

Sustainable & Resilient Development Questionnaire

The purpose of this Questionnaire is to minimize the adverse environmental impacts in the design, construction, and occupancy of development in Somerville and to ensure that the impacts of future climate conditions are carefully evaluated. Please refer to the Development Review Sustainability Submittal Requirements on the OSE website (<https://www.somervillema.gov/departments/office-sustainability-and-environment>) to determine whether your project requires a Sustainable and Resilient Development Questionnaire. It is strongly recommended that applicants meet with staff from the Office of Sustainability and Environment (OSE) prior to submitting a Development Review Application. Please contact OSE at ose@somervillema.gov to schedule a meeting.

Section 1: General Information

1.1 Project Name	8 Medford St
1.2 Permit #	TBD
1.3 Project Address	8 Medford St Somerville, MA, 02143
1.4 Project Applicant	Nelson DeOliveira
1.5 Applicant Email	nelsongroupusa@gmail.com
1.6 Applicant Phone Number	(617) 590-0068
1.7 Applicant Business Address	264 Salem St Medford, MA, 02155
1.8 Filing Type	Stage 2: Building Permit
1.9 Is this a revised questionnaire?	No
1.10 Is Massachusetts Environmental Policy Act (MEPA) approval required?	No
1.11 If MEPA approval is required, why? This project triggers (per section 11.03 of MEPA):	Not Applicable

Section 2: Building and Site Details

2.1 Building Type	General building
2.2 If you selected General Use, is the building mixed-use?	Yes
2.3 Gross Floor Area	21066

2.4 Expected Building Life	100
2.5 How many housing units are included in this project?	18
2.6 How many housing units will be designated affordable in this project?	4
2.7 Please describe the building heating plant and distribution system.	TBD
2.8 Please describe the building cooling plant and distribution system.	TBD
2.9 Please describe the building ventilation system.	TBD
2.10 Please describe the building domestic hot water system.	TBD
2.11 Green Building Professional Name	TBD TBD
2.12 Phone Number	(000) 000-0000
2.13 Email	TBD@TBD.COM
2.14 Certifications of Green Building Professional	TBD
2.15 Please select all green building certifications being pursued for this project.	Passive House
2.16 Does your project have a Mobility Management Plan?	No
2.17 Total number of parking spaces	0
2.18 Electric Vehicle (EV) Charging Station Ports (number of charging ports)	0
2.19 EV Charging Station Level	TBD
2.20 Number of EV Ready Spaces	0

Section 3: Net Zero Building Compliance

The City of Somerville encourages projects to eliminate fossil fuels in their building operations. A net-zero carbon building is a highly energy efficient building that does not burn fossil fuels and either produces or procures enough carbon-free electricity to meet the building's total energy demand.

3.1 Will the building be a net zero carbon building?

No

3.1.A If the building will be net zero, will you be using Somerville's Net-Zero Density Bonus program?

No

3.2 If the building will not be a net-zero carbon building, provide a technical description of how the building's systems will be transitioned over time to achieve net-zero carbon emissions, including how and when systems can be transitioned in the future to carbon-free alternatives (provide timeline including 2030, 2040, and 2050 targets). Description must include whether any remaining emissions will be offset with on-site or off-site renewables and at what quantity.

The building is being designed for a future solar array that will offset all carbon emissions, as the project is already all-electric with very efficient mechanical systems.

3.3 Please explain the proposed building's electric heating/cooling system capacity and efficiency. Will these systems be electric? Provide reasoning for selection of heating and cooling systems to reduce energy usage.

TBD

3.4 Please describe how the design team has integrated energy performance into the building design, site design, and engineering (including roof, foundations, walls and window assemblies, envelope performance, orientation, massing, mechanical systems, envelope, etc.) to reduce energy usage.

The building is an all-electric, Passive House project utilizing efficient heat-pump technology and an air-tight envelope to limit energy needs as much as possible. Mechanical ventilation systems will be used to ensure a safe and healthy living environment without sacrificing energy savings

3.5 Will any renewable energy generation be incorporated into the project?

No

3.6 If yes, please describe system type and capacity. If no, could/will it be added in the future?

The project is being designed with future renewables in mind. The building will use all electric mechanical and appliances in order to allow for easy transitions to renewable energy production in the future. There is also a conduit run to the roof space for future PV electrical requirements, and roof space being set aside for a future solar array

3.7 Will any off-site renewable energy be purchased?

No

3.8 Describe any and all incentives, rebates, and grants provided by utilities, government organizations, and other organizations being pursued to maximize building efficiency and to reduce emissions.

The project will be participating in the Mass Save incentive program for Passive House projects and will also be pursuing 45L federal tax incentives

Section 4: Climate Change Risk and Vulnerability

4.1 Climate Vulnerability Exposure (check all that apply). Please refer to Somerville's Climate Change Vulnerability Assessment and the Urban Flood Atlas for information and reference maps.

TBD

Section 4.1: Managing Heat Risk

Heat Exposure risk maps can be found on pages 105 and 106 of Somerville’s Climate Change Vulnerability Assessment.

4.1.1 Describe all building features that will keep building occupants safe and comfortable during extreme heat, including mechanical systems and non-mechanical design elements to cool building (orientation, envelope, operable windows, etc.).

TBD

4.1.2 How has increased demand for indoor cooling been factored into the building design and energy management strategy?

TBD

4.1.3 List any indoor spaces without cooling and their uses.

TBD

4.1.4 What design features will be implemented on site to minimize the site’s contribution to the urban heat island effect? Please describe any and all design elements.

The project is aiming to incorporate a green roof to drastically reduce the heat island effect. Any areas of exposed roofing material will be selected with heat island reduction in mind.

Section 4.2: Managing Flood Risk

High resolution GIS maps are available through the Urban Flood Atlas at www.somervillezoning.com/developmentreview

4.2.1 Is the site susceptible to flooding from sea level rise and storm surge and/or rain events now or during the building’s expected lifetime? Please refer to the Somerville Climate Change Vulnerability Assessment and Urban Flood Atlas.

No

4.2.2 Proposed Site Elevation - Low (in feet) 0

4.2.3 Proposed Site Elevation - High (in feet) 52

4.2.4 Lowest Elevation of Life-Safety Systems (in feet) 0

4.2.5 Proposed First Floor Elevation (in feet) 0

4.2.6 Nearest flood depth for the 2070 10-year storm 0

4.2.7 Nearest flood depth for the 2070 100-year storm 0

4.2.8 What are the first-floor uses of the building?

Commercial Retail, Bike Storage Room, Trash Room, Mail Room, Residential Lobby, Stairs, Elevator, and Entrance Vestibules.

4.2.9 Are there any below ground stories of the building?

No

4.2.10 If yes, what uses are located below ground?

N/A

4.2.11 Are there any flood-sensitive assets, utilities, mechanical equipment, or life-safety systems located in areas of the building that are at risk of flooding?

No

4.2.12 If yes, what measures will protect building systems during a flood or severe storm?

TBD

4.2.13 Residential and commercial buildings should be designed to maintain regular operations during a 10-year storm in 2070. Describe how the site and building have been designed to maintain regular operations - meaning all systems will remain operational and all occupied spaces are protected from flooding - during the 2070 100-year storm. Please refer to both the 2070 coastal flood probability map and the 2070 100-year storm and 1-year sea level rise scenario.

TBD

4.2.14 How will your site and building be designed to protect against the impacts of the 2070 100-year, 24-hour storm? Please evaluate impact based on both the 2070 coastal flood depth model for the 100-year storm and the 2070 100-year, 100-year sea level rise model. Summarize anticipated pre- and post-event policies, strategies, and actions necessary to facilitate post-flood recovery.

TBD

4.2.15 Will hazardous or toxic material be stored on site?

No

4.2.16 If yes, how will you protect hazardous or toxic material from flooding?

N/A

4.2.17 Will the site be accessible by a typical vehicle during a 10-year event (up to 6 inches of water) and by emergency vehicles (up to 12 inches of water) during a 100-year event?

Yes

Section 5: Eversource Confirmation

This is the final section of this questionnaire. Questionnaire's will not be reviewed or accepted without the below confirmation. Electric plans from Eversource are not accepted for this item.

5.1 For buildings with more than four units or a gross floor area greater than 7,000 square feet, including parking: Per Eversource Information and Requirements for Electric Service, single phase services greater than 400amps or any 3-phase service

 Sustainable & Resilient Developmentpdf

requires private property transformation. Additionally, any building with more than four units requires Eversource review to determine the need for private property transformation. If your building is within these thresholds: Reach out to Eversource at 888-633-3797 to discuss your electrical service needs. Request, via email from Eversource, confirmation if private property transformation will be required. Attach a PDF of the email chain to this submission.