COOPERATION AGREEMENT
CHARLESTOWN BATTALION ARMORY
374-398 BUNKER HILL STREET, CHARLESTOWN

This COOPERATION AGREEMENT (this "Agreement") is made as of this 21st day of November, 2014, by and between the **BOSTON REDEVELOPMENT AUTHORITY**, a public body politic and corporate created pursuant to Chapter 121B of the Massachusetts General Laws, as amended, and acting in its capacity as the planning board for the City of Boston pursuant to Chapter 652 of the Acts of 1960, as amended, and having a principal place of business at One City Hall Square, Boston, Massachusetts 02201-1007 (the "Authority"), and **C-TOWN VENTURES, LLC**, a Massachusetts limited liability company with an address 275 Mishawum Road, Woburn, MA 01801 (the "Applicant"). The Authority and the Applicant, collectively, are sometimes referred to herein as the "Parties."

RECITALS

WHEREAS, the Applicant proposes to redevelop the former Charlestown Battalion Armory located at 374-398 Bunker Hill Street, Charlestown, as 42 residential condominium units with 86 off street parking spaces (the "Project"); and

WHEREAS, the site of the Project is an approximately 47,566 square foot parcel of land, located at 374-398 Bunker Hill Street, Charlestown (the "Site"). A Project Locus Map is attached as Exhibit A; and

WHEREAS, on January 23, 2014, the Applicant submitted a Letter of Intent concerning the Project to the Authority and subsequently filed a Project Notification Form ("PNF") with the Authority on April 3, 2014, and

WHEREAS, on May 15, 2014, pursuant to Section 80B-5.3(d) of the Boston Zoning Code (the "Code"), the Authority voted to authorize the issuance of a Scoping Determination waiving further review of the Project, and the Authority subsequently issued the Scoping Determination on May 23, 2014 (the "Scoping Determination"), a copy of which is attached hereto as Exhibit B; and

WHEREAS, the Authority and the Applicant have agreed to enter into this Agreement for the purposes of: (1) setting forth the mitigation measures and other public benefits of the Applicant with respect to the construction and operation of the Project, and (2) ensuring compliance of the Project with the provisions of Article 80 of the Code as specified herein.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Authority and the Applicant hereby agree as follows:

A. DEVELOPMENT REVIEW

1. The Authority has completed its development review of the Project in accordance with Article 80 of the Code, subject to continuing design review by Authority staff. The Applicant and the Authority hereby acknowledge that the Director of the Authority issued a Scoping Determination waiving the requirement of further review on May 23, 2014.

2. The design review process for the Project shall be as set forth in the Authority's "Development Review Guidelines, dated 2006," attached hereto as Exhibit C, which are incorporated herein by reference (the "Development Review Guidelines") and Article 80 of the Code. Capitalized terms used and not defined herein shall have the meanings ascribed to them in the Development Review Guidelines. The Applicant shall submit Schematic Design Plans, Design Development Plans, and Contract Documents for the Proposed Project to the Authority's Urban Design staff ("Urban Design") for review and approval under the Authority's Development Review Guidelines.

3. Following final approval of the design of the Project by Urban Design, the Applicant will not make any material modification to the design of the exterior of the Project or the interior lobbies of the Project that are visible from the exterior of the Project until such modification has been approved by Urban Design. Such changes shall be processed in the manner provided in the following sections.

4. Throughout the construction of the Project, it will be the Applicant's responsibility to notify Urban Design of proposed alterations to exterior features of the building, open spaces, and landscaping, and the interior lobbies visible from the exterior of the Project, where the same constitute changes from previously approved submissions (other than refinements of details generally consistent with such previously approved submissions) ("Material Changes"), and to obtain approval from Urban Design prior to incorporating such changes into the final working drawings and specifications for the Project. Urban Design shall perform its review and approval and other functions pursuant to the provisions of this Agreement with reasonable dispatch, and shall approve or disapprove any such proposed Material Change in writing within thirty (30) business days of its submission to Urban Design. If Urban Design disapproves any such Material Changes, its disapproval shall include a written explanation thereof. If the Applicant receives no notification from Urban Design of

disapproval within thirty (30) business days after the submission of any such proposed Material Change to Urban Design, such changes shall be deemed approved; provided, however, that any written request for approval of a change shall be in conformance with the provisions of Section D.5 of this Agreement.

B. MITIGATION COMMITMENTS

1. Construction Mitigation. Prior to the issuance of a building permit for any portion of the Project, the Applicant shall submit to the City of Boston Transportation Department ("BTD") a Traffic Construction Management Plan ("CMP") for the Project in accordance with the City's Construction Management Program. The CMP shall identify construction parking and traffic impacts and specific mitigation measures to be implemented during the construction of the Project that are reasonably satisfactory to the BTD and the Applicant. Upon the execution of the CMP, the Applicants shall submit to the Authority a true, complete, and correct copy of the fully executed CMP.

2. Transportation. Prior to the issuance of a building permit for any portion of the Project, the Applicant shall enter into a Transportation Access Plan Agreement ("TAPA") for the Project with the BTD reasonably satisfactory in form and substance to BTD and the Applicant. Upon the execution of the TAPA, the Applicant shall submit to the Authority a true, complete, and correct copy of the fully executed TAPA.

3. Construction Employment. Prior to the issuance of a building permit for any portion of the Project, the Applicant shall execute and deliver to the Authority a Boston Residents Construction Employment Plan (the "Employment Plan"), in a form acceptable to the Authority, consistent with the requirements of the Boston Residents Jobs Policy established by Chapter 30 of the Ordinances of 1983 and the Mayor's Executive Order Extending the Boston Residents Jobs Policy dated July 12, 1985, and consistent with Chapter 12 of the Ordinances of 1986, as amended by Chapter 17 of said ordinances. The Employment Plan will set forth the Applicant's plans to use Best Efforts (as defined in Chapter 12 of the Ordinances of 1986, as amended) to ensure that its general contractor, and those engaged by said general contractor for construction of the Project on a trade-by-trade basis, use Best Efforts to meet the following Boston Residents Construction Employment Standards:

(a) at least 50% of the total employee work hours in each trade shall be by bona-fide residents of the City of Boston ;

(b) at least 25% of the total employee work hours in each trade shall be by minorities; and

(c) at least 10% of the total employee work hours in each trade shall be by women.

Work hours, as defined in the Employment Plan, shall include on-the-job training and apprenticeship positions.

4. Affordable Housing. The Applicant shall provide a total of six(6) on-site affordable residential condominium units in connection with the Project, including: three (3) units to be made available to households earning up to 80% of the area median income ("AMI"), and three (3) units to be made available to households earning up to 100% of AMI (the "Affordable Units"). The Affordable Units will include the following types of units:

Unit Type	**No. of Units at 80% AMI**	**No. of Units at 100% AMI**
1BR	1	0
2BR	1	0
2BR + Den	1	1
2BR Live/Work	0	1
3BR	0	1
Total	**3**	**3**

The Applicant will enter into an Affordable Housing Agreement with the Authority and the Affordable Units will be secured by a deed restriction to be placed on the Affordable Units to maintain affordability. Prior to the marketing of the Affordable Units, the Applicant will enter into an Affirmative Marketing Plan with Boston Fair Housing Commission and the Authority.

5. Site Improvements. The Applicant will make the following improvements to the Site in connection with the Project, including:(a)providing forty-two (42) secure bicycle parking spaces; and (b) providing an exhibit in the atrium of the Project honoring the military history of the building.

6. Public Realm Improvements. Subject to the approval of the City of Boston Public Improvement Commission, the Applicant shall make the following public realm improvements in connection with the Project, including:

(a) portions of the sidewalk on Bunker Hill Street will be replaced; and

(b) replacement and adding of trees along Bunker Hill Street as necessary.

7. Mitigation Commitment. The Applicant will make a fifty thousand dollar ($50,000.00) contribution to the Authority upon issuance of a building permit for the Project, which funds shall be granted to the Charlestown Working Theatre, Inc., or other appropriate entity, to be dedicated toward the ongoing maintenance of the Charlestown Firefighters Memorial Park located at 442 Bunker Hill Street, Charlestown.

C. PROJECT CHANGES AND PROJECT COMPLETION

1. Development Period. The Applicant anticipates commencing construction of the Project in the 4th quarter of 2014 or 1st quarter of 2015, with an estimated substantial completion date in the 2nd quarter of 2016.

2. Abandonment of Project. If, in the future, the Applicant shall, in its reasonable judgment, determine that it has become infeasible to proceed with the Project, then in such case, and after substantiation by the Applicant of the reasons for not being able to proceed that is deemed reasonably adequate by the Authority, the Authority shall cooperate with the Applicant, at no cost or expense to the Authority, to modify, alter, or amend its previous approval, and this Agreement, in order to allow the Applicant the opportunity to reasonably develop the Site.

3. Authority Cooperation. Throughout the permitting phase of the Project, the Authority shall, at the Applicant's request, meet with the Applicant to discuss with the Applicant the status of the Applicant's efforts to obtain from the appropriate municipal, state, and federal bodies and agencies all permits, licenses, exceptions, conditional use permits, variances, special orders, and any other forms of discretionary approvals or relief or deviations from the strict application of the zoning and building codes and other applicable ordinances and statutes that may be necessary or appropriate in order to carry out the development of the Project in the most expeditious and reasonable manner. The Authority shall cooperate with the Applicant, at no cost or expense to the Authority, to obtain any such approvals, relief, or deviations required for the Project, provided however that all such efforts are generally consistent with the PNF, as supplemented, the Scoping Determination, and the Contract Documents approved by the Authority in accordance with the Development Review Guidelines.

4. Certification of Compliance. Pursuant to and in accordance with Section 80B-6 of the Code, the Authority shall promptly issue to the Commissioner of the City of Boston Inspectional Services Department a Certification of Compliance for the Project when appropriate in accordance with said section and the vote of the Authority authorization such issuance.

5. Certification of Completion. The Project shall be deemed completed when construction of the Project has been substantially completed in accordance with the

Contract Documents and the Project is ready for occupancy, except for: (i) interior work to be performed to tenant or other occupant specifications; (ii) items of work and adjustment of equipment and fixtures that can be completed after occupancy has occurred, *i.e.*, so-called "punch list items"; and (iii) landscape, streetscape, or other similar work that cannot then be completed because of climatic conditions or other reasons beyond the reasonable control of the Applicant, as may reasonably be determined by the Authority.

Upon substantial completion of the Project as aforesaid, the Authority shall issue to the Applicant a Project Certification of Completion, which shall be in a form suitable for recording in the Registry of Deeds for Suffolk County, Massachusetts (the "Registry of Deeds"), and shall be conclusive evidence that the Project has been completed in compliance with the Scoping Determination, the Contract Documents, and this Agreement (which term shall be construed in connection with the issuance of a Certification of Completion or a Statement of Non-Completion to incorporate all agreements herein referenced), and that all obligations to the Authority thereunder have been fulfilled (except any obligation hereunder which by its terms survives the completion of construction of the Project, which obligation when cited in the Project Certification of Completion shall survive the issuance of the Project Certification of Completion) (collectively, such documents are the "Article 80 Documents"). Notwithstanding the provisions of this Agreement, the Authority shall have no obligation to issue a Certification of Completion if there is any outstanding material default under this Agreement.

The Authority shall, within forty (40) days after receipt of the Applicant's written request therefore, either: (a) issue a Certification of Completion for the Project to the Applicant and to any mortgagee of the Project, or (b) provide written notice to the Applicant that the Authority has determined that the Project has not been completed in accordance with the Article 80 Documents approved by the Authority (a "Non-Completion Statement").

If the Authority determines that the requested Certification of Completion cannot be issued, the Authority shall, within such forty day (40) period, provide the Applicant with a Non-Completion Statement indicating with specificity (a) in what respect the Applicant has failed to complete the Project in accordance with the Scoping Determination, the Contract Documents, or this Agreement; and (b) what measures or actions will be necessary for the Applicant to undertake or perform in order to obtain such Certification of Completion. Upon compliance by the Applicant with the requirements specified in the Non- Completion Statement with respect to the Project, the Authority shall issue the Certification of Completion to the Applicant.

If the Authority shall refuse or fail to provide either a Project Certification of

Completion or a Non-Completion Statement to the Applicant or any such mortgagee within forty (40) days of a request for a Project Certification of Completion, then the Project Certification of Completion requested shall be deemed to have been issued; provided, however, that any transmittal of any request for the issuance of a Project Certification of Completion shall recite that approval by the Authority is due within forty (40) days of receipt in conformance with Section D.5 of this Agreement or said Project Certification of Completion shall be deemed to have been issued. The Applicant and any such mortgagee may record an affidavit with said Registry of Deeds, which affidavit shall attest to the adequacy of notice to the Authority, the elapse of forty (40) days without response, and the completion of the Project in compliance with the Scoping Determination, the Contract Documents, and this Agreement. Such affidavit shall be conclusive evidence as to the facts stated therein and as to the substantial completion of the Project in compliance with the Scoping Determination, the Contract Documents, and this Agreement.

D. GENERAL PROVISIONS

1. Binding Agreement. This Agreement is binding upon and enforceable against, and inures to the benefit of, the Parties and their successors and assigns (including, without limitation, any successor owner or owners of the improvements on the Site or any part thereof, but excluding mortgagees of the Project or those claiming through mortgagees of the Project, unless said mortgagee obtains title to the Site and proceeds with development of the Project), and no person or persons shall be authorized to undertake any action to enforce any provision hereof without the prior written consent of the Parties.

2. Transfer of Interest. The Applicant shall have the right to transfer or assign its rights and interests in all or a portion of the Project and under this Agreement, provided that:

(a) at the time of such transfer or assignment, the Applicant is not then in material default (beyond applicable notice and cure periods) of the terms and conditions of this Agreement imposed as of such date;

(b) the successor or assignee shall expressly assume and agree to perform and comply with all of the covenants and agreements of this Agreement to be performed by the Applicant (unless notwithstanding a transfer or assignment of the Applicant's rights and interest in a portion of the Project, such covenants and agreements are to remain those of the Applicant); and

(c) the Applicant shall deliver to the Authority promptly after such transfer or assignment, a copy of the instrument or instruments evidencing any such assignment to and assumption by the successor or assignee.

Notwithstanding anything in this Agreement to the contrary, no notice to or consent by the Authority shall be required in connection with any financing or refinancing of all or any portion of the Project or Site.

3. Liability.

(a) The liability of the Applicant or its successors or assigns (including, without limitation, mortgagees) arising under this Agreement shall be limited solely to the interests of the Applicant in the Project and the Site, and no partner, member, manager, venturer, trustee, beneficiary, shareholder, officer, director employee, agent, or the like of the Applicant or its successors or assigns, or any person or entity directly or indirectly holding any interests in any of the foregoing from time to time, or any such person's or entity's separate assets or property, shall have or be subject to any personal or individual liability with respect to any obligation or liability hereunder, nor shall any person or entity be answerable or liable hereunder in any equitable proceeding or order beyond the extent of its interest in the applicable portion of the Project or Site. No holder of a mortgage on the Project or the Site shall be liable to perform, or be liable in damages for failure to perform, any of the obligations of the Applicant hereunder, unless said mortgagee obtains title to the Project or the Site and proceeds with development of the Project.

(b) Nothing in this Agreement shall be construed as an undertaking by the Applicant to construct or complete the Project. If and to the extent the Project is undertaken, the sole obligation of the Applicant will be to adhere to such provisions of the Article 80 Documents as are specifically related to the Project.

4. Notices. All notices and other communications required or permitted under this Agreement must be in writing, signed by a duly authorized officer or representative of the Authority or the Applicant, as the case may be, and shall be (i) hand delivered, (ii) delivered by nationally recognized overnight delivery service, or (iii) mailed by certified or registered mail, return receipt requested, postage prepaid, to the parties at the following addresses or such other addresses as each may have

specified to the other by such a notice:

Authority:	Boston Redevelopment Authority One City Hall Square, 9th Floor Boston, Massachusetts 02201-1007 Attention: Director
with a copy to:	Boston Redevelopment Authority One City Hall Square, 9th Floor Boston, Massachusetts 02201-1007 Attention: General Counsel
Applicant:	C-Town Ventures, LLC Attn: Patrick J. Keohane 275 Mishawum Road Woburn, Massachusetts 01801
with a copy to:	Patrick J. Sweeney, Esq. Morrissey Sweeney LLC 261 Main Street Charlestown, Massachusetts 02129

Any such notice shall be deemed to have been given on the date received or refused during normal business hours.

5. Authority Approval. Whenever the consent or approval of the Authority is required hereunder, under the Development Review Guidelines, or otherwise in connection with the development of the Project or on the Site, such consent or approval shall not be unreasonably withheld, delayed, or conditioned, nor shall it be made contingent upon, or structured so as to require, directly or indirectly, the payment of any fee or charge by the Applicant or any other interested party. Wherever there is a requirement that any thing, act, or circumstance shall be satisfactory to the Authority or shall be done and performed to the Authority's satisfaction or there is any other requirement of similar import, the standards of reasonableness and customary practice shall be used in determining the adequacy and sufficiency of the Applicant's performance.

Any request for approvals made to the Authority by the Applicant where such approvals shall be deemed granted after a period of non-reply by the Authority shall, as a condition to the effectiveness thereof, be prefaced with the following language printed in capital letters in boldface type:

"NOTICE
THIS REQUEST FOR APPROVAL REQUIRES A PROMPT RESPONSE FROM THE BOSTON REDEVELOPMENT AUTHORITY. THE FAILURE TO RESPOND WITHIN _____ BUSINESS DAYS SHALL RESULT IN AN AUTOMATIC APPROVAL."

6. Certificate of Status of Agreement. The Authority shall, within twenty (20) business days after a written request therefor by the Applicant or any mortgagee of the Project or Site or any portion thereof, provide a certificate in writing (an "Estoppel Certificate"), as requested or as applicable, that this Agreement or any particular section hereof specified by the requesting party is in full force and effect and unmodified, or in what respects this Agreement is no longer in force or effect or has been modified, that the Applicant is in compliance with this Agreement or any particular section hereof specified by the requesting party, or in what respects there is noncompliance, or as to any other matter reasonably related to the Project or this Agreement that the requesting party may reasonably request of the Authority.

7. Authority of Director of Authority. The Authority has authorized the Director of the Authority to take any action hereunder or in connection with the Project on behalf of the Authority (including, without limitation, the granting of consents or approvals and the execution and delivery of certificates and agreements hereunder or under the Development Review Process including without limitation the issuance of a Certification of Compliance pursuant to Article 80 of the Code), and any action so taken shall be binding upon the Authority.

8. Severability. If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall to any extent be determined to be invalid and unenforceable, the remainder of this Agreement, or the application of such terms to persons or circumstances other than those to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the extent permitted by law.

9. Governing Law; Integrated Agreement. This Agreement, which sets forth the entire agreement between the parties, shall be governed and construed by the laws of the Commonwealth of Massachusetts, without regard to conflict of law principles.

10. Amendments. This Agreement may be amended only by a written instrument signed by the Parties.

11. Business Days. As used herein, the term "business day" shall mean any day other than a Saturday, Sunday or legal holiday in Suffolk County, Commonwealth of Massachusetts.

12. Term. Unless earlier terminated pursuant to any provisions hereof, this Agreement shall expire ten (10) years after the date hereof, and the provisions herein shall be void and null as of such date of expiration, subject to specific time periods set forth herein with regard to specific provisions hereof.

13. Execution in Counterparts/Multiple Originals. This Agreement may be executed in counterparts. All such counterparts shall be deemed to be originals and together, shall constitute but one and the same instrument. The parties have agreed to execute multiple original copies of this Agreement.

14. Enforcement. It is the intention of the parties that the provisions of this Agreement may be enforced only by the parties hereto, and that no other person or persons shall be authorized to undertake any action to enforce any provisions hereof without the prior written consent of the parties.

[*The remainder of this page is intentionally blank; signatures follow*]

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in their behalf by their respective officers thereunto duly authorized as of the day and year first above set forth.

BOSTON REDEVELOPMENT AUTHORITY

By: Brian P. Golden
Brian Golden, Acting Director

C-TOWN VENTURES, LLC

By: Pat Keohane
Patrick J. Keohane
Manager

Approved as to Form:

By: E. Renee LeFevre
~~Kevin Morrison~~ E. Renee Lefevre
Acting General Counsel
Boston Redevelopment Authority

Exhibits:

Exhibit A: Project Locus Map
Exhibit B: Scoping Determination
Exhibit C: Development Review Guidelines, dated 2006

Exhibit A
Project Locus Map

[ATTACHED]

Locus Map

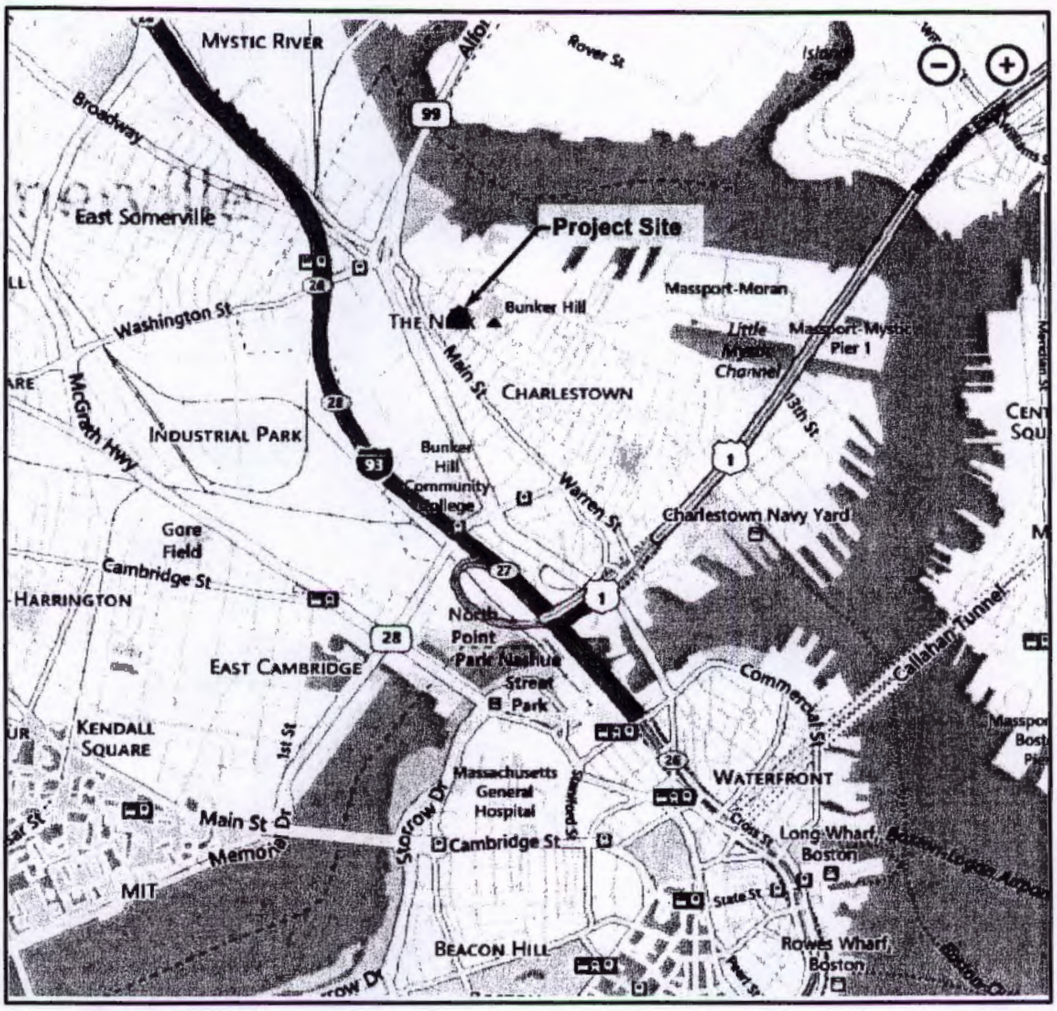

Mystic River
Broadway
East Somerville
Project Site
Washington St
Bunker Hill
Massport-Moran
Little Mystic Channel
Massport-Mystic Pier 1
Main St
Charlestown
McGrath Hwy
Industrial Park
Bunker Hill Community College
Warren St
Charlestown Navy Yard
13th St
Gore Field
Cambridge St
Harrington
North Point Park
Nashua Street Park
East Cambridge
Commercial St
Callahan Tunnel
Kendall Square
1st St
Massachusetts General Hospital
Waterfront
Main St
Memorial Dr
Cambridge St
Long Wharf, Boston
State St
MIT
Beacon Hill
Rowes Wharf, Boston

Exhibit B
Scoping Determination

[ATTACHED]

Boston Redevelopment Authority

Boston's Planning & Economic Development Office

Martin J. Walsh, *Mayor*

One City Hall Square
Boston, MA 02201-1007
Tel 617-722-4300
Fax 617-248-1937

May 23, 2014

Mr. Patrick Keohane
C-Town Ventures, LLC
275 Mishawam Road
Woburn, MA 01801

Re: Scoping Determination Waiving Further Review
The Charlestown Battalion Armory
374-398 Bunker Hill Street, Charlestown

Dear Mr. Keohane:

Please be advised that on May 15, 2014the Boston Redevelopment Authority ("BRA") Board voted its authorization for the Director to issue a Scoping Determination under Section 80B-5.3(d) of the Boston Zoning Code (the "Code") which (i) finds that the Project Notification Form, submitted on April 2, 2014 ("PNF") adequately describes the potential impacts arising from the proposed Charlestown Battalion Armory project, located in the Charlestown neighborhood of Boston (the "Proposed Project"), and provides sufficient mitigation measures to minimize these impacts; and (ii) waives further review of the Proposed Project under subsections 4 and 5 of Section 80B-5 of the Code, subject to continuing design review by the BRA.

C-Town Ventures, LLC (the "Proponent") is proposing to redevelop an underutilized former Armory building owned by the City of Boston on Bunker Hill Street for the provision of approximately forty-two (42) condominium units, six (6) of which will be designated as affordable units and passive open space. The Proposed Project will provide a ratio of at least 2.0 vehicular parking spaces per residential unit consisting eighty-four (84) spaces housed within the building's existing basement and two (2) spaces along the building's exterior for visitors. The Proposed Project will also provide forty-two (42) covered and secured bicycle parking spaces. The atrium of the building will be used, in part, as exhibit space to pay tribute to the building's military past.

Pursuant to the May 15, 2014 vote by the BRA, I hereby issue to you this Scoping Determination waiving further review under Section 80B-5.3(d) of the Code in connection with the Proposed Project which (i) finds that the PNF adequately describes the potential impacts arising from the Proposed Project and provides sufficient mitigation measures to minimize the impacts; and (ii) waives the requirement of further review of the Proposed Project under subsections 4 and 5 of Section 80B-5 of the Code, subject to continuing design review by the BRA.

This Scoping Determination waiving further review shall not become final until nineteen (19) days after the date hereof. I hereby invite the public to comment on the conditions the BRA requires in this Scoping Determination for the mitigation of the Proposed Project's impacts. Such comments must be submitted in writing to the BRA within fourteen (14) days hereof and must be based on significant new information not submitted during the public comment period or scoping session required by Section 80B-5.3(b) and (c) of the Code. The BRA shall consider any comments received and may modify this Scoping Determination to add, delete, or modify the conditions set forth therein, provided that any such changes shall be made no later than the date on which the Scoping Determination becomes final.

Sincerely,

Brian Golden
Acting Director

Exhibit C
Development Review Guidelines

[ATTACHED]

BRA

DEVELOPMENT REVIEW GUIDELINES

CITY OF BOSTON
Thomas M. Menino
Mayor

Mark Maloney
Director

Clarence J. Jones
Chairman
Joseph Nigro
Co-Vice Chairman
Michael Taylor
Co-Vice Chairman
Consuelo Gonzales Thornell
Treasurer
Christopher Supple
Member
Harry Collings
Executive Director/Secretary

Boston
Redevelopment
Authority

ONE CITY HALL SQUARE BOSTON MASSACHUSETTS 02201
2006

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APPENDICES

Appendix 1:	Massachusetts Environmental Policy Act Review
Appendix 2:	Large Project Review, Planned Development Area Review, Institutional Master Plan Review, and Small Project Review Flow Charts
Appendix 3:	Boston "Smart Model": Two-Dimensional Mapping Standards
Appendix 4:	A Guide for the Preparation of Materials Samples Construction Detail Panels
Appendix 5:	Protocol for Quantitative Pedestrian Level Wind Impact Analysis
Appendix 6:	Sun Altitude/Azimuth Table

INTRODUCTION

The Boston Redevelopment Authority ("BRA" or "Authority") was created in 1957 to oversee the design and implementation of Boston's urban renewal plans. Since then, the BRA's role has grown with the city. Today, the agency's responsibilities include planning, workforce development, and overall economic development. The internal structure of the BRA reflects its expanded responsibilities. The inclusion of the Economic Development and Industrial Corporation of Boston ("EDIC") and its Office of Jobs and Community Services ("JCS") into the BRA umbrella combines the Authority's planning and economic development roles with the workforce development programs of JCS to create a Boston that works for residents and businesses alike.

As the City of Boston's planning and economic development agency, the BRA has regulatory responsibility for reviewing major development proposals in Boston. The BRA's review authority covers a wide range of projects as outlined under the Boston Zoning Code ("Code").

The BRA reviews development proposals for compliance with the general plan for the City of Boston, which includes relevant master plans, zoning, and City programs and goals. General review criteria may vary depending on location, type, and size of the project. Design review criteria include references to building height, massing, materials, and other guidelines that preserve Boston's history, reconnect its urban fabric, and advance its character. Environmental criteria include a project's impacts on sunlight, wind, groundwater, and air and water quality, both during construction and upon completion. Transportation review, undertaken in coordination with the Boston Transportation Department ("BTD"), focuses on the impacts of traffic generation, parking, and loading, and examines proposed changes to rights-of-way, encroachments on public space, curb cuts, and requirements of the Boston Air Pollution Control Commission, if applicable. Employment impact review focuses on the nature and quality of jobs likely to result from the project and the degree to which those jobs will be accessible to Boston residents. Other review criteria include impacts on both infrastructure systems and capacities, and on historic resources. Review criteria are included in the Code and other planning documents. Community participation is encouraged and supported throughout the review process.

This booklet sketches the BRA's review process, describes the conditions that initiate the BRA's various review functions, defines the stages of its review, and provides a comprehensive list of submission requirements. The extent of the review is outlined at an initial meeting between the developer and BRA staff in accordance with the development review procedures of Article 80 of the Code ("Article 80"), and further defined as required in a scoping determination issued by the BRA for a proposed project.

State review of projects may be required under the Massachusetts Environmental Policy Act ("MEPA") to evaluate environmental impacts. Since MEPA applies to a number of projects that undergo BRA review, MEPA's authority and procedures are outlined in Appendix 1. State and BRA reviews are generally coordinated in such cases.

A building permit must be obtained from the City of Boston's Inspectional Services Department

("ISD") upon completion of the review process. ISD is responsible for enforcing the Code, the Massachusetts State Building Code, and other laws and ordinances relating to building construction and occupancy. In accordance with Article 80, the Commissioner of ISD will not issue a building permit unless he or she has received the requisite Certification of Compliance, Consistency, and/or Approval, as applicable, as well as an approved set of contract documents from the BRA. Likewise, no building permit will be issued until and unless zoning relief and compliance has been secured.

REVIEW PROCEDURES

To evaluate the quality and appropriateness of a proposal based on objectives stated in plans, guidelines, and regulations governing development in Boston, the BRA conducts a four-stage review process. This review is conducted by BRA staff from the agency's economic development, planning, and workforce development (Office of Jobs and Community Services or "JCS") divisions together with staff from the BTD, Boston Environment Department ("Environment"), Boston Public Works Department ("Public Works"), the Boston Water and Sewer Commission ("BWSC") and other City agencies, departments, or commissions as necessary. Staff is also assisted on a project-by-project basis by general community involvement, citizen advisory groups or task forces, professional associations, and other constituencies. The time frame for development review and the sequence of phasing may vary depending on the size and complexity of the project.

Step One: Development Concept

Projects are either privately or publicly initiated and the first step in development review varies accordingly.

For a privately initiated project, the developer contacts the BRA with a letter of intent that briefly describes the proposed project. For a Planned Development Area ("PDA") proposal, or Institutional Master Plan ("IMP") or equivalent, where specific projects may be less defined (or the overall plan area encompasses more than the single proposed project), the developer or institution should set up an initial meeting with the BRA to establish submission protocols. The BRA meets with the developer to discuss the development concept, government regulations and procedures, and submission requirements appropriate to the project from the comprehensive list included in this document. If appropriate, an Impact Advisory Group composed of residents, businesses, and community organizations from the impacted area will be formed to advise BRA staff in the consideration of project impacts and appropriate mitigation.

Publicly initiated projects include the disposition or leasing of City- or BRA-owned property that, because of size and location, require development review by the BRA. For BRA-owned properties, the BRA will prepare a developer's kit for a specific site, outlining the development concept and guidelines. A Request for Proposals ("RFP") to develop the site is publicly advertised. The responses are reviewed by the BRA and, as appropriate, the community. Following review, the BRA will grant tentative designation to a developer. In some cases for BRA-owned property, tentative designations will not be made until after full Article 80 review. The City follows a similar process for disposing of its properties.

From this point on, publicly and privately initiated projects follow similar review procedures.

Step Two: Article 80 of the Code

Article 80 of the Code allows public agencies to draw on the knowledge and experience of communities in the review of proposed projects. Article 80 contains four types of review: Large Project Review (Article 80B), Planned Development Area Review (Article 80C), Institutional Master Plan Review (Article 80D), and Small Project Review (Article 80E). Flow charts illustrating each of these processes may be found in Appendix 2.

Large Project Review applies to virtually all major projects in Boston, usually defined as projects that add at least 50,000 square feet of gross floor area or rehabilitate at least 100,000 square feet of gross floor area. Through Large Project Review, the BRA, guided by comments from the public, examines a project's impacts on its immediate surroundings and the city as a whole. Depending on the project's size, location, and use, the review may address the project's impacts in a variety of areas, including traffic and parking, environmental protection (wind, shadow, noise, etc.), the design character of the area, historic buildings, infrastructure systems (water, sewer, etc.), and employment. Based on the outcome of the review, the BRA may require the developer to modify the project's size, mass, or design or take other measures to mitigate anticipated impacts. Public input through community meetings and comment periods is an important part of this review process.

Planned Development Area Review applies to certain overlay districts that establish special zoning controls for large or complex projects. To qualify for PDA Review, a site must be at least one acre in size. The special zoning controls are laid out in a Development Plan for each PDA. PDA Review is similar to Large Project Review in terms of impact assessments. Approval requires public hearings before the BRA Board and the Boston Zoning Commission. Once a PDA is approved, components within the plan area may be submitted all at once or in phases over time (proposed project submissions initiated thus are Development Plan submissions) for design review and final permitting. Individual projects must still undergo Large Project Review or Small Project Review as appropriate. Public input through community meetings and comment periods is an important part of this review process.

Institutional Master Plan Review usually applies to large institutional campuses such as hospitals and universities. In these cases, institutions are required to submit a long-range development program, encompassing a minimum of ten (10) years. This allows the BRA and the community a context within which to evaluate an institution's proposed projects and the potential effects of institutional growth on the surrounding area. The resulting IMP, upon approval by the BRA and the Boston Zoning Commission, allows projects whose specific uses, density, massing, and location are defined within the IMP to be proposed as of right. Individual projects must still undergo Large Project Review or Small Project Review as appropriate. Institutional Master Plan Review also involves impact assessments comparable to the above, and requires public hearings before and approval by the BRA Board and the Boston Zoning Commission. Institutions submitting an IMP are also required to submit biennial updates, per the Code, including such information as enrollment, employment, and economic impacts as well as any other circumstances that may differ from the original IMP or may prove relevant to understanding changing institutional conditions. Public input through community meetings and comment periods is an important part of this review process.

Small Project Review applies to all minor projects in Boston, usually defined as projects that add between 20,000 and 50,000 square feet of gross floor area or result in the construction of fifteen (15) or more new residential units. Small Project Review often entails community review as well as design review by the BRA's Urban Design department.

Please see Article 80 of the Code for additional detail about the different review categories. Certain requirements of the Code may trigger Article 80 review automatically in some districts, and as-of-right zoning limits in many districts are enhanced by voluntary submission to Large

Project Review. Also, please note well public notification requirements as outlined in Article 80A and elsewhere.

Step Three: Design Review

Design review is an essential element of the full review process. The BRA's Urban Design department, in conjunction with the planning and economic development staff, considers the compatibility of a project with its surroundings in terms of massing, height, materials, ornamentation, fenestration, landscaping, and access. The elements of ongoing design review include: (i) Project Schematics, (ii) Design Development plans, (iii) Contract Document plans, and (iv) Construction Inspection, as further defined in Section IV – Submission Requirements. Design review often begins prior to the submission of a Letter of Intent, but is fully engaged in the early stages of schematic design. A list of required submissions for design review is included in the section of this report entitled Submission Requirements. IMPs and PDAs larger than a single site will generally be asked to include a larger context area in their urban design analysis, showing relationships and connections to the neighborhood or district, its uses, its character, and its infrastructure.

As part of the design review process, certain projects are subject to Article 28 of the Code – Boston Civic Design Commission ("BCDC") review. BCDC review considers the relationship of a proposed project to the public realm of the City of Boston. Generally those projects at or over 100,000 gross square feet, or located within PDAs or IMP areas, are subject to review by the BCDC. The BCDC may also, at its discretion, choose to review proposed projects of somewhat less than 100,000 SF if such are determined to have a significant potential impact upon the public realm of the neighborhood or City. The BCDC is advisory to the BRA and must act on a project before approvals may be obtained through the BRA. In general, both BCDC and BRA Article 80 review take place during the development of the schematic design for a given project.

Step Four: Project Agreements

Certain agreements are often required between the BRA and other City agencies and a developer prior to the issuance of a building permit by ISD. The following agreements, where applicable, may be requested of a project proponent:

Affirmative Fair Housing Marketing Plan or Fair Housing Marketing Plan (with Boston Fair Housing Commission)
Affordable Housing Agreement
Boston Residents Construction Employment Plan
Construction Management Plan (with BTD)
Cooperation Agreement
Development Impact Project ("DIP") Agreement
Disclosure of Beneficial Interests
First Source Agreement and Memorandum of Understanding (with the Office of Jobs and Community Services)
Transportation Access Plan Agreement ("TAPA") (with BTD)

Once project agreements have been executed and construction has begun under the approved contract document plans, mock-up panels (materials review), construction change orders, and

any specified unresolved issues or details will be subject to ongoing review. The developer must request permission from the BRA and ISD prior to making changes from approved drawings if such changes involve modifications to the exterior or interior lobbies that can be viewed from the exterior. Site visits may be conducted to ensure construction of the project is in accordance with the contract documents.

After review of the completed project by BRA staff, a Certification of Completion will be approved by the BRA Board, certifying that the construction of the project has been completed according to the terms of the Authority's agreements with the developer. Additionally, a Certification of Compliance will be approved by the BRA, certifying the status of the developer's compliance with mitigation requirements and public benefits set forth in the agreements between the developer and the Authority, such as the Cooperation Agreement and Development Impact Project Agreement.

PROJECT REVIEW SUBMISSION REQUIREMENTS

Following is a comprehensive list of BRA submission requirements. Developers of large projects (Large Project Review), typically those greater than 50,000 square feet in size, are required to provide much of this information. Smaller proposals (Small Project Review) provide only the information appropriate to their context and complexity, as defined by the BRA. Some data are relevant especially to submission of IMP or PDA proposals. ISD or other City requirements may be obtained from the specific department. Developers should work with BRA project managers to determine the applicability of the requirements listed below.

In addition to full-size scale drawings, a completed Project Information Form, 25 copies (or as advised by the BRA) of a bound booklet containing all submission materials reduced to size 8-1/2" x 11", except where otherwise specified, are required, as well as one copy in digital format (e.g., Adobe Acrobat). For projects to be reviewed by the BCDC, 15 booklets containing the applicant and zoning information and the design submission materials are required, to be submitted one week before the initial presentation to the BCDC.

I. APPLICANT INFORMATION

A. Development Team
   1. Names
      a. Developer (including description of development entity or Chapter 121A entity)
      b. Attorney
      c. Project consultants (e.g., Architect, U.S. Green Building Council Leadership in Energy and Environmental Design ("LEED") Accredited Professional)
   2. Business address and telephone number for each
   3. Designated contact for each
   4. Description of current or formerly-owned developments in Boston

B. Legal Information
   1. Legal judgments or actions pending concerning the proposed project
   2. History of tax arrears by the development team on other property owned in Boston
   3. Property Title Report including current ownership and purchase options of all parcels in the development site

II. PROJECT AREA

A. Description of Metes and Bounds

B. Dimensional Information
   1. For areas requiring limited takings or air rights volumes, description of specific dimensional bounds of such areas accompanied by design documentation which clearly indicates structure, purpose, and use within such volumes

C. Current Zoning

III. PROJECT DESIGN

A. Phase I Submission: Project Schematics

The following submission requirements apply to any project subject to Large (or Small, at the discretion of the BRA) Project Review as well as PDA Development Plans. Certain PDAs and IMPs will require more generalized and broader information establishing a framework within which the proposed projects will be set. As these plans establish the equivalent of a zoning district, this additional material is key in evaluating not only the impacts of proposed projects within the PDA, but also how those plan areas fit within the context of the city.

1. Written description of program elements and space allocation (in square feet) for each element, as well as project totals
2. Neighborhood plan, elevations and sections at an appropriate scale (1":100' or larger as determined by the BRA) showing relationships of the proposed project to the neighborhood's:
   a. massing
   b. building height
   c. scaling elements
   d. open space
   e major topographic features
   f. pedestrian and vehicular circulation
   g. land use
3. Color or black and white 8"x10" photographs of the site and neighborhood
4. Sketches and diagrams to clarify design issues and massing options
5. Eye-level perspective (reproducible line or other approved drawings) showing the proposal (including main entries and public passages/areas) in the context of the surrounding area. Views should display a particular emphasis on important viewing areas such as key intersections or public parks/attractions. Long-ranged (distanced) views of the proposed project should also be studied to assess the impact on the skyline or other view lines. At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) both the build and no-build conditions. The BRA should approve the view locations before analysis is begun. View studies should be cognizant of light and shadow, massing and bulk.
6. Additional aerial or skyline views of the project, if and as requested
7. Site sections at 1":20' or larger (or other scale approved by the BRA) showing relationships to adjacent buildings and spaces
8. Site plan(s) at an appropriate scale (1":20' or larger, or as approved by the BRA) showing:
   a. general relationships of proposed and existing adjacent buildings and open spaces
   b. open spaces defined by buildings on adjacent parcels and across streets
   c. general location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features
   d. pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas
   e. survey information, such as existing elevations, benchmarks, and utilities
   f. phasing possibilities

g. construction limits

9. Model made of bass wood at a 1"=10' scale minimum with the surrounding context with the proposed projects and existing conditions extending to a minimum three-block radius beyond each development parcel
10. A massing model of the proposal in a digital 3D Max format. The digital model must illustrate the proposal and its immediate surrounding blocks in sufficient detail using texture mapping. The digital specifications of the model must be made in coordination with the BRA Urban Design Department to fit the BRA's city-wide digital model
11. Study model at 1":16' or 1":20' showing preliminary concept of setbacks, cornice lines, fenestration, facade composition, etc.
12. Drawings at an appropriate scale (e.g., 1":8', 1":16', or as determined by BRA) describing architectural massing, facade design and proposed materials including:
    a. building and site improvement plans
    b. neighborhood elevations, sections, and/or plans showing the development in the context of the surrounding area
    c. sections showing organization of functions and spaces, and relationships to adjacent spaces and structures
    d. preliminary building plans showing ground floor and typical upper floor(s)
    e. phasing, if any, of the proposed project
13. A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns
14. U.S. Green Building Council LEED Project Checklist/Scorecard
15. Electronic files describing the site and proposed project at Representation Levels one and two ("Streetscape" and "Massing") as described in the document *Boston "Smart Model": Two-Dimensional Mapping Standards* (Appendix 3)
16. Full responses, which may be in the formats listed above, to any urban design-related issues raised in preliminary reviews or specifically included in the BRA scoping determination, preliminary adequacy determination, or other document requesting additional information leading up to BRA Board action, inclusive of material required for BCDC review
17. Proposed schedule for submission of all design or development-related materials

In addition, all IMP and PDA Master Plan submissions (for areas comprising more than a single site/structure) shall include the following, again in printed and duplicable digital format, and revised as required during the review process for later reference:

18. A comprehensive Plan Area map, clearly indicating bounds and all site locations and approximate building footprints
19. Such Plan Area map, modified to show (a) existing and (b) proposed zoning restrictions
20. For IMPs, a table and map listing all buildings owned or leased by the institution, both on and off the campus, and indicating
    a. total area including area below grade
    b. uses and area devoted to each use
    c. height in feet and number of floors, including floors below grade
    d. age
    e. condition
    f. proposed action (rehabilitation, demolition, replacement, or other) during

the term of the IMP

g. proposed uses with area devoted to each use

21. Uses (specifying the principal sub-uses of each land area, building, or structure)
22. Square feet of gross floor area within Plan Area
23. Square feet of gross floor area eliminated from existing buildings through demolition of existing facilities
24. Floor area ratios, individually and in total
25. Building heights within Plan Area
26. Parking areas or facilities, both existing and to be modified or provided in connection with proposed projects
27. A series of neighborhood plans (to the extent not covered in item #2 above) at a scale of 1":100' showing existing and proposed building heights, building uses, pedestrian circulation, and vehicular circulation of cars, service vehicles, and buses, shuttles, or ambulances; the area to be included in the plans shall extend not less than 1,500 feet in all directions from the proposed project site except as specifically agreed upon otherwise by the BRA
28. Diagrammatic sections through the neighborhood (to the extent not covered in item #2 above) cutting north-south and east-west at the scale and distance indicated above
29. True-scale three-dimensional graphic representations of the area indicated above either as aerial perspective or isometric views showing all buildings, streets, parks, and natural features
30. A study model at a scale of 1":40' showing the proposal in the context of other buildings extending 500 feet in all directions from the project site or as determined by the BRA. If the Plan Area is within the area of the BRA's Downtown 1":40' Model, see #11 above

B. Phase II Submission: Design Development (At this stage, all relevant PDA or IMP Plan material has been submitted and approved; the building design progresses in this and the following phases.)

1. Revised written description of project
2. Revised site sections
3. Revised site plan showing:
   a. relationship of the proposed building and open space to existing adjacent buildings, open spaces, streets, and buildings and open spaces across streets
   b. proposed site improvements and amenities including paving, landscaping, lighting and street furniture
   c. building and site dimensions, including setbacks and other dimensions subject to zoning requirements
   d. any site improvements or areas proposed to be developed by some other party (including identification of responsible party)
   e. proposed site grading, including typical existing and proposed grades at parcel lines
4. Dimensional drawings at an appropriate scale (e.g., 1":8') developed from approved schematic design drawings which reflect the impact of proposed structural and mechanical systems on the appearance of exterior facades, interior public spaces, and roofscape including:
   a. building plans and elevations

b. preliminary structural drawings
c. preliminary mechanical drawings
d. sections
e. elevations showing the project in the context of the surrounding area as required by the Authority to illustrate relationships or character, scale and materials

5. Large-scale (e.g., 3/4":1') typical exterior wall sections, elevations, and details sufficient to describe specific architectural components and methods of their assembly
6. Outline specifications of all materials for site improvements, exterior facades, roofscape, and interior public spaces
7. A study model at an appropriate scale (e.g., 1":8', 1":16', or as determined after review of schematic design) showing refinements of façade design.
8. Eye-level perspective drawings showing the revised project in the context of the surrounding area
9. Preliminary samples of all proposed exterior materials (see Appendix 4)
10. Complete photo documentation (35 mm color slides) of above components including major changes from initial submission to project approval, if and as requested by the BRA.
11. U.S. Green Building Council LEED Project Checklist/Scorecard

All above information may be additionally requested in either booklet or suitable electronic form.

C. Phase III Submission: Contract Documents (At this stage, a project has likely received approval and is seeking building permits from ISD.)

1. Final written description of project, including final program breakdown
2. A site plan showing all site development and landscape details for lighting, paving, planting, street furniture, utilities, grading, drainage, access, service, and parking
3. Complete architectural and engineering drawings and specifications. One set for BRA reference; additional sets or cover sheets as required for stamped approvals prior to submission to ISD
4. A complete list of exterior building and site materials and plantings, including a materials sample board if and as requested (see Appendix 4)
5. Eye-level perspective drawings or presentation model that accurately represents the project, and a rendered site plan showing all adjacent existing and proposed structures, streets, sidewalks, pathways, and site improvements
6. Site and building plan at 1":100' for Authority's use in updating its 1":100' photogrammetric map sheets, if and as requested
7. Revised basswood models of final project design suitable for placement, if and as appropriate, in the applicable BRA model bases
8. A massing model of the proposal in a digital 3D Max format. The digital model must illustrate the proposal and its immediate surrounding blocks in sufficient detail using texture mapping. The digital specifications of the model must be made in coordination with the BRA Urban Design Department to fit the BRA's city-wide digital model
9. Electronic files describing the site at Representation Levels three and four ("Building Envelope" and "Photo-realistic") as described in the document *Boston "Smart Model": Two-Dimensional Mapping Standards*. This should include the

site, if topology has been altered

10. U.S. Green Building Council LEED Project Checklist/Scorecard
11. Complete photo documentation (35 mm color slides) of above components including major changes from initial submission to project approval, if and as requested by the BRA.

All above information may be requested in electronic form suitable to the BRA for purposes of reference and information. All above information may be requested in booklet form for limited distribution or reference.

D. Phase IV Submission: Construction Inspection (Phase IV occurs throughout the construction period.)

1. All contract addenda, proposed change orders, and other modifications and revisions of approved contract documents that affect site improvements, exterior facades, roofscape (inclusive of HVAC equipment and mechanical or access penthouses), and interior public spaces submitted to the Authority for review and approval prior to effectuation
2. Shop drawings of architectural components which differ from or were not fully described in the contract documents
3. Information or modifications requested as a condition of approval by the BRA
4. A signage plan or specific signage or building identification proposals
5. A lighting plan or any specific site or building facade lighting proposals, inclusive of any off-site lighting of buildings or monuments undertaken in conjunction with the project
6. Mock-up panels: Full-size assemblies (at the project site) of significant exterior materials, inclusive of proposed details of construction (joint materials including grout or caulking, window frames, mullions, and panning, glass and spandrel panels, masonry or other patterning) and including all feasible facade conditions. Drawings of proposed mock-up panels shall be submitted to the BRA for review and approval prior to erection. Approval of all materials, including both site and building materials, shall not be deemed final until after this mock-up panel review has been completed by the BRA (see Appendix 4)
7. Viewing of any additional models or mock-ups promulgated by the developer for marketing or other purposes
8. U.S. Green Building Council LEED Project Checklist/Scorecard

IV. BRA PROJECT IMPACT ASSESSMENT

Whether or not a project comes within the purview of the MEPA review requirements, the BRA may request all or several of the environmental analyses listed below. The extent of analyses required depends on the size, location, and complexity of the project as defined in the scoping determination issued during Article 80 review.

A. Transportation Impacts/Access Plan

1. Parking
   a. Number of spaces provided indicating public and private allocation
   b. Reduction in parking from previous use of site
   c. Proposal's impact on demand for parking
   d. Parking plan, including layout, access, and size of spaces

e. Evidence of compliance with City of Boston parking freeze requirements

2. Loading
   a. Number of docks
   b. Location and dimension of docks
3. Access
   a. Size and maneuvering space on-site or in public right-of-way
   b. Access, curb cuts, and/or sidewalk changes required
4. Vehicular Traffic
   a. Project vehicular traffic demand and generation (daily and peak-hours) and distribution
   b. Circulation and access impacts on the local and regional street system and local intersections (traffic impact area), including capacity and level-of-service analyses
   c. Modal split and vehicle occupancy analysis
5. Public Transportation
   a. Location and availability of public transportation facilities
   b. Usage and capacity of existing system
   c. Peak-hour demand and capacity analysis
   d. Measures to encourage use of public transportation
6. Pedestrian Circulation
   a. Demand and capacity analysis on project area sidewalks
   b. Connections to public transportation station stops
   c. Effect on pedestrian flows of project parking and servicing entrances and exits
7. Access Plan
   a. Measures to manage parking demand and optimize use of available parking spaces, including:
      Proposed rate structure(s)
      Ride-sharing incentives and information dissemination
      Set-asides for high-occupancy-vehicles: number and location
      Set-asides for after morning commuter peak (usually 9:30 or 10:00 a.m.)
   b. Measures to encourage public transportation use, including:
      Mass transit information dissemination
      MBTA pass sales and subsidies
      Direct station links or pedestrian connections
   c. Measures to reduce peaking, including:
      Encouragement of flexible work hours
      Restrictions on service and good deliveries
   d. Measures to mitigate construction impacts, including:
      Time and routes of truck movements
      Storage of materials and equipment
      Worker parking and commuting plan
   e. Monitoring and reporting measures

B. Environmental Protection

1. Wind
   a. A qualitative or quantitative (wind tunnel) analysis of pedestrian level winds may be required for existing (no-build) and build conditions. Wind

tunnel testing shall be required for:

Any building higher than 150 feet

Any building 100 feet high and at least two times higher than the adjacent buildings

Any other building which falls below these thresholds but because of its context and particular circumstances would require wind tunnel testing

b. The analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the project site and shall identify any areas where wind velocities are expected to exceed acceptable levels, including the Authority's guideline of an effective gust velocity of 31 miles per hour (mph) not to be exceeded more than 1% of the time

c. The analysis also shall determine the suitability of particular locations for various activities (e.g., walking, sitting, eating, etc.) as appropriate

d. Particular attention shall be give to public and other areas of pedestrian use, including, but not limited to, entrances to the project and adjacent buildings, sidewalk adjacent to and in the vicinity of the project buildings, and parks, plazas, and other open spaces and pedestrian areas near the project development

e. Wind speeds shall be measured in miles per hour

f. For areas where wind speeds are projected to be dangerous or to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impact shall be identified and, if appropriate, tested

g. Should a qualitative analysis indicate the possibility of excessive or dangerous pedestrian level winds, additional analyses, including wind tunnel testing may be required

h. Wind tunnel testing shall be conducted in accordance with the Protocol for Quantitative Pedestrian Level Wind Impact Analysis (Appendix 5)

2. Shadow

a. Shadow analysis may be required for existing (no-build) and build conditions for the hours of 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. in the summer and fall. In addition, on a case-by-case basis, analysis for other times of day (e.g., 10:00 a.m.) may be required

b. Shadow analysis shall be conducted using the Sun Altitude/Azimuth Table (see Appendix 6)

c. The shadow impact analysis must include net new shadows as well as existing shadows; net new shadows shall have a clear graphic distinction. For purposed of clarity, new shadows should be shown in a dark, contrasting tone distinguishable from existing shadows

d. Shadow analysis must show the incremental effects of the proposed development on existing and proposed public open spaces and pedestrian areas (including transit stops), including, but not limited to, sidewalks and pedestrian walkways adjacent to and in the vicinity of the proposed project and parks, plazas, and other open space areas. The analysis must clearly label all streets, vehicular paths, public open spaces, and pedestrian areas adjacent to and in the vicinity of the proposed project area. A North arrow shall be provided on all figures.

e. Additional shadow analysis may be required depending on the particular circumstances or physical characteristics of the project site, including its

solar orientation relative to public open spaces, pedestrian and street patterns, existing shadows in the area, historic resources, defined shadow impact areas, or other appropriate factor

f. If location in relation to Boston Common or Public Garden dictates, analyses indicating any impacts (including potential draw from the 'shadow bank') or proving no impacts within the prescribed exclusion times shall be performed

3. Daylight

a. Daylight analysis may be required for no-build, build, and as-of-right conditions (as well as examples from the broader context) and shall be conducted by measuring the percentage of skydome that is obstructed by the proposed project

b. Daylight analysis, if required, shall be taken for each major building façade fronting public ways or passages

c. The daylight analysis shall be conducted by use of the Boston Redevelopment Authority Daylight Analysis ("BRADA") computer program

d. The analysis shall treat three elements as controls for data comparison: 1) existing conditions; 2) the context of the area; and, 3) the as-of-right zoning envelope

4. Solar Glare

a. Analysis of solar glare impact on potentially affected streets and public open spaces and pedestrian areas is required, if applicable, to determine the potential for visual impairment or discomfort due to reflective spot glare

b. Analysis of the potential for solar heat buildup in any nearby buildings receiving reflective sunlight from the proposed project is required, if applicable

5. Air Quality

a. An evaluation of the impact on local and regional air quality from a significant stationary source may be required

b. A microscale analysis predicting localized carbon monoxide concentrations should be performed, including identification of any locations projected to exceed the National or Massachusetts Ambient Air Quality Standards, for projects in which: 1) project traffic would impact intersections or roadway links currently operating at Level of Service ("LOS") D, E, or F or would cause LOS to decline to D, E, or F; 2) project traffic would increase traffic volumes on nearby roadways by 10% or more (unless the increase in traffic volume is less than 100 vehicles per hour); or, 3) the project will generate 3,000 or more new average daily trips on roadways providing access to a single location.

c. A mesoscale analysis predicting the change in regional emissions of volatile organic compounds ("VOCs") and nitrogen oxides ("NOx") should be performed for projects that generate more than 10,000 vehicle trips per day. The above analyses shall be conducted in accordance with the modeling protocols established by the Massachusetts Department of Environmental Protection ("DEP") and the U.S. Environmental Protection Agency ("EPA").

d. Emissions from any parking facility constructed as part of the project and from the project's heating and mechanical systems must be estimated. In addition, carbon monoxide monitors shall be installed in all enclosed

parking facilities and a description of the proposed ventilation system must be provided

e. Building/garage air intake and exhaust systems and specifications and an analysis of the impact of exhausts on pedestrians and any sensitive receptors must be identified and described

f. Mitigation measures required to minimize or avoid any violation of state or federal ambient air quality standards must be described

6. Water Quality and Resources

a. The impacts of the proposed project on the water quality of Boston Harbor or other water bodies that could be affected by the proposed project must be evaluated, if applicable

b. The impacts of any in-water construction activities must be evaluated, if applicable, including dredging, pile driving, pile removal, pier reconstruction, seawall or shoreline stabilization and/or repair, and site de-watering and runoff

c. Study must be made of the potential increase in turbidity and impact on benthic organisms, fish, and other marine resources

d. Mitigation measures to reduce or eliminate impacts on water quality must be described

7. Flood Hazard Zone/Wetlands

a. Where appropriate, a determination must be made of whether or not a proposed project falls within a Federal Flood Hazard Zone or requires a Wetlands Permit

b. The impact of the proposed project on wetland resources must be evaluated, if applicable

c. Measures to minimize potential flood damage and to comply with city and federal flood hazard regulations and any Order of Conditions issued by the Boston Conservation Commission must be described, if applicable

8. Stormwater Management (see also Infrastructure)

a. Existing and future stormwater drainage from the project site must be described and quantified

b. Best Management Practices must be offered to prevent groundwater contamination and to promote the retention of stormwater discharges within the project site

c. Compliance with the Commonwealth's Stormwater Management Policy must be indicated, if applicable. Projects involving disturbances of land of one acre or more shall obtain a Stormwater National Pollution Discharge Elimination System ("NPDES") General Permit for Construction from the EPA and the DEP. If a permit is required, a stormwater pollution prevention plan shall be submitted to the BWSC and BRA (and DEP, if requested) prior to commencing construction

d. Measures to reduce Inflow/Infiltration into the stormwater drainage system must be described, if applicable

9. Noise

a. Noise impacts from the proposed project must be analyzed, including rooftop mechanical equipment and other noise sources (e.g., emergency generators), and a determination made of compliance with City of Boston noise regulations and applicable state and federal regulations and guidelines

b. For residential projects, noise levels shall be evaluated to determine

conformance with the Interior Design Noise Level (not to exceed day-night average sound level of 45 decibels) established by the U.S. Department of Housing and Urban Development (24 CFR Part 51, Subpart B)

c. Mitigation measures to reduce excessive noise levels to acceptable limits must be described

d. A post-construction noise monitoring program may be required to ensure predicted and modeled noise levels are consistent with all applicable City, State, and Federal noise criteria and regulations. Cooperation Agreements may require commitments to post-construction monitoring on a case-by-case basis

10. Solid and Hazardous Wastes

a. Any known or potential hazardous wastes or contaminants on the project site must be described, together with a description of remediation measures to ensure their safe removal and disposal, pursuant to M.G.L., Chapter 21E and the Massachusetts Contingency Plan

b. Any potential hazardous wastes to be generated by the proposed project must be identified (see also Infrastructure)

c. The existence of underground storage tanks ("USTs"), and above ground storage tanks ("ASTs") on the project site must be identified

d. Potential waste generation must be estimated and plans for disposal indicated

e. Measures to promote the reduction of waste generation and to promote recycling in compliance with the city's recycling program must be described

11. Groundwater

a. An engineering analysis of the impact of development on groundwater levels, surrounding structures, and wooden pile foundations must be performed

b. An assessment of existing groundwater level conditions and an inventory of buildings that may be supported on wooden piles should be provided

c. A description of measures to be used to ensure that groundwater levels will not be lowered during and after construction must be provided, including monitoring of groundwater levels, as applicable

d. Mitigation measures must be described such as recharging or recirculating systems, as applicable

e. The installation of permanent monitoring wells shall be required

f. If monitoring wells are located on private property, permanent easements for access by the Boston Groundwater Trust ("BGT"), or its designated representative, shall be provided

g. A mechanism for monthly reporting of monitoring well data to the BRA and BGT should be established

h. If on-going pumping or dewatering is required, the metering of discharge should be conducted with oversight by the BWSC

i. If the project is located within the Groundwater Conservation Overlay District an analysis demonstrating compliance with Article 32 of the Code must be performed

12. Geotechnical

a. Existing subsoil conditions must be analyzed, including the potential for

ground movement and settlement during excavation, and the potential impact on adjacent and nearby buildings and infrastructure

b. Foundation construction methodology, the amount and method of excavation, if applicable, and the need for any blasting and/or pile driving and the impact on adjacent buildings and infrastructure must be fully described

c. As applicable, a Vibration Monitoring Plan shall be developed prior to commencing construction activities to ensure that impacts from project construction on adjacent buildings and infrastructure are avoided

d. Mitigation measures to minimize and avoid damage to adjacent buildings and infrastructure must be described

e. Consistent with the State building code, the earthquake potential in the project area shall be analyzed and a description of measures to be implemented to mitigate any adverse impacts from an earthquake event shall be provided

13. Construction Impacts

a. Potential dust generation and pollutant emissions from construction activities and equipment and measures to control these emissions must be identified

b. If asbestos-containing materials, lead paint, or other hazardous materials are identified during demolition, renovation, or removal of building materials, compliance with DEP, the Boston Public Health Commission, and ISD guidelines and requirements must be demonstrated

b. Potential noise generation from construction activities and equipment and measures to minimize increase in noise levels must be identified

c. Construction staging areas and construction worker parking must be described; measures to encourage car pooling and/or use of public transportation by construction workers must be identified

d. Construction schedule and hours of operation must be described

e. Access routes for construction trucks and estimate of anticipated volume of construction truck traffic must be described

f. Construction methodology and excavation, maintenance of groundwater levels, and measures to prevent any adverse impacts on adjacent buildings and infrastructure must be described

g. The method of demolition of any existing buildings on site must be identified, if applicable

h. Potential recycling of construction and demolition debris must be identified

i. Best Management Practices to control erosion and prevent the discharge of sediments and contaminated groundwater or stormwater runoff into the City's drainage system must be offered

j. The impact of project construction on rodent populations must be identified and the proposed rodent control program must be described

k. Measures to protect the public safety must be described

l. Coordination of project construction with any other construction projects in the vicinity during the same construction time period should be described

14. Wildlife Habitat/Natural Features

a. Significant flora and fauna present at the project site must be identified, if applicable

b. Any significant natural features and geologic conditions must be identified, if applicable
c. Mitigation measures to preserve and avoid damage to any significant natural features and resources must be described

C. Urban Design (See above for detailed submission scope)

D. Sustainable Development/High Performance Green Buildings

1. Analyze and document the project according to the U.S. Green Building Council LEED building rating system. According to building type, follow the most appropriate LEED building rating system and document how the proposed project design and construction practices comply with the LEED Building Rating System and implied standards on a point by point basis. Following are the current LEED-NC v2.1 section headings; consult with the BRA and/or the U.S. Green Building Council for the most appropriate rating system and current standards. The BRA will update these standards consistent with the most current standards.
   a. Sustainable Sites (Erosion & Sedimentation, Site Selection, Development Density, Alternative Transportation, Brownfield Redevelopment Reduced Site Disturbance, Stormwater Management, Landscape & Exterior Design to Reduce Heat Islands, Light Pollution Reduction)
   b. Water Efficiency (Watter Efficient Landscaping, Innovative Wastewater Technologies, Water Use Reduction)
   c. Energy and Atmosphere (Building System Commissioning, Energy Performance, CFC Reduction in HVAC&R Equipment, Optimize Energy Performance, Renewable Energy, Additional Commissioning, Ozone Depletion, Measurement & Verification, Green Power)
   d. Materials and Resources (Recycling, Building Reuse, Construction Waste Management, Resource Reuse, Recycled Content, Local/Regional Materials, Rapidly Renewable Materials, Certified Wood)
   e. Indoor Environmental Quality (Minimum IAQ Performance, Environmental Tobacco Smoke Control, CO2 Monitoring, Ventilation Effectiveness, Construction IAQ Management Plan, Low-Emitting Materials, Indoor Chemical & Pollutant Control, Controllability of Systems, Thermal Comfort, Daylight and Views)
   f. Innovation and Design Process (Innovation in Design, LEED Accredited Professional)

   Project registration and certification with the U.S. Green Building Council is strongly encouraged but not required. However, all projects must meet the minimum point requirements for certification under the U.S. Green Building Council standards and must submit the U.S. Green Building Council LEED Project Checklist/Scorecard and related documentation to the BRA for review. Projects registering with the U.S. Green Building Council for LEED certification are to copy the BRA on submission items including: LEED letter; LEED registration information; and, LEED Project Checklist/Scorecard and related documentation.

   All cooperation agreements shall clearly state project commitments to the U.S.

Green Building Council LEED rating system standards as outlined above.

2. Participation in the EPA's Energy Star/Green Lights program is required.

E. Infrastructure Systems Component

This section analyzes the impacts of a proposed project on the infrastructure systems of the City: total demand or contribution to the tributary area; comparison to available capacity; assurance of availability of all project needs without major infrastructure investments or, if upgrading is needed, mitigation proposed; impacts on existing or abandoned infrastructure artifacts; adequacy of infrastructure systems in the vicinity; and potential for consolidation or improvement of efficiency, especially in larger projects and PDAs or IMPs. The analysis should be organized system by system, and reference related discussions which may occur in response to other sections (i.e., drainage systems, innovative energy utilization).

1. Capacities
   a. Provide an evaluation of the proposed project's impact on the capacity and adequacy of existing water, sewerage, energy (including gas and steam), and electrical communications (including telephone, fire alarm, computer, cable, etc.) utility systems, and the need reasonably attributable to the proposed project for additional systems facilities. Include all background (pipeline) proposed projects in the tributary area
2. Upgrades
   a. Describe anticipated impacts due to any system upgrading or connection requiring a significant public or utility investment, creating a significant disruption in vehicular or pedestrian circulation, or affecting any public or neighborhood park or streetscape improvements, comprising an impact which must be mitigated
3. Mitigation
   a. Describe proposed mitigation, if applicable
4. Utility Systems and Water Quality
   a. Estimate water consumption and sewage generation from the proposed project and the basis for each estimate. Include separate calculations for air conditioning system make-up water.
   b. Describe the capacity and adequacy of water, drainage and sewer systems and evaluate the impacts of the proposed project on those systems
   c. Identify measures to conserve resources, including any provisions for recycling
   d. Describe the proposed project's impacts on the water quality of Boston Harbor or other water bodies that could be affected by the project, if applicable
   e. Describe mitigation measures to reduce or eliminate impacts on water quality
   f. Describe impact of on-site storm drainage on water quality
   g. Detail methods of protection proposed for infrastructure conduits and other artifacts, including BWSC sewer lines and water mains, during construction
   h. Detail the energy source of the interior space heating; how obtained, and, if applicable, plans for reuse of condensate

5. Energy Systems
   a. Describe energy requirements of the project and evaluation of project impacts on resources and supply
   b. Describe measures to conserve energy usage and consideration of the feasibility of including solar energy provisions or other on-site energy provisions
   c. Describe the location of transformer and other vaults required for electrical distribution or ventilation (must be chosen to minimize disruption to pedestrian paths and public improvements both when operating normally and when being serviced)
6. Other System
   a. Describe any other system (emergency systems, gas, steam, optic fiber, cable, etc.) utilized or impacted by a proposed project
   b. Identify unique infrastructure issues which arise for specific sites (i.e., adjacency to MBTA structures or subsurface conduit easements)

F. Historic Resources

1. Identify and describe historic resources (historic districts and properties) and archaeological resources located in the vicinity of the project site
2. Evaluate the impacts of the proposed project on historic and archaeological resources, including, as applicable, wind and shadow impacts, visual impacts, and design impacts (scale, height, massing, materials, and other architectural elements)
3. Describe measures to mitigate, minimize, or avoid any potential adverse impacts on any historic or archaeological resource

G. Site Plan
(Required for any proposed project located in a Conservation Protection Subdistrict ("CPS") or a Greenbelt Protection Overlay District ("GPOD")).

1. Provide a survey map prepared by a registered surveyor showing topography at two foot intervals including the location, caliper, and species of individual trees of 6-inch caliper or more and the location of significant natural features on the site, including water courses, water bodies, wetlands, unusual gradients and geologic formations, plant communities, and wildlife habitats. Such survey plan shall also show existing structures, parking areas, driveways and other paved surfaces, and utility lines
2. Provide photographs showing the location and condition of significant natural features
3. Provide a proposed site plan showing the proposed project and the anticipated location of other planned projects within the CPS or GPOD, together with planned grading and landscaping, streets, sidewalks, utilities, and other planned features of the site. Such site plan shall also show the extent to which significant natural features of the site will be preserved and protected
4. Provide a drainage plan and soil report prepared by a registered engineer, when necessary, to assess the drainage impacts of the proposed site plan on significant natural features
5. Describe a proposed maintenance program for the significant natural features of the site, including a statement of whose responsibility it will be for the

performance of the maintenance program

6. Submit any other information relating to the site plan of the proposed project and the preservation and protection of its significant natural features as requested

H. Tidelands

(Required for any proposed project that requires a license under M.G.L. Chapter 91)

1. Provide documentation of the location of historic tidelands, including the historic high and low water marks
2. Identify the location of Commonwealth tidelands and private tidelands
3. Describe the tidelands licensing history of the project site
4. Document compliance with the standards and requirements of Chapter 91 and its implementing regulations or, if applicable, with an approved Municipal Harbor Plan
5. Demonstrate the consistency of the proposed project with waterfront plans and design standards
6. Determine compliance with the applicable policies of the Massachusetts Coastal Zone Management Plan
7. Document how the proposed project serves a public purpose and provides a greater public benefit than public detriment to the rights of the public in the tidelands
8. Evaluate the provision of public access to the tidelands and of any civic and/or cultural uses to be provided

In addition to the potential environmental impacts indicated above, the BRA will expect the following information from IMP submissions in order to better assess the social impacts of proposed development:

A. Institutional Mission and Objectives

1. Provide the institution's strategic plan, including long-term physical goals, academic/program goals, and other initiatives

B. Demographics

1. Provide details on the current and projected campus population (including undergraduates, graduates, faculty, staff, etc.)

C. Existing Property and Uses

1. Identify all institutionally owned tax-exempt and taxable properties (including acreage, gross building square footage, uses, heights, etc.)
2. Identify all institutionally leased properties (including square footage, uses, heights, etc.)
3. Identify real estate development projects that are proposed or under review (including square footage, uses, heights, zoning, parking, etc.)
4. Identify current and proposed housing (including on-campus and off-campus beds and apartments)

D. Workforce Development

1. Identify current workforce and projected needs
2. Identify number and percentage of Boston residents employed by neighborhood as well as position, salary, and education-level
3. Explain existing and proposed programs to train and employ Boston residents and Boston Public Schools students

E. Transportation

1. Identify campus population commuting data
2. Identify current and projected on- and off-campus parking spaces
3. Identify on-campus bike racks

F. Security Plan

1. Provide safety and security plan

G. Financials

1. Indicate annual operating budget
2. Indicate direct and indirect economic impact, including direct purchasing within the City of Boston
3. Provide details of PILOT and property tax payments
4. Indicate water and sewer payments
5. Indicate other City of Boston fees and permit payments

H. Community Benefits

1. Indicate existing or proposed programs which enhance the surrounding neighborhoods
2. Indicate positive benefits that mitigate the impacts of existing and proposed projects

V. RELOCATION INFORMATION

A. Applicant shall submit a statement concerning applicability to project of any Federal or State Relocation Regulations, and Citation of Regulations

B. If Chapter 121A, 121B, or Chapter 79A is applicable, then a statement is required that relocation information and relocation plan will be submitted under separate cover in accordance with Chapter 121A, 121B, or Chapter 79A requirements

C. For projects not covered by Federal or State programs containing relocation regulations, the following information is required:
1. Number of units in building(s) to be demolished or vacated
2. Number of occupied units, by type, per building
3. Tenure of occupants (owner/tenant/sub-tenant)
4. Name and address of each occupant (owner or prime tenant)
5. Information on size and monthly costs:
    a. Residential unit – number of rooms, bedrooms, and monthly rent, indicating included utilities

b. Non-residential – gross square feet of area, number of floors, including ground floors and monthly rent, indicating included utilities

6. Length of occupancy of current occupant in unit (and building if greater)
7. Estimate of the total number of small businesses
8. Number, if any, of minority households or businesses displaced
9. Net increase or decrease in number of units:
   a. Total number of housing units proposed
   b. Reduction in rent restricted units

VI. FINANCIAL INFORMATION

The BRA reserves the right to request financial projections for a proposed project if a proponent cites financial limitations for non-compliance with BRA modifications.

ZONING REVIEW GUIDELINES

BRA staff serve the Boston Zoning Commission ("Zoning Commission") and the Boston Board of Appeal ("ZBA") by providing review and recommendations of proposals or projects submitted to each entity. Zoning review is initiated by a request for a building or occupancy permit. If the application complies with relevant building and zoning codes as well as other City requirements, the ISD will issue a permit. If a proposed project does not comply with the Code, permission to deviate from the Code may be sought by an exception, variance, or conditional use permit from the ZBA after a formal letter of refusal is obtained from ISD.

Zoning Variances and Conditional Use Permits

In order to obtain a variance an applicant must demonstrate that special circumstances exist that make a property different from others in the district. Variances can be sought for such issues as use, height, density, floor area ratio ("FAR"), setback, and parking ratios. The Code also specifies certain uses that are conditional, as opposed to those which are specifically allowed or forbidden in a district. An applicant obtains a conditional use permit by demonstrating that a proposed use is suitable for its location and will not have a detrimental effect on the surrounding areas. Following BRA review and recommendation, the ZBA will hold a public hearing and approve or reject the zoning variance or conditional use permit application.

Special Zoning Designations

In Section 3-1A, the Code defines several categories of special purpose overlay districts. In these districts, the regulations specified for the base district apply, except when in conflict with the special regulations. Special zoning designations require an amendment to the Code by the Zoning Commission. Selected special zoning districts are:

Planned Development Areas: PDA designation may be obtained for a project on a site of at least one acre. To effectuate a PDA designation, the BRA must approve a PDA development plan or PDA master plan and the Zoning Commission must also approve the PDA development plan or PDA master plan and adopt a map amendment designating the development plan area as a map amendment.

Urban Renewal Subdistricts ("U* Districts"): An urban renewal subdistrict designation is only allowed within an already approved urban renewal project area. It is available if the BRA is assured that the proposal's zoning map amendment conforms with the area's urban renewal plan and with the specific requirements outlined in the urban renewal plan.

CITY OF BOSTON/BRA POLICIES

BRA Policy on Mitigation

The mitigation of development impacts has been a part of the Boston Zoning Code since its beginnings. Article 80 requires the identification and mitigation of impacts of large-scale development as part of the development review process. In October 2000, Mayor Thomas M. Menino outlined the Impact Advisory Group ("IAG") process in "An Order Relative to the Provision of Mitigation by Development Projects in Boston." The Mayor further amended the process in April 2001, in "An Order Further Regulating the Provision of Mitigation by Development Projects in Boston" in order to increase the representation of local elected officials. These Orders, adopted by the BRA Board, create a comprehensive framework to clarify the role of the BRA, the City, the developer, and the community in the determination and mitigation of the impacts of development.

The IAG may contain up to fifteen (15) members, two (2) each nominated by the state senator, state representative, and district city councilor, and the remainder by appointment of the Mayor on the recommendation of residents, businesses, and community organizations as well as at-large city councilors. The IAG advises the BRA on impact and mitigation. IAGs offer BRA staff the chance to work closely with diverse members of the community to understand local concerns, needs, and opportunities. IAG members are invited to take part in the public agency scoping sessions called for in Article 80 of the Boston Zoning Code. The IAG is also encouraged to take part in community meetings that allow for public review and discussion of proposed projects. IAG members are offered the opportunity to review for comment major submissions by a project proponent as well as the Cooperation Agreement between the developer and the BRA prior to its adoption by the BRA.

IAGs are an important ingredient of the BRA's citizen participation program. The BRA encourages public input and involvement at every stage – formal and informal – of the development review process. While the BRA is responsible under state law and local ordinance for official review and approval of proposed projects in Boston, the ideas and concerns of the community are essential components of this evaluation. IAGs do not replace the role of the greater community in the development review process. The IAG is an overlay to the existing process that allows for greater understanding by the BRA of local concerns and greater public insight into the thinking of the BRA and other public agencies involved in the development review process.

BRA Inclusionary Development Demonstration Program

The City and Boston Redevelopment Authority have established an inclusionary development demonstration program in order to promote the production of affordable housing in Boston. Any proposed housing project that is 1) undertaken or financed by any agency of the City of Boston or the BRA or to be developed on property owned by the City of Boston or the BRA that includes 10 units or more, or 2) any housing project that includes 10 or more units of housing and requires zoning relief shall be subject to the inclusion of affordable units. In such projects, no less than a number equal to 15% of the market-rate units shall be made affordable to moderate-income (up to 80% of median income) and middle-income (between 80% and 120% of median income) households. The demonstration program provides the developer with three options.

1. *Affordable Housing Creation On-Site* - Of the affordable units, 50% of the units shall be affordable to households with incomes below 80% of median income. No more than 50% shall be affordable to households with incomes between 80% and 120% of median income, provided that on average these middle-income units are affordable to households earning 100% of median income.
2. *Affordable Housing Creation Off-Site* - Subject to the approval of the Director of the BRA, the developer may choose to create 15% of the total number of units off-site. Fifty percent (50%) of the off-site units shall be affordable to households earning below 80% of median income. The remaining 50% shall be affordable to households earning between 80% and 120% of median income, provided that on average these middle-income units are affordable to households earning 100% of median income.
3. *Cash-Out* - Subject to the approval of the Director of the BRA, the developer may propose to meet its affordable housing obligations by making a dollar contribution. This is calculated by multiplying the total number of units by 15% and the resulting number by an affordable housing cost factor, currently standing at $97,000. The affordable housing cost factor will be adjusted annually on July 1st.

Fair Housing

The Boston Fair Housing Commission ("BFHC") works to eliminate discrimination and increase access to housing in Boston through investigation and enforcement, affirmative marketing, housing counseling, and interagency coordination. The BFHC also manages a computerized listing service of regional housing opportunities in an effort to provide low-income households increased access to housing in 126 cities and towns of metropolitan Boston.

In order to increase access to housing for City of Boston residents, the BFHC administers the City's Affirmative Fair Housing Marketing Program ("Program"). The Program requires all developers of five or more units that utilize any form of public assistance (land or financial) to affirmatively market their housing units by taking extra steps to attract buyers and tenants least likely to apply because of the development's location. Additionally, any project subject to the BRA's inclusionary development policy will adhere to BFHC requirements. The goal is to foster fair housing and open housing access throughout the City and to attract an applicant pool that reflects the racial composition of the City as a whole.

Any developer subject to the Program must submit to the BFHC an Affirmative Fair Housing Marketing and Buyer/Tenant Selection Plan ("Plan"). The Plan must be submitted prior to execution of an Affordable Housing Agreement and within 30 days of receiving a tentative designation by the City or BRA or a preliminary financing commitment from the primary funding source.

Boston Residents Jobs Policy

Chapter 30 of the Ordinances of 1983 established a Boston Resident Jobs Policy. The 1983 ordinances require contractors performing work on construction projects funded in whole or in part by the city to ensure 50% Boston resident, 25% minority and 10% female participation of the total construction work-hours performed on the project.

A July 12, 1985, Executive Order extends the Resident Jobs Policy ordinance to cover privately

financed construction projects in excess of 100,000 square feet (excluding housing developments). The Order includes the same hiring requirements and requests that each developer submit a detailed employment plan with provisions for monitoring, compliance, and sanctions. The submission of the Boston Residents Construction Employment Plan is required prior to the issuance of a building permit for the project. Developers are obligated to work with the BRA's Office of Jobs and Community Services ("JCS") to ensure that, once a project is completed, Boston residents have full access to any new employment opportunities. Working with JCS includes submitting information regarding anticipated job creation and the type of education and training required for the positions. All developers are expected to provide plans for maximizing the number of Boston residents in jobs with living wages and adequate benefits.

SELECTED BOARDS AND COMMISSIONS

It is the responsibility of the Proponent, working with the BRA review team, to keep the team informed of meetings with other agencies and Commissions and in particular to coordinate potentially overlapping areas of review/control so that reviews are conducted jointly to the extent possible, minimizing the chances of conflicting jurisdictional policies.

Boston Redevelopment Authority Board
The BRA is the planning and economic development agency of the City of Boston, as well as the urban renewal entity. The BRA Board serves as the planning board of the City of Boston. The BRA Board is responsible for overseeing the development review process and the implementation of the Code. Four members are appointed by the Mayor and one member is appointed by the Director of the Massachusetts Department of Housing and Community Development. The BRA Board generally meets every third week.

Boston Board of Appeal
The ZBA hears requests for relief from specific requirements of the Code. Appointed by the Mayor with the confirmation of the Boston City Council, the ZBA is composed of seven members. The ZBA meets on certain Tuesdays at 9:00am in Room 800 on the 8th floor of Boston City Hall.

Boston Civic Design Commission
Required by Article 28 of the Code, BCDC review considers the relationship of a proposed project to the public realm. Appointed by the Mayor, the BCDC is composed of eleven members. The BCDC meets on the first Tuesday of the month at 5:00pm in the BRA Board Room on the 9th floor of Boston City Hall. BCDC subcommittees meet during the times between official BCDC meetings to explore projects in greater detail and generate recommendations for the full BCDC.

Boston Conservation Commission
The Boston Conservation Commission ("BCC") protects and preserves open space and other natural areas of the City including wetlands. The BCC administers the Massachusetts Wetlands Protection Act, the Massachusetts Rivers Protection Act, and the Conservation Commission Act. The BCC is comprised of seven Commissioners and an Executive Secretary appointed by the Mayor. The Commission administers the Commonwealth's Wetlands Regulations by determining wetland boundaries, reviewing the permitting projects proposed in or near wetlands and defined buffer areas, and by placing conditions on development projects that affect wetlands. Waterway protections include ponds, rivers, and the tidal areas of Boston Harbor. The Commission also seeks appropriate public access to these resources.

Boston Groundwater Trust

The BGT was established in 1986 by City of Boston Ordinance, and as revised in 2005. The BGT's mission is to monitor groundwater levels in Boston and to make recommendations to raise, restore, or protect the water table in areas of the City with wood pilings or other potentially affected foundations. The BGT works with ISD and the BRA to understand and mitigate any negative impacts of development projects on ground water levels.

Boston Landmarks Commission

In 1975, state legislation (Chapter 772, M.G.L. 1975 as amended) created the Boston Landmarks Commission ("BLC") as Boston's city-wide historic preservation agency. It performs many functions including identifying and preserving historic properties, reviewing development and demolition activities proposed in the city, providing public information and assistance on preservation practices, and providing staff support to local historic district commissions. The local commissions have specific powers of review; the three largest (in covered geographic area) are the Beacon Hill Architectural Commission, the Back Bay Architectural Commission, and the South End Landmark District Commission. The BLC also administers the City's Demolition Delay process, Article 85 of the Code.

Boston Parks and Recreation Commission

The Boston Parks and Recreation Commission ("Parks Commission") has authority over and responsibility for public parklands in the City of Boston. Additionally, the Parks Commission has oversight of any proposed development or construction project within one hundred feet of parkland within Boston. The Parks Commission is composed of five members appointed by the Mayor and confirmed by the City Council.

Boston Public Improvement Commission ("PIC")

The PIC oversees City of Boston property including streets and sidewalks. PIC approval is necessary for temporary and permanent encroachments on the public way including access to streets and sidewalks and structural overhangs. Composed of five members representing City agencies, the PIC meets on certain Thursdays at 10:00am in Room 800 on the 8th floor of Boston City Hall.

Boston Zoning Commission

The Zoning Commission oversees the creation of the Code. Appointed by the Mayor with the confirmation of the Boston City Council, the Zoning Commission is composed of nine members. The Zoning Commission meets on certain Wednesdays at 9:00am in the BRA Board Room on the 9th floor of Boston City Hall.

FEES

Fees may apply to projects under review by the BRA, including zoning relief application fees, building permit fees, and certain BRA property sales or leases.

APPENDICES

Appendix 1:	Massachusetts Environmental Policy Act Review
Appendix 2:	Large Project Review, Planned Development Area Review, Institutional Master Plan Review, and Small Project Review Flow Charts
Appendix 3:	Boston "Smart Model": Two-Dimensional Mapping Standards
Appendix 4:	A Guide for the Preparation of Materials Samples Construction Detail Panels
Appendix 5:	Protocol for Quantitative Pedestrian Level Wind Impact Analysis
Appendix 6:	Sun Altitude/Azimuth Table

Appendix 1

MASSACHUSETTS ENVIRONMENTAL POLICY ACT REVIEW

The Massachusetts Environmental Policy Act ("MEPA") requires the review and evaluation of projects to identify and mitigate environmental impact. MEPA applies to projects directly undertaken by a state agency (including leases and transfers of property undertaken by an agency) and to privately-initiated projects requiring an agency permit or receiving financial assistance from an agency.

Regulations implementing MEPA were promulgated by the Executive Office of Environmental Affairs ("EOEA"). These regulations establish a process whereby an Environmental Notification Form ("ENF") must be filed with EOEA for public and agency review as the preliminary step in determining the need for an Environmental Impact Report ("EIR"). For activities or actions undertaken by an agency, the preparation of the ENF (and of the EIR, if subsequently required) is the responsibility of the agency itself. For private projects seeking state or BRA financial assistance or a permit (e.g., Chapter 91 license), the project proponent is responsible for preparing the required documents.

In addition to describing the environmental review process, the MEPA regulations also establish review thresholds which specify whether MEPA review shall consist of an ENF and a mandatory EIR or of an ENF and other MEPA review if so required. Specific rules of application are included in the regulations.

The public/agency review period for an ENF is 20 days following publication of an ENF's notice of submission and availability in EOEA's Environmental Monitor. Notices are published twice monthly, on approximately the 7th and the 21st of the month. The Secretary of Environmental Affairs then has 10 days in which to issue a certificate stating whether or not an EIR is required.

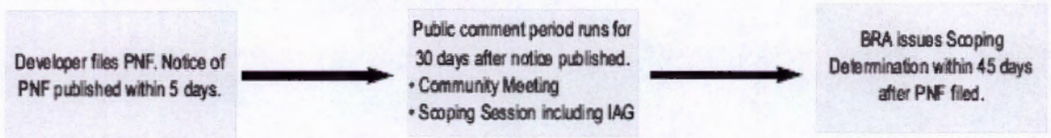
If an EIR is required, the normal EIR process from beginning of the preparation of the EIR to final approval takes five to six months and considerably longer for major and complicated projects.

Article 80, Section 80-6 of the Code provides for a coordinated review and the submission of a single set of documents to satisfy the requirements of both MEPA and Article 80.

Appendix 2

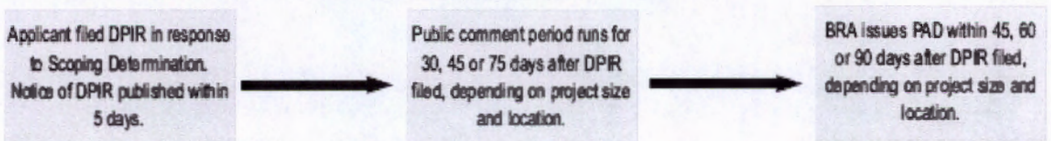
The following flow chart illustrates the Large Project Review Process:

Step 1. Project Notification from (PNF) and Scoping Determination



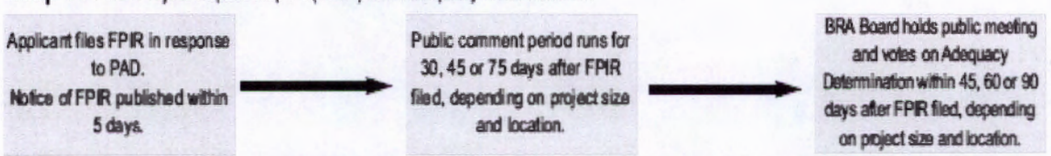
The Scoping Determination may waive further review, and require mitigation commitments, if the BRA Board finds that the PNF and Public Comments provide adequate information about the project's impacts.

Step 2. Draft Project Impact Report (DPIR) and Preliminary Adequacy Determination (PAD)



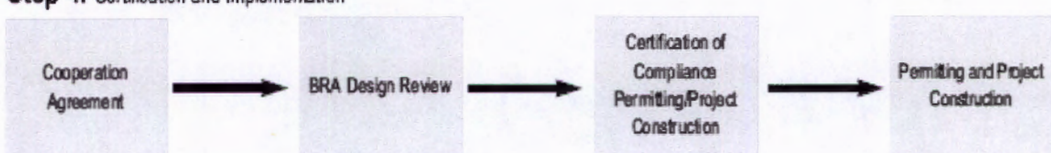
The PAD may waive further review, and require mitigation commitments, if the BRA Board finds that the DPIR and Public Comments provide adequate information about the project's impacts.

Step 3. Final Project Impact Report (FPIR) and Adequacy Determination



If the Adequacy Determination disapproves the FPIR, the applicant may submit a revised FPIR for review. The revised FPIR receives the same review as the original FPIR.

Step 4. Certification and Implementation

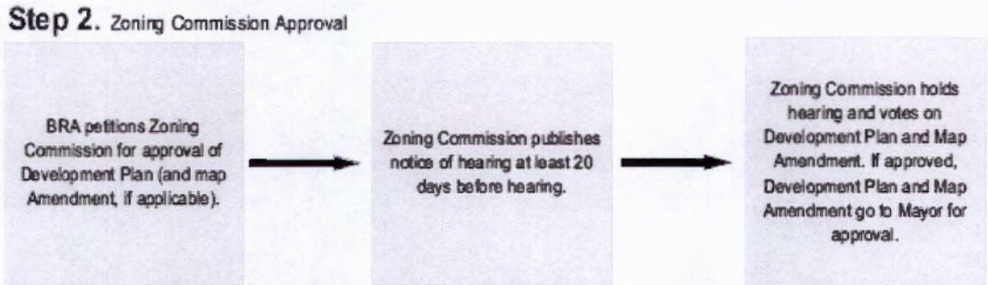


The following flow chart illustrates the PDA Review process:

Step 1. BRA Approval



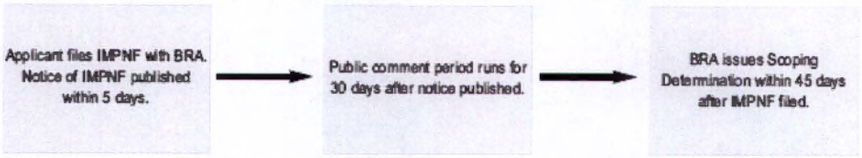
Step 2. Zoning Commission Approval



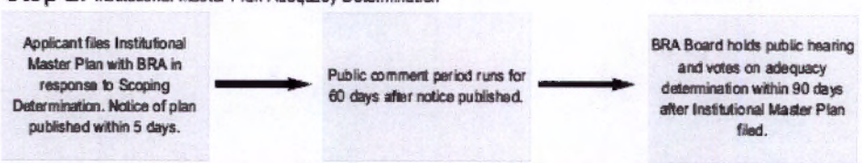
Regulations for Zoning Commission hearings and notices are not part of PDA review under Article 80 but appear in the Boston Zoning Enabling Act (Chapter 665 of the Acts of 1956, included in the front of Volume 1 of the Zoning Code), which establishes the Zoning Commission.

Where an Institutional Master Plan is required, adding or changing a hospital or college project requires an amendment to an approved Institutional Master Plan. The procedure for amending the plan is the same as the procedure for approving it, as shown below.

Step 1. Institutional Master Plan Notification Form (IMPNF) and scoping determination

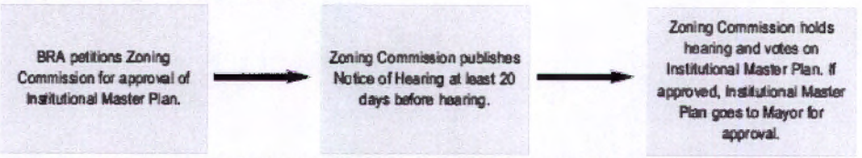


Step 2. Institutional Master Plan Adequacy Determination



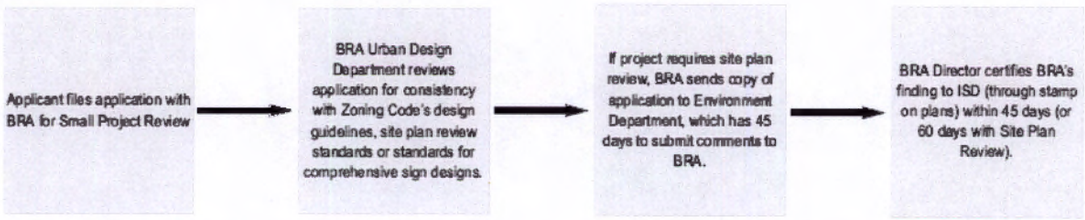
If the Adequacy Determination does not approve the Institutional Master Plan, the institution may submit a revised Master Plan for review. The revised Master Plan receives the same review as the original Master Plan.

Step 3. Zoning Commission Approval



Regulations for Zoning Commission hearings and notices are not part of PDA review under Article 80 but appear in the Boston zoning enabling act (Chapter 665 of the Acts of 1956, included in the front of Volume 1 of the Zoning Code), which establishes the Zoning Commission.

The following flow chart illustrates the Small Project Review:



Appendix 3

Boston "Smart Model"

Two-Dimensional Mapping Standards

Version 0.1:

November 22, 2005



Boston
Redevelopment
Authority

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1) Introduction

The purpose of this document is to serve as the specification for 2-dimensional mapping data of projects submitted to the Boston Redevelopment Authority (BRA). The guidelines are intended to ensure the successful capture and use of relevant information from different proposals to aid the maintenance of planimetric mapping files.

Questions and comments should be addressed to
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2) Context Model

Boston Mapping Base

The BRA will provide a section of its mapping base to developers as soon as possible after the submission of a Project Notification Form. The source of the city's base is the Boston Water and Sewer Commission's 1995 flyover. The data were captured for 1:1200 mapping which means the spatial accuracy is better than 2.5 feet. The developers should use this context data to address the proposed building's relationship to the urban context. Developers are expected to submit their proposal according to the specifications described in this document, in the same coordinate system as the context model, and with ancillary information of adjacent streets and buildings that is gathered in the course of the design process.

Updating Context Model

The model supplied by the BRA will include the city's building footprints, street edges, back-of-sidewalks, and contour lines at two-foot intervals, and parcel outlines. The latter are supplied only as contextual information and should not be edited by the architect or developer. The project proponent need not upgrade the base model provided by the BRA with one exception. Where the existing base has errors within two blocks of the site, usually because a recently built building hasn't yet been added to the base, the developer should provide the BRA with the missing buildings or recent street reconfigurations to fill out the two-block area around the site. The exact context model area will be determined in the scoping session.

3) Map Layer Production

A. File Setup and Format

The BRA will provide a design template in the form of dwg, shp, and mid/mif files of the layers mentioned above. The developers can develop their plans in any application (GIS, CAD or 3D) but must adhere to the coordinate standard when designs are submitted.

Electronic File Format

All files that are created in CAD applications or 3D applications must eventually be submitted in dwg, shp, or mid/mif format.

Coordinate System and Units

All BRA-provided data will be supplied using the Massachusetts State Plane Coordinate System, with a 1983 North American datum. The units will be feet, and the designs must be submitted in the same projection, coordinate system, with feet as the units.

External Reference Files

The BRA will not accept the submission of any file that contains references to external source drawing files. All externally referenced data during the production phase should be inserted within a single, self-contained, file prior to the delivery to the BRA.

B. File Name and Submission

File Naming
Each layer submitted to the BRA should be saved as a separate file. The naming convention will be as follows: *firmname_parcelID_layer*, where

firmname represents the drawing author or firm
parcelID is the Assessing parcel ID [as indicated by the BRA at scoping session]
layer is the type of information depicted: either building, street edge, contours, or sidewalk

Context Model
Updated information on existing conditions should be submitted as separate files from the building proposal. The format can be in .dwg or .shp or .mid/mif format. Files should follow the *firmname_parcelID_layer* convention and be inserted in a directory called *context_update*.

Proposed Site Model
The proposed building file should include only the simplified outer wall of the building at grade. Roofdecks over garages will therefore be indicated as part of the building if some part of the garage is at grade.

Please use the following name: *firmname_parcelID_building*.

C. Layering of Proposed Development

The BRA's data model is based on what was developed by the Boston Water and Sewer Commission with the exception of the parcels, which are from the City of Boston Assessing Department. The layers should have the following qualities and will be of two types: planimetric, or 2-dimensional, and massing, or 2½-dimensional.

Planimetric

street edges, sidewalks, and contours will be polylines

If roads and sidewalks are proposed to be realigned, *street edges* and *sidewalks* will contain that information. The contour lines should be attributed with their elevation, as are the files of the provided base map. The submission of ancillary layers, such as the site's furniture, groundwork, or landscaping is encouraged.

Massing

building will be polygons, or closed polylines

The volume of the different parts of the proposed buildings should be expressed by attaching the building height of each section of the building in stories and in feet above ground.

Blocks/Groups
There are no particular guidelines or limitations on the use of block definitions or grouping definitions. It is highly recommended that developers use block/groups to organize similar

geometries as long as they are placed within appropriate layers. Developers/architects are free to develop their naming standards within these layers. It is however recommended that objects be named using a logical naming system.

Shading and Textures

The shading of geometries in Representation Level 1 – 3 should be in solid colors as described above, clean of texture maps or procedural textures.

Appendix 4

A GUIDE FOR THE PREPARATION OF MATERIALS SAMPLES CONSTRUCTION DETAIL PANELS

As part of the Boston Redevelopment Authority's Design Review Procedures, all major building envelope, lobby, and site landscaping or paving materials must be submitted for approval, and a full-size Materials Sample Panel ('Mock-up Panel') is required. Construction Inspection stage approval is contingent on Authority review and approval of on-site materials panels that demonstrate the construction details of the project.

Materials panels shall demonstrate all exterior material selections, including variations in color, finish, and source.

Detailing of dimensional profiles of all exterior trim including: cornices, belting, contrasting, banding, soffit treatment, jambs, returns, copings, and all window walls including frames, subdivisions, and jamb, head, and sill details, shall be presented.

Brick and all facing material (granite, cast stone, marble, terra cotta, metal, glass, et al) sample panels shall include joint details, patterning out of the norm or as requested, and masonry (or other material) jamb, head, and sill details.

Where mortar or grouting is used, panels shall show intended tooling, finish and color. Specifications shall be furnished for any such material used in a preservation-related project.

Where adhesive or caulking agents are used, panels shall show intended tooling, finish, color, and spacing between contiguous materials, and manufacturer specifications shall be furnished.

In the case of windows, or replacement/rehabilitation/repair projects, or where the abutting context is deemed significant and is immediate, assemblies shall be presented in situ or against areas of the existing details/materials which they are intended to match or complement.

All such material panels shall be presented in an assembly large enough to assess the finished construction's façade color, texture, patterning, and joint details, in a manner representing actual designed combinations and proportions of fields. The ideal placement is on site, in the orientation of the primary façade. Mock-ups should ideally be seen under a number of conditions (sun and shade, wet and dry).

Appendix 5

PROTOCOL FOR QUANTITATIVE PEDESTRIAN LEVEL WIND IMPACT ANALYSIS

The wind impact analysis shall evaluate the following conditions:

1. No-Build - the existing condition of the site and environs to establish the baseline condition.

2. Future Preferred Build Condition - the proposed development as described in the Project Notification Form.

3. Alternative Build Condition(s) - any alternative development concept(s) to the Preferred Build Condition required to be studied.

The wind tunnel testing shall be conducted in accordance with the following guidelines and criteria:

- Data shall be presented for both the existing (no-build) and for the future build scenario(s) (see above).

- The analysis shall include the mean velocity exceeded 1% of the time and the effective gust velocity exceeded 1% of the time. The effective gust velocity shall be computed as the hourly average velocity plus 1.5 x root mean square variation about the average. An alternative velocity analysis (e.g., equivalent average) may be presented with the approval of the Authority.

- Wind direction shall include the sixteen compass points. Data shall include the percent or probability of occurrence from each direction on seasonal and annual bases.

- Results of the wind tunnel testing shall be presented in miles per hour (mph).

- Velocities shall be measured at a scale equivalent to an average height of 4.5-5 feet.

- The model scale shall be such that it matches the simulated earth's boundary and shall include all buildings within at least 1,600 feet of the project site. All buildings taller than 25 stories and within 2,400 feet of the project site should be placed at the appropriate location upstream of the project site during the test. The model shall include all buildings recently completed, under construction, and planned within 1,500-2,000 feet of the project site, including the proposed 500 Atlantic Avenue project. Prior to testing, the model shall be reviewed by the Authority. Photographs of the area model shall be included in the written report.

- The written report shall include an analysis which compares mean and effective gust velocities on annual and seasonal bases, for no-build and build conditions, and shall provide a descriptive analysis of the wind environment and impacts for each sensor point, including such items as the source of the winds, direction, seasonal variations, etc., as applicable. The report shall also include an analysis of the suitability of the locations for various activities (e.g., walking, sitting, standing, etc.) as appropriate, in accordance with recognized criteria (Melbourne comfort categories, or equivalent).

- The report also shall include a description of the testing methodology and the model, and a description of the procedure used to calculate the wind velocities (including data reduction and wind climate data). Detailed technical information and data may be included in a technical appendix but should be summarized in the main report.

- The pedestrian level wind impact analysis report shall include, at a minimum, the following maps and tables:

  - Maps indicating the location of the wind impact sensors, for the existing (no-build) condition and future build scenario(s).

  - Maps indicating mean and effective gust wind speeds at each sensor location, for the existing (no-build) condition and each future build scenario, on an annual basis and seasonally. Dangerous and unacceptable locations shall be highlighted.

  - Maps indicating the suitability of each sensor location for various pedestrian-related activities (comfort categories), for the existing (no-build) condition and each future build scenario, on an annual basis and seasonally. To facilitate comparison, comfort categories may be distinguished through color coding or other appropriate means. In any case, dangerous and unacceptable conditions shall be highlighted.

  - Tables indicating mean and effective gust wind speeds and the comfort category at each sensor location, for the existing (no build) condition and for each future build scenario, on an annual basis and seasonally.

  - Tables indicating the percentage of wind from each of the sixteen compass points at each sensor location, for the existing (no-build) condition and for each future build scenario, on an annual basis and seasonally.

Appendix 6

SUN ALTITUDE/AZIMUTH TABLE

Boston, Massachusetts

Latitude: N42.36 Longitude: W71.06

	Altitude	Azimuth	Time
21 March			Standard
9:00 a.m.	33.0	125.7	
12:00 Noon	48.0	-176.9	
3:00 p.m.	30.5	-121.8	
21 June			Daylight Savings
9:00 a.m.	39.9	93.5	
12:00 Noon	68.8	149.4	
3:00 p.m.	56.5	-113.7	
6:00 p.m.	23.9	- 79.3	
21 September			Daylight Savings
9:00 a.m.	25.9	115.3	
12:00 Noon	47.4	166.0	
3:00 p.m.	37.4	-132.9	
6:00 p.m.	7.3	- 96.0	
21 December			Standard
9:00 a.m.	14.2	141.9	
12:00 Noon	24.1	-175.6	
3:00 p.m.	10.0	-135.1	

Source: Autocad/MassGIS