LEED New Construction "Idea List" for WebCTRL

WebCTRL's rich feature list and flexible programming make it ideal for use on LEED projects. Very few items on the LEED project checklist specifically address the Building Automation System. Instead, designers need to think about how WebCTRL can help them control various building systems to achieve the goals outlined in the LEED checklist. Since LEED points are awarded on a project by project basis we cannot provide definitive "do this and you'll gain 2 points" guidance, but we can offer the following ideas as to how WebCTRL may be able to help earn LEED points.

Do you have additional ideas on how to earn LEED points? Any "lessons learned" from previous LEED projects? Please share them with other dealers on the discussion forum. We'll monitor that forum and update the ideas on this checklist.
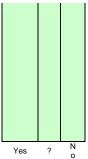
LEED for New Construction v2.2
Registered Project Checklist

Project Name:
Project Address:

Yes	?	No				
			Sustainable Sites			**14** Points
Y			Prereq 1	**Construction Activity Pollution Prevention**		Required
			Credit 1	**Site Selection**		1
			Credit 2	**Development Density & Community Connectivity**		1
			Credit 3	**Brownfield Redevelopment**		1
			Credit 4.1	**Alternative Transportation**, Public Transportation Access		1
			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms		1
			Credit 4.3	**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles		1
			Credit 4.4	**Alternative Transportation**, Parking Capacity		1
			Credit 5.1	**Site Development,** Protect or Restore Habitat		1
			Credit 5.2	**Site Development,** Maximize Open Space		1
			Credit 6.1	**Stormwater Design,** Quantity Control		1
			Credit 6.2	**Stormwater Design,** Quality Control		1
			Credit 7.1	**Heat Island Effect,** Non-Roof		1
			Credit 7.2	**Heat Island Effect,** Roof		1
			Credit 8	**Light Pollution Reduction** **Idea:** Use sunrise/sunset microblock to keep exterior lights off when not needed. Combine with a conventional schedule		1

microblock and/or motion detectors to provide increased lighting during shift changes or other times when people will be traversing the parking lot, and drop to minimum security lighting when usage should be minimal.

Idea: Provide integrated lighting control through Lumisys to ensure interior lights are turned off or minimized when the building is unoccupied to minimize the exfiltration of light through the building windows.

Yes	?	No	

Water Efficiency — 5 Points

			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50% **Idea:** Connect soil moisture sensors to WebCTRL and use these to determine when irrigation is required. **Idea:** Use WeatherWriter to bring weather forecast into WebCTRL. Don't enable irrigation if the 24 hr precipitation forecast is greater than XX% unless the soil moisture is less than YY.	1
			Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation **Idea:** Store runoff in pond or storage tank. Use WebCTRL to monitor runoff water level and use for irrigation when feasible.	1
			Credit 2	**Innovative Wastewater Technologies**	1
			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
			Credit 3.2	**Water Use Reduction**, 30% Reduction	1

Energy & Atmosphere — 17 Points

Y	Prereq 1	**Fundamental Commissioning of the Building Energy Systems** **Idea:** Use WebCTRL's Equipment Commissioning Reports to help document compliance with this requirement.	Required
Y	Prereq 2	**Minimum Energy Performance**	Required
Y	Prereq 3	**Fundamental Refrigerant Management**	Required

*Note for EAc1: All LEED for New Construction projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1.

	Credit 1	**Optimize Energy Performance** **Idea:** WebCTRL has many features such as optimal start, trim and respond, etc. that can help optimize energy performance, but these savings may not show up in the energy models used to estimate energy use. WebCTRL can, however, be used to control many types of mechanical and electrical equipment that will show energy savings such as heat recovery wheels, demand controlled ventilation, geothermal energy systems, integrated lighting control systems, etc.	1 to 10

	10.5% New Buildings or 3.5% Existing Building Renovations	1
	14% New Buildings or 7% Existing Building Renovations	2
	17.5% New Buildings or 10.5% Existing Building Renovations	3
	21% New Buildings or 14% Existing Building Renovations	4
	24.5% New Buildings or 17.5% Existing Building Renovations	5
	28% New Buildings or 21% Existing Building Renovations	6
	31.5% New Buildings or 24.5% Existing Building Renovations	7
	35% New Buildings or 28% Existing Building Renovations	8
	38.5% New Buildings or 31.5% Existing Building Renovations	9

				42% New Buildings or 35% Existing Building Renovations	10

On-Site Renewable Energy

Credit 2 — **Idea:** Again, this is an area where WebCTRL can be used to control renewable energy equipment such as solar water heaters, solar assisted heat pumps, wind generators, etc. — 1 to 3

2.5% Renewable Energy	1
7.5% Renewable Energy	2
12.5% Renewable Energy	3

Enhanced Commissioning

Credit 3 — **Idea:** Use WebCTRL built-in Commissioning Reports to document enhanced commissioning.

Idea: Use WebCTRL trending to assist with loop tuning and document final loop performance. (ex: 24 hr trend of zone temp vs setpoint + VAV box flow vs setpoint.)

Idea: Contact NIST for Fault Detection and Diagnostics symbols and incorporate into appropriate control logic. — 1

Credit 4 — **Enhanced Refrigerant Management** — 1

Measurement & Verification

Credit 5 — **Idea:** Create group trends and custom reports that document continued performance of all major equipment.

Idea: Incorporate alarm logic into control programs that monitors key performance indicators and generates alarms as required.

Idea: Use forthcoming WebCTRL Energy Reporting tool to document energy performance and compare against benchmarks. — 1

Green Power

Credit 6 — **Idea:** Use WebCTRL to monitor and control any on-site green power equipment. (Solar cells, wind power, etc.)

Idea: Use WebCTRL + XML/SOAP to monitor availability of green power through utility companies and alert operator when suitable power and rates are available. (Requires XML/SOAP support by local utilities, which is currently not available in many areas.) — 1

Yes	?	No		**Materials & Resources**	**13** Points

Y			Prereq 1	**Storage & Collection of Recyclables**	Required
			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
			Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
			Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
			Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
			Credit 3.1	**Materials Reuse**, 5%	1
			Credit 3.2	**Materials Reuse**, 10%	1
			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
			Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regionally	1
			Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regionally	1
			Credit 6	**Rapidly Renewable Materials**	1

			Credit 7	**Certified Wood**	1

Yes	?	No

				Indoor Environmental Quality	**15** Points

Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required

			Credit 1	**Outdoor Air Delivery Monitoring** **Idea:** Use WebCTRL + flow monitoring station to accurately control OA intake. **Idea:** Use WebCTRL to monitor and trend CO2 and VOC levels in outdoor air.	1
			Credit 2	**Increased Ventilation** **Idea:** Use WebCTRL + flow measuring station to control OA dampers + heat recovery wheel. Maximize OA flow when economizer operation is practical. Combine with WeatherWriter to superventilate when temp is cool but higher temperatures are forecast later in the day. **Idea:** Use superior low-flow measuring capabilities of ZN341v+ & ZN141v+ controllers + Airflow microblock to ensure zones always receive not less than minimum required airflow when occupied. **Idea:** Use Occupancy sensors in conference rooms and other intermittently occupied spaces to set min ventilation to zero when unoccupied & immediately step up to occupied minimum ventilation when people enter the room. **Idea:** Use WebCTRL to implement Demand Controlled Ventilation.	1
			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
			Credit 6.1	**Controllability of Systems**, Lighting **Idea:** Integrate Lumisys lighting control with WebCTRL. Implement features such as scheduled/occupancy sensors for lighting, daylight harvesting, and electrochromatic windows or automatic window shades,	1
			Credit 6.2	**Controllability of Systems**, Thermal Comfort **Idea:** Use adjustable setpoints and thermographic colors as comfort indicator to control zone heating and cooling, request additional heating or cooling from sources, and sound alarms if comfort conditions are not maintained.	1
			Credit 7.1	**Thermal Comfort**, Design **Idea:** Use humidity and CO2 sensors in zones. Use sensor readings to control humidification, dehumidification, and ventilation as required to maintain thermal comfort.	1
			Credit 7.2	**Thermal Comfort**, Verification **Idea:** In addition to the required occupant survey, incorporate Environmental Index into all zones. Roll-up zones by area & building and maintain historical trends to verify maintenance of comfortable conditions within occupied zones.	1
			Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1

		Credit 8.2	**Daylight & Views**, Views for 90% of Spaces **Idea:** Both daylight and views options: The physical building envelope needs to provide daylight & views to the occupied spaces, but WebCTRL and Lumisys can provide the required automatic control of window shades or electrochromatic windows. This system can also reduce energy use when daylight is available through daylight harvesting.	1
Yes	?	No		

Innovation & Design Process — 5 Points

		Credit 1.1	**Innovation in Design**: Provide Specific Title **Idea:** Many of the ideas listed in the individual sections above may qualify for Innovation & Design Process points. Particularly good candidates include anything that utilizes XML/SOAP interfaces to outside systems (such as WeatherWriter), Fault Detection & Diagnostics software, Environmental Index monitoring, and controlling outdoor lighting with the Sunrise/Sunset microblock.	1
		Credit 1.2	**Innovation in Design**: Provide Specific Title	1
		Credit 1.3	**Innovation in Design**: Provide Specific Title	1
		Credit 1.4	**Innovation in Design**: Provide Specific Title	1
		Credit 2	**LEED® Accredited Professional**	1
Yes	?	No		

Project Totals (pre-certification estimates) — 69 Points

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points