BUILDING INFORMATION MODELING EXHIBIT
(CM At-Risk Projects)

I. GENERAL

A. Purpose of Exhibit.

This Building Information Modeling Exhibit ("Exhibit") provides a binding roadmap for the future development of the protocols necessary to establish the expected Level of Development ("LOD") of Model Elements for the Project at various milestones throughout the Project's design and construction. It is intended that such protocols will be memorialized in the Project's Building Information Modeling Execution Plan ("BIMxP"), which will be developed soon after execution of the Agreement to which this Exhibit is appended. The BIMxP will be updated in accordance with the requirements contained therein.

B. Application of Exhibit.

This Exhibit is a Contract Document and is intended to supplement both the design services agreement ("Design Agreement") between the Massachusetts Port Authority ("Owner") and the Owner's Prime Design Consultant ("Designer") as well as the construction services agreement ("Construction Agreement") between Owner and its General Contractor or Construction Manager (collectively "Constructor"). It is also intended that this Exhibit will apply to all Project Participants who receive Digital Data throughout the Project's development. Project Participants may be required to verify that they have incorporated this Exhibit into their respective agreements and have likewise agreed to the most recent version of the Project's BIMxP.

In the event a Party (the "Failing Party"), fails to incorporate this Exhibit into its agreement(s) with any other Project Participant, the Failing Party agrees, to the extent permitted by law, to defend, indemnify and hold harmless all other Project Participants and Third-Parties who sustain loss or damage as a direct result of the Failing Party's failure to incorporate this Exhibit into said agreement(s), provided that the injured party: (1) was not aware of the existence of this Exhibit, and (2) used the Digital Data in a reasonable manner.

C. Third-Party Beneficiary.

 Each Project Participant that uses Digital Data on the Project is hereby declared an intended third-party beneficiary of the express obligation of all Project Participants to incorporate this Exhibit and the BIMxP into each downstream contract to which the Project Participant is a party. The creation of this third-party benefit is specifically limited to the obligation of incorporation and may not be expanded to include any other right or benefit.

D. Effective Date of Exhibit.

This Exhibit becomes effective on the same day that the underlying agreement to which it is appended becomes effective.

E. Conflicts.

1. <u>BIM Requirements</u>: In the event there is a conflict (as to the Project's BIM requirements) by or between this Exhibit, the Design Agreement and/or the Construction Agreement or any lower tier agreements related thereto, the following provisions shall control in order of priority: the BIMxP, this

Exhibit, and those provisions of the Owner's BIM Guidelines that apply to this Project, the Design Agreement or Construction Agreement (as applicable).

2. <u>Design or construction obligations unrelated to BIM</u>: In the event there is a conflict (as to the design or construction obligations under the Contract Documents) that does not relate to the BIM obligations described above, the underlying contract (Design Agreement or Construction Agreement) as applicable shall apply.

F.   Definitions.
Any term not expressly defined herein is defined in the Glossary contained in the Owner's BIM Guidelines.

II.   RESPONSIBILITY FOR MODEL DEVELOPMENT
A.   General
This section memorializes the Model(s)' legal status as a Contract Document, describes how the Model(s) are to be developed during the design and construction phases, allocates responsibility for Model content and coordination among the Project Participants and assigns responsibility for detecting and correcting errors.

B.   Model's Legal Status.
The Prime Consultant's Design Model shall function as the Project's primary "Contract Document" and may be supplemented with other materials specifically identified as "Contract Documents" in the Construction Agreement and the Design Agreement. It is anticipated that the Constructor and its Subcontractors may use Digital Data from the Design Model to develop several subsidiary construction models or such other uses as described in the BIMxP. Any subsidiary models developed by the Constructor or its team shall be for the Constructor's own benefit and none of the Constructor's models shall be considered Contract Documents.

C.   Responsibility for Model Content & Coordination among the Project Team.
1. <u>Designer's Responsibility</u>: The Designer retains ultimate responsibility for the Design Model's content as well as its development throughout the Project's entire design and construction. These responsibilities are non-delegable. The Designer shall further be responsible for incorporating all appropriate Digital Data relating to the design's development into the Design Model. The Designer will decide all issues involving design intent and will be responsible for coordinating the design efforts of its own subconsultants and integrating *design* comments from Owner.

2. <u>Owner's Responsibility</u>: Owner shall be responsible for and decide all issues involving the LOD for the various Model Elements.

3. <u>Constructor's Responsibility</u>: The Constructor will be responsible for coordinating the construction efforts of its own subcontractors and vendors (and integrating *construction* comments from Owner). The Designer will update the Design Model with Construction Information that it receives from the Constructor at intervals prescribed in the BIMxP. (For purpose of this obligation, the term "Construction Information" includes, but is not limited to the identification, location and description of element properties of the Project's architectural assets.) The Constructor will ensure that the format of the Digital Data it provides to the Designer complies with the transfer protocols contained in the BIMxP.

D.   Responsibility for detecting & correcting errors and revising the Model.

1.   Design issues: The Designer shall be responsible for detecting and remedying interferences by and between the Design Model and the Discipline Model(s) including any designs developed by consultants hired separately by the Owner. Once a solution is developed, the Designer shall promptly revise the Model.

2.   Construction issues: The Constructor will be responsible for detecting and remedying interferences by and between the Design Model and the Trade Model(s) including any construction coordination issues with the Owner. Once a solution is developed, the Constructor shall promptly coordinate any revisions to the Model with the Designer.

E.   Deadlines for Model delivery

The BIMxP will contain a schedule for the Model's delivery (the "Model Delivery Schedule"). The Model Delivery Schedule identifies the purpose and the LOD of the Model (and/or individual Model Elements) and the intermediate and final deadline(s) for delivering each to Owner for review and approval. It is anticipated that the Designer will furnish Owner with a copy of the Model at the end of the following phases: Criteria Definition Phase, Design Phase, Coordination Phase, Implementation Phase and Handover Phase. It is likewise acknowledged that the date for each deadline (as well as the LOD designations themselves) may be subsequently amended or modified in the BIMxP. However, the Designer needs a baseline schedule in order to price its efforts. Thus to the extent the BIMxP subsequently modifies the original Model Delivery Schedule and such modifications impact the Designer's initial pricing assumptions, the Designer may be entitled to additional compensation.

F.   Owner's review and input

Based upon the Designer's submittals as described above, Owner shall review and provide comments to the Designer and/or Constructor (depending upon the nature of Owner's comments) in a timely manner. The Designer and/or Constructor shall take all necessary and reasonable steps to address such comments. Based upon the input of all concerned, and with Owner's approval, the Designer shall revise the Model as soon as reasonably possible.

G.   Standard of Care

The Designer shall perform its professional design services in accordance with the Standards of Performance described in the Design Agreement. With respect to the performance of the Designer's Model Development services, the Designer shall, at a minimum, conform to the requirements in this BIM Exhibit, the Guidelines as well as the high standards of care and practice exercised by such persons engaged in performing such services in the greater Boston, MA metropolitan area regardless as to whether or not such services are performed by a design professional licensed under the laws of the Commonwealth of Massachusetts.

H.   Model Reliance

Inasmuch as the Design Model is a Contract Document, this BIM Exhibit does not expand or reduce a Project Participant's right to rely upon the Design Model.

I.   Owner furnished information

This BIM Exhibit does not expand or reduce a Project Participant's right to rely upon information furnished by the Owner.

III.   RESPONSIBILITY FOR MODEL OWNERSHIP

   A.   General

   This section confirms that the Owner owns all legal rights to the Model(s) and recites the terms of a specific license for its use. This section likewise instructs Project Participants on the limits of, and where to find a list of authorized Model uses. This section further provides for indemnification of those individuals harmed by the Model's unauthorized use.

   B.   Model Ownership

   The Parties agree that the Owner owns and hereby retains all legal rights of ownership (including both statutory and common law copyright) and title to the Model and/or Model Elements and all other ancillary Project materials (electronic or otherwise) developed or prepared specifically for the Project by the Project's primary Architect and/or Engineer, their subconsultants and all other Project Participants. Nothing contained in this Exhibit shall alter, diminish or be construed as a waiver by the Owner of such ownership rights.

   The mere act of transmitting Digital Data or Confidential Digital Data does not convey any ownership right or legal interest in such data or in the software used to generate such data. Unless otherwise granted in a separate license, the Party receiving Digital Data or Confidential Digital Data (other than the Owner), may only use such data to design, construct, maintain, alter and/or add to the Project consistent with the terms of this BIM Exhibit, and nothing contained herein conveys any other right to use such data.

   C.   Owner's license to Project Team

   The Owner, as owner of all intellectual property rights associated with the Model(s) and/or Model Element(s) both at common law and by statute, hereby grants to the Project's primary Architect and/or Engineer and Constructor and their respective prodigy, a revocable, non-exclusive, non-assignable, limited license to use the Model(s) and/or Model Element(s) and other relevant ancillary Project materials (electronic or otherwise) solely and exclusively to perform services for, or construction of the Project in accordance with the terms and conditions of the Agreement.

   D.   Authorized Use

   The BIMxP lists the Authorized BIM Uses and LOD of the Model(s) and/or Model Element(s) at defined Project milestones.

   E.   Unauthorized Use

   If a Party uses a Model or Model Element in a way that is inconsistent with the Authorized Uses identified in the BIMxP or not expressly authorized herein, such use shall be considered an Unauthorized Use and shall be at that Party's sole risk and without liability to any other Project Participant or Third-Party.

   In the event a Project Participant or Third-Party sustains loss or damage as a direct result of a Party's Unauthorized Use of a Model(s) or Model Element(s) (such Party hereinafter referred to as an "Unauthorized Party User"), the Unauthorized Party User agrees, to the extent permitted by law, to defend, indemnify and hold harmless all other Project Participants and Third-Parties who sustain loss or damage as a result of the Unauthorized Party User's Unauthorized Use, provided that (a) the injured

party was unaware that the Unauthorized Party User's use was unauthorized, and (b) the injured party's reliance upon such Model(s) or Model Element(s) was reasonable.

IV.   RESPONSIBILITY FOR MODEL MANAGEMENT
A.   General

This section describes the Parties' administrative and management responsibilities throughout the Model(s)' development. As such, this section provides for situations when the Model is being developed at either a central location (as furnished by or agreed to by the Owner), or remotely where Project Participants are contributing to the Model's development in a virtual environment. This section also addresses the Parties' obligations to manage Digital Data when faced with a Force Majeure event.

B.   Co-Location

To the extent the Owner desires that the Project Team be centrally located at some point during the Project's development("Co-Location"), the Owner will provide and manage the facility and furnish all necessary utilities (electricity, internet access, water, heating and cooling) for the facility's operation. The Owner will not reimburse the Designer for the costs of hardware and software technology used to develop the Model. Additionally, the labor cost to operate and maintain the computer servers and the network upon which the Model is being created will rest with the Designer. The Designer shall also assume responsibility for the computer network's security and integrity (with respect to unauthorized access, confidentiality and interoperability).

C.   Virtual Network

To the extent the Owner desires that members of the Project Team operate remotely in a virtual environment ("Virtual Network"), the Owner will not reimburse the Designer for the costs of hardware and software technology used to develop the Model. Additionally, the labor cost to operate and maintain the computer servers and the network upon which the Model is being created will rest with the Designer. The Designer shall also assume responsibility for the computer network's security and integrity (with respect to unauthorized access, confidentiality and interoperability).

D.   Force Majeure

Notwithstanding the definition or application of a Force Majeure as such term is contained in the underlying Agreement to which this BIM Exhibit is attached, a Force Majeure is (for purposes of the Parties' duties, responsibilities and obligations for Model Development, Model Management and the maintenance of Digital Data), an event that is not within the reasonable contemplation and/or control of either Party. A Force Majeure shall not include a change in industry circumstances that have only an indirect impact upon the Project.

A Force Majeure event may result in impacts to, or loss of Digital Data from viruses, software failures, computer hacking, flooding, etc. To the extent a Force Majeure event impacts the Parties' duties, responsibilities and obligations for Model Development, Model Management and/or the maintenance of Digital Data, and further provided that the Designer and/or Constructor (as applicable) have taken all reasonable steps in order to avoid and/or mitigate the impact of such circumstance(s), the Owner will absorb the risk of all time and Project delays associated with a Force Majeure event and the Designer or Constructor (as applicable) will be responsible for and absorb all costs necessary to remedy the Force Majeure's impacts. The Designer and/or Constructor (as applicable) may elect to manage this

risk through insurance, but will nevertheless be responsible for whatever remedial actions are necessary to address the consequences of a Force Majeure.

E.   No Impact upon risks already defined in the Parties' Underlying Agreement
Notwithstanding the order of precedence for resolving any conflicts by and between the various Project materials described in Article I(E), nothing contained herein shall impair, limit, modify or impact any allocation of risk (i.e.: Consequential Damages) that is specifically addressed in the underlying Agreement to which this BIM Exhibit is attached.

F.   Archiving
Subsequent to Final Completion of the Project, the Designer shall be responsible for archiving all Digital Data in accordance with the obligations of its profession and the underlying Agreement. To the extent such obligations do not specifically pertain to the archiving of Digital Data, the protocols for retaining paper records shall apply.

The Designer's obligations herein likewise include the duty to maintain the Project's Digital Data in an updated, accessible and readable format for a period of five (5) years from Final Completion. This obligation also includes the duty to convert the Project's Digital Data into a format compatible with any subsequently developed technology that might render the Project's existing Digital Data obsolete. The obligations herein survive the completion, termination or expiration of the underlying Agreement.

G.   Record Model
Upon Substantial Completion of the Project, the Constructor is to provide the Designer with As-Built information in accordance with the requirements of the BIMxP. The Designer is required to verify the information in accordance with the requirements and standards in the underlying Designer Agreement.

H.   Software upgrades
Upon receiving authorization to commence their respective scopes of work, the Designer and the Constructor shall each represent to the Owner in writing that the software platform upon which the Model is to be developed is based upon the most recent version available. To the extent the Model's software platform is upgraded during the course of the Project's development, the Owner shall have the right (but not the obligation) to order all Project Participants to upgrade their respective platforms (at no cost to the Owner) in order to comply with the most recent version available. Responsibility to coordinate any such upgrades shall be on the Designer and the Constructor for their respective teams (as applicable).

I.   Governmental Approval of Model Drawings
The Designer shall produce printed paper drawings from the Model in .pdf format in order for the Constructor to obtain any necessary permits, approvals or government authorizations. Upon request, the Designer shall also prepare an authentication (in a form prescribed by the Owner) verifying that the drawings are a true and accurate two-dimensional representation of the Model.

J.   Signing and Sealing Model
As required by the BIMxP.

K.   Standard of Care

The Designer shall perform its professional design services in accordance with the Standards of Performance described in the Design Agreement. With respect to the performance of the Designer's Model Management services, the Designer shall, at a minimum, conform to the requirements in this BIM Exhibit, the Guidelines as well as the high standards of care and practice exercised by such persons engaged in performing such services in the greater Boston, MA metropolitan area regardless as to whether or not such services are performed by a design professional licensed under the laws of the Commonwealth of Massachusetts.

V.   RESPONSIBILITY FOR MAINTENANCE OF DIGITAL DATA
A.   General

This section describes the warranties that a Project Participant provides merely by transmitting Digital Data to another Project Participant. These warranties pertain to the right to possess such information and transmit same to others. The section also addresses the need to keep Confidential Digital Data confidential.

B.   Warranty of authority to transmit Digital Data.

The transmission of Digital Data constitutes an express warranty by the Party transmitting such data that it has legal permission to possess and transmit the Digital Data in accordance with the Authorized Uses described herein and in accordance with the BIMxP.

C.   Confidential Digital Data.

1. Confidential Digital Data: Confidential Digital Data is digital data expressly defined by the Owner as confidential. The transmission of Confidential Digital Data constitutes an express warranty by the Party transmitting such data that it is authorized and legally permitted to transmit the Confidential Digital Data in accordance with the Authorized Uses described herein and in Owner's BIMxP. The Party receiving Confidential Digital Data shall keep such data confidential and shall not disclose it to any other person or entity except as provided below.

The Party receiving Confidential Digital Data may disclose such data only as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. Such Party may also disclose the Confidential Digital Data to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided that such employees, consultants and contractors are likewise subject to the confidentiality restrictions set forth herein. In the event a Party in possession of Confidential Digital Data receives a subpoena seeking the production of such data, it shall immediately notify the Owner of the existence of such subpoena and give the Owner an opportunity to respond to the subpoena before releasing any such data.

2. Sensitive Security Information: Sensitive Security Information ("SSI") is defined by 49 USC §1520. The management and handling of SSI is addressed in the BIMxP and underlying Design Agreement and Construction Agreement (as appropriate).

VI. BIM EXECUTION PLAN ("BIMxP")

A. General

This section begins with a statement confirming that the Project's BIM Execution Plan is not a Contract Document. Inasmuch as the BIMxP is likely to change as the Project develops, this section also describes the BIMxP's evolution from a standard Owner template to a robust work plan with input from key Project Participants. The section concludes with a list of topics that will be addressed in the BIMxP once complete.

B. BIMxP Contract Status.

The BIMxP is not a Contract Document. Nevertheless, the Parties are expected to comply with the requirements described therein as each Project Participant is relying upon all other Project Participants' uniform adherence therewith.

C. Process for Development.

1. BIMxP Template: Soon after being retained, the Designer and the Owner will jointly develop the initial draft of the Project's BIMxP using the Owner's BIMxP Template as a starting point. If the Designer believes that the protocols created in a subsequently developed BIMxP represent a change in the scope of its services and believes that such change warrants an adjustment in compensation, contract sum, schedule or contract time, the Designer is required to notify the Owner in writing in accordance with the terms of the Design Agreement.

2. Amendments to BIMxP: The BIMxP will likely be updated on a regular basis. The Owner anticipates that there will be situations in which a party (who is already under contract) will view post-contract amendments to the BIMxP as a change of scope. In order to address this concern, any party alleging any such impact(s) must, as a condition precedent to its ability to recover on any claim relating thereto, provide written notice in accordance with the requirements herein. A failure to provide the required notice shall result in a waiver of any claim(s) for adjustments in compensation, contract sum, schedule or contract time as a result of the subsequently developed protocols.

D. Elements of the BIMxP

The Modeling protocols to be addressed in the BIMxP shall:

1. Identify the Discipline Model Coordinator, Prime BIM Manager and when appropriate, the Construction BIM Manager and confirm their respective responsibilities per the roles described in the BIM Guidelines;
2. Define the various Authorized Uses and LOD for each Model and/or Model Element at prescribed Project milestones;
3. Identify the Project's construction classification systems per Owner's BIM Guidelines;
4. Define the process (and intervals) by which Project Participants will exchange and share the Model(s) and/or Model Element(s);
5. Define the process by which the Project Participants will identify, coordinate and resolve changes and updates to the Model(s) and/or Model Element(s); and
6. Include any other topics as may be required by the Owner.
7. Identify Technical Requirements, computer platform, software, etc.
8. Transmission protocols and procedures (CDs, e-mail, etc.)
9. Electronic signatures & stamps
10. Encryption, File formats, naming conventions

11. Dimensional accuracy, Units
12. Origin point, Coordinate system
13. Back-up, Format for exchange of As-Built information
14. SSI Data Management (as necessary)