

BOARD OF SELECTMEN & SCHOOL COMMITTEE POLICY

INTEGRATED BUILDING DESIGN & CONSTRUCTION POLICY

Date Approved by BOS: October 7, 2019 Signature of Chair: *Douglas M. Lucente*

Date Approved by SC: October 7, 2019 Signature of Chair: *Eileen S. Jay*

Supersedes: BOS Sustainable Design Policy, September 19, 2005

I. Purpose of Policy

1. To maximize the health and well-being of building occupants and the public at large.
2. To ensure the Town will design and construct its buildings to meet programmatic requirements while enabling operations to achieve the highest reasonably attainable and economically viable performance standards for health, energy and resilience.
3. To guide the overall project delivery of a Town facility from a scope, schedule and cost standpoint while maximizing sustainability objectives.
4. To evaluate and select optimal designs which (1) address the building's intended programmed use and which (2) minimize and mitigate the negative impacts of development, construction and building operations on the natural environment.
5. To maximize onsite renewable energy production given each building's respective site and site use, while minimizing energy use and operational costs of Town buildings.
6. To provide resilient and maintainable buildings.

II. Responsibility

The Board of Selectmen (BOS) and School Committee (SC) are responsible for adopting this policy and goals for school buildings. The Board of Selectmen is responsible for adopting this policy and goals for all other Town buildings. The term "Elected Boards" is used to identify these two bodies throughout this policy and goals.

The Town Manager, Superintendent of Schools, Director of Public Facilities and Permanent Building Committee (PBC) shall be responsible for the adherence to this Policy and the Town Manager is authorized to adopt additional guidelines, objectives and supplemental materials to effectuate this policy and goals.

The project "stakeholder" group referred to in this policy and goals shall be determined by the Town Manager and Superintendent of Schools, when appropriate, in consultation with the Elected Boards, but should include but not be limited to, representatives of the Department of Public Facilities, Permanent Building Committee, the building occupants, Sustainable Lexington Committee and an invitation for a liaison from the Capital Expenditures Committee.

III. Scope

1. This policy and attached goals apply to all Town funded building projects.
2. To the extent possible, all renovation and new projects, undertaken by the Town should achieve, the attached "LEED Lexington" Integrated Building Design and Construction Goals Checklist and strive to achieve the LEED Silver standards, at a minimum. The application for LEED™ certification is optional, subject to available funding and the discretion of the Elected Boards prior to schematic

designs. The Elected Boards may choose to exempt certain building projects under their respective purview from these standards.

IV. Policy

The Department of Public Facilities and Elected Boards will strive to achieve the highest reasonably attainable and economically viable performance standards for health, energy, and resilience for Town building projects in accordance with the policy of the Elected Boards as follows:

1. Prior to initiating building design activities or selection of the design team, the project stakeholders shall establish specific targets for the project that consider each of the Integrated Building Design and Construction Goals Checklist as defined in Attachment A. The targets for School Department Buildings shall be approved by the School Committee and the Board of Selectmen. The targets for all other Town buildings shall be approved by the Board of Selectmen.
2. Design teams selected for all facility projects that are subject to this policy shall at a minimum include LEED™ accredited professionals with demonstrated experience in designing buildings that would meet the requirements of this policy and goals.
3. Prior to design, the project stakeholder group will make a recommendation to the Elected Boards whether to pursue the optional application for formal LEED™ Silver certification.
4. The Integrated Building Design and Construction Goals Checklist shall be monitored by the Department of Public Facilities and the Permanent Building Committee throughout the project to ensure that requirements of this policy and the agreed upon, attainable goals are met.
5. At the end of every project phase (feasibility, schematic design, design development, construction documents and construction), the project design team will prepare an end of Project Phase Report that addresses the design's adherence to or departure from approved scope, cost, schedule and the Integrated Building Construction Goals Checklist as attached. Project success requires that the design approval at the end of the schematic phase and design development phase meet the approved scope, cost and schedule requirements. The Director of Public Facilities will submit these reports to the Elected Board(s). It is recommended that Elected Board liaisons give regular updates to their respective Boards outside of the project phase reporting.
6. The Town shall implement a post occupancy commissioning process when roughly 20% of the one year warranty period remains.
7. Projects must commence with and maintain sufficient overall project budget and schedule.

V. Policy Revisions and Updates

1. No changes to this policy and goals or appendix may be made without the formal approval of both Elected Boards.
2. This policy and Integrated Building Design and Construction Goals Checklist as defined in Attachment A, shall be reviewed and updated by a Committee jointly appointed by the Elected Boards every three years or sooner as required to reflect current, best practices and performance standards for health, energy, and resilience and any updates to applicable codes and reference materials.ⁱ

ⁱ This policy is to meet the goals set out in Article 33 of 2013.

Attachment A

Integrated Building Design and Construction Goals Checklist

Integrated Building Design and Construction Goals Checklist

Consult Lexington's Integrated Building Design and Construction Policy for other requirements for New Construction and Major Renovation -Town Buildings

This document is based on scope features defined in LEED 4.0 with additions / modifications driven by Town of Lexington requirements:

Economic evaluation of design alternatives will be carried out in accordance with the economic evaluation approach included in the Lexington Sustainable Action Plan adopted 8/27/2018 (pages 9-11)

Project Name:

Project Address:

Project Phase:

Report Date:

Resilience Level (Circle appropriate level per the Town's Emergency Preparedness and Response Plan maintained by the Town's Fire Chief

- Level 1: **Public Safety (Police, Fire, Public Services) No interruption of essential services;**
- Level 2: **Town Shelter -- Full electrical and thermal power necessary for life safety, food prep / refrigeration, lighting, internet connectivity ^ charging stations;**
- Level 3: **Continued Operation – Smart load reduction in emergencies, mobile or on-site backup generation to carry load for continued operation;**
- Level 4: **Asset Preservation – Provide power to hold building temperature, provide light & manage building systems**

Source	Explanation
1 LEED 4.0_()	Standard LEED items with standard LEED requirements and definitions (LEED Ref#)
2 LEED 4.0_()	Standard LEED items with specific Lexington definitions (LEED Ref #). Strive to achieve maximum points on these items.
3 LEX_()	Specific Lexington requirements (Lex1 through Lex5)

Lex Goal	Explanation
1 Required	Lexington requires this outcome / scope item to be included in the base case project design.
2 Strive to Achieve	These Items represent focused Lex Goals and should be evaluated & reported on for discussion/implementation.
3 Ev & Report	Evaluate the applicability of this item to the project/site and report on benefits and impacts of implementation

LEED SCORING				LEXINGTON MASTER - SCOPE CHECKLIST				
Expected Points	Max Points	Source	Scope Item / Feature / Outcome	Lex Goals	Comments	Cost Impact Scale		
Y	?	N						
1	0	0	1	LEED 4.0	Integrative Process	Required		
0	0	0	0	Resilience				
0	0	0	0	LEX_1	Resilience - Buildings shall be designed to deliver services based on the resilience levels defined in the Integrated Design Procedure. The resilience level for a particular building shall be consistent with the planned use of the building in the Town's Emergency Management plan.	Required		
0	0	0	16	Location and Transportation				
16	0	0	16	LEED 4.0_LTc1	Neighborhood Development Location	Ev & Report		
1	0	0	1	LEED 4.0_LTc2	Sensitive Land Protection	Ev & Report		
2	0	0	2	LEED 4.0_LTc3	High Priority Site	Ev & Report		
5	0	0	5	LEED 4.0_LTc4	Surrounding Density and Diverse Uses	Ev & Report		
5	0	0	5	LEED 4.0_LTc5	Access to Quality Transit	Ev & Report		

			1	LEED 4.0_LTc6	Bicycle Facilities	Ev & Report		
			1	LEED 4.0_LTc7	Reduced Parking Footprint	Ev & Report		
			1	LEED 4.0_LTc8	Green Vehicles	Ev & Report		
0	0	0	10	Sustainable Sites				
Y			Req.	LEED 4.0	Construction Activity Pollution Prevention	Required		
Y			Req.	LEED 4.0	Environmental Site Assessment	Required		
			1	LEED 4.0	Site Assessment	Ev & Report		
			2	LEED 4.0_SS4	Site Development - Protect or Restore Habitat	Ev & Report		
			1	LEED 4.0_SS5	Open Space	Ev & Report		
			3	LEED 4.0_SS6	Rainwater Management	Ev & Report		
			2	LEED 4.0_SS7	Heat Island Reduction	Ev & Report		
			1	LEED 4.0_SS8	Light Pollution Reduction	Ev & Report		
			1	LEED 4.0	Site Master Plan	Ev & Report		
			1	LEED 4.0	Joint Use of Facilities	Ev & Report		
0	0	0	11	Water Efficiency				
Y			Req.	LEED 4.0_WE1	Outdoor Water Use Reduction	Required		
Y			Req.	LEED 4.0_WE2	Indoor Water Use Reduction	Required		
Y			Req.	LEED 4.0_WE3	Building-Level Water Metering	Required		
			2	LEED 4.0_WE4	Outdoor Water Use Reduction	Ev & Report		
			6	LEED 4.0_WE5	Indoor Water Use Reduction	Ev & Report		
			2	LEED 4.0_WE6	Cooling Tower Water Use	Ev & Report		
			1	LEED 4.0_WE7	Water Metering	Ev & Report		
0	0	0	33	Energy and Atmosphere				
Y			Req.	LEED 4.0	Fundamental Commissioning and Verification	Required		
Y			Req.	LEED 4.0	Minimum Energy Performance	Required		
Y			Req.	LEED 4.0	Building-Level Energy Metering	Required		
Y			Req.	LEED 4.0	Fundamental Refrigerant Management	Required		
			6	LEED 4.0_EAc1	Enhanced Commissioning - Pursue: Option 1 of this credit: HVAC Commissioning Option 2 of this credit: Building Envelope Commissioning	Required		
			18	LEED 4.0_EAc2	Optimize Energy Performance: Target onsite building energy use intensity (kBtu/sq ft) for new buildings: 30% (New Construction) less energy use than ASHRAE 90.1 (current) or better. 20% (Renovation) less energy use than ASHRAE 90.1 (current) or better.	Required		
			1	LEED 4.0_EAc3	Advanced Energy Metering : Use advanced metering and sub-metering to report and track hourly interval electricity use data by end-use categories that exceed 10% of total annual electricity consumption and maintain said records for rolling two year periods. (LEED V.4 requires 3 yrs.)	Required		
			2	LEED 4.0_EAc4	Demand Response : Install and properly maintain building management system to track and manage peak demand for energy cost reduction and emergency load shedding.	Required		
			3	LEED 4.0_EAc5	Renewable Energy Production (LEED 10%) : Maximize onsite renewable energy, targeting at least 20% onsite renewable energy production and may supplement this with offsite renewable energy.	Required		
			-	LEX_2	Utilize energy storage when cost effective to lower peak demand charges and integrate with onsite solar.	Required		
			1	LEED 4.0_EAc6	Enhanced Refrigerant Management	Ev & Report		
			2	LEED 4.0_EAc7	Green Power and Carbon Offsets	Strive to Achieve		
			-	LEX_3	Evaluate and present options for achieving net zero energy use.	Required		
			-	LEX_4	All electric, zero emissions on site design (excluding fuel for emergency backup power generators). Backup fossil fuel heating systems will require specific approval.	Required		

0	0	0	13	Materials and Resources			
Y			Req.	LEED 4.0	Storage and Collection of Recyclables	Required	
Y			Req.	LEED 4.0	Construction and Demolition Waste Management Planning	Required	
			5	LEED 4.0	Building Life-Cycle Impact Reduction	Ev & Report	
			2	LEED 4.0	Building Product Disclosure and Optimization - Environmental Product Declarations	Ev & Report	
			2	LEED 4.0	Building Product Disclosure and Optimization - Sourcing of Raw Materials	Ev & Report	
			2	LEED 4.0	Building Product Disclosure and Optimization - Material Ingredients	Ev & Report	
			2	LEED 4.0	Construction and Demolition Waste Management	Ev & Report	
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0	0	0	16	Indoor Environmental Quality			
Y			Req.	LEED 4.0	Minimum Indoor Air Quality Performance	Required	
Y			Req.	LEED 4.0	Environmental Tobacco Smoke Control	Required	
Y			Req.	LEED 4.0	Minimum Acoustic Performance (<i>Schools</i>)	Required	
			2	LEED 4.0_IEQc1	Enhanced Indoor Air Quality Strategies : Enhanced Filtration – Install and properly maintain particulate matter filters to protect health of the occupants and as appropriate for building type and use. Maintain indoor CO2 levels per Lexington Board of Health guidelines (BOH Memo dated December 18, 2015, Table 1).	Required	
			3	LEED 4.0_IEQc2	Low-Emitting Materials	Ev & Report	
			1	LEED 4.0_IEQc3	Construction Indoor Air Quality Management Plan	Ev & Report	
			2	LEED 4.0_IEQc4	Indoor Air Quality Assessment	Ev & Report	
			1	LEED 4.0_IEQc5	Thermal Comfort	Ev & Report	
			2	LEED 4.0_IEQc6	Interior Lighting	Ev & Report	
			3	LEED 4.0_IEQc7	Daylight	Ev & Report	
			1	LEED 4.0_IEQc8	Quality Views	Ev & Report	
			1	LEED 4.0_IEQc9	Acoustic Performance	Ev & Report	
			-	LEX_5	Toxics – Avoid the use of red list substances as recommended by Lexington Board of Health (memo dated March 4, 2018), except when no practical alternative is available. Utilize Healthy Building Network (or the equivalent) information in the design and selection of materials and consider using products and services established by the Environmentally Preferable Purchasing program or other successor program of the Commonwealth of Massachusetts or other similar cooperative purchasing programs.	Strive to Achieve	
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0	0	0	6	Innovation			
			5	LEED 4.0	Innovation	Ev & Report	
			1	LEED 4.0	LEED Accredited Professional	Ev & Report	
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0	0	0	4	Regional Priority			
			1	LEED 4.0	Regional Priority: Specific Credit	Ev & Report	
			1	LEED 4.0	Regional Priority: Specific Credit	Ev & Report	
			1	LEED 4.0	Regional Priority: Specific Credit	Ev & Report	
			1	LEED 4.0	Regional Priority: Specific Credit	Ev & Report	
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0	0	0	110				

Certified: 40 to 49 points
Silver: 50 to 59 points
Gold: 60 to 79 points
Platinum: 80 to 110