

Boston Zoning Article 80 Project Review - Climate Change Preparedness Questionnaire

In 2011, Mayor Menino adopted the final recommendations of the Climate Action Leadership Committee. In conformance with this directive, all recent and future development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following questionnaire regarding project specific strategies and actions preparing for Climate Change.

Please complete the [Climate Change Preparedness Questionnaire](#) online. This PDF version of the questionnaire is for previewing only.

For more information about the City of Boston's climate policies and practices, and the 2011 update of the climate action plan, *A Climate of Progress*, please see the City's climate action web pages at <http://www.cityofboston.gov/climate>

For comments on the Climate Change Preparedness Survey or best building practices, please contact: John.Dalzell.BRA@cityofboston.gov

In advance we thank you for your time and assistance in advancing best practices in Boston.

Climate Change Analysis and Information Sources:

1. Northeast Climate Impacts Assessment (www.climatechoices.org/ne/)
2. USGCRP 2009 (<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/>)
3. Army Corps of Engineers guidance on sea level rise (<http://planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf>)
4. Proceeding of the National Academy of Science, "Global sea level rise linked to global temperature", Vermeer and Rahmstorf, 2009 (<http://www.pnas.org/content/early/2009/12/04/0907765106.full.pdf>)
5. "Hotspot of accelerated sea-level rise on the Atlantic coast of North America", Asbury H. Sallenger Jr*, Kara S. Doran and Peter A. Howd, 2012 ([http://www.bostonredevelopmentauthority.org/planning/Hotspot of Accelerated Sea-level Rise 2012.pdf](http://www.bostonredevelopmentauthority.org/planning/Hotspot%20of%20Accelerated%20Sea-level%20Rise%202012.pdf))

PLEASE COMPLETE THE QUESTIONNAIRE ONLINE

Project Permitting and Phase

What is this project permitting - a select one (required):

Single Building	Phased, multi-building project	Master Plan	Institutional Master Plan
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At what phase is the project - at time of this questionnaire:

PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

If an existing building, date completed:

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PLEASE COMPLETE THE QUESTIONNAIRE ONLINE

Project Information

Project Name:	
Project Address Primary:	
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	

Team Description

Owner / Developer:	
Architect:	
Engineer (building systems):	
Sustainability / LEED:	
Permitting:	
Construction Management:	
Climate Change Expert:	

Building Classification and Description

Building Uses - select all appropriate uses:

Residential – One to Three Unit	Residential - Multi-unit, Four +	Institutional	Education
Commercial	Office	Retail	Assembly
Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and Other

First Floor Uses (List)

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Construction Type – select most appropriate type:

Wood Frame	Masonry	Steel Frame	Concrete
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Site Area:	<i>SF</i>	Building Area:	<i>SF</i>
Building Height:	<i>Ft.</i>	Number of Stories:	<i>Flrs.</i>
First Floor Elevation:	<i>Elev.</i>	Are there below grade spaces:	<i>Yes / No</i>

Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems):

Select by Primary Use:	New Construction	Core & Shell	Healthcare	Schools
	Retail	Homes Midrise	Homes	Other
Select LEED Outcome:	Certified	Silver	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified – Primary Use:

Registered:	Yes / No	Certified:	Yes / No
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Select by Secondary Use:	New Construction	Core & Shell	Healthcare	Schools
	Retail	Homes Midrise	Homes	Other
Select LEED Outcome:	Certified	Silver	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified – Secondary Use (repeat for additional uses):

Registered:	Yes / No	Certified:	Yes / No
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Higher Temperatures and Heat Waves

Climate change will result in higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

Analysis and General Strategies

Information Sources:	(List options)	(List options)	(List options)	(List options)
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Was there information you were unable to find:

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What time span of Climate Change was considered:

10 Years	25 Years	50 Years	75 Years
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Analysis Conditions - What range of temperatures will be used for project planning – Low/High:

/ Deg.

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency:

Deg.	Days	events / yr.
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What measures will the project employ to reduce urban heat-island effect:

Select all appropriate:	High reflective paving materials	Shade trees	High reflective roof materials	Vegetated roofs
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Describe other strategies:

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Will the project be able to manage hotter and more humid summers without increasing its electrical load; if so how:

Yes / No	If yes, how much:	%
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If Yes, describe strategies:

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Will the building remain operable without utility power for an extended period:

Yes / No	If yes, for how long:	Days
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If Yes, describe strategies:

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Active Strategies and Passive Strategies

What will be the overall energy performance of the project or building and how will performance be determined?

Percentage above code:

	%
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Select compliance path:

Energy model	Prescriptive path	EnergyStar	Other, please describe
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What specific measures will the project employ to reduce building energy consumption

Select all appropriate:

High performance lighting	Automatic light diming & controls	Building day lighting	EnergyStar equip. / appliances
High performance HVAC equipment	Energy recovery ventilation	No active cooling	No active heating

Describe any added measures:

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What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure:

Thermal energy storage systems	Building-wide power dimming	On-site clean energy / CHP	Ground source heat pump
On-site Solar PV	On-site Solar Thermal	Wind power	Describe any additional measures

Describe any added measures:

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Will the project employ Smart Grid Infrastructure and / or Systems:

Select all appropriate:

Smart Grid connected	Smart Grid building ready	Local distributed electricity	Local distributed steam / heat
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Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:

Solar oriented – longer south walls	Prevailing winds oriented	External shading devices	Tuned glazing,
Building cool zones	Operable windows	Natural ventilation	Building shading
Potable water for drinking / food preparation	Potable water for sinks / sanitary systems	Waste water storage capacity	High Performance Building Envelop

Describe any added measures:

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List the R values for building envelop elements?

Roof	R =	Walls	R =
Foundation	R =	Basement / Slab	R =
Windows	R = / U =	Doors	R = / U =

Sea-Level Rise and Storms – Location analysis and description

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

Location Description and Classification:

Site Elevation – Low/High Points: / Elev.

Building Proximity to Water: Ft.

Is the site or building located in any of the following:

Coastal Zone: Yes / No

Velocity Zone: Yes / No

Flood Zone: Yes / No

Area Prone to Flooding: Yes / No

Are updates in the floodplain delineation due to climate change likely to change the classification of the site or building location:

Yes / No

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding:

Ft.

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

Sea-Level Rise and Storms – Analysis

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

Information Sources:	US Global Change Research Program	US Army Corp of Engineers	Climate Choices - Northeast	See Appendix A for complete and additional sources
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Was there information you were unable to find:

What time span of Climate Change was considered:

10 Years	25 Years	50 Years	75 Years
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How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise: Ft.

Frequency of storms: per year

Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

Will the building remain occupiable without utility power during an extended period of inundation:

Yes / No

If Yes, for how long: days

Has the ground floor level been elevated in response to Sea Level Rise:

First Floor Elevation: Height above 100 Year Floodplain:

Will lower building levels be constructed in a manner to prevent water penetration:

If yes, what is the Flood Proof Elev. (height above 100 Year Floodplain):

What measures will be taken to ensure the integrity of critical building systems during a flood or sever storm event:

Systems located above 1 st Flr.	Water tight utility conduits	Waste water back flow prevention	Storm water back flow prevention
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Were the differing effects of fresh water and salt water flooding considered:

Will the project site and building(s) be accessible during periods of inundation or limited circulation and / or access to transportation:

If yes, to what height above 100 Year Floodplain:

Describe any additional strategies:

Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand sever storm impacts and endure temporary inundation:

Select appropriate:

<input type="text" value="Yes / No"/>	Hardened / Resilient Ground Floor Construction	Temporary shutters and or barricades	Resilient site design, materials and construction
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Will the building include additional structural capacity and building systems to accommodate future on-site renewable and or clean energy sources:

Select appropriate:

<input type="text" value="Yes / No"/>	Solar PV	Solar Thermal	Clean CHP
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Can the site and building be reasonably modified to increase Building Flood Proofing:

Select appropriate:

<input type="text" value="Yes / No"/>	Increase site ground elevation	Raise building ground flr. height	Construction been engineered
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Describe any additional strategies:

Thank you for completing the Boston Climate Change Preparedness Survey!

For questions or comments about this survey or Climate Change Preparedness practices, please contact: John.Dalzell.BRA@cityofoboston.gov