

TOP PROJECTS 2016



Top Projects of 2016 – SAGE ON PROSPECT®

Nominator Information: Nicole Davis
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Project Name/Location: SAGE ON PROSPECT™
1825 North Prospect Avenue, Milwaukee, WI 53202

Project Cost: N/A
Project Size: 35,000 square feet
Project Start Date: January 1st, 2015
Project Completion Date: September 1st, 2016

**General Contractor/
Construction Manager:** Venture Construction Group
2385 South 179th Street, Suite B
New Berlin, WI

Architect: Striegel-Agacki Studio, Inc.
2021 N. Summit Avenue, Suite 201
Milwaukee, WI 53202
414-488-8385
Contact: Joel Agacki (joel@sa-studio.com)

LEED Certification Consultant: Sustainable Building Solutions
21100 Enterprise Avenue
Brookfield, WI 53045
262-797-0797
Contact: Phil Vetterkind (pvetterkind@sbs-usa.biz)

Engineer: Spire Engineering Inc.
600 West Virginia Street #102
Milwaukee, WI 53204
(414) 278-9200
Contact: Brian Gendusa (bjg@spireengineer.com)

Owner - Company: Dominion Properties
2025 N. Summit Avenue
Milwaukee, WI 53202
414-264-5901
Contact: Mike O'Connor (moconnor@dominionproperties.com)

A 73-unit, institutional-style nursing home, built in 1961, was shuttered and the building was in disrepair. Many viewed the dilapidated structure as being prime real estate for razing and redevelopment due to its best feature -- a prominent location on one of Milwaukee's greatest thoroughfares, Prospect Avenue. Where others saw

obstacles, one local developer saw opportunity. This developer was Dominion Properties and they knew that there was a unique opportunity to “upcycle” the existing structure and turn it into an attractive and modern apartment building that would be sought-after by residents. To do it right, Dominion Properties knew they had to do it well. And to do it well, Dominion Properties felt it needed to be green. No small feat but they, along with their dedicated team, were up for the challenge. The outcome, we believe, is worthy of your consideration for a 2016 Top Projects award.

SAGE ON PROSPECT® – PROJECT DESCRIPTION

Dominion Properties purchased the property at 1825 North Prospect in 2014 and reconstruction of the building on the site in 2016 included removing one floor of the existing four-story building and then adding two floors to the top to achieve a five-story height. The skeleton of the original structure was kept but the inside was gutted. In doing this, lead and asbestos were removed, windows were replaced, one elevator was moved and another was relocated. The vast majority of the building construction waste was recycled. The reconstruction resulted in thirty-four (34) one and two-bedroom apartments on the five floors along with a modern lobby/entryway and common areas, one level of underground parking and an adjacent surface parking lot. The project team’s commitment to sustainability drove every design and construction decision. This concerted effort resulted in SAGE ON PROSPECT® becoming the second market-rate apartment property in Wisconsin to achieve LEED® Platinum status (the first was Dominion Properties’ Sage on Jackson® new construction project which was built in 2014). Today, the building is fully occupied and both the residents and the owner are reaping the benefits of this highly efficient structure.

EXCELLENCE IN DESIGN & CONSTRUCTION – A COMMITMENT TO SUSTAINABILITY

SAGE ON PROSPECT® was designed to raise the standard for sustainable multi-family housing and green living in the Midwest region. The development offers cutting-edge technologies, innovative building methods and efficient materials. The innovative, “green” design requires less energy, achieves a low carbon footprint, and produces very little waste. SAGE ON PROSPECT offers residents modern amenities for a relaxing home-life, while being located in a thriving urban community.

Differentiating features of SAGE ON PROSPECT® include:

LEED

In December 2016, SAGE ON PROSPECT achieved U.S. Green Building Council’s LEED® Platinum Certification. As one of the SAGE brand developments, SAGE ON PROSPECT joins SAGE ON JACKSON® to become the only two privately funded LEED® Platinum Certified apartment buildings in Wisconsin. SAGE ON PROSPECT earned 92.5 points when only 86 were required for Platinum certification.

Site

SAGE ON PROSPECT is located on Milwaukee’s Eastside at 1825 N. Prospect Ave., near Lake Michigan. As an adaptive reuse project, the development transforms a pre-existing, under-utilized structure into a state-of-the-art luxury building. SAGE ON PROSPECT maintains the area density, offers increased quality and provides a positive addition to the streetscape and environment.

Structure

Innovations at SAGE ON PROSPECT began with the core building structure. The first three levels utilize the pre-existing structure’s superior concrete, steel and masonry. The exterior walls in the upper two levels were newly constructed utilizing panelized, 2x8 wood framing studs which exceed industry minimums. Mineral wool insulation

was used throughout. The advantage of using mineral wool is attributed to its superior thermal and acoustical insulation quality, lower energy needs in production, and fewer chemicals added.

Design

Striegel-Agacki Studio, the architect, gave careful design consideration to every detail, with emphasis on the benefits of adaptive reuse (customization, quality and sustainability). The building's exterior façade incorporates modern textures, colors and architectural details. Typical apartments waste 10-15 percent of each unit's square footage on circulation space (i.e. hallways, entryways, etc.) The SAGE building's superior design increases overall usable square footage by reducing the circulation space to about 5 percent. Residents benefit from premium, efficient space, rather than unused, inefficient circulation and common areas. All materials and systems were designed, locally sourced when possible, and selected specifically for the project to achieve maximum reduction in resident energy consumption.

Waste

Adaptive reuse of the pre-existing building allowed for a dramatic reduction in waste compared to an entirely new construction project. SAGE ON PROSPECT is designed to utilize as much of the existing structure as possible. The additional building floors were constructed primarily in an off-site factory, where excess materials are recycled and waste is minimized. At the building site, Dominion Properties worked closely with the general contractor, Venture Development Group, to implement ambitious waste reduction strategies and recycling protocols so that more than 85 percent of all construction waste was recycled. The building includes a custom waste collection system that allows residents to easily and efficiently dispose of their trash and recyclables, unlike any other building in the state.

Solar PV

In cooperation with FOCUS ON ENERGY® SAGE ON PROSPECT incorporated a 29.45kWhPV photovoltaic system on the roof. This method of generating electrical power converts solar radiation into electricity, which offsets and decreases the building's overall energy consumption.

HVAC

The building was designed to maximize HVAC efficiency to ensure consistency, comfort and cost savings for residents. Features include twenty-four, 400-foot-deep ground source heat exchange wells that provide an efficient heating and cooling interface for the building. SAGE ON PROSPECT incorporates quiet and efficient heat pumps in each residential apartment. A 95% efficient boiler in the building serves as a back-up heat source and provides on demand heat to the parking area, and used with an innovative cold water tempering tank, provides domestic hot water to the building with minimal carbon emissions.

Lighting

Natural daylight and passive solar opportunities are maximized in the building to benefit residents. All exterior and interior lighting in common areas and individual apartments are 100 percent LED, providing long lasting and efficient light.

Appliances

ENERGY STAR® and other energy efficient products were carefully selected for each apartment. These products save energy without sacrificing features or functionality. All stoves have "AquaLift®" technology, which requires no harsh chemicals or massive amounts of energy (like a self-cleaning oven) to clean. All appliances, with the exception of the microwave ovens, were made in the Midwest.

Rain Water Management

Front Awning – Green Roof

Main Roof – Blue Roof

Landscaping – Both water-absorbing and drought-tolerant

The small Green Roof holds rain in the soil and allows it to evaporate naturally into the environment diverting approximately 385 gallons per rainfall. Blue Roof technology serves as a retention pond during large rains dropping water into the MMSD system by radio control 12 hours after a rain to help buffer the storm water demand on the waste treatment system of Milwaukee. As much as 7,500 gallons of rainfall is stored at peak.

Vehicle Charging Stations

The building's garage is equipped with two car charging stations. These charging stations are powered with electricity generated by the solar array and are free of charge to residents who own electric cars.

Elevator

The building's gearless elevator does not require a machine room and consumes approximately one-third less energy than other elevator types.

Flooring

U.S.-made ceramic tile and domestic zero VOC flooring in a variety of forms is used throughout the building.

Plumbing

Cold water is supplied to all kitchens through copper pipes protecting drinking and cooking water from chemical leaching issues that can result from the use of standard PVC and PEX piping. Domestic hot water is preheated with an innovative ambient heat exchange system that tempers before the traditional process of heating the water with natural gas, therefore further reducing carbon emissions.

Chemical Sensitivity

Every material, from paint and caulk, to floor finishes and carpeting was carefully selected to ensure that the building uses the lowest Volatile Organic Compounds (VOC) and other harmful off-gassing chemicals. The entire building is smoke free. SAGE ON PROSPECT is not only sustainable; it also is healthy to live in.

PROJECT CHALLENGES

Site Constraints

Neighbors on both sides are nationally recognized historic properties, so care had to be taken to avoid extreme disturbances in vibration and noise to protect these notable buildings.

Existing Building Deconstruction

Performing a gut rehab of an existing building versus constructing a completely new structure posed unique challenges. The design and construction teams worked within the confines of the existing building to achieve a new, modern structure that has all of the state-of-the-art features, amenities and building systems that are found today in newly-built apartment projects. Sage on Prospect achieves what new, modern buildings can with the benefit of high quality 1960's construction practices that are often too costly to implement today.

Achieving LEED Standards

To pursue LEED® certification, the team had to follow a detailed process for material selection. Careful review and consideration was taken to ensure that each submittal met LEED® standards. The team was extremely diligent in their material selection and construction process.

COLLABORATION & A COMMITMENT TO THE COMMUNITY

With the many multifamily developments popping up around Milwaukee, Dominion Properties is encouraging others to considering implementing sustainable construction and living practices. With SAGE ON PROSPECT, they are leading by example and taking the time to educate their residents on the benefits the building offers. They are

also eagerly sharing their experiences with other developers, designers and builders in and around the area to inspire and increase sustainable development.

SAGE ON PROSPECT is the second Dominion Properties' project that proves "green" works. It is an investment in the best interest of the community and our environment now and for years to come. **SAGE ON PROSPECT** is a project worthy of recognition as a 2016 Top Project.

SAGE ON PROSPECT Photos:

Pre-Renovation Photos:



Post-Renovation:





for Homes

LEED for Homes Project Checklist

Builder Name:	Venture Construction Group
Project Team Leader:	James Hunzinger -LEED Homes AP, Sustainable Building Solutions
Home Address (Street/City/State):	1825 N Prospect Ave, Milwaukee, WI 53202

Project Description

Building Type: **Multi-family**

Project type: **Multi-family Developer**

of Units: **34**

Avg. Home Size Adjustment: **-4**

Adjusted Certification Thresholds

Certified: **41.0** Gold: **71.0**

Silver: **56.0** Platinum: **86.0**

Project Point Total	Final Credit Category Point Totals			
Prelim: 97.5 + 0 maybe pts Final: 97.5	ID: 10	SS: 15	EA: 24	EQ: 14
Certification Level	LL: 10	WE: 7	MR: 14.5	AE: 3
Prelim: Platinum Final: Platinum				
Date Most Recently Updated: 11/92018	Updated by: Phil Vetterkind , Tom Krawczyk			

☞ Indicates that an Accountability Form is required.

Max Pts.	Preliminary Rating			Project
Available	Y / Pts	Maybe	No	Points

Innovation & Design Process (ID) (Minimum 0 ID Points Required)	Max: 11	Y:10	M:0	Notes	Final: 10
1. Integrated Project Planning					
1.1 Preliminary Rating	Prereq.	Y			Y
Target performance tier: Platinum					
1.2 Integrated Project Team (meet all of the following)	1	1	0		1
<input checked="" type="checkbox"/> a) Individuals or organizations with necessary capabilities				<input checked="" type="checkbox"/> c) Regular meetings held with project team	
<input checked="" type="checkbox"/> b) All team members involved in various project phases					
1.3 Professional Credentialed with Respect to LEED for Homes	1	1	0	James Hunzinger AP Homes	1
1.4 Design Charrette	1	1	0		1
1.5 Building Orientation for Solar Design (meet all of the following)	1	0	0		0
<input type="checkbox"/> a) Glazing area on north/south walls 50% greater than on east/west walls				<input type="checkbox"/> c) At least 450 sq. ft. of south-facing roof area, oriented for solar applications	
<input type="checkbox"/> b) East-west axis is within 15 degrees of due east-west				<input type="checkbox"/> d) 90% of south-facing glazing is shaded in summer, unshaded in winter	
2. Quality Management for Durability					
2.1 Durability Planning (meet all of the following)	Prereq.	Y			Y

- a) Durability evaluation completed
- b) Strategies developed to address durability issues
- c-i) Nonpaper-faced backer board in tub, shower, spa areas
- c-ii) No carpet in kitchen, bathroom, laundry, and spa areas
- c-iii) No carpet within 3 ft of each entryway
- c-iv) Install drain and drain pans in tank water heaters in/over living spaces; OR
- no tank water heaters in/over living spaces

- c-v) Install drain and drain pans for clothes washers in/over living spaces; OR
- no clothes washers in/over living spaces
- c-vi) Exhaust conventional clothes dryers directly to outdoors
- c-vii) Install drain and drain pan for condensing clothes dryers
- d) Durability strategies incorporated into project documentation
- e) Durability measures listed in durability inspection checklist

2.2 Durability Management (meet one of the following)		Prereq.	Y	Y
<input type="checkbox"/> Builder has a quality management process in place		<input type="checkbox"/> Builder conducted inspection using durability inspection checklist		
2.3 Third-Party Durability Management Verification	3	3	0	3
3. Innovative or Regional Design				
3.1	≈ Innovation 1 (ruling #): SS cr 6 exep perf	1	1	0 Units per acre 1
3.2	≈ Innovation 2 (ruling #): LL Cr 5.3 Exemp Perf.	1	1	0 Bus rides per day 1
3.3	≈ Innovation 3 (ruling #): ID pc28 Trades Training	1	1	0 2 Mock-up Demo Units 1
3.4	≈ Innovation 4 (ruling #): NC SSc3 Brownfield Developem	1	1	0 Asbestos Remediation 1
Location & Linkages (LL) (Minimum 0 LL Points Required)		Max: 10	Y:10	M:0 Notes Final: 10
1. LEED for Neighborhood Development				
1	LEED for Neighborhood Development	10	0	0
2. Site Selection				
2	≈ Site Selection (meet all of the following)	2	2	0 2
<input type="checkbox"/> a) Built above 100-year floodplain defined by FEMA		<input type="checkbox"/> d) Not built on land that was public parkland prior to acquisition		
<input type="checkbox"/> b) Not built on habitat for threatened or endangered species		<input type="checkbox"/> e) Not built on land with prime soils, unique soils, or soils of state significance		
<input type="checkbox"/> c) Not built within 100 ft of water, including wetlands				
3. Preferred Locations				
3.1	Edge Development	1	0	0
OR	3.2 Infill	2	2	0 2
AND/OR	3.3 Previously Developed	1	1	0 1
4. Infrastructure				
4	Existing Infrastructure	1	1	0 1
5. Community Resources / Transit				
5.1	Basic Community Resources / Transit (meet one of the following)	1	0	0
<input type="checkbox"/> a) Within 1/4 mile of 4 basic community resources		<input type="checkbox"/> c) Within 1/2 mile of transit services providing 30 rides per weekday		
<input type="checkbox"/> b) Within 1/2 mile of 7 basic community resources				
OR	5.2 Extensive Community Resources / Transit (meet one of the following)	2	0	0
<input type="checkbox"/> a) Within 1/4 mile of 7 basic community resources		<input type="checkbox"/> c) Within 1/2 mile of transit services providing 60 rides per weekday		
<input type="checkbox"/> b) Within 1/2 mile of 11 basic community resources				
OR	5.3 Outstanding Community Resources / Transit (meet one of the following)	3	3	0 Documentation in folder 3
<input type="checkbox"/> a) Within 1/4 mile of 11 basic community resources		<input checked="" type="checkbox"/> c) Within 1/2 mile of transit services providing 125 rides per weekday		
<input type="checkbox"/> b) Within 1/2 mile of 14 basic community resources				
6. Access to Open Space				
6	Access to Open Space	1	1	0 Documentation in folder 1

Sustainable Sites (SS) (Minimum 5 SS Points Required)		Max: 22	Y:15	M:0	Notes	Final: 15
1. Site Stewardship						
1.1	Erosion Controls During Construction (<i>meet all of the following</i>)	Prereq.	Y			Y
	<input type="checkbox"/> a) Stockpile and protect disturbed topsoil from erosion.				<input type="checkbox"/> d) Provide swales to divert surface water from hillsides	
	<input type="checkbox"/> b) Control the path and velocity of runoff with silt fencing or equivalent.				<input type="checkbox"/> e) Use tiers, erosion blankets, compost blankets, etc. on sloped areas.	
	<input type="checkbox"/> c) Protect sewer inlets, streams, and lakes with straw bales, silt fencing, etc.					
1.2	Minimize Disturbed Area of Site (<i>meet the appropriate requirements</i>)	1	1	0		1
	Where the site is not previously developed, meet all the following:					
	<input type="checkbox"/> a) Develop tree / plant preservation plan with "no-disturbance" zones					
	<input type="checkbox"/> b) Leave 40% of buildable lot area, not including area under roof, undisturbed					
	OR Where the site is previously developed, meet all the following:					
	<input type="checkbox"/> c) Develop tree / plant preservation plan with "no-disturbance" zones AND					
	<input type="checkbox"/> Rehabilitate lot; undo soil compaction and remove invasive plants AND					
	<input type="checkbox"/> Meet the requirements of SS 2.2					
	OR <input type="checkbox"/> d) Build on a lot of 1/7 acre or less, or 7 units per acre.					
2. Landscaping						
2.1	<input checked="" type="checkbox"/> No Invasive Plants	Prereq.	Y			Y
2.2	<input checked="" type="checkbox"/> Basic Landscaping Design (<i>meet all of the following</i>)	2	0	0		0
	<input type="checkbox"/> a) Any turf must be drought-tolerant.				<input type="checkbox"/> d) Add mulch or soil amendments as appropriate.	
	<input type="checkbox"/> b) Do not use turf in densely shaded areas.				<input type="checkbox"/> e) All compacted soil must be tilled to at least 6 inches.	
	<input type="checkbox"/> c) Do not use turf in areas with slope of 25%					
AND/OR	2.3 <input checked="" type="checkbox"/> Limit Conventional Turf	3	0	0	Needs calculations to confirm	0
	<input type="text" value=""/> Percentage of designed landscape softscape area that is turf					
AND/OR	2.4 <input checked="" type="checkbox"/> Drought-Tolerant Plants	2	0	0		0
	<input type="text" value=""/> Percentage of installed plants that are drought-tolerant					
OR	2.5 <input checked="" type="checkbox"/> Reduce Overall Irrigation Demand by at Least 20%	6	6	0		6
	<input type="text" value="51%"/> Percentage reduction in estimated irrigation water demand				(calculate)	
3. Reduce Local Heat Island Effects						
3	<input checked="" type="checkbox"/> Reduce Local Heat Island Effects (<i>meet one of the following</i>)	1	1	0	Blue Roof (which is white)	1
	<input type="checkbox"/> a) Locate trees / plantings to provide shade for 50% of hardscapes				<input type="checkbox"/> b) Install light-colored, high-albedo materials for 50% of sidewalks, patios, and driveways	

4. Surface Water Management						
4.1	<input checked="" type="checkbox"/> Permeable Lot	4	0	0	High costs	0
	<input type="checkbox"/> vegetative landscape					
	<input type="checkbox"/> permeable paving					
	<input type="checkbox"/> impermeable surfaces directed to infiltration features					
	<input type="checkbox"/> other impermeable surfaces (areas not counted towards credit)					
4.2	Permanent Erosion Controls (<i>meet one of the following</i>)	1	1	0	See L-1 for retaining wall detail	1
	<input checked="" type="checkbox"/> a) For portions of lot on steep slope, use terracing and retaining walls					
	<input type="checkbox"/> b) Plant trees, shrubs, or groundcover					
4.3	<input checked="" type="checkbox"/> Management of Runoff from Roof (<i>meet any, see Rating System for pts</i>)	2	0	0		0
	<input type="checkbox"/> a) Install permanent stormwater controls to manage runoff from the home					
	<input type="checkbox"/> b) Install vegetated roof to cover 50% of roof area					
	<input type="checkbox"/> c) Install vegetated roof to cover 100% of roof area					
	<input type="checkbox"/> d) Have lot designed by professional to manage runoff from home on-site					
5. Nontoxic Pest Control						
5	Pest Control Alternatives (<i>meet any of the following, 1/2 pt each</i>)	2	2	0		2
	<input checked="" type="checkbox"/> a) Keep all exterior wood at least 12" above soil					
	<input checked="" type="checkbox"/> b) Seal external cracks, joints, etc. with caulking and install pest-proof screens					
	<input checked="" type="checkbox"/> c) Include no wood-to-concrete connections, or separate connections with dividers					
	<input checked="" type="checkbox"/> d) Install landscaping so mature plants are 24" from home					
	<input type="checkbox"/> e) In 'moderate' to 'very heavy' termite risk areas:					
	<input type="checkbox"/> i) Treat all cellulosic material with borate product to 3' above foundation					
	<input type="checkbox"/> ii) Install sand or diatomaceous earth barrier					
	<input type="checkbox"/> iii) Install steel mesh barrier termite control system					
	<input type="checkbox"/> iv) Install non-toxic termite bait system					
	<input type="checkbox"/> v) Use noncellulosic wall structure					
	<input type="checkbox"/> vi) Use solid concrete foundation walls or pest-proof masonry wall design					
6. Compact Development						
6.1	Moderate Density	2	0	0		0
	<input type="text" value="34"/> # of total units on the lot					
	<input type="text" value="0.4"/> lot size (acres)					
	<input type="text" value="81.0"/> density (units/acre)					
OR	6.2 High Density	3	0	0		0
OR	6.3 Very High Density	4	4	0		4
Water Efficiency (WE) (Minimum 3 WE Points Required)						
		Max: 15	Y:7	M:0	Notes	Final: 7
1. Water Reuse						
1.1	Rainwater Harvesting System	4	0	0		0
	<input type="text" value="0%"/> Percentage of roof area used for harvesting					
	<input type="text" value="Outdoor only"/> Application					
AND/OR	1.2 Graywater Reuse System	1	0	0		0
OR	1.3 Use of Municipal Recycled Water System	3	0	0		0

2. Irrigation System					
2.1	<input checked="" type="checkbox"/> High-Efficiency Irrigation System (<i>meet any of the following, 1 pt each</i>)	3	0	0	0
	<input type="checkbox"/> a) Irrigation system designed by EPA Water Sense certified professional <input type="checkbox"/> b) Irrigation system with head-to-head coverage <input type="checkbox"/> c) Install central shut-off valve <input type="checkbox"/> d) Install submeter for the irrigation system <input type="checkbox"/> e) Use drip irrigation for 50% of planting beds <input type="checkbox"/> f) Create separate zones for each type of bedding		<input type="checkbox"/> g) Install timer or controller for each watering zone <input type="checkbox"/> h) Install pressure-regulating devices <input type="checkbox"/> i) High-efficiency nozzles with distribution uniformity of at least 0.70. <input type="checkbox"/> j) Install check valves in heads <input type="checkbox"/> k) Install moisture sensor or rain delay controller		
AND/OR	2.2 Third-party Inspection	1	0	0	0
OR	2.3 <input checked="" type="checkbox"/> Reduce Overall Irrigation Demand by at Least 45%	4	2	0	<i>Calculated</i> 2
	51% Percentage reduction in estimated irrigation water demand			<i>(calculate)</i>	
3. Indoor Water Use					
3.1	High-Efficiency Fixtures and Fittings (<i>meet any of the following, 1 pt each</i>)	3	1	0	1
	<input type="checkbox"/> a) Average flow rate of lavatory faucets is ≤ 2.00 gpm <input type="checkbox"/> b) Average flow rate for all showers is ≤ 2.00 gpm per stall		<input type="checkbox"/> c) Average flow rate for all toilets is ≤ 1.30 gpf; OR <input type="checkbox"/> Toilets are dual-flush; OR <input type="checkbox"/> Toilets meet the EPA Water Sense specification		
3.2	Very High-Efficiency Fixtures and Fittings (<i>meet any, 2 pts each</i>)	6	4	0	<i>Tom to verify picture of showerhead box</i> 4
	<input type="checkbox"/> a) Average flow rate of lavatory faucets is ≤ 1.50 gpm; OR <input type="checkbox"/> Lavatory faucets meet the EPA Water Sense specification		<input checked="" type="checkbox"/> b) Average flow rate for all showers ≤ 1.75 gpm per stall <input type="checkbox"/> c) Average flow rate for all toilets is ≤ 1.10 gpf		
Energy & Atmosphere (EA) (Minimum 0 EA Points Required) Max: 38 Y:24 M:0 Notes Final: 24					
<i>Important note: projects registered after October 1st, 2014 that use the performance path must achieve a HERS Index of 70 or lower.</i>					
1. Optimize Energy Performance					
1.1	Performance of ENERGY STAR for Homes	<i>Prereq.</i>	Y		Y
1.2	Exceptional Energy Performance	34	23	0	23
	6 IECC climate zone		43 HERS Index		
7. Water Heating					
7.1	<input checked="" type="checkbox"/> Efficient Hot Water Distribution System (<i>meet one of the following</i>)	2	0	0	<i>Not available</i> 0
	<input type="checkbox"/> a) Structured plumbing system <input type="checkbox"/> b) Central manifold distribution system		<input type="checkbox"/> c) Compact design of conventional system		
7.2	Pipe Insulation	1	0	0	<i>Need clarification from plumbing designer</i> 0
11. Residential Refrigerant Management					
11.1	Refrigerant Charge Test	<i>Prereq.</i>	Y		<i>Geothermal / exempt</i> Y
11.2	Appropriate HVAC Refrigerants (<i>meet one of the following</i>)	1	1	0	<i>Geothermal</i> 1
	<input type="checkbox"/> a) Use no refrigerants <input checked="" type="checkbox"/> b) Use non-HCFC refrigerants		<input type="checkbox"/> c) Use refrigerants that complies with global warming potential equation		

1. Material-Efficient Framing

1.1	Framing Order Waste Factor	<i>Prereq.</i>	Y		Y
1.2	Detailed Framing Documents	1	1	0	1
AND/OR	1.3 Detailed Cut List and Lumber Order	1	1	0	1
	<input type="checkbox"/> Requirements of MR 1.2 have been met				<input type="checkbox"/> Detailed cut list and lumber order corresponding to framing plans or scopes
AND/OR	1.4 Framing Efficiencies (<i>meet any of the following, see Rating System for pts</i>)	3	2.5	0	<i>Detail 3/A602</i> 2.5
	<input type="checkbox"/> Precut framing packages				<input type="checkbox"/> Stud spacing greater than 16" on center
	<input type="checkbox"/> Open-web floor trusses				<input type="checkbox"/> Ceiling joist spacing greater than 16" on center
	<input type="checkbox"/> Structural insulated panel walls				<input type="checkbox"/> Floor joist spacing greater than 16" on center
	<input type="checkbox"/> Structural insulated panel roof				<input type="checkbox"/> Roof rafter spacing greater than 16" on center
	<input type="checkbox"/> Structural insulated panel floors				<input checked="" type="checkbox"/> Two of the following: Size headers for loads; ladder blocking; drywall clips; 2-stud corners
OR	1.5 Off-site Fabrication (<i>meet one of the following</i>)	4	0	0	<i>No due to existing building</i> 0
	<input type="checkbox"/> a) Panelized construction				<input type="checkbox"/> b) Modular, prefabricated construction

2. Environmentally Preferable Products

2.1	≤ FSC Certified Tropical Wood (<i>meet all of the following</i>)	<i>Prereq.</i>	Y		Y
	<input type="checkbox"/> a) Provide suppliers with a notice of preference for FSC products; AND				<input checked="" type="checkbox"/> b) No tropical wood installed (exceptions for FSC-certified or reclaimed wood)
	<input type="checkbox"/> Request country of manufacture for each wood product				
2.2	≤ Environmentally Preferable Products (<i>meet any, 1/2 pt each</i>)	8	8	0	8

Assembly : component	(a) EPP	(b) Low emission	(c) Local production
Exterior wall: framing	<input checked="" type="checkbox"/>	type: Metal Paneling	<input type="checkbox"/>
Exterior wall: siding or masonry	<input checked="" type="checkbox"/>	type: Calstar Brick	<input checked="" type="checkbox"/>
Floor: flooring	<input checked="" type="checkbox"/> (45%)	type: EarthWerks 50% recycled	<input type="checkbox"/> 90% hard flooring
Floor: flooring	<input type="checkbox"/> (90%)	type: _____	<input type="checkbox"/> SCS FloorScore
Floor: flooring			<input type="checkbox"/> Green Label Plus
Floor: framing	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Foundation: aggregate	<input checked="" type="checkbox"/>	type: Reuse	<input checked="" type="checkbox"/>
Foundation: cement	<input checked="" type="checkbox"/>	type: Reuse	<input checked="" type="checkbox"/>
Interior wall: framing	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Interior wall, ceiling: gypsum board	<input checked="" type="checkbox"/>	type: recycled and local	<input checked="" type="checkbox"/>
Interior wall, ceiling, millwork: paint	<input type="checkbox"/>	type: _____	<input type="checkbox"/> type: _____
Landscape: decking and patio	<input checked="" type="checkbox"/>	type: patio steel recycled content default 25%	<input type="checkbox"/>
Other: cabinet	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Other: counter	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Other: door	<input type="checkbox"/>	type: _____	<input checked="" type="checkbox"/>
Other : interior trim	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Other : adhesive, sealant			<input checked="" type="checkbox"/> type: low voc
Other : window frame	<input type="checkbox"/>	type: integrity - regional	<input checked="" type="checkbox"/>
Roof: framing	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Roof: roofing	<input type="checkbox"/>	type: _____	<input type="checkbox"/>
Roof, floor, wall: cavity insulation	<input checked="" type="checkbox"/>	type: recycled content	<input type="checkbox"/> type: _____
Roof, floor, wall (2 of 3): sheathing	<input type="checkbox"/>	type: OSB - Tom to look at photos	<input type="checkbox"/>
Other: water supply piping	<input type="checkbox"/>	type: _____	
Other: driveway	<input type="checkbox"/>	type: _____	

3. Waste Management								
3.1	Construction Waste Management Planning (<i>meet both of the following</i>)	<i>Prereq.</i>	Y				Y	
	<input checked="" type="checkbox"/> a) Investigate local options for waste diversion			<input checked="" type="checkbox"/> b) Document diversion rate for construction waste				
3.2	Construction Waste Reduction (<i>use one of the following methods</i>)	3	2	0			2	
	<input type="text"/> a) pounds waste / square foot							
	<input type="text"/> cubic yards waste / 1,000 square feet							
	<input type="text" value="70%"/> b) percentage of waste diverted							
Indoor Environmental Quality (EQ) (Minimum 6 EQ Points Required)				Max: 21	Y:14	M:0	Notes	Final: 14
1. ENERGY STAR with Indoor Air Package								
1	ENERGY STAR with Indoor Air Package	13	0	0			0	
2. Combustion Venting								
2.1	Basic Combustion Venting Measures (<i>meet all of the following</i>)	<i>Prereq.</i>	Y				Y	
	<input checked="" type="checkbox"/> a) no unvented combustion appliances			<input checked="" type="checkbox"/> d) space, water heating equipment designed with closed combustion; OR				
	<input checked="" type="checkbox"/> b) carbon monoxide monitors on each floor (of each unit, if applicable)			<input checked="" type="checkbox"/> space and water heating equipment has power-vented exhaust; OR				
	<input checked="" type="checkbox"/> c) no fireplace installed, OR			<input type="checkbox"/> space and water heating equipment located in detached or open-air facility; OR				
	<input type="checkbox"/> all fireplaces and woodstoves have doors			<input type="checkbox"/> no space- or water-heating equipment with combustion				
2.2	Enhanced Combustion Venting Measures (<i>meet one of the following</i>)	2	2	0			2	
	Type of Fireplace or stove	Better practice (1 pt)		Best practice (2 pts) <i>(must also meet Better Practice)</i>				
	None	<input type="checkbox"/> masonry heater		<input checked="" type="checkbox"/> granted automatically				
	Masonry wood-burning fireplace	<input type="checkbox"/> listed by testing lab and meets EPA standards		<input type="checkbox"/> back-draft potential test				
	Factory-built wood-burning fireplace	<input type="checkbox"/> listed by testing lab and meets EPA standards		<input type="checkbox"/> back-draft potential test				
	Woodstove and fireplace insert	<input type="checkbox"/> listed, power- or direct-vented, fixed doors		<input type="checkbox"/> electronic pilot				
	Natural gas, propane, or alcohol stove	<input type="checkbox"/> EPA certified or meets safety requirements		<input type="checkbox"/> power- or direct-venting				
	Pellet stove							
3. Moisture Control								
3	Moisture Load Control (<i>meet one of the following</i>)	1	0	0			0	
	<input type="checkbox"/> a) Additional dehumidification system				<input type="checkbox"/> b) Central HVAC system equipped with additional dehumidification mode			
4. Outdoor Air Ventilation								
4.1	Basic Outdoor Air Ventilation (<i>meet one of the following</i>)	<i>Prereq.</i>	Y				Y	
	<input type="checkbox"/> a) Qualifies under ASHRAE Std. 62.2-2007 climate exemption.			<input type="checkbox"/> c) Intermittent ventilation				
	<input checked="" type="checkbox"/> b) Continuous ventilation			<input type="checkbox"/> d) Passive ventilation				
4.2	Enhanced Outdoor Air Ventilation (<i>meet one of the following</i>)	2	0	0			0	
	<input type="checkbox"/> a) Meets EQ 4.1 part (a), active ventilation system installed				<input type="checkbox"/> b) Install heat recovery system			
4.3	Third-Party Performance Testing	1	1	0			1	

5. Local Exhaust						
5.1	<input checked="" type="checkbox"/> Basic Local Exhaust (meet all of the following)	Prereq.	Y			Y
	<input checked="" type="checkbox"/> a) Bathroom and kitchen exhaust meets ASHRAE Std. 62.2 air flow requirement			<input type="checkbox"/> c) Air exhausted to outdoors		
	<input type="checkbox"/> b) Fans and ducts designed and installed to ASHRAE Std. 62.2			<input type="checkbox"/> d) ENERGY STAR labeled bathroom exhaust fans		
5.2	Enhanced Local Exhaust (<i>meet one of the following</i>)	1	1	0		1
	<input type="checkbox"/> a) Occupancy sensor			<input type="checkbox"/> c) Automatic timer tied to switch to operate fan for 20+ minutes post-occupancy		
	<input type="checkbox"/> b) Automatic humidistat controller			<input type="checkbox"/> d) Continuously operating exhaust fan		
5.3	Third-Party Performance Testing	1	1	0		1
6. Distribution of Space Heating and Cooling						
6.1	<input checked="" type="checkbox"/> Room-by-Room Load Calculations	Prereq.	Y			Y
6.2	Return Air Flow / Room-by-Room Controls (meet one of the following)	1	1	0		1
	A. Forced-Air Systems				B. Nonducted HVAC Systems	
	<input type="checkbox"/> a) Return air opening of 1 sq. inch per cfm of supply			<input type="checkbox"/> Flow control valves on every radiator; OR		
	<input type="checkbox"/> b) Limited pressure differential between closed room and adjacent spaces			<input type="checkbox"/> Radiant floor system with thermostatic controls in every room		
6.3	Third-Party Performance Test / Multiple Zones (meet one of the following)	2	0	0	<i>failed</i>	0
	A. Forced-Air Systems				B. Nonducted HVAC Systems	
	<input type="checkbox"/> Have supply air flow rates in each room tested and confirmed			<input type="checkbox"/> Install at least two distinct zones with independent thermostat control		
7. Air Filtering						
7.1	Good Filters	Prereq.	Y			Y
7.2	Better Filters	1	0	0		0
OR	7.3 Best Filters	2	2	0	<i>Merv 13</i>	2
8. Contaminant Control						
8.1	<input checked="" type="checkbox"/> Indoor Contaminant Control during Construction	1	1	0		1
8.2	Indoor Contaminant Control (<i>meet any of the following, 1 pt each</i>)	2	1	0	<i>All common hallways have walk off carpet - Flash Ver</i>	1
	<input checked="" type="checkbox"/> a) Design and install permanent walk-off mats at each entry			<input type="checkbox"/> c) Install central vacuum system with exhaust to outdoors		
	<input type="checkbox"/> b) Design shoe removal and storage space near primary entryway					
8.3	<input checked="" type="checkbox"/> Preoccupancy Flush	1	1	0		1
9. Radon Protection						
9.1	<input checked="" type="checkbox"/> Radon-Resistant Construction in High-Risk Areas	Prereq.	N/A			N/A
9.2	<input checked="" type="checkbox"/> Radon-Resistant Construction in Moderate-Risk Areas	1	0	0		0

10. Garage Pollutant Protection					
	10.1	No HVAC in Garage	<i>Prereq.</i>	Y	Y
	10.2	Minimize Pollutants from Garage (meet all of the following)	2	2	0
		a) In conditioned spaces above garage:			
		<input checked="" type="checkbox"/> Seal all penetrations and connecting floor and ceiling joist bays			
		b) In conditioned spaces next to garage			
		<input type="checkbox"/> Weather-strip all doors			
		<input checked="" type="checkbox"/> Carbon monoxide detectors in rooms that share a door with garage			
		<input checked="" type="checkbox"/> Seal all penetrations and cracks at the base of walls			
AND/OR	10.3	Exhaust Fan in Garage (meet one of the following)	1	1	0
		<input type="checkbox"/> a) Fan runs continuously			
		<input checked="" type="checkbox"/> b) Fan designed with automatic timer control			
		<i>Calculated min 3 air changes- sent to dan for calc.?</i>			1
OR	10.4	Detached Garage or No Garage	3	0	0
Awareness & Education (AE) (Minimum 0 AE Points Required)			Max: 3	Y:3	M:0
				Notes	Final: 3
1. Education of the Homeowner or Tenant					
	1.1	<input checked="" type="checkbox"/> Basic Operations Training (<i>meet both of the following</i>)	<i>Prereq.</i>	Y	Y
		<input type="checkbox"/> a) Operations and training manual			
		<input type="checkbox"/> b) One-hour walkthrough with occupant(s)			
	1.2	<input checked="" type="checkbox"/> Enhanced Training	1	1	0
	1.3	Public Awareness (<i>meet three of the following</i>)	1	1	0
		<input type="checkbox"/> a) Open house on at least four weekends			
		<input type="checkbox"/> b) Website about features and benefits of LEED homes			
		<input type="checkbox"/> c) Newspaper article on the project			
		<input type="checkbox"/> d) Display LEED signage on the exterior of the home			
2. Education of the Building Manager					
	2	<input checked="" type="checkbox"/> Education of the Building Manager (<i>meet both of the following</i>)	1	1	0
		<input type="checkbox"/> a) Operations and training manual			
		<input type="checkbox"/> b) One-hour walkthrough with building manager			