



**- PURPOSE -**

This checklist was developed by the Durham Energy Committee together with the Durham Planning Board. It is intended to encourage developers, applicants for Site Plan Review, applicants for building permits, and members of the Durham Planning Board to consider and discuss optional energy efficiency measures appropriate to a specific application rather than to mandate general requirements. Discussion at early stages may result in opportunities for energy and cost savings.

Project name 25-35 Main Street  
 Date of Submittal 9/19/13  
 Applicant name Orion UNH LLC  
 Engineer name TBD  
 Architect name DeStefano Architects PLLC

New Construction       Re-Development, Addition or Renovation

**PART I. BUILDING CONSTRUCTION, SYSTEMS AND MATERIALS**

**National Accredited Rating for Building Energy System**

Check one box: 1 Does your building meet standards for:

• Passive House Institute\* <<http://www.passivehouse.us/passiveHouse/PHIUSHome.html>>

• International Living Building Institute/Living Building Challenge\* <<http://living-future.org/lbc>>

• LEED\* (Platinum, Gold, Silver) <<http://www.usgbc.org/>>

• Energy Star\* <<http://www.energystar.gov/>>

• Other \_\_\_\_\_  
 [please indicate Internet address or other reference]

\* These organizations have established energy-efficiency criteria. Qualifying applicants are encouraged to complete and attach the checklist from that certification (to be used for informational purposes only) and may then skip to Part IV, "Consultation with Director of Zoning, Building Codes & Health."

None of the above

Yes	No	N/A	Energy performance and insulation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2 Attic or ceiling insulation exceeds Town code (R value proposed = <u>49</u> ) (see Chapter 38)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3 Walls insulation exceeds Town building code (R value proposed = <u>20+3.8</u> ) (see Chapter 38)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 Air sealing: passive air infiltration rate proposed*: _____ <u>TBD</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5 Slabs: R value proposed <u>10</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6 Basement foundation: R value proposed <u>7.5</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7 Hot water pipes: R value proposed _____ <u>TBD</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8 Heating ducts: R value proposed _____ <u>TBD</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 Plans to commission the building to confirm performance

\* "Tight" envelopes require ventilation, typically with the use of energy or heat recovery ventilation systems.

Yes	No	N/A	<b>Construction methods and materials</b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	Net zero construction, i.e., building(s) uses less than or same amount of energy it generates
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11	Energy efficient doors and windows (including screens)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	Recycled content materials

Yes	No	N/A	<b>Internal systems</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13	Low-flow plumbing fixtures
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14	Lighting: high efficiency
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15	Energy usage monitoring system(s)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	Energy-efficient appliances (refrigerators, stoves, air conditioners, ceiling fans, etc.)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	Energy-efficient HVAC system (proposed efficiency level ____)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18	Renewable HVAC system (e.g., biomass boiler or furnace) or geothermal
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19	Renewable hot water system (e.g., solar thermal)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20	Photovoltaic renewable electricity generation system (i.e., solar panels)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21	Window technology or design that adjusts shading (active or passive, e.g., film, sensors)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22	Ability to charge electric vehicles
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23	Grey-water system (e.g., to capture water from sinks or showers to use for toilets or flower gardens)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	Mechanical ventilation: Energy Recovery Ventilator efficiency proposed = _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25	Water usage monitoring system(s)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26	Cooling load reduction features, e.g., ceiling fans, solar-ray-blocking blinds

**PART II. SITE AND SITING CONSIDERATIONS (if not applicable, check here \_\_\_\_\_)**

Yes	No	N/A	<b>Solar lighting, heating and cooling (passive and active)</b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27	Passive solar lighting design (optimizes natural illumination for interiors)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28	Solar access: availability of, or access to, unobstructed, direct sunlight, usually south-facing
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29	Preservation of abutting solar rights, e.g., solar skyspace easements applicable to all plots within a subdivision or to your neighbors
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	Orientation of internal streets allows solar access
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31	Deciduous trees that provide shade in summer and do not block solar gain in winter
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32	Window placement maximizes winter solar penetration and minimizes solar penetration in summer
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	33	Vegetated rooftop(s), also known as a "green roof"

Yes	No	N/A	<b>Parking</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34	Incentives for tenants without cars ("no free parking")
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	35	Compact car space designation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	36	Advanced technology and/or alternative fuel car space designation (e.g., hybrids; "E85")

Yes	No	N/A	<b>Transportation, accessibility, connectivity</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37	Pedestrian sidewalk network within the project area
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38	Bicycle lane or path network within project area
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39	Storage for bicycles outdoors (covered/uncovered) (secured/unsecured) <please circle
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	40	Storage for bicycles indoors (secured/unsecured) <please circle

