribute to the health of the indoor environment
- 55% of total wood based materials are harvested from FSC certified forests
- Rapidly renewable aspen fiber flooring enriches the spa while reducing the demand on old growth timber