



Last Update July 11, 2007, Patrick Miller, Rater

**LEGEND:**

**Purple** = visual inspection completed and notes.  
**Yellow** = visual inspection required by Patrick.  
**Blue** = visual inspection required by HERS rater.  
**Red** = needs attention.  
No shading = site visit notes as commentary.

Inspection Dates and Additional Comments:

**June 22, 2006** – Patrick Miller and Paul Leveille visited the site. Bob and Sandy Green joined us.

**November 30, 2006** – Patrick Miller met with Corey from Green Woodlands and Paul Leveille from The Jordan Institute. Additional information not noted in table below includes:

- Corey has asked the mason to do all masonry cutting outside to reduce silica dust and maintain indoor air quality.
- The timber framers were installing the end bracing upon arrival.
- The site was kept clean and neat.
- Interior paneling was being cut. The birch boards were being cut in 3' lengths to cut out any knots that might appear. From a materials perspective, this waste wood seems excessive. The waste will be used for firewood so as not to be thrown away.
- One of the GW staff, Mitchell, suggested that on future projects that education of everyone on site as the LEED process take place as early as possible.

**July 6, 2007** – Patrick Miller met with Bob Green, Paul Leveille, Stu White, and Michael Bruss. Comments not noted in table below:

- Amazingly clean and well kept site
- Good attention to insulation detail. FoamTech was performing a blower door test during our visit and developing the plan to fix any leaks found in the envelope.
- Solar PV system was up and running. Inverters and battery banks in working order. Separate constant air fan in place on batter banks.
- Paul Leveille will coordinate the EnergyStar insulation inspection. There has been a resignation at the NH Electric Cooperative. Bob Green agreed that having Horizon Residential or Margaret Dillon do the work made sense if the Coop could not perform the duties.



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## NH Provider/Rater Preliminary Project Checklist

### Abbreviations And

Symbols Key    Iw    = Inspect wet (raining)  
 Id    = Inspect dry  
 HC    = Hourly consult  
 M    = Measure  
 Y?N = Yes/maybe/No  
 ☒    = Accountability form required  
 Y?N = Yes/maybe/No  
 REQ = Required

Project Name: Green Woodlands  
 Project Address: Daniels Road, Lyme, NH  
 Builder Name: Bruss Construction  
 Builder Address: PO box 456 Bradford, NH 03221  
 Precipitation Region:  
 Mileage:

### Location and Linkages: LL

#### LL Credit 1; LEED-ND Neighborhood (not available at this time)

N/W/D

Y?N	LL1	Promote responsible land development practices
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#### LL Credit 2; Site Selection

N/W/D

Y?N	LL2	☒ Avoid environmentally sensitive sites and farmland
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<b>LL Credit 3; Infrastructure</b>			<b>N/W/D</b>
Y?N	LL3		Site within 1/2 mile of existing water, sewer, and roads
N – visual inspection on 6/22/2006 by Patrick Miller.			
<b>LL Credit 4; Community Resources</b>			<b>N/W/D</b>
Y?N	LL4. 1 <b>OR</b>		Within 1/4 mile of basic community resources / public transportation
N – visual inspection on 6/22/2006 by Patrick Miller.			
Y?N	LL4. 2 <b>AND</b> <b>/OR</b>		Within 1/4 mile of extensive community resources / public transportation
N – visual inspection on 6/22/2006 by Patrick Miller.			
Y?N	LL4. 3		Within 1/2 mile of green spaces
Y – visual inspection on 6/22/2006 by Patrick Miller.			
* local provider inspection required			
<b>LL Credit 5; Compact Development</b>			<b>N/W/D</b>
Y?N	LL5. 1 <b>OR</b>	⊗	Average housing density $\geq 7$ Units / Acre



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N – visual inspection on 6/22/2006 by Patrick Miller.

Y?N	LL5. 2 OR	<input type="checkbox"/>	Average housing density $\geq$ 10 Units / Acre
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N – visual inspection on 6/22/2006 by Patrick Miller.

Y?N	LL5. 3	<input type="checkbox"/>	Average housing density $\geq$ 20 Units / Acre
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N – visual inspection on 6/22/2006 by Patrick Miller.

**Subtotal:**

**N/W/D**

**Sustainable Sites: SS**

**Site Stewardship**

**N/W/D**

<b>REQ</b>	SS1.1	<input type="checkbox"/>	Minimize disturbed area of site (If site > 1/3 Acre)
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**Y – 6/22/2006 Trees were clearly delineated by fencing (apx. 1,400 feet of fencing) around the drip lines. Photos were taken to document this on 6/22/2006 by Patrick Miller. Still need to see the drawings which have not yet been provided. Great care being taken to preserve heirloom apple trees, including transplantation of 3 trees to new location.**

**11/30/2006 visit documented that the majority of the fencing was holding up. There are several disturbed soil areas that could use either conservation seed mix or straw to limit movement of disturbed soil. There is one behind the drilled well head for example. Conservation seed mix or straw should suffice for winter. Several of the fences have been compromised by excavation activities – most noticeably behind the house. These should be repaired.**

**7/6/2007 fencing was in great shape. All unseeded areas were covered with clover that was growing quite well. Also, needs virtually no mowing which is great. No evidence of any unstabilized areas found. **Final site plan is still being developed and needs to be provided when complete – see SS.2.1 below.****

<b>REQ</b>	SS1.2	<input type="checkbox"/>	Erosion controls (During construction)
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Y – visual inspection on 6/22/2006 by Patrick Miller. Photos taken of the extensive wood chip berm that was create to protect wetlands. Additional silt			
fencing observed on another part of the property for an unrelated project			
11/30/2006 behind the leach field the wood chip berm is almost level with the graded soil. The berm either needs to have more chips added or have straw put in place on top of the berm. Patrick asked Mitchell to fix this and he said that he would do so.			
7/6/2007 Area behind the leach field (graywater field) was in great shape. The fix requested after the last visit was in place and working. The larger chip was holding up well. Nice job!			
* local provider inspection required			
<b>Landscaping</b>			<b>N/W/D</b>
<b>REQ</b>	SS2.1	<input checked="" type="checkbox"/>	Basic landscaping design
11/30/2006 – Need to receive a copy of the landscaping plan. The plan in the job site office shows the walls in different locations from actuality; back str are also in different location from plan in the office.			
7/6/2007 – see SS1.2 above.			
Y?N	SS2.2	<input type="checkbox"/>	Apply 3 to 4 inches of mulch around plants
* local provider inspection required			
Y?N	SS2.3	<input type="checkbox"/>	Limit turf.
* local provider inspection required			
Y?N	SS2.4	<input checked="" type="checkbox"/>	Limit landscape water demand.



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* local provider inspection required			
<b>Shading of Hardscapes</b>			<b>N/W/D</b>
Y?N	SS3		Locate and plant trees to shade hardscapes.
* local provider inspection required			
<b>Surface Water Management</b>			<b>N/W/D</b>
REQ	SS4.1		Install permeable material for at least 65% of lot (If lot $\geq$ 1/4 Acre)
* local provider inspection required			
Y?N	SS4.2		Use permeable paving materials
* local provider inspection required			
Y?N	SS4.3		Design and install permanent erosion controls.
11/30/2006 – Will need to determine post-construction what is required for permanent vs. temporary erosion controls. The chip berm for example may sufficient and unnecessary once field grass is in place.			
* local provider inspection required			
<b>Non-Toxic Pest Control</b>			<b>N/W/D</b>
Y?N	SS5		Select insect and pest control alternatives from list.



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11/30/2006 – There is exposed foam at the sill plate. This is a place where insects could crawl up into the house. The rigid fiberglass has not been installed the way up yet as it will be placed when the foundation granite stone is installed.

7/6/2007 – This granite detail has been completed and looks great. No gaps were seen. Insect screen was in place.

\* local provider inspection required

Subtotal;	N/W/D
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**Water Efficiency: WE**

Water Reuse	N/W/D
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Y?N	WE1.1	<input checked="" type="checkbox"/>	Rainwater harvesting system.
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Y?N	WE1.2	<input checked="" type="checkbox"/>	Grey water re-use system.
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Y. Visual inspection on 7/6/2007 by Patrick Miller. 7/6/2007 – Gray water tank was installed in the basement. Appeared to be installed for easy access and maintenance. All ABS vs. PVC piping connections visible. Appeared that it was connected to all incoming and outgoing piping. The leach field was seen the November 2006 site visit.

\* local provider inspection required

Irrigation System	N/W/D
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REQ	WE2.1		Main shutoff valve, sub-meter, and third-party inspection <b>OR</b> third party no system needed design.
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\* local provider inspection required

Y?N	WE2.2	<input checked="" type="checkbox"/>	Select high efficiency measures from list
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Y?N	WE2.3		Rain sensing controls
<b>* local provider inspection required</b>			
<b>Indoor Water Use</b>			<b>N/W/D</b>
Y?N	WE3.1 OR		High efficiency fixtures (Toilets, showers, and faucets)
<b>* local provider review of product manufacturer's info and inspection required</b>			
Y?N	WE3.2		Very high efficiency fixtures (Toilets, showers, and faucets)
<b>Subtotal;</b>			<b>N/W/D</b>
<b>Indoor Environmental Quality: IEQ</b>			
<b>ENERGY STAR with IAP</b>			<b>N/W/D</b>
Y?N	IEQ1		Meets ENERGY STAR with Indoor Air Package (IAP)
Not available			
<b>Combustion Venting</b>			<b>N/W/D</b>
<b>REQ</b>	IEQ2.1		Space heating and DHW equipment with closed/power-exhaust; and CO monitor





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<b>* local provider inspection required</b>			
<b>REQ</b>	IEQ2.2		Fireplaces with outside air supply and closed combustion
Visual inspection on 07/06/2007 by Patrick Miller. External air ducts for the masonry heater in place. Same for the boiler which had not yet arrived. Masonry had cleanout doors in the basement for easy access. Did not take a picture but can on final inspection.			
<b>* local provider inspection required</b>			
<b>Humidity Control</b>			<b>N/W/D</b>
<b>Y?N</b>	IEQ3	<input type="checkbox"/>	Analyze moisture loads AND install central system (Where needed)
<b>Outdoor Air Ventilation</b>			<b>N/W/D</b>
<b>REQ</b>	IEQ4.1	<input type="checkbox"/>	Meets ASHRAE Standard 62.2
<b>Y?N</b>	IEQ4.2		Dedicated outdoor air system (with heat recovery)
Visual inspection on 07/06/2007 by Patrick Miller. The ductwork for the HRV system is in place but HRV unit not installed or commissioned yet.			
<b>* local provider inspection required</b>			
<b>Y?N</b>	IEQ4.3		Third-party testing of outdoor air flow rate
<b>* local provider inspection required</b>			
<b>Local Exhaust</b>			<b>N/W/D</b>
<b>REQ</b>	IEQ5.1	<input type="checkbox"/>	Meets ASHRAE Standard 62.2



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Y?N	IEQ5.2		Timer/automatic controls for bathroom exhaust fans.
* local provider inspection required			
Y?N	IEQ5.3		Third-party testing of exhaust air flow rate out of home.
* local provider inspection required			
<b>Supply Air Distribution</b>			<b>N/W/D</b>
REQ	IEQ6.1	<input checked="" type="checkbox"/>	Meets ACCA Manual D
Y?N	IEQ6.2		Third-party testing of supply air flow into each room in home.
<b>Supply Air Filtering</b>			<b>N/W/D</b>
REQ	IEQ7.1		>/= 8 MERV filters, with adequate system air flow
* local provider inspection required			
Y?N	IEQ7.2 OR		>/= 10 MERV filters, with adequate system air flow



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Y?N	IEQ7.3		>= 12 MERV filters, with adequate system air flow	
<b>Contaminant Control</b>				<b>N/W/D</b>
REQ	IEQ8.1		Seal-off ducts during construction	
11/30/2006 – Will review upon next inspection.				
Visual Inspection on 07/06/2007 by Patrick Miller. All ducts were adequately sealed off. Picture taken for documentation purposes.				
* local provider inspection required				
Y?N	IEQ8.2		Permanent walk-off mats OR central vacuum.	
* local provider inspection required				
Y?N	IEQ8.3		Third-party testing of particulates and VOCs before occupancy.	
<b>Radon Protection</b>				<b>N/W/D</b>
REQ	IEQ9.1	<input checked="" type="checkbox"/>	Install radon mitigation system if home is located in EPA Zone 1	
11/30/2006 – not in Zone 1, but Zone 2. The building does, however, have crushed gravel under the slab and a mitigation pipe has been installed and verified.				
Y?N	IEQ9.2	<input checked="" type="checkbox"/>	Install ground contaminant mitigation system (Outside of Zone 1)	
<b>Vehicle Emissions Protection</b>				<b>N/W/D</b>



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<b>REQ</b>	IEQ10.1		No air handling equipment OR return air ducts in garage	
<b>11/30/2006 – Garage is not completed at this visit.</b>				
Visual inspection 07/06/2007 by Patrick Miller. No air handling equipment or return air ducts in garage. Garage will have an exhaust fan system installed by completion. Duct work for this was in place but not the fan. Need to review again upon final inspection.				
* local provider inspection required				
<b>REQ</b>	IEQ10.2		Tightly seal shared surfaces between garage and home.	
<b>11/30/2006 – Garage spray foam insulation is not completed at this visit, although some of it has been installed.</b>				
Visual inspection 07/06/2007 by Patrick Miller. Spray foam insulation was installed. Interior doors not installed yet. Need to review again upon final inspection.				
* local provider inspection required				
<b>Y?N</b>	IEQ10.3		Exhaust fan in garage OR no garage in contact with home.	
Visual inspection 07-06-2007 by Patrick Miller. No air handling equipment or return air ducts in garage. Garage will have an exhaust fan system installed by completion. Duct work for this was in place but not the fan. Need to review again upon final inspection.				
* local provider inspection required				
<b>Subtotal;</b>				<b>N/W/D</b>
<b>Materials and Resources: MR</b>				
<b>Home Size</b>				<b>N/W/D</b>
<b>Y?N</b>	MR1	<input type="checkbox"/>	Home that is smaller than national average	
<b>Material Efficient Framing</b>				<b>N/W/D</b>



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REQ	MR2.1		No extra uses of lumber for aesthetic purposes	
* local provider inspection required				
Y?N	MR2.2		Advanced framing techniques.	
* local provider inspection required				
<b>Local Resources</b>				<b>N/W/D</b>
Y?N	MR3		Materials extracted/manufactured/produced within 500 miles.	
* local provider review of product manufacturer's info and inspection required				
<b>Durability Plan</b>				<b>N/W/D</b>
REQ	MR4.1	<input checked="" type="checkbox"/>	Detailed durability plan; (pre-construction)	
<b>11/30/2006 – Durability plan has not yet been submitted.</b>				
<b>07/06/2007 – Paul Leveille and Patrick Miller went through the durability checklist. Paul will update and forward electronic copy to Patrick.</b>				
Y?N	MR4.2		Third-party verification of implementation of durability plan	
* local provider review of product manufacturer's info and inspection required				
<b>Environmentally Preferable Products</b>				<b>N/W/D</b>



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REQ	MR5.1	Tropical hardwoods, if used, must be FSC.	
<b>11/30/2006 – It is not expected that any tropical hardwoods will be used in the project.</b>			
* local provider review of product manufacturer’s info and inspection required			
Y?N	MR5.2	Select environmentally preferable products from list.	
Y – 3			
* local provider review of product manufacturer’s info and inspection required			
<b>Waste Management</b>			<b>N/W/D</b>
REQ	MR6.1	Maximum of 2.5 lbs. per square foot of construction waste sent to landfill.	
<b>06/21/2006 Patrick Miller observed both a dumpster for the drywall recycling as well as individual trash cans for variety of recyclable materials. Pictures were taken.</b>			
<b>11/30/2006 – Photo of the recycling log was taken. Builder reports that majority of waste is polyethelene sheeting. Builder reported some issues with finding local recyclers, but provisions are being made.</b>			
Visual inspection 07/06/2007 by Patrick Miller showed that both the dumpster system and the individual cans were intact and being used. Bob Green stated that the logbook was still in place.			
* local provider inspection required			
Y?N	MR6.2	0.5 points for each additional 0.5 lbs. per square foot reduction.	
* local provider inspection required			



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<b>Subtotal;</b>			<b>N/W/D</b>
<b>Energy and Atmosphere: EA</b>			
<b>ENERGY STAR Home</b>			<b>N/W/D</b>
<b>REQ</b>	EA1.1	Meets ENERGY STAR for Homes with third-party testing	
<b>Y?N</b>	EA1.2	Exceeds ENERGY STAR for Homes, 2 points per HERS point > HERS 86.	
<b>Insulation</b>			<b>N/W/D</b>
<b>REQ</b>	EA2.1	Third-party inspection of insulation installation, at least HERS Grade II	
<b>07/06/2007 – Paul Leveille will contact the HERS rater and have them on site early next week. Patrick documented insulation installation with pictures needed if drywall is up.</b>			
<b>* HERS rater inspection required = EA 2-7</b>			
<b>Y?N</b>	EA2.2 <b>OR</b>	Third-party inspection of insulation installation, at least HERS Grade I	
<b>07/06/2007 – Paul Leveille will contact the HERS rater and have them on site early next week. Patrick documented insulation installation with pictures needed if drywall is up.</b>			
<b>* local provider inspection required</b>			
<b>Y?N</b>	EA2.3	⊗ Above code insulation; At least 5% > local code per REScheck	



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**07/06/2007 – Paul Leveille will contact the HERS rater and have them on site early next week. Patrick documented insulation installation with pictures needed if drywall is up.**

**Air Infiltration**

**N/W/D**

<b>REQ</b>	EA3.1	Third-party envelope air leakage tested $\leq$ 0.35 ACH
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**\* HERS rater inspection required**

<b>Y?N</b>	EA3.2 <b>OR</b>	Third-party envelope air leakage tested $\leq$ 0.25 ACH
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**\* HERS rater inspection required**

<b>Y?N</b>	EA3.3	Third-party envelope air leakage tested $\leq$ 0.15 ACH
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**\* HERS rater inspection required**

**Windows**

**N/W/D**

<b>REQ</b>	EA4.1	Windows meet ENERGY STAR for windows
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**11/30/2006 – No NFRC labels on any of the windows. Bruss needs to track this information. Will be needed for EnergyStar analysis.**

**07/06/2007 – Stickers were in place on some of the first floor windows. Pictures were taken to document.**

**\* HERS rater inspection required**

<b>Y?N</b>	EA4.2 <b>OR</b>	Windows exceed ENERGY STAR for windows by $\geq$ 10%
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<b>* HERS rater inspection required</b>			
Y?N	EA4.3		Windows exceed ENERGY STAR for windows by >= 20%
<b>* HERS rater inspection required</b>			
<b>Duct Tightness</b>			<b>N/W/D</b>
REQ	EA5.1		Third-party duct leakage tested <= 5.0 CFM25 / 100 SF to outside
<b>* HERS rater inspection required</b>			
Y?N	EA5.2		Third-party duct leakage tested <= 3.0 CFM25 / 100 SF to outside
<b>* HERS rater inspection required</b>			
Y?N	EA5.3		Third-party duct leakage tested <= 1.0 CFM25 / 100 SF to outside
<b>* HERS rater inspection required</b>			
<b>Space Heating and Cooling</b>			<b>N/W/D</b>
REQ	EA6.1	<input checked="" type="checkbox"/>	Meets ENERGY STAR for HVAC with manual J and refrigerant charge test



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<b>* HERS rater inspection required</b>			
Y?N	EA6.2 OR		Exceeds ENERGY STAR for HVAC by >= 10% with manual J
<b>* HERS rater inspection required</b>			
Y?N	EA6.3		Exceeds ENERGY STAR for HVAC by >= 20% with manual J
<b>* HERS rater inspection required</b>			
<b>Water Heating</b>			<b>N/W/D</b>
Y?N	EA7.1		Improved hot water distribution system.
Y?N	EA7.2		Improved water heating equipment.
Included in HERS rating			
<b>Lighting</b>			<b>N/W/D</b>
Y?N	EA8.1 OR		Energy efficient fixtures and controls
<b>* local provider review of product manufacturer's info and inspection required</b>			
Y?N	EA8.2		ENERGY STAR advanced lighting package



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<b>Appliances</b>			<b>N/W/D</b>
Y?N	EA9.1	Select appliances from list	
<b>* local provider review of product manufacturer's info and inspection required</b>			
Y?N	EA9.2	Very efficient clothes washer (MEF > 1.8, AND WF < 5.5)	
<b>* local provider review of product manufacturer's info and inspection required</b>			
<b>Renewable Energy</b>			<b>N/W/D</b>
Y?N	EA10	<input checked="" type="checkbox"/> Renewable electric generation system (1 point / 10% annual load reduction)	
<p><b>11/30/2006 – Observed the thin film PV integrated into the standing seam metal roof on the outbuilding and the main house. Looks great! Need a hydro when possible.</b></p> <p><b>07/06/2007 – PV and battery bank were in operation this time. No generators anymore! The hydro is still awaiting final permits from the State. Long but Greens persevere! Pictures documented the batter bank and venting, the inverters, and the PV on the roof.</b></p>			
<b>Refrigerant Management</b>			<b>N/W/D</b>
Y?N	EA11	<input checked="" type="checkbox"/> Minimize ozone depletion and global warming contributions	
<b>Subtotal;</b>			<b>N/W/D</b>
<b>Homeowner Awareness: HA</b>			



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<b>Homeowner Education</b>			<b>N/W/D</b>
<b>REQ</b>	HA1.1	<input checked="" type="checkbox"/>	Basic owner's manual and walkthrough of LEED Home
<b>* local provider review of product manufacturer's info and inspection required</b>			
<b>Y?N</b>	HA1.2	<input checked="" type="checkbox"/>	Comprehensive owner's manual and multiple walkthroughs/trainings..
<b>* local provider review of product manufacturer's info and inspection required</b>			
<b>Subtotal;</b>			<b>N/W/D</b>
<b>Innovation and Design Process: ID</b> <i>07/06/2007 Paul needs to send Patrick a list of the credits being sought.</i>			
<b>Innovative Design</b>			
<b>Y?N</b>	ID1.1	<input checked="" type="checkbox"/>	Provide description and justification for specific measure.
<b>* Requires local provider to secure preliminary approval from USGBC</b>			
<b>Y?N</b>	ID1.2	<input checked="" type="checkbox"/>	Provide description and justification for specific measure.
<b>* Requires local provider to secure preliminary approval from USGBC</b>			
<b>Y?N</b>	ID1.3	<input checked="" type="checkbox"/>	Provide description and justification for specific measure.



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Y?N	ID1.4	☞	Provide description and justification for specific measure.	
<b>Subtotal; 2</b>				<b>N/W/D</b>
<b>Project Totals Estimate;</b>				<b>N/W/D</b>