

CONTRACT FOR DESIGNER SERVICES
(BASE CONTRACT FOR DESIGN BID BUILD OR CM at RISK PROJECT)

This Contract is made as of this _____ day of _____ in the year _____ between
the _____, _____
(Owner) (street)
_____, **Massachusetts**, _____
(City) (State) (Zip Code)
hereinafter called "the Owner" and _____
(Designer)

_____, _____, _____, _____
(street) (city) (State) (Zip Code)
hereinafter called the "Designer" for the Designer to provide the designer services required to complete the Basic and
Extra Services described herein at _____
(name/description of Project)

The Designer is authorized to perform the services required by this Contract through the Feasibility Study Phase and, pending receipt of a written Approval to proceed from the Owner, through the Schematic Design Phase. At the Owner's option, the Designer may be authorized to perform services for subsequent design phases and/or the Construction Phases and Completion Phase, at which time a mutually agreed upon amendment to this Contract will be executed between the Owner and the Designer. If the Owner elects to construct the Project using the CM at Risk ("CM-R") construction delivery method pursuant to M.G.L. c. 149A, this Contract shall be amended using the Authority's Standard Amendment for CM-R, as it may be amended from time to time by the Authority. If the Owner elects to construct the Project using the Design-Bid-Build ("DBB") construction delivery method pursuant to M.G.L. c. 149, this Contract shall be amended using the Authority's Standard Amendment for DBB, as it may be amended from time to time by the Authority.

For the performance of the services required under this Contract for the Feasibility Study Phase and the Schematic Design Phase, and excluding those services specified under Articles 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, and 8.3, the Designer shall be compensated by the Owner for Basic Services in accordance with the Payment Schedule included as Attachment A.

Designer's Project Architect/Engineer: _____

The Subconsultants to provide services, either as Basic or Extra Services, to the Designer under this contract may include the following, as identified on the RFS:

	Name of Firm	Name of Principal	SDO Cert.
Educational Programming			
Civil Engineering			
Landscape Architecture			
Structural Engineering			
Architecture			
Fire Protection Engineering			
Plumbing Engineering			
HVAC Engineering			
Electrical/Lighting/			
Data/Communications			
Environmental Permitting			
Geotechnical Engineering			
Hazardous Materials			
Cost Estimating			
Kitchen/Food Service Consultant			
Laboratory Consultant			
Acoustical Consultant			
Specifications Consultant			
Library/Media/Audio Visual Consultant			
Technology Consultant			
Theatrical Consultant			
Sustainable/Green Design/Renewable Energy Consultant			
Code Consultant			
Accessibility/Universal Design Consultant			
Traffic Consultant			
Furniture, Fixtures, and Equipment Consultant			
Site Surveying			
Security Consultant			

IN WITNESS WHEREOF, the Owner and the Designer hereby agree to the terms of the Contract and have caused this Contract to be executed by their respective authorized officers or other authorized representatives.

OWNER

(print name)

(print title)
By _____
(signature)
Date _____

DESIGNER

(print name)

(print title)
By _____
(signature)
Date _____

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ARTICLE 1: DEFINITIONS

All terms that this Contract defines may be used with or without initial capital letters. Other terms, abbreviations and references are defined as they appear herein. Words and abbreviations that are not defined in the Contract Documents but which have recognized technical or trade meanings are used in accordance with those meanings.

APPLICABLE LAWS – All applicable laws, statutes, ordinances, by-laws, codes, rules and regulations, of the Commonwealth of Massachusetts, its political subdivisions, and the Federal Government are applicable to the Project.

APPROVAL – A written communication from the Owner approving the work of the current Phase, as identified on Attachment A, or authorizing the Designer to proceed to the next Phase or approving the scope and compensation for either Extra Services or Reimbursable Expenses.

AUTHORITY – Massachusetts School Building Authority or its authorized representative, created by St. 2004, c. 208.

BASIC SERVICES – The scope of services to be provided by the Designer under this Contract, unless the Contract is otherwise terminated pursuant to Article 12, as described in Article 7 of this Contract, and as it may be amended pursuant to Article 18.4.

CERTIFICATE OF FINAL COMPLETION – The certificate prepared by the Designer and approved by the Owner to the effect that the Work has reached Final Completion.

CERTIFICATE OF SUBSTANTIAL COMPLETION – The certificate prepared by the Designer and approved by the Owner to the effect that the Work has reached Substantial Completion.

CHANGE ORDER – A written instrument prepared by the Designer and signed by the Owner, Owner's Project Manager, Contractor or CM at Risk, and Designer, stating their agreement on a change in the Construction Contract Documents, including, but not limited to, a change in the Contract Sum and/or Contract Time, and/or any other specification in the Construction Contract Documents.

COMMISSIONING CONSULTANT – A person or firm engaged by the Authority to provide building commissioning services, including advisory services during design, construction, construction completion, and post occupancy.

CONSTRUCTION CONTRACT DOCUMENTS – The Construction Contract Documents consist of the Owner-Contractor or Owner-CM at Risk Agreement, Advertisement, Instructions to Bidders, Bidding Documents, Contract Forms, Conditions of the Contract, Drawings, Plans, Technical Specifications, all addenda issued prior to execution of the Construction Contract, and

other documents approved after execution of the Owner-Contractor or Owner-CM at Risk Agreement relating thereto.

CONSTRUCTION MANAGEMENT AT RISK or CONSTRUCTION MANAGEMENT AT RISK SERVICES or CONSTRUCTION MANAGEMENT AT RISK DELIVERY METHOD or CM at RISK DELIVERY METHOD - A construction method described in

M.G.L. c. 149A wherein a Construction Management at Risk firm provides a range of preconstruction services and construction management services which may include cost estimation and consultation regarding the design of the building project, the preparation and coordination of bid packages, scheduling, cost control, and value engineering, acting as the general contractor during the construction, detailing the Trade Contractor scope of work, holding the trade contracts and other subcontracts, prequalifying and evaluating Trade Contractors and subcontractors, and providing management and construction services, all at a Guaranteed Maximum Price, which shall represent the maximum amount to be paid by the public agency for the building project, including the cost of the work, the general conditions and the fee payable to the Construction Management at Risk Firm.

CONSTRUCTION MANAGER AT RISK, CONSTRUCTION MANAGEMENT at RISK FIRM or CM at RISK – The individual, corporation, partnership, sole proprietorship, joint stock company, joint venture or other entity with whom the Owner has contracted pursuant to M.G.L. c. 149A, §§ 6 & 7, to provide Construction Management at Risk Services.

CONTRACT – This Contract, inclusive of all Attachments, between the Owner and the Designer; all written amendments to this Contract; and all Approvals issued pursuant to this Contract.

CONTRACTOR OR GENERAL CONTRACTOR – The person or firm with whom the Owner has contracted pursuant to M.G.L. c. 149, §§ 44A-44M to perform the construction for this Project.

CONTRACTOR APPLICATION AND CERTIFICATE FOR PAYMENT – The form prescribed by the Owner which contains the Contractor's or CM at Risk's application or requisition for periodic or final payment for Work performed in accordance with the Construction Contract Documents and the Designer's certificate for payment as approved by the OPM and the Owner.

DESIGNER – The individual, corporation, partnership, sole proprietorship, joint stock company, joint venture or other entity identified as such on page one of this Contract performing architecture, landscape architecture, and/or engineering services under this Contract and which meets the qualifications set forth in M.G.L. c. 7C § 44.

DESIGNER SERVICES – The services to be performed by the Designer and its Subconsultants under this Contract, including developing and providing all data, designs, drawings, specifications, and estimates required for the Project.

DISTRICT – see “OWNER.”

EXTRA SERVICES – Services requested by the Owner to be performed by the Designer, but

which are additional (or "extra") to the services performed as Basic Services.

FEASIBILITY STUDY AGREEMENT – The agreement between the Owner and the Authority that sets forth the terms and conditions pursuant to which the Authority will collaborate with the Owner in conducting a feasibility study, which agreement shall include the budget, scope, and schedule for the feasibility study.

FEE FOR BASIC SERVICES – The fee to be paid to the Designer for satisfactorily performing the Basic Services required under this Contract, exclusive of the compensation to which the Designer may be entitled pursuant to Articles 8 (Extra Services) and 9 (Reimbursable Expenses).

FINAL COMPLETION – The Work has been completed in accordance with the Construction Contract Documents and the educational specifications, schematic plans and drawings, and the Project Funding Agreement approved by the Authority.

FINAL DESIGN PROGRAM – A description of the programmatic, functional, spatial, and environmental requirements of the Project in written and graphic form indicating the scope of work and design requirements of the Project.

FINAL REQUEST AND CERTIFICATE FOR REIMBURSEMENT- The form prescribed by the Authority which contains the certification of the Designer, OPM, and the Owner that the Project has reached Final Completion.

GENERAL LAWS – The Massachusetts General Laws as amended, including any rules, regulations and administrative procedures implementing said laws.

GUARANTEED MAXIMUM PRICE or GMP - The agreed total dollar amount for the Construction Management at Risk services, including the cost of the Work, the general conditions, and the fees charged by the Construction Management at Risk firm.

GUIDELINES AND STANDARDS – Documents published by the Authority including regulations and procedures that supplement the tasks of Designers contracting with Owners for projects receiving any funding from the Authority, as they may be amended from time to time by the Authority.

MATERIALS – The designs, drawings, project manual specifications, and other materials prepared by the Designer as defined in Article 16.1.

MBE/WBE/VBE/SDVOBE – A minority business enterprise (MBE), a women business enterprise (WBE), a veteran business enterprise (VBE), or a service-disabled veteran-owned business enterprise (SDVOBE) certified by the Supplier Diversity Office (SDO), in accordance with M.G.L. c. 7 § 61(n) and the State Funded Municipal Construction Affirmative Marketing Program “MCAMP.”

NOTICE TO PROCEED – The written communication issued by the Owner to the Contractor or CM at Risk authorizing him to proceed with the construction contract and establishing the date for commencement of the contract time.

OWNER – The entity identified as such on page one of this Contract, or its authorized representative, that is the owner of the property that is the site of the Project, or has or will have exclusive control over the site for at least the duration of the useful life of the school facility that is the subject of the Project, and is responsible for administering this Contract.

OWNER-CONTRACTOR AGREEMENT or OWNER – GENERAL CONTRACTOR AGREEMENT – The contract between the Owner and one or more General Contractors and/or goods or services providers for construction of a whole or part of the Project, including approved change orders.

OWNER-CM at RISK AGREEMENT – The contract between the Owner and the CM at Risk, including, but not limited to, the GMP Amendment, for the provision of Construction Management at Risk Services for the Project.

OWNER’S PROJECT MANAGER or OPM – The individual, corporation, partnership, sole proprietorship, joint stock company, joint venture or other entity with whom the Owner has contracted to perform the Project Management Services for this Project, and who meets the qualifications of M.G.L. c. 149, § 44A ½ and has been approved by the Authority.

PHASE – A distinct portion of the work of this Contract and its associated duration, as identified on Attachment A. Prior Approval to proceed for each Phase is required from the Owner.

PRINCIPALS – The owner(s) and/or officer(s) of the Designer or Subconsultant who are in responsible charge of the Project.

PROJECT – All work that pertains to the study, planning, programming, design, construction, reconstruction, installation, demolition, maintenance, and repair, if any, as described in the Project Scope and Budget Agreement and Project Funding Agreement.

PROJECT ARCHITECT AND/OR PROJECT ENGINEER – The individual designated by the Designer as its Project Architect or Project Engineer. Such Project Architect or Project Engineer shall be a registered architect, engineer, or landscape architect as required by the Request For Designer Services, shall be the person who shall oversee the performance of all services provided on the Project, and shall be certified in the Massachusetts Certified Public Purchasing Official Program as administered by the Inspector General of the Commonwealth of Massachusetts at the time of application.

PROJECT CONSTRUCTION BUDGET – The portion of the Total Project Budget that enumerates the cost of constructing the Project inclusive of all designed construction, demolition, and renovation work, all supportive and preparatory construction work required for the Project, the General Contractor or the CM at Risk and all subcontractors, suppliers, materials, equipment, general conditions, insurance, overhead, profit, and all other expenditures that are ordinarily considered as construction cost allocations. The Project Construction Budget includes the design contingency, bidding contingency, and price escalation contingency, as appropriate to the phase of the Project.

PROJECT FUNDING AGREEMENT – The Project Funding Agreement described in the 963

CMR 2.00 and executed by the Authority and the Owner.

PROJECT SCHEDULE – A complete list of all activities, time, and sequence required to complete the Project, as defined in the Project Scope and Budget Agreement or Project Funding Agreement.

PROJECT SCOPE AND BUDGET AGREEMENT – The Project Scope and Budget Agreement described in 963 CMR 2.00 and executed by the Authority and the Owner.

RECORD DRAWINGS – The drawings prepared by the Designer and its Subconsultants pursuant to Article 7.10.5 of this Contract which incorporate the design changes made during the construction period and which incorporate information on the marked-up prints, as-built drawings, and other data furnished by the General Contractor or CM at Risk and any subcontractors.

REIMBURSABLE EXPENSES – Costs and expenses incurred by the Designer that are reimbursable pursuant to the provisions of Article 9 of this Contract.

REQUEST FOR DESIGNER SERVICES or RFS – The written document appended hereto as Attachment B specifying various requirements including the project goals and general scope, project site, scope of services, submission requirements, schedule, and construction budget. In the event of any conflict between the terms and conditions set forth in this Contract and any provision(s) set forth in the RFS or other amendment hereto, the terms of this Contract shall control unless and until amended.

STANDARD OF CARE – The generally accepted professional standard of care ordinarily used by design professionals performing a similar scope of services in the same geographic area on projects of comparable size and complexity.

SUBCONSULTANT – The Subconsultants listed on page 1 and 2 of this Contract, together with any additional Subconsultants engaged by the Designer from time to time, which shall be an individual, company, firm, or business having a direct contractual relationship with the Designer, who provides services on the Project.

SUBCONTRACTOR – The person or entity having a direct contractual relationship with the Contractor, or CM at Risk who has the contract to perform the construction of the Project, except as otherwise specifically provided or required herein or by law. Subcontractor, when used, also means “Trade Contractor” except when otherwise specified.

SUBSTANTIAL COMPLETION – The Work, as evidenced by the Certificate of Substantial Completion, is fully complete or substantially complete so that the value of the Work remaining to be done is, in the estimate of the Owner, less than one percent of the original contract price, or the Contractor substantially completes the work and the Owner takes possession for occupancy, whichever occurs first.

TOTAL PROJECT BUDGET – A complete and full enumeration of all costs of the Project, as defined in the Project Scope and Budget Agreement or Project Funding Agreement.

TRADE CONTRACTOR – A subcontractor having a direct contractual relationship with a Contractor or CM at Risk to perform one or more so-called sub-bid classes of work listed in M.G.L. c.149, §44F, and any other sub-bid classes of work selected by the Owner for the Project in accordance with the provisions of either M.G.L. 149, §44F(1)(a) or M.G.L. c. 149A, §8(a).

WORK – The entire construction required to be furnished under the Construction Contract Documents. Work includes performing and furnishing any and all services, obligations, duties, responsibilities, labor, materials, equipment, temporary facilities, and incidentals necessary to complete the construction assigned to, or undertaken by the Contractor or the CM at Risk pursuant to the Construction Contract Documents.

ARTICLE 2: RELATIONSHIP OF THE PARTIES

- 2.1 The Owner's Project Manager shall act as an independent contractor of the Owner in providing certain project management services required for the Project except where the OPM is an existing public employee of the Owner as described in M.G.L. c. 149, § 44A1/2.
- 2.2 The Designer is solely responsible for providing the design for the Project and for performing in accordance with this Contract.
- 2.3 The Contractor or CM at Risk, as the case may be, shall be solely responsible for construction means, methods, techniques, sequences and procedures, the Contractor's or CM at Risk's schedules, and for safety precautions and programs in connection with the Project and for performing in accordance with the Owner-Contractor or Owner - CM at Risk Agreement. The Designer shall be responsible for the Designer's negligent acts or omissions but shall not have control over or charge of acts or omissions of the Contractor or CM at Risk, Subcontractors, or the agents or employees of the Contractor or CM at Risk or Subcontractors, the Owner's Project Manager, the Authority, or its Commissioning Consultant or other technical consultants.
- 2.4 Nothing in this Contract shall be construed as an assumption by the Designer of the responsibilities or duties of the Contractor or CM at Risk or the Owner's Project Manager. It is the intention of the parties that the Designer's services shall be rendered in a manner compatible with and in coordination with the services provided by the Owner's Project Manager and the Commissioning Consultant. It is not intended that the services of the Designer and the Owner's Project Manager or the Commissioning Consultant be competitive or duplicative, but rather complementary. The Designer shall be entitled to rely upon the Owner's Project Manager, Commissioning Consultant, and Contractor or CM at Risk for the proper performance of their obligations pursuant to their respective contracts with the Owner.

ARTICLE 3: RESPONSIBILITIES OF THE OWNER

- 3.1 The Owner shall have the right to approve the Designer's work.
- 3.2 The Owner shall designate an individual who shall have the authority to act on behalf of the Owner under this Contract and who shall be responsible for day-to-day communication

between the Owner and the Designer.

- 3.3 Upon satisfactory completion of services performed, the Owner shall make payments to the Designer as provided in Articles 6, 7, 8, 9, 10, and 11.
- 3.4 To the extent such data is available, the Owner shall furnish to the Designer existing surveys of the site, building plans, borings, test pits, structural, mechanical, chemical or other test data, tests for air and water pollution and for hazardous materials, photographs, reports and utility information. The Designer shall be entitled to reasonably rely upon the sufficiency and accuracy of the information furnished to the Designer under this Article 3.4 and under Article 4.11, provided that the Designer shall coordinate its services with the services of the Owner's consultants and shall notify the Owner in writing of any deficiencies in such data of which the Designer becomes aware.
- 3.5 Except as otherwise provided in this Contract, or when direct communications have been specially authorized, the Owner shall endeavor to communicate with the Contractor or CM at Risk and the Designer's consultants through the Designer about matters arising out of or relating to the Construction Contract Documents. The Owner shall promptly notify the Designer of any direct communications that may affect the Designer's services.
- 3.6 The Owner shall provide the Designer access to the Project site prior to commencement of the Work and shall obligate the Contractor or CM at Risk to provide the Designer access to the Work wherever it is in preparation or progress.
- 3.7 If the Owner requests the Designer to execute any certificates that are not readily available as of the effective date of this Contract, the proposed language of such certificates shall be submitted to the Designer for review at least 14 days prior to the requested dates of execution. The Designer shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Contract.
- 3.8 The Owner shall deliver to the Designer in a timely manner written copies of all Approvals required by this Contract. If Approval is withheld, the Owner shall notify the Designer in a timely manner, in writing, as to why such Approval is being withheld.
- 3.9 The Owner shall not unreasonably withhold, delay, condition, or deny any approval, acceptance, or consent required under this Contract, including any Approval.

ARTICLE 4: RESPONSIBILITIES OF THE DESIGNER

- 4.1 The Designer shall perform the Designer Services in accordance with the requirements of this Contract, and in accordance with the Standard of Care. The Designer shall exercise due care and diligence in the rendition of all services under this Contract in accordance with such professional standards and shall exercise the Standard of Care to provide the services required under this Contract in conformity with all Applicable Laws.
- 4.2 The Designer shall be responsible for the Designer Services including any changes to such Services that may be required in accordance with this Contract. The Designer shall furnish appropriate competent professional services for each of the Phases in accordance with the

Standard of Care. Any changes, corrections, additions or deletions requested by the Owner and the Authority shall be incorporated into the design of the Project unless detailed objections thereto are issued in writing by the Designer, subject to Article 8.2.2. Nothing herein shall be construed as an assumption by the Owner or the Authority of the responsibilities or duties of the Designer.

- 4.3 The Designer Services shall be performed as expeditiously as is consistent with orderly progress of the work, consistent with the agreed upon project design schedule as established under Article 7.4.2 and as it may thereafter be amended by the parties from time to time. In the event of delays due to causes outside of the Designer's control, the project design schedule may be extended as necessary, and Designer's compensation may be equitably adjusted pursuant to Article 6.6 to the extent that Designer incurs additional direct costs caused by the delay. Time is of the essence for the duration of this Contract.
- 4.4 The Designer shall provide the scope of services required by this Contract, as described in more detail in Attachments A and B.
- 4.5 The Designer shall comply with the terms and conditions of all project agreements executed between the Owner and the Authority and any and all administrative directives issued by the Authority, now in effect or hereafter promulgated during the term of this Contract, without any additional compensation, that are applicable to Designer's Services under this Contract and that have been provided or are readily available to Designer prior to such Services being performed. The Owner shall reasonably compensate the Designer for complying with any term or condition of a project agreement executed between the Owner and the Authority or any administrative directive issued by the Authority, that was not provided to or was not readily available to the Designer prior to such Services being performed and that materially impacts the Designer's scope or other aspect of its Services, Fee, schedule, or any obligations and responsibilities under this Contract.
- 4.6 The Designer acknowledges the importance that the Owner attributes to the abilities and qualifications of the key members of the Designer's team, including Subconsultants, and the continuity of key members' participation in the services to be provided under this Contract. This Contract has been entered into in reliance on the Designer's representation that the individuals, consultants, assignments, and responsibilities will be maintained throughout the duration of this engagement. No substitution or replacement of individuals or change in the Subconsultants, listed on pages 1-2 of this Contract, shall take place without the prior written approval of the Owner, except when necessitated by causes beyond the Designer's control (such causes shall include if an individual leaves or is no longer associated with the Designer's firm). If the Designer proposes to replace one of the members of the Designer's team, the Designer shall propose a person or consultant with qualifications at least equal to the person or firm the Designer proposes to replace. The Owner shall have the right to approve any substitution or replacement or change in status for the persons or Subconsultants listed on page 1-2 of this Contract and such approval shall not be unreasonably withheld. At the request of the Owner, the Designer shall consult with the Owner to resolve any situation in which the Owner determines that a member of the Designer's team is failing to perform services in an acceptable manner to the Owner. The Owner shall have the right to direct the removal of any such person or consultant. The Owner shall work in good faith with the Designer to resolve any material problems identified by the Owner in writing regarding the performance of the Designer's obligations under this

Contract. No act or omission of the Owner made or permitted under this Article shall relieve the Designer of its responsibility for the performance of the services specified in this Contract.

- 4.7 The Designer shall compile and distribute a job directory which includes all names, addresses, phone numbers, and e-mail addresses of the representatives of the Designer and their Subconsultants. This shall be distributed upon commencement of the services and shall be updated and redistributed as project participants and/or contact information change.
- 4.8 The Designer shall employ, at all times, adequate professional and support personnel with requisite expertise and adequate numbers to assure the complete, timely performance of the obligations of the Designer. The Designer shall acquaint its employees and Subconsultants with all provisions of the General Laws governing public construction projects, including but not limited to, M.G.L. c. 149, M.G.L. 149A, and M.G.L. c. 30, that are relevant to the performance of Designer's obligations under this Contract. When directed by the Owner, the Designer shall fully cooperate with the Owner in obtaining the Criminal Offender Record Information (CORI) of the Designer and its employees and of any Subconsultants and their employees in accordance with the provisions of M.G.L. c. 71, § 38R, M.G.L. c. 6, §§ 167-178B (the so-called CORI Law), any other applicable law, and District policy. All contracts between the Designer and each Subconsultant shall include appropriate provisions requiring the Subconsultant to fully cooperate with the Owner in obtaining the Criminal Offender Record Information (CORI) of the Subconsultant and its employees as aforesaid. Designer shall also fully cooperate with Owner in obtaining any other out-of-state criminal record information, if applicable, pursuant to relevant state or federal laws.
- 4.9 The Designer shall be and shall remain liable to the Owner for all damages incurred by the Owner as a result of the failure of the Designer or its Subconsultants to perform in conformance with the terms and conditions of this Contract.
- 4.10 Design Within the Project Construction Budget
- 4.10.1 The Designer shall prepare cost estimates for the Project as described in Article 7 of this Contract or at more frequent intervals as required in Attachment B. Unless otherwise specified in Attachment B, the cost estimates shall be considered Basic Services, and the Designer is not eligible for any additional compensation for preparing the same. The format for cost estimates shall be in accordance with the requirements of the Authority.
- 4.10.2 The Designer shall produce a design for the Project meeting the requirements of the scope of work described in Attachment B to be constructed within the Project Construction Budget of the Total Project Budget, provided that the Designer shall be permitted to recommend to the Owner such adjustments to the Project's design, consistent with the Project Funding Agreement, as the Designer reasonably believes may be required to adhere to the Project Construction Budget. In the event the Designer's cost estimate for the Project (as reconciled in accordance with the provisions of this Contract) exceeds the Project Construction Budget, the Owner may require the Designer to revise the design, drawings and specifications to keep the cost estimate for the Project within the Project Construction Budget. The Designer shall not be entitled to extra compensation for making such revisions to contain costs

within the Project Construction Budget.

4.10.3 In a Project constructed pursuant to M.G.L. c. 149, §§ 44A-44M, if the Project Construction Budget is exceeded by the lowest bona fide, responsible bid by any amount, the Owner shall direct the Designer to review and compare the Project Construction Budget with the bids received to identify the variances. Upon completion of this review and submission of the Designer's report to the Owner and Authority, the Owner shall, with the approval of the Authority:

(a) direct the Designer to revise the Final Design Program, Project scope and quality as required to reduce the estimated construction costs to be within the Project Construction Budget, in accordance with Article 4.10.5 of this Contract; or

(b) give written approval to the Designer of an increase in the Project Construction Budget; or

(c) authorize rebidding of the Project within a reasonable time; or

(d) terminate this Contract in accordance with Article 12.3; or

(e) implement any other mutually accepted alternative that the Owner and the Designer may agree on.

4.10.4 In a Project constructed pursuant to M.G.L. c. 149A, the Designer shall be responsible for managing the design of the Project to stay within the Project Construction Budget. If the GMP proposal submitted by the CM at Risk exceeds the Project Construction Budget, the Designer shall review and compare the Project Construction Budget with the GMP proposal submitted by the CM at Risk to identify the variances. Upon completion of this review, if directed by the Owner, the Designer shall assist the Owner in negotiating a GMP within the Project Construction Budget in accordance with Article 7.7.9. If a GMP cannot be successfully negotiated between the Owner and the CM at Risk within the Project Construction Budget, the Owner shall, with the approval of the Authority:

(a) direct the Designer to participate with the Owner, OPM, and CM at Risk in design reviews and revise the design, including appropriate revisions to drawings and specifications, as necessary in order to reach an agreement on a GMP within the Project Construction Budget; in accordance with Article 4.10.5; or

(b) give written approval to the Designer of an increase in the Project Construction Budget and resume negotiating a GMP with the CM at Risk; or

(c) terminate this Contract in accordance with Article 12.3; or

(d) implement any other mutually accepted alternative that the Owner and the Designer may agree on.

4.10.5 (a) If the Owner chooses to proceed under Article 4.10.3(a) or 4.10.4(a), the Designer and its Subconsultants, without receiving additional compensation, except if fewer

than three bona fide, responsible bids were received (in the case of a Project constructed pursuant to M.G.L. c. 149, §§ 44A-44M) or (in the case of a Project constructed pursuant to G.L. c. 149A) if fewer than three bona fide, responsible Trade Contractors or so-called non-trade contractor bids for each category of work were received, or if 4.10.5(b) and/or (c) applies, shall cooperate in revising the designs, drawings and specifications as may be required to reduce or modify the quality or scope or both, of the Project so that they will comply with the Project Construction

Budget as approved at the conclusion of the Construction Documents Phase or as amended. Any changes to the educational program or the approved space summary shall be subject to the written approval of the Authority. Upon completion of these revisions, the Designer shall also be required to produce a revised cost estimate demonstrating that the estimated cost of the Project does not exceed the Project Construction Budget. Revising the designs, drawings, and specifications and updating the cost estimate shall be the sole obligation on the part of the Designer with respect to 4.10.3(a) or 4.10.4(a);

(b) If the Owner elects to proceed with revisions that significantly increase the complexity either of the Construction Contract Documents themselves or the Construction Administration Phase services that the Designer will have to provide, then the Designer shall be entitled to an equitable adjustment in its Fee to reflect the impact on its services;

(c) If the bid or proposal referenced in 4.10.3 or 4.10.4 above was submitted on a date that is more than three (3) months after approval of the Construction Contract Documents then such revisions shall be Extra Services.

4.10.6 The Designer must receive written approval of the Owner and the Authority before the Project Construction Budget shall be considered amended.

4.11 Additional Tests and Surveys: The Designer shall be responsible under Article 7 for reviewing the surveys, investigations, testing, and reports completed by the Owner and as provided under Article 3.4, and determining the types of additional or expanded surveys, investigations, or testing required for the Project. Additional or expanded surveys, investigations, or testing required for the Project shall be provided by qualified specialty Subconsultants as necessary. Both the types of services and the Subconsultants shall be approved by the Owner. See: Article 8.2.13 regarding Extra Services.

4.12 Commissioning Consultant: The Authority may engage the services of a Commissioning Consultant to provide building commissioning services, including advisory services, during design, construction, and post-occupancy of the Project. Commissioning activities may start from the Schematic Design Phase and continue through preparation of construction documents, bidding, construction, close-out, and warranty period.

The Designer and its Subconsultants shall collaborate with the Authority's Commissioning Consultant to develop design criteria to support the purposes of building commissioning and energy/resources conservation concepts as commonly understood and as prescribed by the Commissioning Consultant.

The Commissioning Consultant may review and provide input on the development of the design documentation, including but not limited to, design intent, basis of design, commissioning specifications, sequences of operation, and testing requirements as prepared by the Designer. Any changes, corrections, additions, or deletions requested by the Commissioning Consultant to which the Designer makes no objection shall be incorporated into the design of the Project as part of Basic Services.

ARTICLE 5: SUBCONSULTANTS

- 5.1 The Designer may engage Subconsultants, subject to the prior written approval of the Owner and subject to Article 9.3, in order to perform services under this Contract. If Subconsultants are engaged, the person responsible for, and in control of, the Subconsultant services to be provided must be professionally registered or licensed in Massachusetts in the necessary disciplines for the services if such registration or licensing is required under the applicable General Laws. The engagement of Subconsultants shall not in any way relieve the Designer from its duties and responsibilities for its work, including, without limitation, coordinating all Designer Services furnished under this Contract by the Subconsultants.
- 5.2 Upon request, the Designer shall provide the Owner with copies of its agreements with Subconsultants, including any amendments thereto and copies of the Subconsultant's applicable certificates of insurance.
- 5.3 No substitution of Subconsultants and no use of additional Subconsultants or assignment of services shall be made without prior written approval of the Owner, which approval shall not be unreasonably withheld.

ARTICLE 6: COMPENSATION

- 6.1 For the satisfactory performance of all services required pursuant to this Contract, excluding those services specified under Articles 8 and 9, the Designer shall be compensated by the Owner in the amounts specified in Attachment A as that Fee may be amended by written amendment to this Contract.
- 6.2 When the Designer receives payment from the Owner, the Designer shall promptly make payment to each Subconsultant whose work was included in the work for which such payment was received unless payment has been theretofore made. The Owner shall have the contractual right to investigate any breach of performance of a Subconsultant and to initiate corrective measures it determines are necessary and in the best interest of the Owner. All contracts between the Designer and its Subconsultants shall include a provision in which the Owner's rights to initiate corrective action shall be stipulated.
- 6.3 Payment Schedule
 - 6.3.1 Payments for Basic Services shall be made monthly and, where applicable, shall be in proportion to services performed within each Phase. The amount of fees attributable to each Phase shall be as set out in the schedule in Attachment A. Payment for approved Reimbursable Expenses and/or Extra Services shall be made monthly upon receipt of an approved invoice from the Designer.
 - 6.3.2 The Owner shall make payments to the Designer within 30 days of the Owner's

approval of an invoice from the Designer. The Owner's payment for any services provided under this Contract shall not be construed to operate as a waiver of any rights under the Contract or any cause of action arising out of performance of the Contract. The Owner shall not withhold payments to offset costs alleged to have been incurred by the Owner on account of allegedly negligent acts, errors or omissions unless the Designer agrees or has been found liable for specific amounts in a binding agreement or court judgment, or unless the Designer fails to maintain the professional liability insurance required under Articles 15.7.1 and 15.7.2. The Owner may withhold approval of invoice items the Owner reasonably believes have not been performed in accordance with this Contract, including adjustments to payment amounts in instances where required submittals to the Authority may be found to be missing or incomplete. If Owner and Designer continue to disagree, the disagreement shall be immediately submitted to mediation in accordance with Article 18.5(b).

6.4 Installment Payments During Construction Administration Phase:

- 6.4.1 During the Construction Administration Phase, the Designer shall be paid the Fee for Basic Services stipulated in Attachment A.
- 6.4.2 Payments to the Designer during the Construction Administration Phase shall be made in equal monthly installments for the duration of the Construction Administration Phase. The amount of each payment shall be determined by dividing 95% of the fee for the Construction Administration Phase, as stipulated in Attachment A, by the number of months between the Notice to Proceed and the scheduled issuance of the Certificate of Substantial Completion, as indicated in the Project Schedule approved by the Owner. The Designer shall be entitled to Extra Services in accordance with Article 8.3 if the Project is delayed beyond the 60-day period described in Article 8.3 for reasons beyond the control of the Designer.

6.5 Final Installment: The Designer shall be paid the unpaid balance of the fee for Completion Phase, as stipulated in Attachment A (as that fee may be amended), upon compliance with the following requirements:

- 6.5.1 Execution of the Final Request and Certificate for Reimbursement (such Certificate to be in the form developed by the Authority). In cases where a Certificate of Partial Release of Retainage is approved, the Designer shall be paid up to an amount commensurate with the percent of retainage released until a Final Request and Certificate for Reimbursement is approved; and
- 6.5.2 Delivery by the Designer to the Owner of the Record Drawings required by this Contract; and
- 6.5.3 Verification of payment to Supplier Diversity Office (SDO) Certified Subconsultants (MBE/WBE/VBE/SDVOBE) or Subconsultants identified on Attachment C and as required by Article 17.4; and
- 6.5.4 A written evaluation of the General Contractor or CM at Risk by the Designer from which the Owner shall be able to complete its submission of the Contractor

Evaluations as required by M.G.L. c.149 § 44D(7).

- 6.5.5 In the event the Designer is unable to comply with Articles 6.5.1 and 6.5.2 above due to reasons beyond the Designer's control, as determined by the Owner, Final Installment shall not be unreasonably withheld or delayed beyond 60 days after the date of Substantial Completion, provided that the Designer has complied with all other requirements.

6.6 Substantial Change

- 6.6.1 If there is a substantial change in the services described in Attachment B to be provided by the Designer under this Contract, the Designer and the Owner will mutually agree to a written amendment describing the services and an amended Fee for Basic Services to reflect the change and reasonable cost of such change. Such changes shall be designated on Attachment F and shall be executed by the Designer and the Owner.
- 6.6.2 Should the Designer and the Owner be unable to negotiate a mutually acceptable amendment to the Fee for Basic Services when there has been a substantial change in the specified services, the Owner shall unilaterally and promptly determine, in good faith and supported by a written explanation in sufficient detail, a reasonable maximum dollar amount for the services as amended and process payments to the Designer subject to said maximum amount, until an amendment to the Fee for Basic Services for such change is set by later agreement between the parties, provided, that the Designer's acceptance of such payments shall not be considered a waiver by the Designer of its right to pursue a claim for additional compensation related to the change in services, and provided that such disagreement shall be immediately submitted to mediation in accordance with Article 18.5(b). In no event shall the Designer stop work under this Contract due to a disagreement with the Owner regarding an amendment in the Designer's Fee for Basic Services, provided that the Owner complies with its payment obligations under this Article 6.6.
- 6.6.3 Notwithstanding the foregoing, the amendment to this Agreement described in Article 7.4.8 shall be negotiated and executed by both parties prior to the start of the subsequent Phase.

ARTICLE 7: BASIC SERVICES

- 7.1 The Designer shall discuss with the Owner and the Authority the requirements for each Phase before beginning work on that Phase. Basic Services include, but are not limited to, verification of existing record information including preparing measured drawings, details and general existing conditions, cost estimating, architecture, civil, sanitary, mechanical, electrical, plumbing, fire protection, structural, site planning and landscape architecture, basic environmental permitting, graphics, lighting design, acoustics, fire alarm, data and communication, educational programming, any specialty consultants for sustainable/renewable energy design (LEED-S/NE-CHPS), preliminary FF&E layouts, laboratory, library/media and kitchen space, specifications, elevator, theatrical, historical preservation, security, code compliance,

accessibility/universal design, energy evaluations, detailed cost estimates, and other design and consulting services incidental and required to fulfill project goals.

7.2 The Owner and the Authority will promptly review and approve the Designer's submittals. Upon completion of its review, the Owner shall promptly and in writing:

- (a) approve the submittal as made; or
- (b) approve that part of the submittal that is acceptable and reject the remainder; or
- (c) reject the submittal; or
- (d) require the Designer to submit additional information or details in support of its submittal.

7.2.1 The description of Designer Services required during the various Phases as described in Attachment B and hereinafter may include specification of the number of submittals the Designer will be required to make and estimate the approximate number of meetings that the Designer will be required to prepare for and attend during each Phase.

7.2.2 As a part of Basic Services, the Designer shall provide four copies of each submittal to the Owner, one hard copy and one electronic copy of each submittal to the Authority, and, if the Owner elects to proceed with the CM at Risk construction delivery method, one copy of each submittal to the CM at Risk. Drawings submitted to the Authority shall be reproduced at half full size. A graphic scale shall be placed upon all such drawings prior to construction documents phase submittals. If the Designer is required to make submittals in excess of the number specified or if the Designer is required to prepare for and attend meetings in excess of the number specified for a Phase, the Designer shall be entitled to compensation for Extra Services, provided, however, that the Designer shall not be entitled to such compensation if and to the extent the Owner or the Authority shall have reasonably determined that the additional submittals or the additional meetings were required due to either the Designer's lack of preparation, or other fault due to deficiencies or omissions in documents prepared by the Designer.

7.2.3 All document submittals shall be in the form of neatly bound printed material, and delivered to the location or locations as indicated by the Owner and Authority. One or more document submittal components may be submitted in an approved electronic format, subject to specific authorization by the Owner and/or Authority.

7.2.4 Electronic Submittals: The Designer shall submit electronic copies on compact disks, thumb drives, or other approved electronic storage devices for all required submissions of Deliverables called for by this Contract ("Electronic Submittals"). All Electronic Submittals shall be deemed to be Materials that are subject to all provisions of Article 16. The Electronic Submittals shall be provided in a format as approved by the Owner and Authority and as follows:

- (a) All drawings shall be provided in PDF format or other industry-

standard format as approved by the Owner and acceptable to the Authority. Electronic file naming convention shall be acceptable to the Owner.

- (b) All other documents shall be provided in PDF format, Microsoft Word, Excel, Project, or PowerPoint, as applicable to the particular submittal.
- (c) All submittals shall be labeled identifying project name and number, file name, drawing title, software and release.
- (d) The Owner reserves the right to require the Designer to provide all electronic media as may be required at any time during the duration of this Contract due to technology upgrades and/or changes to the electronic systems used by the Owner or Authority, provided that if such requirement demands that the Designer purchase new software or train existing employees for the application of media or software such costs shall be a Reimbursable Expense but only to the extent that such purchase of new software or training of existing employees is unique or exclusive to the particular requirements of the Owner or the Authority for this particular Project.
- (e) The Designer's compliance with the terms of this Article shall be performed as part of the Basic Services under the Contract, and the Designer shall not receive any additional compensation for providing the Electronic Submittals, (including but not limited to conversions or copies of software), except as specified herein. The Designer shall not be responsible for any use of Electronic Submittals on hardware or software for which it was not intended.

7.2.5 In reviewing and preparing all documents for evaluation as part of the Feasibility Study, Schematic Design Phase, and/or any other design phase for which the Designer may be authorized, the Designer shall determine gross area and net areas in the following manner in order to maintain uniformity in computation and consistency of both gross and net square foot areas of buildings:

Gross Area: The area included within the outside faces of the exterior walls for all stories. Custodial areas such as janitor closets, building maintenance and building employees' locker rooms, circulation areas such as corridors, lobbies, stairs, and elevators, and mechanical areas such as those designated to house mechanical and electrical equipment, utility services, and non-private toilets shall be considered as part of the gross area, but not part of the net area.

Net Areas: In general, those areas which have a specific assignment and functional program use as determined by the facility, including, but not limited to, areas such as cafeterias, auditoriums, libraries, administrative and classrooms. These shall be measured from the inside finish of permanent outside walls to the inside finish of corridor walls, and to the inside finish of intermediate partitions.

7.3 Feasibility Study Phase:

- 7.3.1 The Designer shall familiarize itself with the Authority's Guidelines and Standards for feasibility studies that further specify the work to be performed by the Designer during this Phase and shall perform its Feasibility Study Phase services in accordance with such Guidelines and Standards and the provisions of this Contract. The Designer shall meet with the Owner to arrive at a mutual understanding of the requirements of the Feasibility Study. The Designer shall submit a proposed work plan including anticipated tasks and submittals.
- 7.3.2 The Owner is required to ascertain the Authority's input and approval throughout the study process; therefore, the Designer shall develop and prepare the documentation required by the Feasibility Study to assist the Owner in securing the Authority's concurrence and/or approval at the following milestones before proceeding to the next milestone (Note that some of the approvals to move to the next milestone require a vote of the Authority's Board of Directors):
- (a) Preliminary design program;
 - (b) Budget Statement for Educational Objectives, as defined by 963 CMR 2.02;
 - (c) Development of alternatives to be studied; including cost estimates using the Uniformat II Elemental Classification format (to as much detail as the drawings and descriptions permit, but no less than Level 2);
 - (d) Preliminary evaluation of alternatives; including updated cost estimates using the Uniformat II Elemental Classification format (to as much detail as the drawings and descriptions permit, but no less than Level 2);
 - (e) Final Evaluation of Alternatives; including updated cost estimates using the Uniformat II Elemental Classification format (to as much detail as the drawings and descriptions permit, but no less than Level 2); and
 - (f) Recommendation to the Authority's Board of Directors of the preferred alternative that will be advanced to schematic design.
- 7.3.3 The Designer shall cooperate with the Owner and the Authority to define and develop a few reasonable, educationally sound, cost effective, and practical solutions for the Owner and Authority's evaluation that satisfy the Owner's educational program requirements that were provided by the Owner to the Designer. The alternatives considered shall address the following as a minimum:
- (a) An examination and identification of potential alternatives to construction or renovation of a facility whether or not such alternatives are eligible for Authority reimbursement;
 - (b) One of the alternatives shall be an analysis of a code update/base repair option to document the potential use and value of the existing school facility and to be used as a benchmark for comparative analysis of all other alternatives;

- (c) An analysis of school district student school assignment practices and an analysis of available space in other school facilities in the district;
- (d) The utilization of under-utilized or vacant facilities potentially available for the proposed use for the Proposed Project;
- (e) The lease, rental, or acquisition of existing buildings that could be made available for school use pursuant to M.G.L. c. 70B, §8;
- (f) The use of regionalizing or tuition agreements with adjacent school districts pursuant to M.G.L. c. 70B, §8;
- (g) A detailed and itemized cost estimate for each alternative;
- (h) An evaluation of the environmental and cost impact of construction phasing on students and staff occupying a renovated building, and any relocation options or off-hour construction that may be required for each alternative;
- (i) An evaluation of the existing conditions at no more than three sites, unless otherwise determined by the Authority, that shall include, but not be limited to, a geotechnical evaluation and soils exploration, and a Phase I Initial Site Investigation conforming to 310 CMR 40.00, performed by a licensed site professional; and

7.3.4 Feasibility Study submittals shall be provided pursuant to Article 7.2.2 and shall be subject to the written Approval of the Owner.

7.3.5 The Designer shall present and explain the Feasibility Study to the Owner and the Authority and at a local public meeting, if any such meeting is scheduled, or in conference.

7.3.6 The Designer shall meet with the Owner during this Phase in accordance with the agreed upon project work plan.

7.4 Schematic Design Phase

7.4.1 Upon receipt of an Approval to proceed to Schematic Design Phase, the Designer shall meet with the Owner to arrive at a mutual understanding of the requirements of the Final Design Program approved in writing by the Owner and the Authority.

7.4.2 The Designer shall submit a proposed design work plan pursuant to this Contract including anticipated tasks and submittals. The Designer shall also submit to the Owner a proposed schedule consistent with any Project Schedule included in the RFS (Attachment B) modified as required by any subsequent schedule changes or delays outside of Designer's control. The schedule shall contain dates for submittals, deliverables, actions, milestones, design workshops, meetings and the critical path through all design service activities. It shall include time for the Owner's and the Authority's review and approval of submittals and for necessary submissions for permits in connection with the Project. The work plan shall also include a work plan schedule of values consistent with Attachment A, which shall be the basis for which

payments of the Fee for Basic Services within each Phase shall be made. The work plan schedule of values shall identify deliverables within each Phase and percentages of the phase fee payable upon completion of such deliverable. When approved by the Owner as provided in Article 7.4.8, the work plan schedule of values shall govern the timing of payments of the Fee for Basic Services upon completion of deliverables within each Phase and as each Phase progresses.

- 7.4.3 The Designer shall conduct the following: Prepare a preliminary evaluation of the Recommended Preferred Solution from the Feasibility Study, the Final Design Program, and Proposed Total Project Budget; collect and study all available drawings, reports, maintenance reports, and other existing data pertaining to the Project; conduct a thorough on-site review of conditions relating to the Project; assure that the “Recommended Preferred Solution” complies with all applicable codes and regulations, including any special design standards supplied by the Authority and its Commissioning Consultant; and meet with local building officials to identify and confirm applicable standards, codes and any project specific criteria.
- 7.4.4 The Designer shall develop the Recommended Preferred Solution to a full schematic design level. Schematic design level documentation shall be based on the Final Design Program, shall incorporate Owner and Authority comments and shall include each of the following, to the extent applicable to the Recommended Preferred Solution:
- (a) Traffic Analysis – review the Traffic Study described in Article 3.4 and the impact of anticipated vehicular and pedestrian traffic, including impacts to existing infrastructure, to determine efficient and safe site access and make any recommendations as may be required to complete the project site design.
 - (b) Site Survey(s) and Environmental Assessment(s) – review the Site Survey(s) and Environmental Assessment(s) described in Article 3.4 and make any recommendations as may be required to complete the project site design.
 - (c) Geotechnical and Geoenvironmental Analysis – review the Geotechnical and Geoenvironmental Investigations and Reports described in Article 3.4 and make any recommendations as may be required to describe soil conditions, remediation requirements and appropriate foundation design as required to complete the project site design.
 - (d) Program Analysis - a space measurement analysis for the design which shall verify that the sum of all program floor areas plus all other floor areas equal the gross floor area of the Final Design Program.
 - (e) Code Analysis – determine the impact of all applicable federal, state, regional and local codes, regulations and ordinances, including a listing of permitting and other regulatory filing requirements. Develop design criteria and a written report to assure compliance with the Massachusetts Stretch Energy Code and the International Energy Conservation Code. Demonstrate compliance with

technical criteria as applicable for Project work scope.

- (f) Utility Analysis – based on a review of the information provided in the Site Survey, determine the availability and capacity of all required building utilities. Provide soils analysis and preliminary design for on-site septic/sewage treatment facilities, if required.
- (g) Massing Study – An analysis of the building’s integration into its surroundings and neighborhood with drawings, models, or photographs.
- (h) Building Information Modeling – creation of a Building Information Model and quality control documents.
- (i) Built-in furniture and preliminary Furniture, Fixtures, and Equipment (“FF&E”) layouts as shown in plans, elevations, and room data sheets.
- (j) NE-CHPS or LEED-S Scorecard – pursuant to the Authority’s Green Schools Program guidelines, complete a NE-CHPS or LEED-S for Schools Scorecard and describe sustainable design features and each high performance green school prerequisite and credit included in the proposed design and a plan for implementation or inclusion of any appropriate public utility energy conservation design programs.
- (k) Security – consult with local emergency responders for input regarding building and site security design and operations.
- (l) Accessibility - an analysis of the design's compliance with the Americans with Disabilities Act (ADA) and the Massachusetts Architectural Access Board requirements (MAAB).
- (m) Building Systems Descriptions – describe in narrative and on schematic plans basic information relative to:
 - 1. Building Structure - a written narrative of the design approach to the structural systems including discussion of the feasible options for foundations and superstructure as well as treatment of special situations such as unusual soils conditions or long spans.
 - 2. Plumbing and HVAC - written narratives of the basic systems and proposed energy source(s) and a life cycle cost analysis pursuant to the criteria of M.G.L. c. 149 § 44(m). Provide schematic plans indicating basic distribution concepts and the location of major equipment items such as boilers, heat pumps, water heaters, cooling towers, chillers, air handling units, heat recovery units, exhaust stacks, building automation systems / building management systems, and special systems (e.g. fume exhausts, geothermal wells).
 - 3. Fire Protection - written narratives of the basic systems and design criteria. Provide schematic plans indicating basic distribution concepts and the

location of major equipment items such as fire pumps, standpipes, and fire department connections.

4. Electrical (including power, lighting, communications, fire alarm, video/CATV, audio and visual, security/surveillance, and solar readiness)
- written narratives of the proposed electrical and communications systems resources, needs, and proposed scope. Provide schematic plans indicating basic distribution concepts and the location of major equipment items such as switchgear, standby generator, and control centers/panels.
 5. Information Technology - written narratives of the proposed information technology system resources, needs, and proposed scope. Provide schematic plans indicating basic distribution concepts, and location of major equipment items such as switches and hubs.
- (n) Outline / Summary Level specifications in accordance with applicable CSI Divisions that clearly define the scope of construction, identify the sub-trades pursuant to M.G.L. c. 149 § 44F, establish the quality of materials, finishes, products, equipment and workmanship, and the special or unique conditions of construction.
- (o) Project Schedule - provide a reasonable level of design-related input to the OPM such that the OPM can prepare a draft schedule for the proposed project for the Owner in the form of a graphic representation (Gantt Chart) of the duration of all tasks, activities and phases of the design and construction processes against the progression of time up to a proposed occupancy date. Dependencies between activities and tasks will be delineated. Individual tasks and activities will be rolled up to the major project milestones. Provide input to the OPM regarding priority actions and activities that may have a major impact on the schedule. The OPM, not the Designer, is responsible for preparing and maintaining the draft and updated project schedule document, except as it pertains to the project design schedule developed under Article 7.4.2.
- (p) Construction Cost Estimate - in Uniformat II Level 3 format with aggregated unit rates and quantities supporting each item and the CSI MasterSpec format to Summary Level. If independent cost estimates are prepared for the Owner by the OPM in this or subsequent phases, then the Designer shall work with the OPM to resolve such any differences in a cost reconciliation process and shall involve any relevant parties in such process.
- (q) Siting analysis of the proposed site design, including context, traffic and access, topographic and utilities recognition, based on a review of the existing conditions information provided in the surveys and studies as described in Article 3.4.

- (r) Site Development Plan – site plan shall be based on a review of the information provided in the Site Survey, shown at a minimum scale of 1 inch equals 40 feet and include property lines with bearings and distances, building setbacks, site acreage, wetlands information, proposed and existing topography, proposed and existing buildings and site features, floor and roof elevations for all buildings, proposed and existing utilities and utility connections, and emergency equipment access.
- (s) Schematic Building Floor Plans of all floors and roof at a minimum scale of 1/16" = 1'-0" showing all elements of the building including overall dimensions, gross square footage of each floor and net square footage of each space, response to functional requirements of program, major and minor access, circulation, and room data sheets.
- (t) Schematic Exterior Building Elevations for all sides and orientations indicating all exterior finishes and fenestration.

7.4.5 Schematic Design phase drawings, specifications, construction cost estimates and other submittals shall be subject to the written Approval of the Owner, which Approval shall not be unreasonably delayed, withheld, conditioned, or denied. Unless a lesser number is requested by the Owner, the Designer shall submit to the Owner for approval four (4) copies of schematic design drawings, specifications, cost estimates, and other submittals. One (1) additional copy shall be submitted to the Authority by the Designer. One (1) additional electronic copy shall be submitted to the Commissioning Consultant by the Designer.

7.4.6 The Designer shall present and explain the Schematic Design to the Owner, the OPM, the Authority, and at a local public meeting, if any such meeting is scheduled, or in conference.

7.4.7 The Designer shall meet with the Owner during the Schematic Design Phase in accordance with the agreed upon project work plan.

7.4.8 Prior to the issuance of an Approval to proceed to the Design Development Phase, the Designer and the Owner shall meet to finalize the design work plan, project schedule, and schedule of values described in Article 7.4.2. If necessary, they shall execute an amendment to the Contract to include all required modifications to govern the subsequent phases of the Designer's services.

7.4.9 Construction Delivery Method Evaluation and Selection

- (a) The Designer shall assist the Owner in determining the appropriate construction delivery methodology for the Proposed Project. In providing such assistance, the Designer, in conjunction with the Owner's Project Manager, shall advise the Owner on the relative advantages and disadvantages associated with each of the construction delivery methods provided in M.G.L. Chapters 149 and 149A. The decision to pursue a particular construction delivery method shall be within the sole discretion of the Owner, subject to the approval of the Inspector General as provided in M.G.L. c. 149A, §4. The services provided by the

Designer in assisting and advising the Owner in its determination of the appropriate construction delivery methodology shall be included in Basic Services.

- (b) If the Owner elects to construct the Project using the CM at Risk construction delivery method pursuant to M.G.L. c. 149A, and has obtained the approval of the Office of the Inspector General to do so, with the Approval of the Owner, this Contract shall be amended using the Authority's Standard Amendment for CM-R which includes Articles 7.5 through 7.10. If the Owner elects to construct the Project using the Design-Bid-Build ("DBB") construction delivery method pursuant to M.G.L. c. 149, with the Approval of the Owner, this Contract shall be amended using the Authority's Standard Amendment for DBB, which includes Articles 7.5 through 7.9.

7.5 INTENTIONALLY OMITTED

7.6 INTENTIONALLY OMITTED

7.7 INTENTIONALLY OMITTED

7.8 INTENTIONALLY OMITTED

7.9 INTENTIONALLY OMITTED

7.10 INTENTIONALLY OMITTED

ARTICLE 8: EXTRA SERVICES

8.1 General

- 8.1.1 Extra Services are those services requested by the Owner to be performed by the Designer, but which are additional (or "extra") to the services performed as Basic Services. Such services are not included in the Fee for Basic Services and shall be invoiced and paid for separately. Extra services shall not be deemed authorized until a written Approval is received from the Owner, which Approvals shall not be unreasonably delayed, withheld, denied, or conditioned.
- 8.1.2 The proposed cost, scope, and schedule of all Extra Services shall be presented and approved by the Owner, in writing, prior to the performance of any Extra Services.
- 8.1.3 Cost proposals for Extra Services shall be computed in accordance with Attachment A.

8.2 Unless specifically stated elsewhere and only with the prior written Approval of the Owner, the Designer shall perform any of the following services as Extra Services:

- 8.2.1 Substantially revising previously approved reports, drawings, specifications or other documents to address changes authorized or requested by the Owner, including substantial changes in its size, quality, complexity, design, Budget, and/or bidding method or bid packages, and changes in Applicable Laws;

- (a) Notwithstanding the provisions of 8.2.2, revisions prepared by the Designer to

keep construction costs within the Project Budget that are required pursuant to Article 4.10 of this Contract to be without additional compensation, or to correct incorrect items for which the Designer has responsibility, shall not be Extra Services;

- 8.2.2 Preparing documents for separate bid packages or bidding alternates requested by the Owner, except for a reasonable number and extent of alternates to keep construction costs within the Project Budget which shall be Basic Services;
- 8.2.3 Revising Construction Contract Documents which have been initially submitted and approved in their final and complete form, if general bids (M.G.L. c.149) or subcontractor bids (M.G.L. c.149, 149A) for work required thereunder are not advertised based on such Construction Contract Documents within four months after initial submission;
- 8.2.4 Services in connection with rebidding if the need to rebid is not attributable to the Designer;
- 8.2.5 Attending meetings with the Owner, Owner's Project Manager, the Authority, Department of Labor and Workforce Development, the Office of Attorney General, the Office of the Inspector General, or the CM at Risk (if the project is constructed pursuant to M.G.L. c. 149A) in matters of dispute if attendance is required by the Owner, provided such dispute did not arise due to the fault of the Designer;
- 8.2.6 Furnishing other services in excess of Basic Services made necessary by the default or failure of performance of the General Contractor or CM at Risk or Subcontractors;
- 8.2.7 Providing consultation with respect to replacement of work damaged by fire or other casualty during construction;
- 8.2.8 Preparing change orders and supporting data in accordance with Article 10, or modifying the Construction Documents in response to an unreasonable amount of substitutions proposed by the Contractor or CM at Risk, or responding to unreasonable and excessive requests for information (RFIs) by the Contractor or CM at Risk, where such information is available from a careful study and review of the Construction Documents;
- 8.2.9 Assisting the Owner in litigation or claims arising out of the Owner-Contractor Agreement or Owner-CM at Risk Agreement, provided such litigation or claims did not arise due to the fault of the Designer;
- 8.2.10 Performing Construction Administration Phase services during a construction period extended beyond the additional 60 calendar day period, specified in Article 8.3;
- 8.2.11 Performing professional services which are not otherwise required under this Contract as Basic Services;
- 8.2.12 Providing services in connection with partial completion or partial systems

completion inspections at the time of Substantial Completion of the Work or of a project construction phase and/or separate bidding package due to delay by the Contractor or CM at Risk in completing the Work on schedule;

8.2.13 Additional Tests and Surveys: In the event that the Designer employs the services of a Subconsultant to provide additional or expanded surveys, investigations, or testing required for the Project as described in Article 4.11, the Designer shall employ such Subconsultants who have the professional liability insurance coverage described in Article 15.8.1 covering such services, to the extent that such insurance coverage is generally available to Subconsultants. The Designer shall, upon the Owner's written request, assign to the Owner the Designer's contractual right to pursue a claim against such Subconsultants. Such additional tests and surveys may include, but need not be limited to:

- (a) Site surveys and environmental assessments;
- (b) Structural tests and materials tests;
- (c) Geotechnical and geoenvironmental investigations and reports, including existing hazardous material reports, boring tests, test pits, observation wells, testing and chemical analysis of site substrate conditions;
- (d) Traffic studies; and
- (e) Hydrant flow tests.

8.2.14 FF&E services not already provided in Article 7, Basic Services, in connection with providing detailed equipment schedules, cut sheets, specifications, procurement and installation of FF&E;

8.2.15 Presentation renderings, models, mock-ups, photographs and any other presentation materials;

8.2.16 Providing services related to identification, testing, or remediation of existing building hazardous materials;

8.2.17 Providing master planning services;

8.2.18 Providing specialized environmental permitting not already provided in Article 7, Basic Services;

8.2.19 Providing specialized foundation design not already provided in Article 7, Basic Services; and

8.2.20 Providing services in connection with Contractor, CM at Risk, or Bidder disputes or questions arising out of the bidding process, unless such protest is a result of an act or omission of the Designer. Such services include research and preparation for and appearance at bid protest hearings and similar proceedings.

8.3 Construction Phase Services Provided after the Original Construction Completion Date

- 8.3.1 If construction of the Work, or of a project construction phase and/or separate bidding package has not reached substantial completion within the original construction period (as set forth in the Owner-Contractor or Owner-CM at Risk Agreement and as agreed to by the Designer), there shall be added to said construction period a period of sixty (60) calendar days, during which period the Designer shall continue to provide Construction Administration Phase services for which no extra compensation shall be paid for the services described in Article 7.9 and 7.10.1 through 7.10.4 in a CM at Risk Project or for the services described in Articles 7.8 and 7.9.1 through 7.9.4 in a DBB Project.
- 8.3.2 If construction has not reached Substantial Completion after the 60 additional calendar days, the Designer shall thereafter be entitled to Extra Services compensation for providing the services described in Articles 7.10.3 (which are fully defined under Article 7.9.2) and 7.10.4 in a CM at Risk Project or for the services described in Articles 7.9.3 (which are fully defined under Article 7.8.2) and 7.9.4 in a DBB Project. The Designer may also be entitled to Extra Services compensation for tasks performed beyond the added sixty (60) calendar days period for tasks related to Article 7.9.1 (d) through (i) in a CM at Risk Project or 7.8.1(d) through (i) in a DBB Project. In any event, the Designer is required to identify and present the anticipated Extra Services contemplated under Article 8.3.2 in accordance with Article 8.1. In no event shall the Designer be entitled to any additional compensation on account of an extended construction period if and to the extent that a binding agreement or decision that results from a dispute resolution proceeding determines that the Designer's acts or inactions caused the construction period to be extended.
- 8.4 In the event of an emergency, the Designer may proceed to perform Extra Services as required to meet the emergency after obtaining the verbal approval of the Owner. The Designer shall provide a written report to the Owner as soon as possible after the emergency arises. This report shall describe the emergency and the Extra Services that were performed.
- 8.5 Invoices for Extra Services shall be accompanied by a breakdown listing the name, payroll title, date, number of hours by day, hourly rate and extended amount, per specified task of Extra Services performed. Hourly rates shall be in accordance with the Hourly Rate Schedule in Attachment A.

ARTICLE 9: REIMBURSABLE EXPENSES

- 9.1 For coordination and responsibility for the services, materials and costs described in 9.1.1 through 9.1.6, the Designer shall be reimbursed its actual costs and those of its Subconsultants, supported by invoices or receipts, plus 10%. The following are reimbursable expenses, when previously approved in writing by the Owner:
- 9.1.1 The cost of printing more than six (6) sets of design submittals for a CM at Risk project, or more than five (5) sets of design submittals for a project pursuant to M.G.L. c.149, or more than two electronic versions thereof per design submission

deliverable phase or sub-phase.

- 9.1.2 The related copying, postage, and handling services during a prequalification or bid period.
- 9.1.3 The cost of reproducing the mylar reproducible of the construction drawings for use by the General Contractor or CM at Risk in preparing the record drawings.
- 9.1.4 Out of pocket expenses paid by the Designer such as filing fees, testing, and permit fees if such fees would be normally paid by the Owner.
- 9.1.5 LEED-S / NE-CHPS registration fees.
- 9.1.6 Other expenses deemed necessary or appropriate by the Owner in writing.
- 9.2 Non-Reimbursable Expenses: The Owner shall not reimburse the Designer or its Subconsultants for travel expenses, sustenance, telephone, copying, facsimiles, electronic mails, postage and delivery expenses, unless specifically required
- 9.3 The Designer shall not be entitled to compensation under this Article for the services of Subconsultants hired to perform Basic Services under this Contract.

ARTICLE 10: COMPENSATION AND RESPONSIBILITY FOR CHANGE ORDERS

- 10.1 The Designer shall be entitled to Extra Services compensation for preparing Change Orders initiated by the Owner except as provided in Article 10.3.
- 10.2 The Designer shall not be entitled to Extra Services compensation for preparing Change Orders to adjust the scope of construction work which arises from existing conditions for which unit prices have been specified in the Construction Contract Documents.
- 10.3 The Designer shall not be entitled to Extra Services compensation for preparing Change Orders necessary to address errors or omissions by the Designer.
- 10.4 Change Orders for which the Designer is not entitled to compensation are to be referred to as “no fee change orders.”
- 10.5 The fact that the Designer is not entitled to compensation for preparing a Change Order shall not limit any legal remedies which the Owner may have for recovering its additional costs necessitated by the Change Order.

ARTICLE 11: RELEASE AND DISCHARGE

- 11.1 The acceptance by the Designer of the last payment under the provisions of Article 6.5 or Article 12, in the event of termination of the Contract, shall in each instance operate as and be a release to the Owner and the Authority and their employees and officers from all claims of the Designer and its Subconsultants for payment for services performed and/or furnished, except for those written claims submitted by the Designer to the Owner with, or prior to, the last invoice.

ARTICLE 12: ASSIGNMENT, SUSPENSION, TERMINATION, NO AWARD

12.1 Assignment:

12.1.1 The Designer shall not assign or transfer any part of its services or obligations under this Contract (other than as specified in Article 12), without the prior written approval of the Owner. Likewise, any successor to the Designer must first be approved by the Owner before performing any services under this Contract. Such written consent shall not in any way relieve the Designer or their assignee from their responsibilities under this Contract. The Owner and the Authority shall have the right to approve any assignment or transfer or change in status for the persons or Subconsultants listed on pages 1-2 of this Contract and such approval shall not be unreasonably withheld. The Owner shall not assign this Contract without the written consent of the Designer.

12.2 Suspension:

12.2.1 The Owner may, at any time, effective upon fifteen (15) business days written notice to the Designer, suspend this Contract. If the Owner provides such written notice, the Designer shall be compensated for Services satisfactorily performed in accordance with the Contract terms prior to the effective date of such suspension; invoices for such Services shall be properly submitted but may be submitted after the date of such notice up to the effective date of suspension.

12.2.2 If a written notice of suspension issued pursuant to Article 12.2.1 lasts for more than ninety (90) consecutive calendar days, the Designer may, upon resumption of the Contract, be entitled to additional compensation for actual costs incurred due to such suspension provided that the suspension was not attributable to the Designer's fault.

12.3 Termination:

12.3.1 (a) By written notice to the Designer, pursuant to Article 13 Notices, the Owner may terminate this Contract effective on five (5) calendar days notice without cause. All compensation and reimbursement due to the Designer in accordance with the Contract terms, for services satisfactorily performed up to the date of termination, including proportionate payment for portions of the services started but incomplete at the time of termination, shall be paid to the Designer, provided no payment shall be made for services not yet performed or for anticipated profit on unperformed services.

12.3.2 (b) Pursuant to Article 13 Notices, the Owner may terminate this Contract effective on five (5) calendar days notice for cause, and no further payment shall be due to the Designer to the extent the Owner can reasonably identify damages in specific amounts for which the Designer is liable under this Contract; Owner shall pay other amounts otherwise due and owing to the Designer.

12.4 Suspension or Termination by Designer: The Designer may suspend or terminate this Contract by providing written notice to the Owner and the Authority, pursuant to Article 13 Notices, at the Designer's sole option, under the following circumstances:

12.4.1 If the Owner, within thirty (30) days following written notice from the Designer of any material default by the Owner under the Contract (including failure to pay in

accordance with the Contract), fails to cure such default; or

12.4.2 If, after the Designer has performed all services required during any Phase prior to construction and at least three (3) months have elapsed without the Designer receiving receipt of Approval to proceed with the next Phase of the Project, provided the delay was not the fault of the Designer. This provision shall not apply to a Designer who has received a notice of suspension pursuant to 12.2.

12.4.3 Upon a proper termination by the Designer, the Designer shall be compensated as provided in 12.3.1 above regarding termination without cause.

12.5 No Award of Owner-Contractor Agreement: If the Project is constructed pursuant to M.G.L. c. 149, §§ 44A-44M, and the Owner-Contractor Agreement is not awarded by the Owner within one hundred twenty (120) days after the receipt of general bids for the Project and the bids have not been rejected and the Project has not been suspended, the Designer shall be paid through the Bidding Phase as if a contract for construction were awarded according to the payment schedule provided in Attachment A. This Article 12.5 does not apply, however, if the Designer has been directed to perform design revisions pursuant to 4.10.2, for the purposes of bringing the design of the Project within the Project Construction Budget.

ARTICLE 13: NOTICES

13.1 Any notices required or permitted to be given hereunder shall be given in writing and shall be delivered (a) in person; (b) by certified mail, postage prepaid, return receipt requested; (c) by facsimile; or (d) by a commercial overnight courier that guarantees next day delivery and provides a receipt, and such notices shall be addressed as follows:

If to _[_____]_;

If to _[_____]_;

If to _[_____]_;

or to such other address as the Owner, Authority and Designer may from time to time specify in writing. Any notice shall be effective only upon delivery, which for any notice given by facsimile shall mean notice that has been received by the party to whom it is sent as evidenced by the confirmation slip that bears the time and date of request.

ARTICLE 14: INDEMNIFICATION

14.1 For claims arising out of or relating to negligent errors and omissions in the performance of professional services rendered by the Designer, the Designer shall indemnify and hold harmless the Owner and its officers and employees to the fullest extent permitted by law. This includes all claims, damages, liabilities, injuries, costs, fees, expenses, or losses, including, without limitation, reasonable attorney's fees and costs of investigation and litigation, whatsoever which may be incurred by the Owner to the extent caused by the negligence of, or the breach of this Contract by, the Designer, or a person employed by the Designer, or Subconsultant for whom the Designer is responsible under this Contract.

- 14.2 For all other claims, the Designer shall defend, indemnify, and hold harmless the Owner and the Authority and their officers and employees to the fullest extent permitted by law. This includes all claims, damages, liabilities, injuries, costs, fees, expenses, or losses, including, without limitation, reasonable attorney's fees and costs of investigation and litigation, whatsoever which may be incurred by the Owner or the Authority to the extent they result from the performance of its services, provided that such claims, damages, liabilities, injuries, costs, fees, expenses, or losses are attributable to bodily injury or death or injury to or destruction of tangible property and are caused by an act or omission of the Designer, or a person or Subconsultant for whom the Designer is responsible under this Contract.

ARTICLE 15: INSURANCE

- 15.1 The Designer shall obtain and maintain at its sole expense all insurance required by law and as may be required by the Owner and by the Authority under the terms of this Contract. The insurance required hereunder shall be provided at the sole expense of the Designer or its Subconsultant, as the case may be, and shall be in full force and effect for the full term of the Contract between the Owner and the Designer or for such longer period as required under this Contract.
- 15.2 All policies shall be issued by companies lawfully authorized to write that type of insurance under the laws of the Commonwealth of Massachusetts with a financial strength rating of "A" or better as assigned by A.M. Best Company, or an equivalent rating assigned by a similar rating agency acceptable to the Owner and the Authority.
- 15.3 The Designer, and any of its Subconsultants, shall submit to the Owner originals of the required certificates of insurance simultaneously with the execution of this Contract. Certificates of insurance evidencing the coverage required hereunder, together with evidence that all premiums for such insurance have been fully paid, shall be filed with the Owner and shall be made available to the Authority upon request. Certificates shall show each type of insurance, insurance company, policy number, amount of insurance, deductibles/self-insured retentions, and policy effective and expiration dates. The Designer shall submit updated certificates to the Owner prior to the expiration of any of the policies referenced in the certificates so that the Owner shall at all times possess certificates indicating current coverage and said certificates shall be made available to the Authority upon request. Failure by the Designer to obtain and maintain the insurance required by this Article, to obtain all policy renewals, or to provide the respective insurance certificates as required shall constitute a material breach of the Contract and shall be just cause for termination of the services of the Designer under this Contract.
- 15.4 Termination, cancellation, or modification or reduction of coverage or limits by endorsement of any insurance required by this Contract, whether by the insurer or the insured, shall not be valid unless written notice thereof is given to the Owner and the Authority at least thirty (30) days prior to the effective date thereof, which shall be expressed in said notice.

15.5 The Designer or its Subconsultant, as the case may be, is responsible for the payment of any and all deductibles under all of the insurance required below. Neither the Owner nor the Authority shall be responsible for the payment of deductibles, self-insured retentions or any portion thereof.

15.6 Workers' Compensation, Commercial General Liability, Automobile Liability, and Valuable Papers

15.6.1 The Designer shall purchase and maintain at its own expense during the life of this Contract, or such other time period as provided herein, the following types and amounts of insurance, at a minimum:

- (a) Workers' Compensation Insurance in accordance with Massachusetts General Laws, Chapter 152 (M.G.L. c.152). The policy shall be endorsed to waive the insurer's rights of subrogation against the Owner and the Authority.
- (b) Commercial General Liability Insurance (including Premises/Operations; Products/Completed Operations; Contractual; Independent Contractors; Broad Form Property Damage; and Personal Injury) with a minimum limit of \$1,000,000 per occurrence, \$2,000,000 aggregate. The Designer shall maintain such insurance in full force and effect for a minimum period of one year after final payment and shall continue to provide evidence of such coverage to the Owner and the Authority. The Owner and the Authority shall be included as an additional insured in this policy. The policy shall be endorsed to waive the insurer's rights of subrogation against the Owner and the Authority.
- (c) Automobile Liability Insurance (including owned, non-owned and hired vehicles) at limits of not less than \$1,000,000 combined single limit per accident.
- (d) Valuable Papers Insurance in an amount sufficient to assure the restoration of any plans, drawings, computations, field notes, or other similar data relating to the work covered by the Agreement between the Owner and the Designer in the event of loss or destruction while in the custody of the Designer until the final fee payment is made or all data is turned over to the Owner, and this coverage shall include coverage for relevant electronic media, including, but not limited to, documents stored in computer-aided design drafting (CADD) systems.

15.7 Professional Liability

15.7.1 The Designer shall maintain professional liability insurance covering negligent errors and omissions and negligent acts of the Designer and of any person or entity for whose performance the Designer is legally liable at all times while services are being performed under this Contract and for a period of six (6) years thereafter (as calculated in accordance with the terms below in this 15.7.2). The minimum amount

of such insurance shall be \$2,000,000 per claim/\$2,000,000 annual aggregate.

15.7.2 If the policy is in a “claims made” format, it shall include a retroactive date that is no later than the effective date of this Contract, and an extended reporting period of at least six years after the earlier of: (1) the date of official acceptance of the completed Project by the Owner; (2) the date of the opening of the Project to public use; (3) the date of the acceptance by the general contractor or the CM at Risk of a final pay estimate prepared by the Owner pursuant to M.G.L. chapter 30; or (4) the date of substantial completion of the Owner-Contractor Agreement or Owner-CM at Risk Agreement and the taking of possession of the Project for occupancy by the Owner, which requirement can be met by providing renewal certificates of professional liability insurance to the Owner as evidence that this coverage is being maintained.

15.8 Subconsultants

15.8.1 The Designer shall require by contractual obligation, and shall exercise due diligence to enforce, that any professional engineering or landscape architecture Subconsultant hired in connection with the services to be provided under this Contract shall, unless otherwise agreed in writing by the Owner, obtain and maintain all insurance required by law and as may be required by the Owner under the terms of this Contract, except that the limit of Subconsultant’s professional liability insurance shall be not less than \$2,000,000 per claim/\$2,000,000 annual aggregate.

15.8.2 All professional liability policies obtained by Subconsultants shall be issued by companies lawfully authorized to write that type of insurance under the laws of the Commonwealth of Massachusetts with a financial strength rating of “A” or better as assigned by A.M. Best Company, or an equivalent rating assigned by a similar rating agency acceptable to the Owner and the Authority.

15.8.3 If the Subconsultant’s insurance policy is in a “claims made” format, it shall include a retroactive date that is no later than the effective date of its contract with the Designer, and an extended reporting period of at least six (6) years after the earlier of: (1) the date of official acceptance of the completed Project by the Owner; (2) the date of the opening of the Project to public use; (3) the date of the acceptance by the General Contractor or CM at Risk of a final pay estimate prepared by the Owner pursuant to M.G.L. chapter 30; or (4) the date of substantial completion of the Owner-General Contractor Agreement or the Owner-CM at Risk Agreement and the taking of possession of the Project for occupancy by the Owner, which requirement can be met by providing renewal certificates of professional liability insurance to the Owner as evidence that this coverage is being maintained.

15.8.4 Other nonprofessional Subconsultants shall be required to maintain insurance in the types and amounts that they routinely carry in the course of their practice.

15.9 Liability of the Designer

Insufficient insurance shall not release the Designer from any liability for breach of its

obligations under this Contract. Without limitation, the Designer shall bear the risk of any loss if its valuable papers insurance coverage is insufficient to cover the loss of any work covered by this Contract.

15.10 Asbestos and Hazardous Materials

- 15.10.1 Unless otherwise provided in Article 8, the Designer shall have no responsibility for the discovery, presence, handling, removal or disposal of or for the exposure of persons to oil or hazardous materials in any form at the Project, including but not limited to asbestos-containing materials or other hazardous materials, as defined in MGL c.21E §2.
- 15.10.2 In the event that the Designer employs the services of a subconsultant to provide services related to either the testing for asbestos-containing materials or oil or hazardous materials or related to the specification of methods and procedures for the removal or remediation of such asbestos-containing materials or oil or hazardous materials, the Designer shall employ such Subconsultants who have liability insurance coverage covering such services, to the extent that such insurance coverage is generally available to Subconsultants. Upon the Owner's written request, the Designer shall assign to the Owner the Designer's contractual right to pursue a claim against such Subconsultants. Such services shall be paid for as provided in Article 8, Extra Services.
- 15.10.3 Certificates of insurance evidencing the coverage required hereunder, together with evidence that all premiums for such insurance have been fully paid, shall be filed with the Authority prior to the Authority making any payments to Applicant District. All policies shall contain a provision that coverages afforded by them will not be cancelled or amended until at least thirty (30) days prior written notice has been given to the Applicant District and the Authority .
- 15.10.4 All such insurance shall name the Authority and such other parties as the Owner shall require as additional insured parties with endorsements providing protection to the Authority as though separately issued and shall provide that such insurance is primary to any insurance carried by the Owner.

ARTICLE 16: OWNERSHIP OF DOCUMENTS

- 16.1 Unless provided otherwise by law, ownership and possession of all information, data, reports, studies, designs, drawings, specifications, materials, computer programs, documents, models, inventions, equipment, and any other documentation, product of tangible materials to the extent authored or prepared, in whole or in part, by the Designer pursuant to this Contract (collectively, the "Materials"), other than the Designer's administrative communications, records, and files relating to this Contract, shall be the sole property of, and shall vest in, the Owner and the Authority as "works made for hire" or

otherwise, provided that the Owner complies with its payment obligations under this Contract. The Owner and the Authority will own the exclusive rights, worldwide and royalty-free, to and in all Materials prepared and produced by the Designer pursuant to this Contract, including, but not limited to, United States and International patents, copyrights, trade secrets, know-how and any other intellectual property rights, and the Owner and the Authority shall have the exclusive, unlimited and unrestricted right, worldwide and royalty-free, to publish, reproduce, distribute, transmit and publicly display all Materials prepared by the Designer. The Owner and the Authority shall provide appropriate credit to the Designer, in terms agreed upon by the Designer, in any publicity about or plaque at the Project. The Designer shall have a license to publish and publicly display all Materials prepared by the Designer in its normal marketing and related professional and academic activities. The Designer shall have a license to use the typical or standard details and all other replicable elements of the Materials for this Project on other future projects. At the completion or termination of the Designer's services required pursuant to this Contract, copies of all original Materials shall be promptly turned over to the Owner and the Authority.

- 16.2 The Owner and the Authority agree to waive any and all claims against the Designer and, to the fullest extent permitted by law, to jointly and severally defend, indemnify and hold the Designer harmless from and against any and all claims, losses, liabilities and damages incurred by the Owner or asserted by any other entity or individual arising out of or resulting from any use of the Materials on other projects, modifications of the Materials made by the Owner or others and used on this Project, or any reuse or modification of the Materials or any of Designer's designs, drawings and specifications. The Authority shall be a party to this Contract solely for the purposes of enforcing its rights and obligations under this Article 16.

ARTICLE 17: STATUTORY REQUIREMENTS

- 17.1 Agent for Service of Process: If the Designer's principal place of business is outside of the Commonwealth of Massachusetts, the Designer shall appoint an agent for the service of process as provided in M.G.L. c.227, §5. The power of attorney reflecting such appointment shall be filed with the Secretary of State as provided in M.G.L. c.227, §5. Copies of the power shall be provided to the Owner. There shall be no lapse in such agency for as long as the Designer may have potential liability.
- 17.2 Truth-in-Negotiations Certificate (M.G.L. c.7C, §51)
- 17.2.1 If the Designer's fee has been negotiated, the Designer must file a truth-in-negotiations certificate prior to execution of this Contract by the Owner. The certificate shall contain the following certifications:
- (a) that wage rates and other costs used to support the Designer's compensation are accurate, complete, and current at the time of contracting; and
 - (b) that the Contract price and any additions to the Contract may be adjusted within one year of completion of the Contract to exclude any significant

amounts if the Owner determines that the fee was increased by such amounts due to inaccurate, incomplete, or noncurrent wage rates or other costs.

- 17.3 Certification Pursuant to M.G.L. c.7C §51 (d): In accordance with M.G.L. c.7C §51(d), the person signing this contract certifies, as a duly authorized signatory of the Designer, that the Designer has not given, offered, or agreed to give any person, corporation, or other entity any gift, contribution, or offer of employment as an inducement for, or in connection with, the award of this Contract; no Consultant to or Subconsultant for the Designer has given, offered, or agreed to give any gift, contribution, or offer of employment to the Designer, or to any other person, corporation, or entity as an inducement for, or in connection with, the award to the Designer or Subconsultant of a contract by the Designer; and no person, corporation, or other entity, other than a bona fide full-time employee of the Designer, has been retained or hired by the Designer to solicit for or in any way assist the Designer in obtaining this Contract upon an agreement or understanding that such person, corporation, or other entity be paid a fee or other consideration contingent upon the award of this Contract.
- 17.4 Minority-Owned, Woman-Owned, Veteran-Owned, and Service-Disabled Veteran-Owned Business Participation: Pursuant to M.G.L. c. 7C, § 6 and the State Funded Municipal Construction Affirmative Marketing Program the Designer shall subcontract with Minority Business Enterprises (MBE), Veteran Business Enterprises (VBE), Service-Disabled Veteran-Owned Business Enterprises (SDVOBE), and Women Business Enterprises (WBE), as certified by the Supplier Diversity Office (SDO); such participation goals shall be based on the Municipal Construction Affirmative Marketing Program administered by the SDO. If the Designer is an SDO-certified MBE, WBE, VBE, or SDVOBE the Designer must bring a reasonable amount of program participation goals for such businesses that hold the certification which is not held by the prime Designer on the project.
- 17.4.1 The Designer shall complete and submit at the time of contract execution a completed Participation Schedule which is attached to this contract as Attachment C in order to be in compliance with Article 17.4 above.
- 17.5 Accounting Requirements: The Designer shall cause to be maintained complete, accurate, and detailed records of all time devoted to the Project by the Designer and each Subconsultant employed by the Designer. The Owner, the Authority, and the Commonwealth's Inspector General may at all reasonable times audit such records that directly pertain to this Contract. On a Contract where the Fee for Basic Services exceeds \$100,000 the Designer shall comply with M.G.L. c.30 §39R which requires the Designer to:
- 17.5.1 Maintain accurate and detailed accounts for a six-year period after the final payment;
- 17.5.2 File with the Owner annual audited financial statements or statements from their accountants that their reviews are consistent with state laws.
- 17.5.3 File with the Owner a statement of management on internal accounting controls on its letterhead as prescribed in Attachment D and a statement from an independent certified public accountant (CPA) on its letterhead as prescribed in Attachment E to this

Contract.

- 17.6 Revenue Enforcement and Protection Program (REAP): Pursuant to M.G.L. c. 62C §49A, the undersigned certifies under the penalties of perjury that to the best of his/her knowledge and belief that the firm and/or individuals in the firm are in compliance with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.
- 17.7 Interest of Designer: The Designer hereby certifies that it is in compliance with the provisions of M.G.L. c. 268A whenever applicable. The Designer covenants that 1) neither he/she nor any member of the Designer firm presently has any financial interest and shall not acquire any such interest direct or indirect, which would conflict in any manner or degree with the services required to be performed under this Contract or which would violate M.G.L. Chapter 268A, as amended from time-to-time; 2) in the performance of this Contract, no person having any such interest shall be employed by the Designer; and 3) no partner or employee of the Designer firm is related by blood or marriage to any officer, official, or employee of the Owner.
- 17.8 Equal Opportunity: The Designer shall not discriminate in employment against any person on the basis of race, color, religion, national origin, sex, sexual orientation, age, genetics, ancestry, disability, marital status, veteran status, membership in the armed forces, presence of children or political beliefs. Each shall comply with all provisions of Title VII of the Civil Rights Act of 1964 and M.G.L. c.151B.
- 17.9 Certification of Non-Collusion: The signatory certifies under penalties of perjury that the Designer's proposal has been made in and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.
- 17.10 Minority and Women Workforce Participation: Pursuant to M.G.L. c. 7C, s. 6 and M.G.L. c. 149, s. 44A(2)(G) the Designer shall be required to provide regular reports of the gender and race/ethnicity of employees engaged in work under this contract, for both prime and subconsultants, in the form and format required by the District, including but not limited to, by electronic reporting through the requested means and with the frequency required by the District.

ARTICLE 18: MISCELLANEOUS

- 18.1 Governing Law: This Contract shall be governed by the laws of the Commonwealth of Massachusetts.
- 18.2 Venue: Any suit by either party arising under this Contract shall be brought only in the Superior Court in the county where the Project is located. The parties hereto waive any argument that this venue is improper or that the forum is inconvenient.
- 18.3 Non-Waiver: Neither the Owner's review, approval, or acceptance of, nor payment for any of the services furnished under this Contract shall be construed to operate as a waiver

of any rights under the Contract or any cause of action arising out of the performance of the Contract.

- 18.4 Entire Agreement: This Contract represents the entire and integrated agreement between the Owner and the Designer and, except as otherwise provided herein, supersedes all prior negotiations, representations or agreements, either written or oral. This Contract may be amended only by written agreement signed by both the Owner and the Designer, and approved by the Authority, which approval shall not unreasonably be delayed, denied, conditioned, or withheld.
- 18.5 Dispute Resolution: If a dispute arises between the parties related to this Contract, the parties agree to use the following procedures to resolve the dispute: (a) Negotiation. A meeting shall be held between representatives of the parties with decision-making authority regarding the dispute to attempt in good faith to negotiate a resolution of the dispute; such meeting shall be held within fourteen calendar days of a party's written request for such a meeting; (b) Mediation. If the parties fail to negotiate a resolution of the dispute, they shall submit the dispute to mediation as a condition precedent to litigation and shall bear equally the costs of the mediation. The parties shall jointly appoint a mutually acceptable mediator; they shall seek assistance from an independent third party in such appointment if they have been unable to agree upon such appointment within thirty (30) days of the meeting just noted in (a) above; (c) Litigation. If the parties fail to resolve the dispute through mediation, then either party may file suit in accordance with Article 18.2; and (d) This Article of dispute resolution provisions shall survive termination of this Contract.
- 18.6 Waiver of Subrogation: (a) To the extent damages are covered by property insurance, the Owner and the Designer waive all rights against each other and against the General Contractor or CM at Risk, Subcontractors, consultants, agents, and employees of the other for damages caused by fire or other causes of loss, except such rights as they may have to the proceeds of such insurance as set forth in the Owner-Contractor Agreement or Owner CM at Risk Agreement. The Owner shall require of the General Contractor or CM at Risk, Subcontractors, Owner's Project Manager, consultants, Subconsultants, and agents and employees, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.
- (b) Nothing in this Contract shall create a contractual relationship with or create a cause of action in favor of a third party against the Owner or the Designer.

ATTACHMENT A

PAYMENT SCHEDULE

Payments shall be made in accordance with the provisions outlined in the Contract and with the following schedule:

Basic Services

Feasibility Study Phase.....	
Schematic Design Phase	
Design Development Phase	
Construction Documents Phase	
Bidding Phase.....	
Construction Administration Phase	
Completion Phase	
TOTAL.....	

Extra Services

Extra Services provided pursuant to Article 8 shall be compensated as determined by the Owner (a) by a lump sum fee agreed upon in advance in writing by the Owner and the Designer, or (b) on an hourly basis in accordance with the rate schedule set forth below for time expended, up to a not to exceed amount.

Hourly Rates:

ATTACHMENT B

REQUEST FOR DESIGNER SERVICES (RFS)

**The District must use the MSBA's Designer RFS Template, which
can be found here:**

<https://www.massschoolbuildings.org/building/team/dsp>

ATTACHMENT C

PARTICIPATION SCHEDULE FOR DESIGNER CONTRACTS BY SDO CERTIFIED ENTERPRISES

This form shall be submitted to the Owner by the Designer upon execution of the Contract for Designer Services attached hereto.

Owner _____

Project No: _____

<u>Name of Company</u>	<u>Description of Work</u>	<u>SDO Cert.</u>	<u>Dollar Value Participation</u>
1. _____	_____	_____	\$ _____
2. _____	_____	_____	\$ _____
3. _____	_____	_____	\$ _____
4. _____	_____	_____	\$ _____
5. _____	_____	_____	\$ _____
6. _____	_____	_____	\$ _____

Dollar Value of MBE Commitment: \$ _____

Dollar Value of WBE Commitment: \$ _____

Dollar Value of VBE Commitment: \$ _____

Dollar Value of SDVOBE Commitment: \$ _____

Total Dollar Value Commitment: \$ _____

Original Fee for Basic Services Amount \$ _____

DESIGNER CERTIFICATION

The undersigned certifies under the penalties of perjury that (1) it intends to subcontract with the above listed firms for the identified work and dollar amounts and (2) certifies that he/she has read the terms and conditions of the Designer Contract with regards to SDO certified entities participation and is authorized to bind the Designer to the commitment set forth above.

Date _____

Name of Architect/Engineer

Authorized Signature

Address

City, State & Zip Code

ATTACHMENT D

<p>M.G.L. c.30 §39R - INTERNAL ACCOUNTING CONTROLS APPLIES TO CONTRACTS OF \$100,000 OR MORE SAMPLE LETTER TO BE PREPARED ON DESIGNER'S LETTERHEAD</p>

Date

CEO
Owner
123 Reservoir Street
Enfield, MA 01234

RE: Enfield High School

Dear:

This Statement of Internal Accounting Controls is being submitted in accordance with Article 17.5.3 of the Contract for Design Services for the above captioned project. Please be advised that our firm, the Designer under the Contract, has a system of internal accounting controls which assures that:

1. transactions are executed in accordance with management's general and specific authorization;
2. transactions are recorded as necessary, to permit preparation of financial statements in conformity with generally accepted accounting principles, and to maintain accountability for assets;
3. access to assets is permitted only in accordance with management's general or specific authorization; and
4. the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Sincerely,

ATTACHMENT E

**MGL c.30 §39R – INTERNAL ACCOUNTING CONTROLS
APPLIES TO CONTRACTS OF \$100,000 OR MORE
SAMPLE LETTER TO BE PREPARED ON CPA’S LETTERHEAD**

CEO
Owner
123 Reservoir Street
Enfield, MA 01234

RE:

Dear

Please be advised that we have reviewed the Statement of Internal Accounting Controls prepared by the

_____ in connection with the
Name of Designer

above-captioned project. This statement is required under M.G.L. c.30 §39R. In our opinion, representations of management are consistent with our evaluations of the system of internal accounting controls. In addition, we believe that they are reasonable with respect to transactions and assets in the amount which would be material when measured in relation to the firm's financial statements.

Sincerely,

(CPA)

ATTACHMENT F

CONTRACT FOR DESIGNER SERVICES

AMENDMENT NO. _____

WHEREAS, the _____ (“Owner”) and _____, (the “Designer”) (collectively, the “Parties”) entered into a Contract for Designer Services for the _____ Project (Project Number _____) at the _____ School on _____: “Contract”; and

WHEREAS, effective as of _____, the Parties wish to amend the Contract:

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained in this Amendment, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

1. The Owner hereby authorizes the Designer to perform services for the Design Development Phase, the Construction Phases, and the Final Completion Phase of the Project, pursuant to the terms and conditions set forth in the Contract, as amended.
2. For the performance of services required under the Contract, as amended, the Designer shall be compensated by the Owner in accordance with the following Fee for Basic Services:

Fee for Basic Services:	Original Contract	After this Amendment
Feasibility Study Phase	\$ _____	\$ _____
Schematic Design Phase	\$ _____	\$ _____
Design Development Phase	\$ _____	\$ _____
Construction Document Phase	\$ _____	\$ _____
Bidding Phase	\$ _____	\$ _____
Construction Administration Phase	\$ _____	\$ _____
Completion Phase	\$ _____	\$ _____
Total Fee	\$ _____	\$ _____

This Amendment is a result of: _____

3. The Construction Budget shall be as follows:

Original Budget: \$ _____
Amended Budget \$ _____

4. The Project Schedule shall be as follows:

Original Schedule:	\$ _____
Amended Schedule	\$ _____

5. This Amendment contains all of the terms and conditions agreed upon by the Parties as amendments to the original Contract. No other understandings or representations, oral or otherwise, regarding amendments to the original Contract shall be deemed to exist or bind the Parties, and all other terms and conditions of the Contract remain in full force and effect.

IN WITNESS WHEREOF, the Owner, with the prior approval of the Authority, and the Designer have caused this Amendment to be executed by their respective authorized officers.

OWNER

(print name)

(print title)

By _____
(signature)

Date _____

DESIGNER

(print name)

(print title)

By _____
(signature)

Date _____

7.5 CM at Risk Construction Delivery Method

7.5.1 CM at Risk Prequalification & Selection

- (a) The Designer shall participate as a member of the Owner's CM at Risk Prequalification Committee and CM at Risk Selection Committee pursuant to M.G.L. c. 149A, §§ 5 & 6.
- (b) The Designer shall, when authorized by the Owner, prepare for reproduction and distribution all project design documents, that are required for the solicitation and receipt of qualifications and proposals from CM at Risk firms pursuant to M.G.L. c. 149A, §§ 5(b) & 6(a). The Designer shall prepare all addenda (to include questions from CM at Risk firms and Designer responses), subject to the approval of the Owner. The Designer shall attend a pre-proposal conference, and existing site and building tour if either or both are to be scheduled, taking note of all questions asked. Relevant questions submitted in writing shall be answered by the Designer in conjunction with the OPM by means of written addenda to the RFQ or RFP described below, as required.
- (c) As a member of the Owner's CM at Risk prequalification committee, the Designer shall review and evaluate in conjunction with the Prequalification Committee, the Statements of Qualifications received from CM at Risk firms on the basis of the evaluation criteria established in the RFQ and shall make appropriate recommendations regarding the selection of qualified CM at Risk firms to receive a request for proposals from the Owner in accordance with the provisions of M.G.L. c. 149A, § 5(f).
- (d) As a member of the Owner's CM at Risk selection committee, the Designer shall review and evaluate the RFP's received from prequalified CM at Risk firms on the basis of the evaluation criteria included in the RFP. The Designer shall make appropriate recommendations regarding the evaluation and ranking of RFP's and the conducting of interviews, if any, in accordance with the provisions of M.G.L. c. 149A, § 6(d), and the applicable regulations and procedures promulgated by the Inspector General. If the Selection Committee elects to conduct interviews of the CM at Risk firms, the Designer shall participate in conducting interviews.
- (e) As member of the Owner's CM at Risk Selection Committee, the Designer shall assist the CM at Risk Selection Committee in non-fee negotiations with the CM at Risk until the Selection Committee has reached an acceptable contract with one of the prequalified CM at Risk firms in accordance with M.G.L. c. 149A § 6(e).
- (f) If, at any time, the Owner terminates the Owner-CM at Risk contract, the Designer shall continue to provide the Designer Services required under this Contract with any substitute CM at Risk procured by the Owner. If, as provided by law, the

Owner elects to proceed with the Project pursuant to the provisions of M.G.L. c. 149 (Design-Bid-Build), the Designer may continue to provide Designer Services pursuant to a mutually agreeable amendment to this Contract subject to the approval of the Authority.

7.5.2 Design Review for the CM at Risk Construction Delivery Method

- (a) The Designer shall provide Designer Services in a manner consistent with the CM at Risk Delivery Method, as defined herein, in all Phases of the Project and shall work cooperatively with the CM at Risk, as well as the Owner, OPM, Commissioning Consultant and the Authority to achieve timely completion of the Project within the Project Construction Budget.
- (b) Upon execution of the Owner-CM at Risk Agreement, the Designer shall:
 - 1. meet with the Owner, the OPM and the CM at Risk to discuss issues and to establish procedures for efficient interaction in a cooperative and mutually supportive manner that will permit all parties to perform their contractual obligations. These procedures shall include, but not be limited to: arrangements for the collaboration and coordination between the Designer and the CM at Risk in the preparation and submission of all design phase documents to the Owner; arrangements for discussions concerning all design phase document submittals among the Owner, OPM, CM at Risk and Designer; and arrangements for frequent and productive interactions between the Owner, OPM, CM at Risk and Designer during all the design phases.
 - 2. provide copies of the schematic design drawings, specifications, cost estimates and other submittals to the CM at Risk, to assist the CM at Risk in fulfilling its responsibilities to the Owner. The Designer shall consult with the CM at Risk and provide the CM at Risk with an opportunity to review and comment upon deliverables developed by the Designer during the Schematic Design Phase.
- (c) The Designer shall attend and participate in meetings as necessary with the CM at Risk, the Owner and the OPM to resolve all issues.
- (d) The Designer shall consult with the Owner, the OPM, and the CM at Risk regarding the sequence of delivery of design services; the selection of materials, building systems and equipment; alternative solutions recommended by the CM at Risk when design details affect construction feasibility, schedules, cost or quality; other value engineering comments and recommendations made by the CM at Risk; comments and recommendations concerning the design documents with respect to clarity, consistency, constructability,

maintainability/operability and coordination among the trades, coordination between the specifications and drawings, compliance with M.G.L. c. 149A for procurement, installation and construction, and sequence of construction, including recommendations designed to minimize adverse effects of labor or material shortages.

- (e) The Designer may be required, as a part of Extra Services if previously agreed with the Owner, to prepare plans and specifications for discrete portions of the Work that can be incorporated into separate bid packages for the various Subcontractors who will construct the Project. Such contracts may be awarded concurrently with other contracts or individually, or at different points in time, which may result in the Designer completing portions of the design after commencement of construction of the Project and/or providing Construction Phase services before completion of all design phase services. The design for each separate bid package shall separately be subject to all requirements applicable to the various phases set forth in this Contract and shall be performed in a manner consistent with the provisions of the Project Funding Agreement, including, but not limited to, the Project Construction Budget and Project Schedule.
- (f) The Designer shall consult with the CM at Risk concerning the ordering and delivery of products and assemblies and shall identify and describe any long lead products or assemblies that need to be priced and pre-ordered to meet the Project Schedule.
- (g) The Designer shall identify and describe any multiple bid packages or fast-tracked construction that will be used and any separate bid packages that will be required.

7.6 Design Development Phase

- 7.6.1 The Designer shall provide the CM at Risk with an opportunity to review and comment upon design documents developed by the Designer during the Design Development Phase. The Designer shall work cooperatively with the CM at Risk throughout the Design Development Phase of the Project to obtain the benefit of the knowledge and experience of the CM at Risk with respect to design review, value engineering, constructability analysis, cost estimating, cost control, scheduling, coordination of bid packages, phasing, and other services and, with the approval of the Owner, the Designer shall thereupon incorporate recommended and mutually accepted changes into its design documents.
- 7.6.2 Upon receipt of an Approval to proceed to the Design Development Phase, the Designer shall meet regularly and as necessary with the Owner, the OPM, the CM at Risk and the Authority. This shall include meeting with the Owner, in accordance with the agreed upon project work plan the OPM and the CM at Risk during this Phase.

- 7.6.3 Upon receipt of an Approval to proceed to the Design Development Phase, the Designer shall update and refine items submitted during the Schematic Design Phase, and shall submit to the Owner, CM at Risk, and the Authority, on or before the date specified in the Project Schedule, and on the basis of the approved Schematic Design Phase Documents, the following deliverables as they are defined in this Article 7.6.3 and as they are further defined in Articles 7.6.4, 7.6.5, 7.6.6, 7.6.7, and 7.6.8:
- (a) a list of all filings and permits within Designer's scope of services and professional expertise required to implement the design and a schedule of target dates for the procurement of such permits, which list and schedule shall be regularly updated during the term of this Contract;
 - (b) information and documentation within the technical expertise of the Designer and that is necessary for the Owner to file local basic zoning and environmental permits. The Designer, as Extra Services, shall provide information and documentation for the Owner to file Environmental Notification Forms, Environmental Impact Reports, and any other filings for permits that must be filed during the design development phase;
 - (c) soils exploration data, geotechnical and geoenvironmental reports, showing exploratory locations relative to siting of proposed structures, based on a review of the existing conditions information provided in the surveys and studies described in Article 7 Basic Services and Article 8 Extra Services;
 - (d) complete design development drawings; outline specifications indicating any filed sub-bid sections and sub-sub trades based on the cost of the work and other documents necessary to specify the size and character of the Project as to siting, landscape, architectural, structural, fire protection, plumbing, heating, ventilating and air conditioning, electrical, ADA/MAAB, product requirements, and other features;
 - (e) Creation of a Building Information Model and quality control documentation demonstrating, without limitation, coordination of: ceiling clearances, mechanical room size, and shaft sizes; specifications and drawings; filed sub-bid work or sections; scheduling; equipment and power; existing and new construction; and phasing;
 - (f) design development drawings which the Designer shall submit for review to the local building official;
 - (g) a life cycle cost analysis to determine which design decisions related to all energy and water consuming devices and overall building operation and maintenance are the most cost effective [M.G.L. c. 149, s. 44M];
 - (h) a construction cost estimate for the design in accordance with Article 7.6.7.;

- (i) a space measurement analysis for the design verifying that the sum of all program areas in the Project plus all other floor areas in the Project equals the gross floor area of the Project;
- (j) a written summary or summaries comparing the project design, as represented in the design development drawings, specifications and cost estimates with the Final Design Program requirements, and explaining any deviations in writing.

7.6.4 Design Development Drawing Requirements: The Design Development drawings shall illustrate and describe the refinement of the design of the Project to a level of detail that is customary and standard, establishing the scope, relationships, forms, size and appearance of the Project by means of plans, sections and elevations, typical construction details, and equipment layouts. Drawings shall delineate locations and elements of Work which may be proposed to be assigned to project construction phases and/or separate bidding packages. Documents shall include, but not be limited to, the following:

- (a) Site and utility drawings showing;
 - 1. Existing and proposed contours and locations of the proposed building or addition(s). Show entry level elevation and key exterior grades at perimeter. Indicate all retaining walls. Include benchmarks of site if survey is available.
 - 2. All utilities existing and proposed, indicating location, elevation, composition and size e.g., manholes, sewers, hydrants, light standards, and geothermal wells. Include work by others, e.g., gas and electric utility providers.
 - 3. Roads, laid-out parking areas, walks, recreation areas, terraces and other site improvements.
 - 4. Building locations fixed and referenced from main survey baseline, if available.
 - 5. Plant materials with preliminary schedule.
- (b) Building drawings and other graphic and written requirements with floor plans showing: (minimum scale 1/8" = 1'0");
 - 1. building perimeter with exterior wall thicknesses and overall dimensions;
 - 2. structural grid;
 - 3. plan requirements of mechanical and electrical systems;
 - 4. building core; elevators, stairs, shafts, toilet rooms;
 - 5. interior partitions; appropriate thicknesses and dimensions to fix basic organizations; indicate fire separations, ratings;
 - 6. door swings;
 - 7. floor elevations;

8. built-in furniture and equipment; and
 9. furniture layout concept drawings.
- (c) Roof plans showing:
1. proposed systems type;
 2. pitch and drainage patterns;
 3. roof drains, gutters and scuppers;
 4. skylights, stairs through roof, penthouses, major equipment, chimneys.
- (d) Building sections: One transverse and one longitudinal section. Indicate floor to ceiling heights and floor-to-floor heights. Label all spaces;
- (e) Building elevations showing:
1. full height elevations including roof structures, e.g., mechanical equipment, chimneys, and penthouses;
 2. floor elevations, floor-to-floor heights, and overall height related to benchmarks on site plans;
 3. all fenestration;
 4. column centerlines;
 5. principal finish materials indicating major control and expansion joints, and divisions of materials where required;
 6. louver and equipment enclosure systems; and
 7. exterior grades and topographical features in context.
- (f) Full height wall sections for main elevations and at special conditions. Show foundation and perimeter treatment, wall construction including insulation and supporting structure, fenestration and mechanical penetrations, and floor construction;
- (g) Interior elevations: Major spaces, e.g. library, lobby; and all typical spaces, e.g. classrooms;
- (h) Reflected ceiling plans: show prototypical structural, fire protection, mechanical and electrical information for classrooms and major spaces, including lighting layouts with ceiling heights and material changes;
- (i) Colored interior elevations and perspectives of major and typical spaces;
- (j) Schedules:
1. finish schedule by room types;
 2. door schedule by room;
 3. window schedule;

4. equipment schedules, e.g., food service, instructional media.

(k) Structural Concepts:

1. Foundation plan showing sizes and locations of typical components.
2. Framing plans: typical floor framing, roof framing, special framing, show framing at major openings and sizes of members.
3. Column locations.
4. Preliminary details including floor and roof deck, statements as to methods of lateral bracing and how requirements of earthquake code will be met.
5. Details for special and/or incidental structural features, e.g. tunnels, connecting bridges and unique architectural features.
6. Connection to existing buildings at foundation and at key points at existing structure if applicable.

(l) Fire Protection: floor plans indicating wet or dry type systems, hose racks or cabinets and fire department tie-ins. Indicate whether a fire pump will be required and, if so, show location within the building. Show typical sprinkler head layout;

(m) Plumbing and sanitary systems: floor plans indicating locations of all plumbing fixtures and special features, and approximate location and size of all piping systems and principal items of equipment;

(n) Heating, Ventilating and Air Conditioning Systems;

1. Show locations and approximate sizes of piping systems, air handling systems, heat pumps, and principal items of equipment such as compressors or cooling towers.
2. Indicate space requirements of major equipment and their location in mechanical rooms and fan rooms. Major shafts.

(o) Electrical Systems;

1. Calculations showing total electrical load.
2. All services including those for special purposes shall be located and indicated.
3. Lighting shall be indicated as to type, location and intensities in foot-candles for each special and typical space.
4. Switchgear and emergency generator.
5. Fire alarm system drawings showing all initiation and signaling devices, control panels, annunciator panels, etc.
6. Security system drawings.
7. Communications drawings showing chases, major equipment locations and any special distribution requirements.

8. CATV/CCTV drawings showing chases, major equipment locations and any special distribution requirements.
 9. Information Technology drawings showing chases, major equipment locations and any special distribution requirements.
- 7.6.5 Other Consultant's Drawings and Other Graphic and Written Requirements: For special consultants, e.g., kitchen, elevator, library, media room, equipment where appropriate, provide drawings that locate and define the scope of the work. Coordinate with other disciplines. Provide cuts of all major pieces of equipment.
- 7.6.6 Project Manual Requirements (Specifications):
- (a) Outline Specifications that are to accompany Design Development Drawings shall be prepared to a level of detail that is standard and customary and shall include, but not be limited to, a comprehensive description of the Project and the materials proposed for use in the work. Do not provide full-length, 3 part format specification; however, the general scope shall be indicated by CSI MasterFormat as applicable to proposed construction.
 1. The Design Development Outline Specification shall also include a comprehensive "BASIS OF DESIGN." The "BASIS OF DESIGN" shall be a narrative description of the Project and shall include all applicable architectural, civil, structural, mechanical and electrical programs and/or systems. Identify all proposed filed sub-bid categories.
 2. Project Manual shall include a statement to define Work which is proposed to be included in separate construction phases and/or bid packages.
 - (b) The following is a list of items that shall at a minimum be identified or outlined in this Phase.
 1. Site work; clearing, drives, walks, parking areas, fences, excavation, backfill, planting, and geothermal wells.
 2. Footings; on earth, rock, piles, caissons, proposed bearing pressures, boring logs.
 3. Foundation walls; type of concrete, reinforcing, type and extent of waterproofing.
 4. Footing drains; type, disposal of drainage.
 5. Exterior walls: superstructure, type, materials, brick type, alternate cladding, back-up materials, dampproofing material and extent, special features.
 6. Roofs; types, vapor barrier, insulation, flashings, all materials.
 7. Flashings; general types, all materials, weights, where each type is to be used.
 8. Sheet metal; gutters, leaders, others uses, except flashings.
 9. Windows; general types, materials, sub-frames, finish, glazing, screens.

10. Doors, exterior and interior; types.
11. Steps, exterior; including platforms and landings' materials.
12. Stairs, interior; including platforms, landings, walls, materials and finishes.
13. Framing; wood, concrete or metal systems in accordance with general design.
14. Partition construction related to room type;
15. Cabinet and casework; types and materials.
16. Food Service Equipment; types and materials.
17. Furring; lathing, plastering, materials and locations.
18. Insulation thermal; types, thicknesses, methods of application and locations.
19. Acoustical treatments; types, thicknesses, methods of application and location.
20. Interior finishes; materials for floors, walls, bases, wainscots, trim, ceilings, ceiling heights.
21. Fire Protection; standpipe systems, sprinkler systems, fire pumps and accessories.
22. Water supply; source; location of main to which connection will be made; type of pipe for service main; load requirements; load factors and pressures.
23. Sanitary sewers; sewage disposal system, pipe and other materials.
24. Storm sewers; storm drainage disposal system (institution or local facility), pipe and other materials.
25. Gas main; material, size, location. Interface with utility company.
26. Plumbing; systems such as wastes, vents, hot water, cold water, gas, air, oxygen, vacuum, main source of supply, materials for each, water heaters, pumps, thermal insulation fixture quality, all special features.
27. Heating, ventilating and air conditioning; type of heating and refrigeration plants, type and capacity of boilers, heat pumps, and cooling equipment, fuel, type of burners, fuel storage, heaters, feed water pumps and heaters, thermal insulation, type of heating medium, supply and return piping, radiation, unit heaters, radiant heating, principal air conditioning equipment types, special features, supply, return and exhaust ductwork.
28. Electric work; service connection, location, institution or public utility, overhead or underground, transformers including type and location, types of conduit and wiring, types of fixtures, location of main switchboard, radio, fire alarm, telephone, public address, emergency lighting and wiring, emergency or other generators, solar panels, special features, including Master TV, information retrieval and/or data processing system.

- 29. Elevators, dumbwaiters and platform lifts; capacities, speed, travel in feet, landings, operation, controls, platform sizes, machine type and location, car and entrance finishes, signals.
- 30. Other built-in equipment, types and materials.
- 31. Special features.

7.6.7 Construction Cost Estimate Requirements – The Designer shall provide a construction cost estimate in Uniformat II Level 3 and CSI Master Format 6-digit format to Level 3 and M.G.L. c. 149 § 44 (filed sub bid) format with aggregated unit rates and quantities supporting each item referenced in Article 7.6.6(b). The estimate cost shall be projected, to the mid-point of the construction period.

The Designer shall review its construction cost estimate in comparison with the detailed construction cost estimate, and any updated cost estimates, provided by the CM at Risk and/or OPM and shall work in good faith and in cooperation and coordination with the CM at Risk and/or OPM to reconcile any differences between the construction cost estimates, to clarify assumptions upon which the cost estimates are based and to address any concerns or questions with the cost estimates that are raised by the Owner, the OPM, the CM at Risk, or the Authority. If the Designer is unable to reconcile all differences between the two construction cost estimates with the CM at Risk, then the Designer shall provide a detailed explanation of the differences to the Owner. If, in any case, the agreed-upon, reconciled construction cost estimate exceeds the Project Construction Budget, the Designer shall cooperate with the Owner, the OPM, and the CM at Risk in identifying, specifying and recommending changes in materials, equipment, component systems and types of construction, or other adjustments in the scope or materials selections for the Project, including contingencies or alternative bid items, so as to facilitate revision of the design of the Project to reduce the cost of construction so as to comply with the authorized Project Construction Budget.

Cost estimate data shall be organized to identify elements of project work which may be proposed to be advanced under separate construction phases and/or separate bidding packages. When so proposed, estimates shall develop cost data relative to corresponding bidding and work execution dates established in project schedules.

7.6.8 Reports, drawings, specifications, cost estimates and other design development submittals shall be subject to the written approval of the Owner and the Authority. Unless a lesser number is requested by the Owner, the Designer shall submit to the Owner for approval four (4) copies of Design Development drawings, specifications, cost estimates, and other submittals. One (1) copy shall be submitted to the Authority by the Designer. The Designer shall submit to the CM at Risk one copy (1) of Design Development drawings, specifications, cost estimates and other submittals to assist the CM at Risk in fulfilling its responsibilities to the Owner.

- 7.6.9 The Designer shall present and explain the Design Development submittal to the Owner, the Authority, and at a local public meeting scheduled by the Owner, if any such meeting is scheduled or in conference.
- 7.6.10 The Designer and its Subconsultants shall collaborate with the Authority's Commissioning Consultant to develop design criteria which will support the purposes of building commissioning and energy/resources conservation concepts as commonly understood and as prescribed by the Commissioning Consultant.

7.7 Construction Documents Phase:

In addition to the requirements specified in the RFS (Attachment B), upon receipt of an Approval to proceed with the Construction Documents Phase of the Project from the Owner, the Designer shall do the following:

- 7.7.1 The Designer shall provide the CM at Risk with an opportunity to review and comment upon design documents developed by the Designer during the Construction Documents Phase. The Designer shall work cooperatively with the CM at Risk throughout the Construction Documents Phase of the Project to obtain the benefit of the knowledge and experience of the CM at Risk with respect to design review, value engineering, constructability analysis, cost estimating, cost control, scheduling, coordination of bid packages, phasing, and other services and, with the approval of the Owner, the Designer shall thereupon incorporate recommended and mutually accepted changes into its design documents.
- 7.7.2 The Designer shall meet regularly and as necessary with the Owner, the Authority, the OPM, the CM at Risk and the Commissioning Consultant. This shall include meeting with the Owner in accordance with the agreed upon project work plan (or more frequently if needed) during this Phase.
- 7.7.3 Based on the submittals approved in the Design Development Phase of the Project, the Designer shall update and refine the items previously submitted and shall submit the following to the Owner, the CM at Risk, and the Authority on or before the date and time specified in the Project Schedule:
 - (a) Construction documents progress submittals as follows:
 - 1. a 60% Construction Documents Submittal, with deliverables as defined in Article 7.7.4;
 - 2. a 90% Construction Documents Submittal, with deliverables as defined in Article 7.7.5;
 - 3. a Final Construction Documents Submittal, with deliverables as defined in Article 7.7.6;
 - 4. a Bid Documents Submittal, with deliverables as defined in Article 7.7.7

- (b) As a part of each of the submittals required under Articles 7.7.4, 7.7.5, and 7.7.6, an updated work plan and recommended updates for incorporation into the Project Schedule by the OPM;
- (c) As a part of each of the submittals required under Articles 7.7.4, 7.7.5, and 7.7.6, a report on the status of environmental, zoning, planning, building code, and ADA/MAAB approvals and permitting processes and a certified list of all required testing and all required permits identified in 7.6.3 (a).
- (d) All submittals by the Designer shall be subject to the written approval of the Owner, which approval shall not be unreasonably delayed, withheld, conditioned, or denied. Unless a lesser number is requested by the Owner or is specifically provided hereinafter, the Designer shall furnish to the Owner for approval four (4) sets of the drawings, specifications, construction cost estimates and all other submittals. Unless a lesser number is specifically provided hereinafter, the Designer shall furnish one (1) sets of said drawings, specifications, construction cost estimates and all other submittals to the Authority and shall furnish one (1) set thereof to the CM at Risk. The Designer shall also furnish to the Owner, the Authority, and the CM at Risk electronic media copies of the foregoing drawings and documents in such form as may be required by the Authority.

7.7.4 60 Percent Construction Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a 60 % Construction Documents Submittal (60% CD Submittal), which shall include:
 - 1. Construction Documents and other deliverables, as defined in this Article 7.7.4 and as further defined in Articles 7.7.3, 7.7.8, 7.7.9, and 7.7.10, advanced to a level of intermediate (60 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 - 2. In instances where the Designer takes exception to the Authority's previous review comments on the Design Development submittal, a written statement explaining its position.
 - 3. The Basis of Design that accompanied the Outline Specifications in the Design Development Phase shall be updated and expanded to include all proposed architectural, structural, fire protection, plumbing, mechanical, electrical, civil, and landscape design concepts for the Project.
 - 4. A space summary, in the form and format prescribed by the Authority, that sets forth the current space calculations and totals and certifies that said space calculations and totals are in compliance with those previously authorized by the Authority in the Project Funding Agreement.

5. Keying of graphics shall be sufficient to allow a reviewer to make his or her way through the set.
 6. A list of all drawings related to the Project.
 7. A materials selection statement identifying typical interior and exterior surfaces and their materials.
 8. A color theory statement indicating proposed paint colors and material selections for typical and special spaces and why they have been selected and how these selections relate to surrounding materials and colors.
 9. Large scale plans of all mechanical and electrical spaces with major equipment indicated.
 10. Project Manual, in CSI Master Format (full-length, current version), including all sections to be included in final technical specifications, developed to include a list of all materials in the building with their manufacturers. Identify all specifications sections which need to be filed sub-bid.
 11. Identify all proposed bid alternates by inclusion in a project manual section to be titled "Alternates." Alternates shall be listed in sequence as approved by the Owner. Work required under bid alternates shall be described and/or drawn, as appropriate, to clearly define the design criteria and extent of work involved for implementation of the bid alternate. In each instance, the existing conditions and/or new design criteria for base bid work shall also be described and indicated in documents.
 12. Code analysis: Provide a building code analysis. Any deviation from methods of compliance described in earlier submittals shall be indicated. Code analysis shall identify its preparer, code edition referenced, and include a comprehensive description of operative building code provisions, with floor plans showing fire separation types, area calculations, egress capacity for exits and exitways, and any special features required to comply.
- (b) As a requirement of the 60% CD Submittal, and in accordance with the provisions of this paragraph and Article 7.7.10, the Designer shall provide a construction cost estimate prepared using the CSI MasterFormat 6-digit format to Level 3 and MGL c.149 §44F (filed sub-bid) format including quantities of all materials and unit prices of labor, equipment, and materials as well as a cost estimate for each item of work, for review by the Owner, the CM at Risk, and the Authority. The estimate cost shall be projected to the mid-point of the construction period.

The development of said construction cost estimate shall under no circumstances delay the timely submission of the remainder of the 60% CD Submittal.

7.7.5 90 Percent Construction Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a 90 % Construction Documents Submittal (90% CD Submittal), which shall include:
1. Construction documents and other deliverables as defined in this Article 7.7.5 and as further defined in Articles 7.7.3, 7.7.8, 7.7.9, and 7.7.10, advanced to a level of substantial (90 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 2. A space summary, in the form and format prescribed by the Authority, that sets forth the current space calculations and totals and certifies that said space calculations and totals are in compliance with those authorized by the Authority in the Project Funding Agreement.
 3. Interior Materials Color Boards, including samples of principal interior materials, labeled and mounted to indicate locations.
 4. Final structural and energy design calculations.
 5. A statement confirming that the Owner has been provided with structural design drawings, specifications, and calculations sufficient to enable execution of an independent structural peer review process, as defined in the Massachusetts Building Code, as amended (this requirement is applicable, to satisfy Authority requirements for all school construction projects having a floor area in excess of 10,000 square feet). The Designer shall have advised the Owner of this requirement in writing not less than sixty (60) days prior to delivery of the 90% CD Submittal, or earlier, as may be required for early (structural) bid packages, in order for the Owner to arrange for the services of an Independent Structural Peer Reviewer. Upon reaching 90 percent completion of construction documents or earlier as may be required for early (structural) bid packages, Designer's structural engineering consultant shall have reached a level of 100 percent completion of its construction documents to enable advancement of the independent structural peer review.
 6. The Designer and its consultants shall fully cooperate with the Independent Structural Peer Reviewer in the process. The Designer shall obtain a copy of the Independent Structural Engineering Review report and submit same to the

Owner and the Authority at the time of completion of the remainder of the construction documents at the level of final completion.

7. In instances where the Designer takes exception to any of the Authority's 60% CD Submittal review comments, a written position statement explaining the Designer's position on its exceptions to said review comments.
8. Project Manual in CSI Master Format (full-length, current version), including all sections to be included in final technical specifications, developed to include a list of all materials in the building with their manufacturers. Identify all specifications sections which need to be filed sub-bid.
9. As a requirement of the 90% CD Submittal, and in accordance with the provisions of this paragraph and Article 7.6.9, the Designer shall provide a construction cost estimate prepared using the CSI Master Format 6-digit format to Level 3 and MGL c.149 §44F (filed sub-bid) format including quantities of all materials and unit prices of labor, equipment, and materials as well as a cost estimate for each item of work, for review by the Owner and the Authority. The development of said construction cost estimate shall under no circumstances delay the timely submission of the remainder of the 90% CD Submittal.

7.7.6 Final Construction Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a Final Construction Documents Submittal, which shall include:
 1. Construction documents and other deliverables as defined in this Article 7.7.6 and as further defined in Articles 7.7.3, 7.7.8, 7.7.9, and 7.7.10, advanced to a level of final (100 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 2. A final construction cost estimate, in accordance with the provisions of this paragraph and Article 7.7.10, based on 90% Construction Documents, including cost estimates for general conditions, overhead and profit, insurance, bonds, and all other items; and allowances expressed as percentage rates for design contingencies and construction contingencies and escalation to the mid-point of construction ; and other mutually agreed upon contingencies. The final construction cost estimate shall be prepared in the CSI MasterFormat to Level 3 and M.G.L. c.149, §44F (filed sub-bid) format and shall be complete with a single line description for each item with the detailed unit rate or item cost buildup provided in each case.
 3. Complete construction drawings and specifications, certified by the

Designer as having satisfied the firm's quality control review process as previously confirmed with the Owner, in sufficient detail to permit fixed-price bids in open competition for construction of the Project when documents have been approved for issuance for bidding.

4. No later than at the 100% stage of completion of the final drawings and specifications, two (2) sets of the final drawings and specifications that shall be provided to the local building official to be signed and stamped "Approved" by the local building official; two (2) sets of plumbing drawings and specifications that shall be provided to the local plumbing inspector to be signed and stamped "Approved" by the local plumbing inspector; two (2) sets of the fire protection, HVAC, and electrical construction documents that shall be provided to the local fire official to be signed and stamped "Approved" by the local fire official; two (2) sets of the electrical construction documents that shall be provided to the local electrical inspector to be signed and stamped "Approved" by the local electrical inspector. Notwithstanding the foregoing, the Owner acknowledges that building officials, department inspectors, and fire officials have varying policies on approvals and submittal procedures, and the only obligation of the Designer in this regard is to promptly make the submittals described herein and assist the Owner or CM at Risk in receiving the approvals to the extent available.
5. At the 100 percent stage of completion of final drawings and specifications, a written summary comparing the final construction drawings and specifications and final estimated construction cost with the Final Design Program requirements and submittals made during the Design Development Phase and earlier in the Construction Documents Phase, explaining any significant deviations.
6. In instances where the Designer takes exception to any of the Authority's 90% CD Submittal review comments, a written position statement explaining the Designer's position on its exceptions to said review comments.
7. The Independent Structural Engineering Peer Review Report obtained from the Independent Structural Engineering Peer Reviewer referenced in Article 7.7.5(a)5. The Designer shall include a certification statement from the project structural engineer designer of record to acknowledge receipt of the Report and to indicate response actions pursuant thereto. The Designer shall also forward a copy of said Report to the Building Inspector
8. A certification that all applicable local, state and utility officials have been contacted by the Designer regarding each utility connection and that the persons responsible for permits or connection approval have agreed to the systems' use.

7.7.7 Bid Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a Bid Documents Submittal which shall include:
1. Construction documents and other deliverables as defined in this Article 7.7.7 and as further defined in Articles 7.7.3, 7.7.8, and 7.7.9, incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 2. From the construction drawings and specifications approved by the Owner, incorporating such changes as the Owner or the Authority requires, a set of reproducible black and white drawings and original specifications on high quality white bond paper, single-sided, properly packaged, suitable for reproduction, stamped and signed by all disciplines, that shall be prepared by the Designer and transmitted to the Owner; which documents shall become the property of the Owner as provided under Article 16. Other suitable reproducible media, having the same content shall be substituted, when so directed or authorized by the Owner.
 3. Upon receipt of Owner authorization to advance to reproduction the approved documents for distribution to bidders and, upon reproduction thereof, the Designer shall promptly submit complete sets of bid documents to the Owner (two sets), the CM at Risk (one set) and the Authority (one set - half size for Drawings). Any subsequent addenda shall be promptly submitted to the Owner, the CM at Risk, and the Authority.

7.7.8 Drawing Requirements:

The documents prepared during the Construction Documents Phase shall set forth the requirements for construction of the Project to a level of detail that is customary and standard and shall include, but not be limited to:

- (a) General information showing drawing index, symbols, abbreviations, notes, and location map.
- (b) Site drawings shall be complete to define the extent and detail of site work. Show the following:
1. Layout and location of all proposed work including buildings, structures, retaining walls, parking, walls, geothermal wells, and all other site improvements, with details.
 2. Existing and proposed grades and contours including floor elevations, existing structures and topography, survey base line, bench marks and boring locations.
 3. Landscaping and planting.

4. All utility service lines, systems and structures for electricity, gas, oil, water, steam, telephone, CATV, fire alarm, sanitary and storm drainage including size, composition, grades and directions of flow.
5. Contract Limit Line and Storage Area for construction materials.
6. All existing foundations, obstructions and other physical characteristics of the site which may affect the construction work.
7. Site survey.
8. Cuts of benches, light standards.

(c) Demolition drawings and temporary work required.

(d) Architectural drawings shall include at a minimum:

1. Floor plans of each floor, including basement and lofts or attic with room and corridor dimensions, wall thicknesses, column locations, floor elevations, mechanical and electrical openings, door and window designations, partition types, floor materials, built in furniture and equipment, keyed to other architectural drawings. All rooms numbered.
2. Large scale floor plans, as required to illustrate detailed requirements of rooms.
3. Large scale plans showing key areas e.g. lobby, special spaces. Indicate surface materials. (minimum scale $\frac{1}{4}'' = 1' - 0''$)
4. Roof plans showing openings, drainage, slopes, expansion joints and all projections, including equipment.
5. Key plans on all floor plans and section drawings, where appropriate.
6. Building Sections as required to show spatial organization of building but no less than one longitudinal and one transverse.
7. Building elevations. All building elevations shall be fully developed, and hidden elevations shall be shown. Elevations shall be shown in a sequence as unfolded from a certain point.
8. Full height wall sections indicating dimensions, flashing, anchorage, reinforcing, coursing, cladding, and all other conditions at wall, roof, foundation, and interior floors.
9. Exterior details, for roofing, flashing, expansion control and construction joints, waterstops and other details showing all conditions both vertical and horizontal, including schedules.
10. Door, window, entrance, and storefront, schedules, and details.
11. Vertical circulation plans, sections and details including stairs, elevators, conveyors, dumbwaiters.
12. Interior elevations of all significant and typical spaces.
13. Interior details including casework, paneling surfacing, and acoustical treatment.
14. Reflected ceiling plans coordinated with fire protection, mechanical and electrical drawings, and ceiling details.
15. Schedules (clearly define new or existing)

- a. Doors
- b. Equipment, e.g. for services
- c. Partitions
- d. Finishes

(e) Structural drawings shall indicate the following:

1. Indicate or refer to location of geotechnical exploration data and reports related thereto.
2. Foundation plans with bottom grades showing layout of all footings, walls, slabs on grade including reinforcing, grade beams, and columns; include design soil bearing pressures and live loads.
3. Floor and roof plans of structural systems including framing, grades of finished floors and depressed areas, with locations and dimensions for all openings. Also indicate design floor loads.
4. Complete foundation wall elevation and typical sections, with reinforcing indicating location, dimensions and grades for all footings, steps and wall openings.
5. Complete details and sections with dimensions for all construction including expansion and construction joints, reinforcing and other embedded items.
6. Schedules (with dimensions) for all lintels, beams, joists, and columns.
7. Unless detailed on the Drawings, the following information shall appear in the general notes: class and 28-day strength of concrete for each portion, structural steel and concrete reinforcing design stresses for each type of structural member, concrete cover for each type of structural member, shrinkage and temperature steel requirements, reinforcing laps for main reinforcing and temperature steel; bendpoint, cutoff, and hook locations for all members, minimum beam and lintel bearing. Reinforcing steel fabrication shall be in accordance with most recent ACI, "Manual of Standard Practice for Detailing Reinforced Concrete." Structural steel fabrication shall be in accordance with the AISC "Manual of Steel Construction."

(f) Fire protection drawings shall indicate standpipe systems, sprinkler systems, suppression systems, access panels, fire pumps, accessories, and piping. All piping, equipment, fixtures and devices shall be located and sized. Design criteria shall be provided on the drawings in accordance with NFPA requirements.

1. Fire protection work, other than site work, shall not be combined on the same sheets with the Plumbing, HVAC, Electrical, or other drawings except with the prior approval of the Owner.

(g) Plumbing drawings shall indicate the following:

1. All work done by the Plumbing Subcontractor, which includes all water, gas,

air, vacuum, medical gases, sanitary and storm wastes, and accessories. Include foundation drain lines unless established as the work of the CM at Risk and shall not be indicated on the Plumbing Drawings. Site utilities shall be indicated on the utility drawings.

2. Plumbing work, other than site work, shall not be combined on the same sheets with the Fire Protection, HVAC, Electrical, or other drawings except with the prior approval of the Owner.
3. Trapping and venting of all plumbing fixtures including floor drains.
4. Water and gas supply sources, storm and sanitary discharge mains.
5. All piping shall be carefully sized and all sizes shall be indicated on drawings and riser diagrams. Indicate all directions of flow and pitch on piping.
6. All accessories, valves, fixtures including all drinking fountains, grease traps for kitchen waste and all necessary panels, identified as to type and size.
7. All piping and connections required for other trades (e.g., kitchen equipment, HVAC make-up water, etc.).
8. Acid waste, vents and neutralization systems for laboratories.
9. Plumbing Legend and/or graphical symbols on the first sheet of the Plumbing Drawings in accordance with the American National Standards Institute (ANSI).
10. Plumbing riser diagrams for structures two or more stories in height above the ground level.
11. Domestic water booster pumps, boiler feed water, meter location, hose bibbs, and wall hydrants.
12. Domestic hot water: storage tanks, piping material, and hanger details.
13. All required access panels shall be indicated.
14. Backflow preventors and cleanouts. Verify that access and clearance provisions for periodically inspected devices, including backflow prevention, are adequate to satisfy requirements of inspecting agencies.

(h) Heating, Ventilating and Air Conditioning Drawings shall indicate the following:

1. HVAC work, other than site work, shall not be combined on the same sheets with Fire Protection, Plumbing, Electrical, or other drawings except with the prior approval of the Owner.
2. All piping and ductwork systems shall be located and sized. All ductwork shall be shown double line.
3. All systems shall be sized at all reductions and riser diagrams of piping and duct systems shall be indicated.
4. All directions of flow and pitch on piping, and direction of flow, volumes for duct systems shall be indicated.
5. All equipment shall have sufficient servicing and/or replacement space indicated on drawings.
6. All equipment, accessories, valves and dampers with all necessary access panels, identified as to type and size. Access panels, where required for

access to valves and dampers shall be indicated on drawings.

7. Cooling system pumps, chillers, cooling towers, air handling units, heat pumps, ductwork system and dampers, fan details, temperature control system, air and hydronic balancing equipment, and schedules shall be indicated.
8. Cooling tower design shall be indicated on the drawings showing site location, elevations and floor plan of equipment layout and typical flow diagram as related to the total HVAC system.
9. All fire and smoke dampers, access panels and doors.
10. Mechanical room designs:
 - a. Vent pipes for safety valves, relief valves, back pressure valves and tanks shall be extended above flat roofs in accordance with all governing authorities.
 - b. In all designs for boiler and refrigeration plants, include a complete floor plan indicating location of all major mechanical equipment and sufficient service space.
 - c. In designs of new and/or replacement boiler and refrigeration plants, provide a flow diagram detailing steam or hot water distribution systems, return systems, including all existing equipment and their function, as well as any proposed expansions with all necessary instrumentation and controls.

(i). Electrical Drawings shall indicate the following:

1. Site utilities shall be indicated on separate electrical site drawings, unless ample space is available on common site for utility drawings.
2. Electrical work, other than site work, shall not be combined on the same sheets with Fire Protection, Plumbing, HVAC, or other drawings except with the prior approval of the Owner.
3. General arrangement: Outline layout of each floor. Typical sections through the structure shall be indicated when necessary to define requirements, floor and ceiling heights, elevations, and type construction, including concrete pads shall be indicated. Indicate interface with other systems. Identify any work by other trades.
4. Interior lighting system: Light fixture schedules, circuiting location and mounting heights of all fixtures, receptacle and switch outlets, sizes and types of all lamps, conduits, all other accessories and riser diagrams shall be indicated on drawings. Indicate details and method of supporting electrical fixtures and conduits. Designer shall specify that all electrical lighting fixtures be supported from the building structure, and shall be independent of ducts, pipes, ceilings and their supporting members. Comply with seismic design criteria.
5. Power system: Locations, types, and method of control for all motors, heaters, appliances, controllers, starters, branch circuits, feeder conductors,

conduits, and solar panels. Indicate riser diagrams. Show details and indicate method of supporting electrical conduit. For larger projects, thermostats and control wiring are normally covered under the HVAC sub-contract, assure coordination.

6. Fire Alarm, Data, Communications, CATV/CCTV Systems: Locations and types of all devices, outlets and equipment, service connections, wiring diagrams, and all other essential details.
7. Services: Location and details of all services, whether overhead or underground, feeder sizes, plans and elevations of switchgear and transformers, metering and service switchboard arrangements, wiring and ground fault diagram and bus ducts.
8. General and sub-stations: Location, size, method of connection and protection of all generators, transformers, exciters, motor generators, switch gear, and associated equipment, current characteristics and equipment capacities. Indicate equipment connections by means of one line and/on wiring diagrams and schedule all major items of equipment and all instruments.
9. Underground work: The size and locations of manholes and types of cables, number, size, and location of ducts, locations, sizes and types of cable supports, fireproofing, duct line profile, and one line diagram of connections. All underground chambers, including manholes and pull-boxes, shall be constructed of cast in place or one piece pre-cast concrete.
10. Pole line work: if required as contract work, indicate location, length, treatment and class of poles, guying, cross arms, insulators, circuiting, transformers, protective and switching devices, lightning arresters, special structures, diagrams, current characteristics and grounding.
11. Exterior lighting: Location, size, and type of transformers, luminary, poles, light standards, cables, ducts, and manholes, details of control equipment and connection diagrams.
12. Emergency system details including transfer switch, type of fuel.
13. One line diagram indicating load KVA, and available short circuit amperes at each transformer, switchboard, distribution panel board, branch circuit panel board, and at major pieces of equipment.
14. Riser diagrams for all systems.

7.7.9 Project Manual Requirements:

- (a) The format for the Project Manual, including its technical specifications shall be in accordance with the current CSI MasterFormat with separate sections for each of class of work required by M.G.L. c. 149 §44F.
- (b) The following general information applies to the development of final Specifications:
 1. Describe the extent of the work, the materials and workmanship, and include

the work under the proper section. If any portion of the work included in a section of the Specifications is to be performed by a trade covered by another section, there shall be clear and distinct cross-referencing between the sections. Merely to state “by others” is not acceptable.

2. For each item of material or equipment, the specifications shall provide for a minimum of three named brands of material or equipment and the words “or equal” or a description of material or equipment which can be met by a minimum of three manufacturers or producers, and the words “or equal.” Proprietary products shall not be specified except as provided by M.G.L. c. 30, § 39M; however, when they are specified, proprietary specifications are subject to the “or equal” provisions of M.G.L. c.30, § 39M.
3. Specify materials mined or manufactured in Massachusetts first and the United States of America second whenever possible.
4. Do not use general clauses intended to be all-inclusive in lieu of complete descriptions.
5. Do not duplicate standard requirements that are contained in the contract form.
6. Use consistency throughout. The word “will” shall be used to designate what the Owner, Authority, Owner’s Project Manager, Commissioning Consultant, or the Designer can be expected to do, and the word “shall” shall be used to designate what is mandatory for the CM at Risk or subcontractors to do.
7. Use the same term throughout for the same subject and the term shall be the same as that used on the drawings.
8. Do not use the term “etc.”
9. Avoid such terms as “to the satisfaction of the Designer,” “as directed by the Designer,” “as approved” and “as required.”
10. Specify work in appropriate Sections according to local trade jurisdiction.
11. Avoid the use of the following symbols:

<u>Symbol</u>	<u>Use Instead</u>
#	number, no., or pounds
%	percent
"	inch or in.
x	by
'	feet or ft.
o	degree
/	per or at

12. In sections for which filed sub-bids are required, refrain from using such terms as “the Contractor,” the “Heating Contractor,” or “the Plumbing Contractor,” but where necessary for clarity refer to the “HVAC Subcontractor,” the “CM at Risk” and the like.
13. Do not give numbers both in words and figures. Numbers less than 10 shall be

- written in words, 10 and higher numbers shall be written in figures. In expressing dimensions, figures such as 2 in., 16 in., 7 ft., 6 in., shall be used.
14. Each filed sub-bid section shall detail all labor and materials required by the particular sub-trade and list, by number, those drawings (and only those drawings) indicating work of that sub-trade. In addition, list drawings indicating work of a particular trade that appears on drawings that are not customarily included in the work of the trade, when applicable.
 15. Do not specify that a product or system shall require prequalification or advance approval prior to bidding.
 16. Established unit price items shall be used for work categories which cannot be ascertained for exact quantities in bid documents (e.g. earthwork removal and/or replacement items). In such cases, the Designer shall establish ranges of quantities with associated unit price values for each range. Unit price values shall be established for added work, for deleted work, for base bid quantities when conditions so-suggest. Unit price values shall be ascertained through consultation with cost estimators and the CM at Risk, be current, equitable, and well defined as to elements of work, overhead, like issues to be encompassed. Established unit prices shall be published within the applicable technical specification sections, and referenced from general conditions as being operative as the basis for determining values to be used for payment or recovery for change order work.
 17. Staging, scaffolding, cutting and patching, refuse collection and disposal, demolition work and cleaning task, allocation policy and proposed language shall be carefully assigned to avoid duplication or omission.
 18. A final draft of Project Advertisement, Notice to Bidders, Instructions to Bidders, Contract Forms, General Conditions, Supplementary General Conditions, and other “front end” documents shall be included in the 90% construction documents submittal, along with a final version of all text to appear in Division 1, General Requirements. The Designer may defer insertion of final advertising / bid dates and wage rates, understanding that they are to be established and inserted immediately prior to release of documents for bidding.

7.7.10 Construction Cost Estimate Requirements

- (a) The Designer shall provide the construction cost estimates described in Articles 7.7.4, 7.7.5, and 7.7.6 in accordance with the following provisions:
 1. The Designer shall review its construction cost estimate in comparison with the detailed construction cost estimate, and any update cost estimates, provided by the CM at Risk and shall work in good faith and in cooperation and coordination with the CM at Risk to reconcile any differences between the cost estimates, to clarify assumptions upon which the cost estimates are based and to address any concerns or questions with the cost estimates that

are raised by the Owner, the OPM, the CM at Risk or the Authority. If the Designer is unable to reconcile all differences between the two construction cost estimates with the CM at Risk, then the Designer shall provide a detailed explanation of the differences to the Owner and the Authority. If, in any case, the agreed-upon, reconciled construction cost estimate exceeds the Project Construction Budget, the Designer shall cooperate with the Owner, the OPM, and the CM at Risk in identifying, specifying and recommending changes in materials, equipment, component systems and types of construction, or other adjustments in the scope or materials selections for the Project, including contingencies or alternative bid items, so as to facilitate revision of the design of the Project to reduce the cost of construction so as to comply with the Project Construction Budget.

2. Cost estimate data shall be organized to identify elements of project work which may be proposed to be advanced under separate construction phases and/or separate bidding packages. When so proposed, estimates shall develop cost data relative to corresponding bidding and work execution dates established in project schedules.
3. Cost estimates shall be projected to the mid-point of the construction period.
4. The summary sheets shall contain the following:
 - a. The date that the estimate was prepared. (Value Date).
 - b. The anticipated bid date.
 - c. The project and contract number.
 - d. The title and location of the project.
 - e. The name of the Designer.
 - f. The name of the Estimator.
 - g. The site work cost (including all utilities).
 - h. The building cost (including fixed equipment).
 - i. The estimated construction cost of each Phase of the work, totaled.

7.7.11 The Designer shall participate in a final review of the Construction Documents with the Owner, the Owner's Project Manager, the Commissioning Consultant, and the CM at Risk, and the Designer shall incorporate such changes as are necessary to satisfy the Owner's review comments.

7.7.12 Guaranteed Maximum Price (“GMP”)

- (a) When the Construction documents are 60% complete as determined by the Owner, or at such later time as may be designated by the Owner, the Designer shall prepare a fully coordinated set of the then-current Construction Documents, which shall be delivered to the CM at Risk and shall be the basis of the CM’s GMP proposal.
- (b) The Designer shall provide technical assistance to the Owner and the OPM in the negotiation and development of a GMP with a CM at Risk in accordance with M.G.L. c. 149A, §7, that is acceptable to the Owner. The Designer shall meet with the Owner, OPM, and the CM at Risk to review the GMP proposal and the written statement of its basis. If the GMP proposal submitted by the CM at Risk exceeds the Construction Budget, the provisions of Articles 4.10.4 and 4.10.5 shall apply.
- (c) The Designer shall provide technical assistance to the Owner and the Owner’s Project Manager in the negotiation, preparation and execution of any amendments to the Owner-CM at Risk contract, including, but not limited to, the Guaranteed Maximum Price (“GMP”) amendment pursuant to M.G.L. c.149A, § 7 and any separate amendment for any construction work commenced before execution of the GMP amendment pursuant to M.G.L. c.149A, §7(b)(3).

7.8 Bidding Phase

- 7.8.1 The Designer shall, when authorized by the Owner, prepare for reproduction and distribution the construction bid documents required for the solicitation and receipt of statements of qualifications and bids from Trade Contractors. The Designer shall prepare all addenda (to include bidder questions and Designer responses), subject to the Approval of the Owner. The Designer shall attend the pre-bid conference if one is scheduled, taking note of all questions asked. Relevant questions submitted in writing shall be answered by the Designer by means of written addenda to the bid documents as required. The Designer shall attend each bid opening of the Trade Contractors (and of other bidders if necessary) and shall, within five working days of the respective bid opening dates, advise the Owner in writing of the Designer’s opinions as to the bids of Trade Contractors (and of other bidders if necessary).
- 7.8.2 The Designer shall receive all inquiries relating to the bid documents and, when necessary, answer questions by preparing and issuing written addenda. The Owner shall review and approve all such addenda prior to issuance to bidders.
- 7.8.3 There may be multiple bid packages for the Project. Multiple bid packages may be assembled and bid concurrently or consecutively as a portion of the Project. Portions of the Project may be bid separately from other portions. The Designer shall appropriately staff and structure its design and construction phase performance to assist the Owner in the preparation, issuance, bidding and negotiation, if any, of so-called early bid packages as provided in M.G.L. c. 149A, § 7(b)(3).
- 7.8.4 If the Project has to be re-bid, or the GMP Amendment must be re-negotiated and

amended because of a defect in the bid documents prepared by the Designer or in procedures proposed by the Designer, the Designer shall correct the defect and take the necessary actions for re-bidding the Project on proper bid documents without any additional compensation to the Designer.

7.8.5 The Designer shall review alternates and make written recommendations to the Owner as to their acceptance.

7.8.6 If the Owner executes a GMP Amendment for an amount that exceeds the amount established in the Project Construction Budget, such an award will not affect the Fee for Basic Services.

7.8.7 Trade Contractor Selection Process

(a) Trade Contractor Prequalification pursuant to M.G.L. c. 149A, §8(c)

1. The Designer shall participate as a member of the Owner's Trade Contractor Prequalification Committee established by the Owner pursuant to M.G.L. c.149A, § 8(b).
2. The Designer shall review the information provided by the CM at Risk describing the work to be required of each Trade Contractor and shall assist the Owner in the preparation of the Request for Qualifications for Trade Contractors to be used to solicit responses from eligible Trade Contractors and to prequalify Trade Contractors for participation in the Project.

(b) Request for Bids for Trade Contractor Services pursuant to M.G.L. c. 149A, §8(g)

1. The Designer shall assist and advise the Owner in the preparation of the Invitation for Bids for Trade Contractor services in accordance with the provisions of M.G.L. c. 149A, §8.
2. The Designer shall attend all pre-bid conferences and meetings.

(c) Trade Contractor Bid Review

1. The Designer shall attend all bid openings and shall review all Trade Contractor bids in conjunction with the Owner's Project Manager and CM at Risk to determine responsiveness, completeness, accuracy, price and conformance to the requirements of M.G.L. c.149A, § 8(g)-(i), and to provide technical guidance to the Owner regarding the acceptance or rejection of any Trade Contractor bid. Within five (5) business days after the respective bid opening dates, the Designer shall advise the Owner in writing of the Designer's opinions as to the bids of Trade Contractors (and of other bidders if necessary).

7.8.8 Selection of Subcontractors Who Are Not Trade Contractors pursuant to M.G.L. c.149A, § 8(j) ("Non-Trade Contractors")

(a) Non-Trade Contractor Bidding

1. The Designer shall review the detailed bidding information developed by the CM at Risk in accordance with M.G.L. c. 149A, § 8(j) for accuracy, completeness, coordination of scope and conformance with the construction documents.

(b) Non-Trade Contractor Bid Review and Award

1. The Designer shall attend all bid openings and scoping meetings if permitted or otherwise allowed by law, and, in conjunction with the OPM and CM at Risk, the Designer shall review all Non-Trade Contractor bids for responsiveness and completeness and advise the Owner on the acceptance or rejection of any Non-Trade Contractor bids by the CM at Risk. The Designer shall, in conjunction with the OPM, attend all final scope and negotiation meetings conducted by the CM at Risk. The Designer shall, within five (5) working days of the respective bid opening dates, advise the Owner in writing of the Designer's opinions as to the bids of Non-Trade Contractors.

7.9 Construction Administration Phase – Obligations During Construction: Following the execution of the Owner-CM at Risk Agreement, the Designer shall undertake certain of the obligations of administering the Owner-CM at Risk Agreement on behalf of the Owner, provided that Designer shall not be subject to provisions of the Owner-CM at Risk Agreement that would have the effect of expanding Designer's responsibilities or liabilities under this Contract without Designer's written consent. Services during this phase include, but are not necessarily limited to:

7.9.1 Upon commencement of construction activities for the Work or early bid packages or at times established in Project schedules, the Designer shall:

- (a) Furnish the CM at Risk with information for establishing lines and grades and such supplemental drawings as are reasonably needed to implement the intent of the Construction Contract Documents;
- (b) With reasonable promptness and in accordance with schedules agreed upon by the Designer and CM at Risk, observe testing when required under this Contract, and review and act upon samples, schedules, shop drawings and other submissions from the CM at Risk;
- (c) Prepare, maintain and update logs for all submittals;
- (d) Visit the site at intervals appropriate to the stage of construction, weekly or as otherwise agreed to by the parties, and observe the progress of the Work, issue written progress reports, and attend job meetings, and review and respond to meeting minutes prepared by the Owner's Project Manager, and to determine in general if the Work observed is being built in a manner indicating the Work when completed will be in accordance with approved Construction Contract

Documents;

- (e) Collaborate with the on-site Project Representative of the OPM to identify and monitor issues of concern relative to the progress of the Work, and establish communications processes to help assure that matters of mutual concern are exchanged on a timely basis with one another, the OPM, CM at Risk, Commissioning Consultant, and Owner;
- (f) On a weekly basis, make specific recommendations on rejection of any Work observed by the Designer that fails to conform to the Construction Contract Documents, and observe corrected Work;
- (g) Require each Subconsultant engaged in accordance with Article 5 to make visits weekly or as otherwise agreed to by the parties during the progress of any work to which that Subconsultant's services relate, and to report upon it in writing to the Designer;
- (h) Recommend actions to be taken which may include condemnation or rejection of any work that the Designer determines fails to conform to the Owner- CM at Risk Agreement;
- (i) Review and recommend appropriate action for proposed requests for changes and where required by the Owner, prepare documents associated with requests for a change in any Construction Contract Documents. Compensation for change order work by the Designer shall be determined in accordance with Article 10;
- (j) Conduct semi-final and final inspections of the Project and report the results of such inspections in writing to the Owner;
- (k) In association with the Commissioning Consultant, review the report by such Commissioning Consultant on the balancing of air and water circulation systems;
- (l) In association with the Commissioning Consultant, review the report by such Commissioning Consultant on the setting and adjustment of automatic controls;
- (m) In a timely manner, decide all questions regarding interpretation of, or compliance with, the Construction Contract Documents, except as the Owner may in writing otherwise determine;
- (n) In association with the Commissioning Consultant, review the recommendations of such Commissioning Consultant for requirements upon operating and maintenance documents and building user training events and instructional media as established in the Construction Contract Documents; such Commissioning Consultant or OPM shall coordinate involvement of contracting parties, the Designer, and Owner;
- (o) Furnish the Record Drawings as submitted by the CM at Risk in accordance with 7.9.3, and other required documents;

- (p) Assist the Owner in providing the written CM at Risk Evaluations required of the Owner pursuant to M.G.L. c.149 §44D(7) at the completion of approximately 50% of the Construction Phase on forms prescribed by M.G.L. c.149 §44D(16);
- (q) Perform inspections of the work as necessary to prepare a punch list identifying each incomplete or deficient Work item and performing re-inspections to authorize removal of satisfactorily completed Work items from the punch list, or to determine that the Project is complete. In association with the OPM, a cost shall be assigned to each incomplete or deficient Work item when it has been determined that the Project has reached Substantial Completion; and
- (r) Receive from the CM at Risk all maintenance and operating manuals, occupancy permits, guarantees and other similar relevant materials.

7.9.2 The Designer shall submit to the Owner's Project Manager within 48 hours all requisitions for payment submitted by the CM at Risk in the form required by the Owner. The Designer may establish procedures with the CM at Risk for advance notification of requisition and/or draft version processing. With respect to each such requisition, the Designer shall certify to the best of its knowledge that the percentage of Work included in the requisition is accurate and that the work performed is in accordance with the Construction Contract Documents. In the event the Designer does not approve the requisition exactly as submitted by the CM at Risk, the Designer shall forward it for payment to the Owner's Project Manager dated and signed with corrections and with an accompanying letter of explanation setting forth the Designer's objections and recommended changes. The Designer shall coordinate the required visits of its own staff and those of its Subconsultants, to the construction site so as to enable it to submit to the Owner's Project Manager the CM at Risk's monthly requisition for payment. Timely payments to the CM at Risk are required by M.G.L. c. 30, § 39K. Therefore, the Designer shall establish procedures to help assure either immediate mail or messenger delivery of the requisition for payment to the Owner's Project Manager, and shall process requisitions for payment within five business days after receipt of the same, provided the CM at Risk has submitted a full and complete requisition for payment in the correct form.

7.9.3 Prior to issuance of the Certificate of Substantial Completion, the Designer shall obtain from the CM at Risk as-built drawings, including drawings showing the actual installation of the site utilities, plumbing, heating, ventilating and electrical work under the Owner-CM at Risk Agreement, and recording all changes. The Designer shall ascertain that changes authorized by change orders are shown on the CM at Risk's as-built drawings, but Designer shall be entitled to rely upon the accuracy and completeness of the CM at Risk's as-built information, and shall forward such to the Owner as Record Drawings.

7.9.4 Issue the Certificate of Substantial Completion of Construction.

7.9.5 The Designer shall meet with the Owner monthly during this Phase.

7.10 Completion Phase: Upon acceptance of the Certificate of Substantial Completion of Construction by the Owner, the Designer shall thereafter provide the following services:

7.10.1 With respect to a completed Project, preparing a Certificate of Final Completion.

7.10.2 With respect to a punch list, re-inspecting the work up to three times in order to determine that the punch list work is satisfactorily completed.

7.10.3 Reviewing and certifying the CM at Risk's Application(s) and Certificate(s) for Payment as necessary.

7.10.4 Attending meetings as reasonably necessary in the opinion of the Owner or Owner's Project Manager, unless such meetings involve continued discussions of incomplete or deficient work and the Basic Services punch list site visits have been expended. In such instance, the meetings shall be paid for as Extra Services.

7.10.5 Using the as-built information maintained by the CM at Risk during construction referred to in Article 7.9.3, and revising the applicable original reproducible drawings and electronic media drawings on the basis of the as-built drawings, provided that the Designer shall be entitled to rely upon the accuracy and completeness of the CM at Risk's as-built information. Upon completion of the required drafting and editing, provide one (1) set of mylar reproduces, two (2) sets of prints and two (2) electronic version copies to the Owner which shall become the property of the Owner. The cost for printing the mylar reproduces and two sets of prints are Reimbursable Expenses. Upon completion of the required drafting and editing, provide one (1) set of prints and one electronic version copy to the Authority.

7.10.6 Ten (10) months after the date of substantial completion, performing one (1) site inspection and preparing a list of construction warranty deficiencies. The Designer shall consult with the Commissioning Consultant upon the acceptability of warranty compliance requirements and response actions.

7.10.7 Informing the Owner in writing, through the Owner's Project Manager, of all such warranty deficiencies that should be addressed.

7.10.8 Performing one (1) site inspection within a further sixty (60) days to see that all such warranty deficiencies have been corrected.

7.10.9 Evaluation of CM at Risk: The Designer shall assist the Owner with providing the written CM at Risk Evaluations required of the Owner pursuant to M.G.L. c.149 § 44D(7) within seventy (70) days of the date of Substantial Completion for construction, on forms prescribed by M.G.L. c.149 § 44D(16).

7.11.10 The Designer shall assist the Owner in providing the written summary report on the Project to the Office of the Inspector General as required by the provisions of 945 CMR 2.09

7.10.11 Two (2) suitably bound, legible copies of all original design and quantity calculations including those pertinent to change orders and shop drawings, if applicable, shall be

furnished by the Designer to the Owner at the conclusion of the Owner-CM at Risk Agreement.

7.5 Design Development Phase

- 7.5.1 Upon receipt of an Approval to proceed to the Design Development Phase, the Designer shall meet regularly and as necessary with the Owner, the OPM, and the Authority. This shall include meeting with the Owner and the OPM during this Phase in accordance with the agreed upon project work plan.
- 7.5.2 The Designer shall update and refine items submitted during the Schematic Design Phase, and shall submit to the Owner and the Authority, on or before the date specified in the Project Schedule, and on the basis of the approved Schematic Design Phase Documents, the following deliverables as they are defined in this Article 7.5.2 and as they are further defined in Articles 7.5.3, 7.5.4, 7.5.5, 7.5.6 and 7.5.7:
- (a) a list of all filings and permits within Designer's scope of services and professional expertise required to implement the design, along with a schedule of target dates for the procurement of such permits, both of which shall be regularly updated during the term of this Contract;
 - (b) information and documentation within the technical expertise of the Designer and that is necessary for the Owner to file local basic zoning and environmental permits. The Designer, as Extra Services, shall provide information and documentation for the Owner to file Environmental Notification Forms, Environmental Impact Reports, and any other filings for permits that must be filed during the design development phase;
 - (c) soils exploration data, geotechnical and geoenvironmental reports, showings of exploratory locations relative to siting of proposed structures, based on a review of the existing conditions information provided in the surveys and studies described in Article 7 Basic Services and Article 8 Extra Services;
 - (d) complete design development drawings; outline specifications indicating any filed sub-bid sections and sub-sub trades based on the cost of the work and other documents necessary to specify the size and character of the Project, including siting, landscape, architectural, structural, fire protection, plumbing, heating, ventilating and air conditioning, electrical, ADA/MAAB, product requirements and other features;
 - (e) creation of a Building Information Model and quality control documentation demonstrating, without limitation, coordination of: ceiling clearances, mechanical room size, and shaft sizes; specifications and drawings; filed sub-bid work or sections; scheduling; equipment and power; existing and new construction; and phasing;
 - (f) design development drawings which the Designer shall submit for review to the local building official;
 - (g) a life cycle cost analysis to determine the most cost-effective design decisions related to all energy and water consuming devices, overall building operation, and maintenance [M.G.L. c. 149, s. 44M];
 - (h) a construction cost estimate for the design in accordance with Article 7.5.6. ;
 - (i) a space measurement analysis for the design verifying that the sum of all program areas in the Project plus all other floor areas in the Project equals the gross floor

area of the Project;

- (j) a written summary or summaries comparing the project design, as represented in the design development drawings, specifications and cost estimates with the Final Design Program requirements, and explaining any deviations in writing.

7.5.3 Design Development Drawing Requirements: The Design Development drawings shall illustrate and describe the refinement of the Project's design to a level of detail that is customary and standard. They shall establish the scope, relationships, forms, size, and appearance of the Project by means of plans, sections and elevations, typical construction details, and equipment layouts. The drawings shall delineate locations and elements of the Work that may be proposed for assignment to project construction phases and/or separate bidding packages. Documents shall include, but not be limited to, the following:

(a) Site and utility drawings showing:

1. Existing and proposed contours and locations of the proposed building or addition(s). Show entry level elevation and key exterior grades at perimeter. Indicate all retaining walls. Include benchmarks of site if survey is available.
2. All utilities existing and proposed, indicating location, elevation, composition and size e.g., manholes, sewers, hydrants, light standards, and geothermal wells. Include work by others, e.g., gas and electric utility providers.
3. Roads, laid-out parking areas, walks, recreation areas, terraces and other site improvements.
4. Building locations fixed and referenced from main survey baseline, if available.
5. Plant materials with a preliminary schedule.

(b) Building drawings and other graphic and written requirements with floor plans showing the following: (at a minimum scale of 1/8" = 1'0"):

1. building perimeter with exterior wall thicknesses and overall dimensions;
2. structural grid;
3. plan requirements of mechanical and electrical systems;
4. building core; elevators, stairs, shafts, and toilet rooms;
5. interior partitions; appropriate thicknesses and dimensions to fix basic organizations; indicate fire separations, ratings;
6. door swings;
7. floor elevations;
8. built-in furniture and equipment; and
9. furniture layout concept drawings.

(c) Roof plans showing:

1. proposed systems type;
2. pitch and drainage patterns;

3. roof drains, gutters and scuppers; and
 4. skylights, stairs through roof, penthouses, major equipment, chimneys.
- (d) Building sections: One transverse and one longitudinal section. Indicate floor to ceiling heights and floor-to-floor heights. Label all spaces;
- (e) Building elevations showing:
1. full height elevations including roof structures, e.g., mechanical equipment, chimneys, and penthouses;
 2. floor elevations, floor-to-floor heights, and overall height related to benchmarks on site plans;
 3. all fenestration;
 4. column centerlines;
 5. principal finish materials indicating major control and expansion joints, and divisions of materials where required;
 6. louver and equipment enclosure systems; and
 7. exterior grades and topographical features in context.
- (f) Full height wall sections for main elevations and at special conditions. Show foundation and perimeter treatment, wall construction including insulation and supporting structure, fenestration and mechanical penetrations, and floor construction;
- (g) Interior elevations: Major spaces, e.g. library, lobby, and all typical spaces, e.g. classrooms;
- (h) Reflected ceiling plans: show prototypical structural, fire protection, mechanical and electrical information for classrooms and major spaces, including lighting layouts with ceiling heights and material changes;
- (i) Colored interior elevations and perspectives of major and typical spaces
- (j) Schedules:
1. finish schedule by room types;
 2. door schedule by room;
 3. window schedule;
 4. equipment schedules, e.g., food service, instructional media.
- (k) Structural Concepts;
1. Foundation plan showing sizes and locations of typical components.
 2. Framing plans: typical floor framing, roof framing, special framing, show framing at major openings and sizes of members.
 3. Column locations.
 4. Preliminary details including floor and roof deck, statements as to methods of lateral bracing and how requirements of earthquake code will be met.
 5. Details for special and/or incidental structural features, e.g. tunnels,

connecting bridges and unique architectural features.

6. Connection to existing buildings at foundation and at key points at existing structure if applicable.

(l) Fire Protection: floor plans indicating wet or dry type systems, hose racks or cabinets and fire department tie-ins. Indicate whether a fire pump will be required and, if so, show location within the building. Show typical sprinkler head layout;

(m) Plumbing and sanitary systems: floor plans indicating locations of all plumbing fixtures and special features, and approximate location and size of all piping systems and principal items of equipment;

(n) Heating, Ventilating and Air Conditioning Systems:

1. Show locations and approximate sizes of piping systems, air handling systems, heat pumps, and principal items of equipment such as compressors or cooling towers.

2. Indicate space requirements of major equipment and their location in mechanical rooms and fan rooms. Major shafts.

(o) Electrical Systems;

1. All services including those for special purposes shall be located and indicated.

2. Lighting shall be indicated as to type, location and intensities in foot-candles for each special and typical space.

3. Switchgear and emergency generator.

4. Fire alarm system drawings showing all initiation and signaling devices, control panels, annunciator panels, etc.

5. Security system drawings.

6. Communications drawings showing chases, major equipment locations and any special distribution requirements.

7. CATV/CCTV drawings showing chases, major equipment locations and any special distribution requirements.

8. Information Technology drawings showing chases, major equipment locations and any special distribution requirements.

7.5.4 Other Consultant's Drawings and Other Graphic and Written Requirements: For special consultants, e.g., kitchen, elevator, library, media room, equipment where appropriate, provide drawings that locate and define the scope of the work. Coordinate with other disciplines. Provide cuts of all major pieces of equipment.

7.5.5 Project Manual Requirements (Specifications):

(a) Outline Specifications that are to accompany Design Development Drawings shall be prepared to a level of detail that is standard and customary and shall include, but not be limited to, a comprehensive description of the Project and the materials proposed for use in the work. Do not provide full-length, 3-part format specifications; however, the general scope shall be indicated by CSI

MasterFormat as applicable to proposed construction.

1. The Design Development Outline Specification shall also include a comprehensive “BASIS OF DESIGN.” The “BASIS OF DESIGN” shall be a narrative description of the Project and shall include all applicable architectural, civil, structural, mechanical and electrical programs and/or systems. Identify all proposed filed sub-bid categories.
 2. Project Manual shall include a statement to define “Work” which is proposed to be included in separate construction phases and/or bid packages.
- (b) The following is a list of items that shall at a minimum be identified or outlined in this Phase:
1. Site work; clearing, drives, walks, parking areas, fences, excavation, backfill, planting, and geothermal wells.
 2. Footings; on earth, rock, piles, caissons, proposed bearing pressures, and boring logs.
 3. Foundation walls; type of concrete, reinforcing, type and extent of waterproofing.
 4. Footing drains; type, disposal of drainage.
 5. Exterior walls: superstructure, type, materials, brick type, alternate cladding, back-up materials, damp proofing material and extent, and special features.
 6. Roofs; types, vapor barrier, insulation, flashings, and all materials.
 7. Flashings; general types, all materials, weights, and where each type is to be used.
 8. Sheet metal; gutters, leaders, and others uses, except flashings.
 9. Windows; general types, materials, sub-frames, finish, glazing, and screens.
 10. Doors, exterior and interior; types.
 11. Steps, exterior; including platforms and landings’ materials.
 12. Stairs, interior; including platforms, landings, walls, materials and finishes.
 13. Framing; wood, concrete or metal systems in accordance with general design.
 14. Partition construction related to room type.
 15. Cabinet and casework; types and materials.
 16. Food Service Equipment; types and materials.
 17. Furring; lathing, plastering, materials and locations.
 18. Insulation thermal; types, thicknesses, methods of application and locations.
 19. Acoustical treatments; types, thicknesses, methods of application and location.
 20. Interior finishes; materials for floors, walls, bases, wainscots, trim, ceilings, and ceiling heights.
 21. Fire Protection; standpipe systems, sprinkler systems, fire pumps and accessories.

22. Water supply; source, location of main to which connection will be made, type of pipe for service main, load requirements, load factors, and pressures.
23. Sanitary sewers; sewage disposal system, pipe, and other materials.
24. Storm sewers; storm drainage disposal system (institution or local facility), pipe and other materials.
25. Gas main; material, size, and location. Interface with utility company.
26. Plumbing; systems such as wastes, vents, hot water, cold water, gas, air, oxygen, vacuum, main source of supply, materials for each, water heaters, pumps, thermal insulation fixture quality, and all special features.
27. Heating, ventilating and air conditioning; type of heating and refrigeration plants, type and capacity of boilers, heat pumps, and cooling equipment, fuel, type of burners, fuel storage, heaters, feed water pumps and heaters, thermal insulation, type of heating medium, supply and return piping, radiation, unit heaters, radiant heating, principal air conditioning equipment types, special features, supply, return and exhaust ductwork.
28. Electric work; service connection, location, institution or public utility, overhead or underground, transformers including type and location, types of conduit and wiring, types of fixtures, location of main switchboard, radio, fire alarm, telephone, public address, emergency lighting and wiring, emergency or other generators, solar panels, special features, including Master TV, information retrieval and/or data processing system.
29. Elevators, dumbwaiters and platform lifts; capacities, speed, travel in feet, landings, operation, controls, platform sizes, machine type and location, car and entrance finishes, and signals.
30. Other built-in equipment, types, and materials.
31. Special features.

7.5.6 Construction Cost Estimate Requirements – The Designer shall provide a construction cost estimate in Uniformat II Level 3 and CSI Master Format 6-digit format to Level 3 and M.G.L. c. 149 § 44 (filed sub-bid) formats with aggregated unit rates and quantities supporting each item referenced in Article 7.5.5(b). The estimate cost shall be projected, to the mid-point of the construction period.

- (a) The Designer shall review its construction cost estimate in comparison with the detailed construction cost estimate, and any updated cost estimates, provided by the OPM and shall work in good faith and in cooperation and coordination with the OPM to reconcile any differences between the construction cost estimates, to clarify assumptions upon which the cost estimates are based and to address any concerns or questions with the cost estimates that are raised by the Owner, the OPM, or the Authority. If the Designer is unable to reconcile all differences between the two construction cost estimates with the OPM, then the Designer shall provide a detailed explanation of the differences to the Owner. If, in any case, the agreed-upon, reconciled construction cost estimate exceeds the Project Construction Budget, the Designer shall cooperate with the Owner and the OPM

in identifying, specifying and recommending changes in, or additional specification of materials, equipment, component systems and types of construction, or other adjustments in the scope or quality of the Project, including contingencies or alternative bid items, so as to facilitate revision of the design of the Project to reduce the cost of construction so as to comply with the authorized Project Construction Budget.

- (b) Cost estimate data shall be organized to identify elements of project work which may be proposed to be advanced under separate construction phases and/or separate bidding packages. When so proposed, estimates shall develop cost data relative to corresponding bidding and work execution dates established in project schedules.

7.5.7 Reports, drawings, specifications, cost estimates and other design development submittals shall be subject to the written approval of the Owner and the Authority. Unless a lesser number is requested by the Owner, the Designer shall submit to the Owner for approval four (4) copies of Design Development drawings, specifications, cost estimates, and other submittals. One (1) copy shall be submitted to the Authority by the Designer. The Designer shall also furnish to the Owner and the Authority electronic media copies of the foregoing drawings and documents in such form as may be required by the Authority.

7.5.8 The Designer shall present and explain the Design Development submittal to the Owner, the Authority, and at a local public meeting scheduled by the Owner, if any such meeting is scheduled or in conference.

7.5.9 The Designer and its Subconsultants shall collaborate with the Authority's Commissioning Consultant to develop design criteria which will support the purposes of building commissioning and energy/resources conservation concepts as commonly understood and as prescribed by the Commissioning Consultant.

7.6 Construction Documents Phase: In addition to the requirements specified in the RFS (Attachment B), upon receipt of an Approval to proceed with the Construction Documents Phase of the Project from the Owner, the Designer shall do the following:

7.6.1 The Designer shall meet regularly and as necessary with the Owner, the Authority, the OPM, and the Commissioning Consultant. This shall include meeting in accordance with the agreed upon project work plan with the Owner and the OPM during this Phase.

7.6.2 Based on the submittals approved in the Design Development Phase of the Project, the Designer shall update and refine the items previously submitted and shall submit the following on or before the date and time specified in the Project Schedule:

(a) Construction documents progress submittals as follows:

1. a 60% Construction Documents Submittal, with deliverables as defined in Article 7.6.3;
2. a 90% Construction Documents Submittal, with deliverables as defined in Article 7.6.4;
3. a Final Construction Documents Submittal, with deliverables as defined in

Article 7.6.5;

4. a Bid Documents Submittal, with deliverables as defined in Article 7.6.6
- (b) As a part of each of the submittals required under Articles 7.6.3, 7.6.4, and 7.6.5, an updated work plan and recommended updates for incorporation into the Project Schedule by the OPM;
- (c) As a part of each of the submittals required under Articles 7.6.3, 7.6.4, and 7.6.5, a report on the status of environmental, zoning, planning, building code, and ADA/MAAB approvals and permitting processes and a certified list of all required testing and all required permits identified in 7.5.2(a).
- (d) All submittals by the Designer shall be subject to the written approval of the Owner, which approval shall not be unreasonably delayed, withheld, conditioned, or denied. Unless a lesser number is requested by the Owner or is specifically provided hereinafter, the Designer shall furnish to the Owner for approval four (4) sets of the drawings, specifications, construction cost estimates and all other submittals. Unless a lesser number is specifically provided hereinafter, the Designer shall furnish one (1) set of said drawings, specifications, construction cost estimates and all other submittals to the Authority. The Designer shall also furnish electronic media copies of the foregoing drawings and documents to the Owner and the Authority in such form as may be required by the Authority.

7.6.3 60 Percent Construction Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a 60 % Construction Documents Submittal (60% CD Submittal), which shall include:
 1. Construction Documents and other deliverables, as defined in this Article 7.6.3 and as further defined in Articles 7.6.2, 7.6.7, 7.6.8, and 7.6.9, advanced to a level of intermediate (60 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 2. In instances where the Designer takes exception to the Authority's previous review comments on the Design Development submittal, a written statement explaining its position.
 3. The Basis of Design that accompanied the Outline Specifications in the Design Development Phase shall be updated and expanded to include all proposed architectural, structural, fire protection, plumbing, mechanical, electrical, civil, and landscape design concepts for the Project.
 4. A space summary, in the form and format prescribed by the Authority, that sets forth the current space calculations and totals and certifies that said space calculations and totals are in compliance with those previously authorized by the Authority in the Project Funding Agreement.

5. Keying of graphics shall be sufficient to navigate through the set easily .
 6. A list of all drawings related to the Project.
 7. A materials selection statement identifying typical interior and exterior surfaces and their materials.
 8. A color theory statement indicating proposed paint colors and material selections for typical and special spaces, explaining why they have been selected and how these selections relate to surrounding materials and colors.
 9. Large scale plans of all mechanical and electrical spaces with major equipment indicated.
 10. Project Manual, in CSI Master Format (full-length, current version), including all sections to be included in final technical specifications, developed to include a list of all materials in the building with their manufacturers. Identify all specifications sections which need to be filed sub-bid.
 11. Identify all proposed bid alternates by inclusion in a project manual section titled "Alternates." Alternates shall be listed in sequence as approved by the Owner. Work required under bid alternates shall be described and/or drawn, as appropriate, to clearly define the design criteria and extent of work involved for implementation of the bid alternate. In each instance, the existing conditions and/or new design criteria for base bid work shall also be described and indicated in documents.
 12. Code analysis: Provide a building code analysis. Any deviation from methods of compliance described in earlier submittals shall be indicated. T h e Code analysis shall identify its preparer, code edition referenced, and include a comprehensive description of operative building code provisions, with floor plans showing fire separation types, area calculations, egress capacity for exits and exitways, and any special features required to comply.
- (b) As a requirement of the 60% CD Submittal, and in accordance with Article 7.6.3 and Article 7.6.9, the Designer shall provide a construction cost estimate prepared using CSI MasterFormat 6-digit format to Level 3 and MGL c.149 §44F (filed sub-bid) format including quantities of all materials and unit prices of labor, equipment, and materials as well as a cost estimate for each item of work, for review by the Owner and the Authority. The estimated cost shall be projected to the mid-point of the construction period. The development of said construction cost estimate shall under no circumstances delay the timely submission of the remainder of the 60% CD Submittal.

7.6.4 90 Percent Construction Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a 90 % Construction Documents Submittal (90% CD Submittal), which shall include:

1. Construction documents and other deliverables as defined in this Article 7.6.4 and as further defined in Articles 7.6.2, 7.6.7, 7.6.8, and 7.6.9, advanced to a level of substantial (90 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
2. A space summary, in the form and format prescribed by the Authority, that sets forth the current space calculations and totals and certifies that said space calculations and totals are in compliance with those authorized by the Authority in the Project Funding Agreement.
3. Interior Materials Color Boards, including samples of principal interior materials, labeled and mounted to indicate locations.
4. Final structural and energy design calculations.
5. A statement confirming that the Owner has been provided with structural design drawings, specifications, and calculations sufficient to enable execution of an independent structural peer review process, as defined in the Massachusetts Building Code, as amended (this requirement applies to all school construction projects with a floor area exceeding 10,000 square feet). The Designer shall advise the Owner of this requirement, in writing, not less than sixty (60) days prior to delivery of the 90% CD Submittal allowing the Owner to arrange for the services of an Independent Structural Peer Reviewer. Upon reaching 90 percent completion of construction documents, the Designer's structural engineering consultant shall have reached a level of 100 percent completion of its construction documents to enable the advancement of the independent structural peer review.
6. The Designer and its consultants shall fully cooperate with the Independent Structural Peer Reviewer in the process. The Designer shall obtain a copy of the Independent Structural Engineering Review report and submit it to the Owner and the Authority upon completion of the remainder of the construction documents at the level of final completion.
7. In instances where the Designer takes exception to any of the Authority's 60% CD Submittal review comments, a written position statement explaining the Designer's position on its exceptions to said review comments.
8. Project Manual in CSI Master Format (full-length, current version), including all sections to be included in final technical specifications, developed to include a list of all materials in the building with their manufacturers. Identify all specifications sections which need to be filed sub-bid.
9. As a requirement of the 90% CD Submittal, and in accordance with the provisions of this paragraph and Article 7.6.9, the Designer shall provide a construction cost estimate prepared using the CSI Master Format 6-digit format to Level 3 and MGL c.149 §44F (filed sub-bid) format, including quantities of all materials and unit prices of labor, equipment, and materials,

as well as a cost estimate for each item of work, for review by the Owner and the Authority. The development of said construction cost estimate shall under no circumstances delay the timely submission of the remainder of the 90% CD Submittal.

7.6.5 Final Construction Documents Submittal:

(a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a Final Construction Documents Submittal, which shall include:

1. Construction documents and other deliverables as defined in this Article 7.6.5 and as further defined in Articles 7.6.2, 7.6.7., 7.6.8, and 7.6.9, advanced to a level of final (100 percent) completion, and incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
2. A final construction cost estimate, in accordance with the provisions of this paragraph and Article 7.6.9, based on the 90% Construction Documents, including cost estimates for general conditions, overhead and profit, insurance, bonds, and all other items expressed as percentage rates for design contingencies and construction contingencies and escalation to the mid-point of construction; and other mutually agreed upon contingencies. The final construction cost estimate shall be prepared the CSI MasterFormat to Level 3 and M.G.L. c.149, §44F (filed sub-bid) format and shall be complete with a single line description for each item with the detailed unit rate or item cost buildup provided in each case.
3. Complete construction drawings and specifications, certified by the Designer as having satisfied the firm's quality control review process as previously confirmed with the Owner, in sufficient detail to permit fixed-price bids in open competition for construction of the Project when documents have been approved for issuance for bidding.
4. No later than at the 100% stage of completion of the final drawings and specifications, two sets of the final drawings and specifications that shall be provided to the local building official to be signed and stamped "Approved" by the local building official; two sets of plumbing drawings and specifications that shall be provided to the local plumbing inspector to be signed and stamped "Approved" by the local plumbing inspector; two sets of the fire protection, HVAC, and electrical construction documents that shall be provided to the local fire official to be signed and stamped "Approved" by the local fire official; two sets of the electrical construction documents that shall be provided to the local electrical inspector to be signed and stamped "Approved" by the local electrical inspector. Notwithstanding the foregoing, the Owner acknowledges that building officials, department inspectors, and fire officials have varying policies on approvals and submittal procedures, and the only obligation of the Designer in this regard is to promptly make the submittals described herein and assist the Owner in receiving the approvals to

the extent available.

5. At the 100 percent stage of completion of final drawings and specifications, a written summary comparing the final construction drawings and specifications and final estimated construction cost with the Final Design Program requirements and submittals made during the Design Development Phase and earlier in the Construction Documents Phase, explaining any significant deviations.
6. In instances where the Designer takes exception to any of the Authority's 90% CD Submittal review comments, a written position statement explaining the Designer's position on its exceptions to said review comments.
7. The Independent Structural Engineering Peer Review Report obtained from the Independent Structural Engineering Peer Reviewer referenced in Articles 7.6.4(5) and 7.6.4(6). The Designer shall include a certification statement from the project structural engineer designer of record to acknowledge receipt of the Report and to indicate response actions pursuant thereto. The Designer shall also forward a copy of said Report to the Building Inspector.
8. A certification that all applicable local, state and utility officials have been contacted by the Designer regarding each utility connection and that the persons responsible for permits or connection approval have agreed to the systems' use.

7.6.6 Bid Documents Submittal:

- (a) The Designer shall provide, on or before the date and time specified in the Project Schedule, a Bid Documents Submittal which shall include:
 1. Construction documents and other deliverables as defined in this Article 7.6.6 and as further defined in Articles 7.6.2, 7.6.7, and 7.6.8, incorporating corrections to indicate compliance with Owner and Authority review comments related to prior submittals.
 2. From the construction drawings and specifications approved by the Owner, incorporating such changes as the Owner or the Authority requires, a set of reproducible black and white drawings and original specifications on high quality white bond paper, single-sided, properly packaged, suitable for reproduction, stamped and signed by all disciplines, that shall be prepared by the Designer and transmitted to the Owner; which documents shall become the property of the Owner as provided under Article 16. Other suitable reproducible media, having the same content shall be substituted, when so directed or authorized by the Owner.
 3. Upon receipt of Owner authorization to advance to reproduction of the approved documents for distribution to bidders and, upon reproduction thereof, the Designer shall promptly submit complete sets of bid documents to the Owner (two sets) and the Authority (one set - half size for Drawings). Any subsequent addenda shall be promptly submitted to the Owner and the Authority.

7.6.7 Drawing Requirements:

- (a) The documents prepared during the Construction Documents Phase shall set forth the requirements for construction of the Project to a level of detail that is customary and standard and shall include, but not be limited to:
1. General information showing drawing index, symbols, abbreviations, notes, locations map.
 2. Site drawings shall be complete to define the extent and detail of site work. Show the following:
 - a. Layout and location of all proposed work including buildings, structures, retaining walls, geothermal wells, parking, walls and all other site improvements, with details.
 - b. Existing and proposed grades and contours including floor elevations, existing structures and topography, survey base line, bench marks and boring locations.
 - c. Landscaping and planting.
 - d. All utility service lines, systems and structures for electricity, gas, oil, water, steam, telephone, CATV, fire alarm, sanitary and storm drainage including size, composition, grades and directions of flow.
 - e. Contract Limit Line and Storage Area for construction materials.
 - f. All existing foundations, obstructions and other physical characteristics of the site which may affect the construction work.
 - g. Site survey.
 - h. Cuts of benches, light standards.
 3. Demolition drawings and temporary work required.
 4. Architectural drawings shall include at a minimum:
 - a. Floor plans of each floor, including basement and lofts or attic with room and corridor dimensions, wall thicknesses, column locations, floor elevations, mechanical and electrical openings, door and window designations, partition types, floor materials, built in furniture and equipment, keyed to other architectural drawings. All rooms numbered.
 - b. Large scale floor plans, as required, to illustrate detailed requirements of rooms.
 - c. Large scale plans showing key areas e.g. lobby, special spaces. Indicate surface materials. (minimum scale $\frac{1}{4}'' = 1' - 0''$)
 - d. Roof plans showing openings, drainage, slopes, expansion joints and all projections, including equipment.
 - e. Key plans on all floor plans and section drawings, where appropriate.
 - f. Building Sections as required to show spatial organization of the building but no less than one longitudinal and one transverse.
 - g. Building elevations. All building elevations shall be fully developed, and hidden elevations shall be shown. Elevations shall be shown in a

sequence as unfolded from a certain point.

- h. Full height wall sections indicating dimensions, flashing, anchorage, reinforcing, coursing, cladding, and all other conditions at wall, roof, foundation, and interior floors.
- i. Exterior details, for roofing, flashing, expansion control, construction joints, waterstops and other details showing all conditions both vertical and horizontal, including schedules.
- j. Door, window, entrance, and storefront, schedules, and details.
- k. Vertical circulation plans, sections and details including stairs, elevators, conveyors, and dumbwaiters.
- l. Interior elevations of all significant and typical spaces.
- m. Interior details including casework, paneling surfacing and acoustical treatment.
- n. Reflected ceiling plans coordinated with fire protection, mechanical and electrical drawings, and ceiling details.
- o. Schedules (clearly define new or existing)
 - i. Doors
 - ii. Equipment, e.g. for services
 - iii. Partitions
 - iv. Finishes

5. Structural drawings shall indicate the following:

- a. Indicate or refer to location of geotechnical exploration data and reports related thereto.
- b. Foundation plans with bottom grades showing layout of all footings, walls, slabs on grade including reinforcing, grade beams, and columns; include design soil bearing pressures and live loads.
- c. Floor and roof plans of structural systems including framing, grades of finished floors and depressed areas, with locations and dimensions for all openings. Also indicate design floor loads.
- d. Complete foundation wall elevation and typical sections, with reinforcing indicating location, dimensions and grades for all footings, steps and wall openings.
- e. Complete details and sections with dimensions for all construction including expansion and construction joints, reinforcing and other embedded items.
- f. Schedules (with dimensions) for all lintels, beams, joists, and columns.
- g. Unless detailed on the Drawings, the following information shall appear in the general notes: class and 28 day strength of concrete for each portion, structural steel and concrete reinforcing design stresses for each type of structural member, concrete cover for each type of structural member, shrinkage and temperature steel requirements, reinforcing laps for main reinforcing and temperature steel; bendpoint, cutoff, and hook locations for all members, minimum beam and lintel bearing. Reinforcing steel fabrication shall be in accordance with most recent ACI, "Manual of Standard Practice for Detailing Reinforced Concrete." Structural steel fabrication shall be in accordance with the AISC "Manual of Steel

Construction.”

6. Fire protection drawings shall indicate standpipe systems, sprinkler systems, suppression systems, access panels, fire pumps, accessories, and piping. All piping, equipment, fixtures and devices shall be located and sized. Design criteria shall be provided on the drawings in accordance with NFPA requirements.
 - a. Fire protection work, other than site work, shall not be combined on the same sheets with the Plumbing, HVAC, Electrical, or other drawings except with the prior approval of the Owner.
7. Plumbing drawings shall indicate the following:
 - a. All work done by the Plumbing Subcontractor, which includes all water, gas, air, vacuum, medical gases, sanitary and storm wastes, and accessories. Include foundation drain lines unless established as the work of the General Contractor and shall not be indicated on the Plumbing Drawings. Site utilities shall be indicated on the utility drawings.
 - b. Plumbing work, other than site work, shall not be combined on the same sheets with the Fire Protection, HVAC, Electrical, or other drawings except with the prior approval of the Owner.
 - c. Trapping and venting of all plumbing fixtures including floor drains.
 - d. Water and gas supply sources, storm and sanitary discharge mains.
 - e. All piping shall be carefully sized and all sizes shall be indicated on drawings and riser diagrams. Indicate all directions of flow and pitch on piping.
 - f. All accessories, valves, and fixtures including all drinking fountains, grease traps for kitchen waste and all necessary panels, identified as to type and size.
 - g. All piping and connections required for other trades (e.g., kitchen equipment, HVAC make-up water, etc.).
 - h. Acid waste, vents and neutralization systems for laboratories.
 - i. Plumbing Legend and/or graphical symbols on the first sheet of the Plumbing Drawings in accordance with the American National Standards Institute (ANSI).
 - j. Plumbing riser diagrams for structures two or more stories in height above the ground level.
 - k. Domestic water booster pumps, boiler feed water, meter location, hose bibbs, and wall hydrants.
 - l. Domestic hot water: storage tanks, piping material, hanger details.
 - m. All required access panels shall be indicated.
 - n. Backflow preventors and cleanouts. Verify that access and clearance provisions for periodically inspected devices, including backflow prevention, are adequate to satisfy requirements of inspecting agencies.
8. Heating, Ventilating and Air Conditioning Drawings shall indicate the following:
 - a. HVAC work, other than site work, shall not be combined on the same

- sheets with Fire Protection, Plumbing, Electrical, or other drawings except with the prior approval of the Owner.
- b. All piping and ductwork systems shall be located and sized. All ductwork shall be shown double line.
- c. All systems shall be sized at all reductions and riser diagrams of piping and duct systems shall be indicated.
- d. All directions of flow and pitch on piping, and direction of flow, volumes for duct systems shall be indicated.
- e. All equipment shall have sufficient servicing and/or replacement space indicated on drawings.
- f. All equipment, accessories, valves and dampers with all necessary access panels, identified as to type and size. Access panels, where required for access to valves and dampers shall be indicated on drawings.
- g. Cooling system pumps, chillers, cooling towers, air handling units, heat pumps, ductwork system and dampers, fan details, temperature control system, air and hydronic balancing equipment, and schedules shall be indicated.
- h. Cooling tower design shall be indicated on the drawings showing site location, elevations and floor plan of equipment layout and typical flow diagram as related to the total HVAC system.
- i. All fire and smoke dampers, access panels and doors.
- j. Mechanical room designs:
 - i. Vent pipes for safety valves, relief valves, back pressure valves and tanks shall be extended above flat roofs in accordance with all governing authorities.
 - ii. In all designs for boiler and refrigeration plants, include a complete floor plan indicating location of all major mechanical equipment and sufficient service space.
 - iii. In designs of new and/or replacement boiler and refrigeration plants, provide a flow diagram detailing steam or hot water distribution systems, return systems, including all existing equipment and their function, as well as any proposed expansions with all necessary instrumentation and controls.

9. Electrical Drawings shall indicate the following:

- a. Site utilities shall be indicated on separate electrical site drawings, unless ample space is available on common site for utility drawings.
- b. Electrical work, other than site work, shall not be combined on the same sheets with Fire Protection, Plumbing, HVAC, or other drawings except with the prior approval of the Owner.
- c. General arrangement: Outline layout of each floor. Typical sections through the structure shall be indicated when necessary to define requirements, floor and ceiling heights, elevations, and type construction, including concrete pads shall be indicated. Indicate interface with other systems. Identify any work by general contractor or other trades.
- d. Interior lighting system: Light fixture schedules, circuiting location and mounting heights of all fixtures, receptacle and switch outlets, sizes and

types of all lamps, conduits, all other accessories and riser diagrams shall be indicated on drawings. Indicate details and method of supporting electrical fixtures and conduits. Designer shall specify that all electrical lighting fixtures be supported from the building structure, and shall be independent of ducts, pipes, ceilings and their supporting members. Comply with seismic design criteria.

- e. Power system: Locations, types and method of control for all motors, heaters, appliances, controllers, starters, branch circuits, feeder conductors, conduits, and solar panels. Indicate riser diagrams. Show details and indicate method of supporting electrical conduit. For larger projects, thermostats and control wiring are normally covered under the HVAC sub-contract, assure coordination.
- f. Fire Alarm, Data, Communications, CATV/CCTV Systems: Locations and types of all devices, outlets and equipment, service connections, wiring diagrams, and all other essential details.
- g. Services: Location and details of all services, whether overhead or underground, feeder sizes, plans and elevations of switchgear and transformers, metering and service switchboard arrangements, wiring and ground fault diagram, and bus ducts.
- h. General and sub-stations: Location, size, method of connection and protection of all generators, transformers, exciters, motor generators, switch gear, and associated equipment, current characteristics and equipment capacities. Indicate equipment connections by means of one line and/on wiring diagrams and schedule all major items of equipment and all instruments.
- i. Underground work: Shall include specifying (1) the size and locations of manholes, (2) types of cables, (3) number, sizes, and locations of ducts, (4) locations, sizes, and types of cable supports, fireproofing, duct line profile, and (5) one line diagram of connections.
- j. Pole line work: If required as contract work, indicate location, length, treatment and class of poles, guying, cross arms, insulators, circuiting, transformers, protective and switching devices, lightning arresters, special structures, diagrams, current characteristics and grounding.
- k. Exterior lighting: Location, size, and type of transformers, luminary, poles, light standards, cables, ducts, and manholes, details of control equipment and connection diagrams.
- l. Emergency system details including transfer switch, type of fuel.
- m. One line diagram indicating load KVA, and available short circuit amperes at each transformer, switchboard, distribution panel board, branch circuit panel board, and at major pieces of equipment.
- n. Riser diagrams for all systems.

7.6.8 Project Manual Requirements:

- (a) The format for the Project Manual, including its technical specifications, shall be in accordance with the current CSI MasterFormat with separate sections for each of class of work required by M.G.L. c. 149 §44F.
- (b) The following general information applies to the development of final

specifications:

1. Describe the extent of the work, the materials and workmanship, and include the work under the proper section. If any portion of the work included in a section of the specifications is to be performed by a trade covered by another section, there shall be clear and distinct cross-referencing between the sections. Merely to state “by others” is not acceptable.
2. For each item of material or equipment, the specifications shall provide for a minimum of three named brands of material or equipment and the words “or equal” or a description of material or equipment which can be met by a minimum of three manufacturers or producers, and the words “or equal.” Proprietary products shall not be specified except as provided by M.G.L. c. 30, § 39M; however, when they are specified, proprietary specifications are subject to the “or equal” provisions of M.G.L. c.30, § 39M.
3. Specify materials mined or manufactured in Massachusetts first and the United States of America second whenever possible.
4. Do not use general clauses intended to be all-inclusive in lieu of complete descriptions.
5. Do not duplicate standard requirements that are contained in the contract form.
6. Use consistency throughout. The word “will” shall be used to designate what the Owner, Authority, Owner’s Project Manager, Commissioning Consultant, or the Designer can be expected to do, and the word “shall” shall be used to designate what is mandatory for the Contractor or subcontractors to do.
7. Use the same term throughout for the same subject and the term shall be the same as that used on the drawings.
8. Do not use the term “etc.”
9. Avoid such terms as “to the satisfaction of the Designer,” “as directed by the Designer,” “as approved,” and “as required”.
10. Specify work in appropriate Sections according to local trade jurisdiction.
11. Avoid the use of the following symbols:

<u>Symbol</u>	<u>Use Instead</u>
#	number, no., or pounds
%	percent
"	inch or in.
x	by
'	feet or ft.
o	degree
/	per or at

12. In sections for which filed sub-bids are required, refrain from using such terms as “the Contractor,” the “Heating Contractor,” or “the Plumbing Contractor,” but where necessary for clarity refer to the “HVAC Subcontractor,” the “General Contractor” and the like.
13. Do not give numbers both in words and figures. Numbers less than 10 shall be written in words, 10 and higher numbers shall be written in figures. In

- expressing dimensions, figures such as 2 in., 16 in., 7 ft., 6 in., shall be used.
14. Each filed sub-bid section shall detail all labor and materials required by the particular sub-trade and list, by number, those drawings (and only those drawings) indicating work of that sub-trade. In addition, list drawings indicating work of a particular trade that appears on drawings that are not customarily included in the work of the trade, when applicable.
 15. Do not specify that a product or system shall require prequalification or advance approval for use prior to bidding.
 16. Established unit price items shall be used for work categories which cannot be ascertained for exact quantities in bid documents (e.g. earthwork removal and/or replacement items). In such cases, the Designer shall establish ranges of quantities with associated unit price values for each range. Unit price values shall be established for added work, for deleted work, and for base bid quantities when conditions so-suggest. Unit price values shall be ascertained through consultation with cost estimators, be current, equitable, and well defined as to elements of work, overhead, like issues to be encompassed. Established unit prices shall be published within the applicable technical specification sections and referenced from general conditions as being operative as the basis for determining values to be used for payment or recovery for change order work.
 17. Staging, scaffolding, cutting, and patching, refuse collection and disposal, demolition work and cleaning task, allocation policy and proposed language shall be carefully assigned to avoid duplication or omission.
 18. A final draft of Project Advertisement, Notice to Bidders, Instructions to Bidders, Contract Forms, General Conditions, Supplementary General Conditions, and other “front end” documents shall be included in the 90% construction documents submittal, along with a final version of all text to appear in Division 1, General Requirements. The Designer may defer insertion of final advertising / bid dates and wage rates, understanding that they are to be established and inserted immediately prior to release of documents for bidding.

7.6.9 Construction Cost Estimate Requirements

The Designer shall provide the construction cost estimates described in Articles 7.6.3, 7.6.4, and 7.6.5 in accordance with the following provisions:

- (a) The Designer shall review its construction cost estimate in comparison with the detailed construction cost estimate, and any updated cost estimates, provided by the OPM and shall work in good faith and in cooperation and coordination with the OPM to reconcile any differences between the cost estimates, to clarify assumptions upon which the cost estimates are based and to address any concerns or questions with the cost estimates that are raised by the Owner, the OPM, or the Authority. If the Designer is unable to reconcile all differences between the two construction cost estimates with the OPM, then the Designer shall provide a detailed explanation of the differences to the Owner and the Authority. If, in any case, the agreed-upon, reconciled construction cost estimate exceeds the Project Construction Budget, the Designer shall cooperate with the Owner and the OPM

in identifying, specifying and recommending changes in materials, equipment, component systems and types of construction, or other adjustments in the scope or materials selections for the Project, including contingencies or alternative bid items, so as to facilitate revision of the design of the Project to reduce the cost of construction so as to comply with the Project Construction Budget.

(b) Cost estimate data shall be organized to identify elements of project work which may be proposed to be advanced under separate construction phases and/or separate bidding packages. When so proposed, estimates shall develop cost data relative to corresponding bidding and work execution dates established in project schedules.

(c) Cost estimates shall be projected to the mid-point of the construction period.

(d) The summary sheets shall contain the following:

1. The date that the estimate was prepared. (Value Date).
2. The anticipated bid date.
3. The project and contract number.
4. The title and location of the project.
5. The name of the Designer.
6. The name of the Estimator.
7. The site work cost (including all utilities).
8. The building cost (including fixed equipment).
9. The estimated construction cost of each Phase of the work, totaled.

7.6.10 The Designer shall participate in a final review of the Construction Documents with the Owner, the OPM, and the Commissioning Consultant, and the Designer shall incorporate such changes, as necessary, to satisfy the Owner's review comments.

7.7 Bidding Phase

7.7.1 The Designer shall, when authorized by the Owner, prepare for reproduction and distribution the construction bid documents, including advertisements, for receipt of proposals from construction contractors, and for execution of the Owner-Contractor Agreement. The Designer shall prepare all addenda (to include bidder questions and Designer responses), subject to the Approval of the Owner and the Authority. The Designer shall attend the pre-bid conference if one is scheduled, taking note of all questions asked. Relevant questions submitted in writing shall be answered by the Designer by means of written addenda to the bid documents as required. The Designer shall attend each bid opening and, with the assistance of the Owner's

- Project Manager, conduct a review of the qualifications of the low filed sub-bidders and general bidder (and of other bidders if necessary) and shall, within five working days of the respective bid opening dates, advise the Owner in writing of the Designer's opinions as to the sub-bidders' bids and as to which general bidder is the responsible and eligible bidder that has submitted the lowest bid.
- 7.7.2 The Designer shall assist the Owner in the prequalification of prime contractors and subcontractors in the filed sub-bidder or trade contractor scopes of work pursuant to M.G.L. c. 149, §§44D½ and 44D¾ including participation as a member of the Owner's Prequalification Committee.
- 7.7.3 The Designer shall receive all inquiries relating to the bid documents and, when necessary, answer questions by preparing and issuing written addenda. The Owner shall review and approve all such addenda prior to issuance to bidders.
- 7.7.4 When sub-bids are required:
- (a) Attend sub-bid openings.
 - (b) Assist in reviewing sub-bids with the Owner for completeness and accuracy.
 - (c) Assess sub-bid amounts relative to cost estimates.
 - (d) Assist in checking references of sub-bidders and make written recommendations as to their qualifications, only required for projects in which pre-qualification has not occurred.
 - (e) Issue a letter of recommendation to Owner upon acceptance of sub-bids, identify any categories to be re-bid and reason(s) therefor.
 - (f) Prepare and distribute the filed sub-bid tabulation to all prospective bidders. The tabulation shall be reviewed and approved by the Owner prior to its issuance to bidders.
- 7.7.5 Unless otherwise directed by the Owner, attend and conduct the general bid opening.
- 7.7.6 Review with the Owner and the Owner's Project Manager general bids for completeness and accuracy.
- 7.7.7 Review bidder responses for alternates and make written recommendations as to their acceptance.
- 7.7.8 If the Project must be re-bid because of a defect in the bid documents prepared by the Designer or in procedures proposed by the Designer, the Designer shall correct the defect and take the necessary actions for re-bidding the Project on proper bid documents without any additional compensation to the Designer.
- 7.7.9 If within three (3) months after approval of Construction Contract Documents, in final form, the bids of the lowest responsible and eligible bidders or negotiated proposals exceed the approved Project Construction Budget, the provisions of Article 4.10 shall apply.
- 7.7.10 If the Owner awards a construction contract for an amount that exceeds the amount established in the Project Construction Budget, such an award will not affect the Fee for Basic Services.
- 7.8 Construction Administration Phase - Obligations During Construction: Following the execution of the Owner-Contractor Agreement, the Designer shall undertake certain of the

obligations of administering the Owner-Contractor Agreement on behalf of the Owner, provided that Designer shall not be subject to provisions of the Owner-Contractor Agreement that would have the effect of expanding Designer's responsibilities or liabilities under this Contract without Designer's written consent. Services during this phase include, but are not necessarily limited to:

- 7.8.1 Upon commencement of construction activities for the Work or early bid packages or at times established in Project schedules, the Designer shall:
- (a) Furnish the General Contractor with information for establishing lines and grades and such supplemental drawings as are reasonably needed to implement the intent of the Construction Contract Documents;
 - (b) With reasonable promptness and in accordance with schedules agreed upon by the Designer and Contractor, observe testing when required under this Contract, and review and act upon samples, schedules, shop drawings and other submissions from the General Contractor;
 - (c) Prepare, maintain and update logs for all submittals;
 - (d) Visit the site at intervals appropriate to the stage of construction, weekly or as otherwise agreed to by the parties, and observe the progress of the Work, issue written progress reports, attend job meetings, and review and respond to meeting minutes prepared by the Owner's Project Manager, and to determine in general if the Work observed is being built in a manner indicating the Work when completed will be in accordance with approved Construction Contract Documents;
 - (e) Collaborate with the on-site Project Representative of the OPM to identify and monitor issues of concern relative to the progress of the Work, and establish communications processes to help assure that matters of mutual concern are exchanged on a timely basis with one another, the OPM, Commissioning Consultant, and Owner;
 - (f) On a weekly basis, make specific recommendations on rejection of any Work observed by the Designer that fails to conform to the Construction Contract Documents, and observe corrected Work;
 - (g) Require each Subconsultant engaged in accordance with Article 5 to make visits weekly or as otherwise agreed to by the parties during the progress of any work to which that Subconsultant's services relate, and to report upon it in writing to the Designer;
 - (h) Recommend actions to be taken which may include condemnation or rejection of any work that the Designer determines fails to conform to the Owner-Contractor Agreement;
 - (i) Review and recommend appropriate action for proposed requests for changes and where required by the Owner, prepare documents associated with requests for a change in any Construction Contract Documents. Compensation for change order work by the Designer shall be determined in accordance with Article 10;
 - (j) Conduct semi-final and final inspections of the Project and report the results of such inspections in writing to the Owner;

- (k) In association with the Commissioning Consultant, review the report by such Commissioning Consultant on the balancing of air and water circulation systems;
 - (l) In association with the Commissioning Consultant, review the report by such Commissioning Consultant on the setting and adjustment of automatic controls;
 - (m) In a timely manner, decide all questions regarding interpretation of, or compliance with, the Construction Contract Documents, except as the Owner may in writing otherwise determine;
 - (n) In association with the Commissioning Consultant, review the recommendations of such Consultant for requirements upon operating and maintenance documents and building user training events and instructional media as established in the Construction Contract Documents; such Consultant or OPM shall coordinate involvement of contracting parties, the Designer, and Owner;
 - (o) Furnish the Record Drawings as submitted by the General Contractor in accordance with 7.8.3, and other required documents;
 - (p) Assist the Owner in providing the written Contractor Evaluations required of the Owner pursuant to M.G.L. c.149 §44D(7) at the completion of approximately 50% of the Construction Phase on forms prescribed by M.G.L. c.149 §44D(16);
 - (q) Perform inspections of the work as necessary to prepare a punch list identifying each incomplete or deficient Work item and performing re-inspections to authorize removal of satisfactorily completed Work items from the punch list, or to determine that the Project is complete. In association with the OPM, a cost shall be assigned to each incomplete or deficient Work item when it has been determined that the Project has reached Substantial Completion; and
 - (r) Receive from the General Contractor all maintenance and operating manuals, occupancy permits, guarantees and other similar relevant materials.
- 7.8.2 The Designer shall submit to the Owner's Project Manager within 48 hours all requisitions for payment submitted by the General Contractor in the form required by the Owner. The Designer may establish procedures with the Contractor for advance notification of requisition and/or draft version processing. With respect to each such requisition, the Designer shall certify to the best of its knowledge that the percentage of Work included in the requisition is accurate and that the work performed is in accordance with the Construction Contract Documents. In the event the Designer does not approve the requisition exactly as submitted by the General Contractor, the Designer shall forward it for payment to the Owner's Project Manager dated and signed with corrections and with an accompanying letter of explanation setting forth the Designer's objections and recommended changes. The Designer shall coordinate the required visits of its own staff and those of its Subconsultants, to the construction site so as to enable the Designer to submit to the Owner's Project Manager the General Contractor's monthly requisition for payment. Timely payments to the Contractor are required by M.G.L. c. 30, § 39K. Therefore, the Designer shall establish procedures to help assure either immediate mail or messenger delivery of the requisition for payment to the Owner's Project Manager, and shall process requisitions for payment within five business days after receipt of the same, provided

the Contractor has submitted a full and complete requisition for payment in the correct form.

7.8.3 Prior to issuance of the Certificate of Substantial Completion, the Designer shall obtain from the General Contractor as-built drawings, including drawings showing the actual installation of the site utilities, plumbing, heating, ventilating and electrical work under the Owner-Contractor Agreement, and recording all changes. The Designer shall ascertain that changes authorized by change orders are shown on the General Contractor's as-built drawings, but Designer shall be entitled to rely upon the accuracy and completeness of the Contractor's as-built information, and shall forward such to the Owner as Record Drawings.

7.8.4 Issue the Certificate of Substantial Completion of Construction.

7.8.5 The Designer shall meet with the Owner monthly during this Phase.

7.9 Completion Phase: Upon acceptance of the Certificate of Substantial Completion of Construction by the Owner, the Designer shall thereafter provide the following services:

7.9.1 With respect to a completed Project, preparing a Certificate of Final Completion.

7.9.2 With respect to a punch list, re-inspecting the work up to three times in order to determine that the punch list work is satisfactorily completed.

7.9.3 Reviewing and certifying the Contractor's Application(s) and Certificate(s) for Payment as necessary.

7.9.4 Attending meetings as reasonably necessary in the opinion of the Owner's Project Manager, unless such meetings involve continued discussions of incomplete or deficient work and the Basic Services punch list site visits have been expended. In such instance, the meetings shall be paid for as Extra Services.

7.9.5 Using the as-built information maintained by the General Contractor during construction referred to in Article 7.8.3, and revising the applicable original reproducible drawings and electronic media drawings on the basis of the as-built drawings, provided that Designer shall be entitled to rely upon the accuracy and completeness of the Contractor's as-built information. Upon completion of the required drafting and editing, provide one set of Record Drawing mylar reproducibles, two sets of Record Drawing prints and two electronic version Record Drawing copies to the Owner which shall become the property of the Owner. The cost for printing the mylar reproducibles and two sets of prints are Reimbursable Expenses. Upon completion of the required drafting and editing, provide one set of Record Drawing prints and one electronic version copy to the Authority.

7.9.6 Ten (10) months after the date of substantial completion, performing one (1) site inspection and preparing a list of construction warranty deficiencies. The Designer shall consult with the Commissioning Consultant upon the acceptability of warranty compliance requirements and response actions.

7.9.7 Informing the Owner in writing, through the Owner's Project Manager, of all such warranty deficiencies that should be addressed.

7.9.8 Performing one (1) site inspection within a further sixty (60) days to see that all such warranty deficiencies have been corrected.

7.9.9 Evaluation of Contractor: The Designer shall assist the Owner with providing the

written Contractor Evaluations required of the Owner pursuant to M.G.L. c.149 § 44D(7) within 70 days of the date of Substantial Completion for construction, on forms prescribed by M.G.L. c.149 § 44D(16).

- 7.9.10 Two (2) suitably bound legible copies of all original design and quantity calculations including those pertinent to change orders and shop drawings if applicable shall be furnished by the Designer to the Owner at the conclusion of the Owner-Contractor Agreement.

CONTRACT FOR DESIGNER SERVICES
(BASE CONTRACT FOR DESIGN BID BUILD OR CM at RISK PROJECT)

This Contract is made as of this _____ day of _____ in the year _____ between
the _____, _____,
(Owner) (street)
_____, _____, _____,
(City) (State) (Zip Code)
hereinafter called "the Owner" and _____
(Designer)

_____, _____, _____,
(street) (city) (State) (Zip Code)
hereinafter called the "Designer" for the Designer to provide the designer services required to complete the Basic and
Extra Services described herein at _____
(name/description of Project)

The Designer is authorized to perform the services required by this Contract through the Feasibility Study Phase and, pending receipt of a written Approval to proceed from the Owner, through the Schematic Design Phase. At the Owner's option, the Designer may be authorized to perform services for subsequent design phases and/or the Construction Phases and Completion Phase, at which time a mutually agreed upon amendment to this Contract will be executed between the Owner and the Designer. If the Owner elects to construct the Project using the CM at Risk ("CM-R") construction delivery method pursuant to M.G.L. c. 149A, this Contract shall be amended using the Authority's Standard Amendment for CM-R, as it may be amended from time to time by the Authority. If the Owner elects to construct the Project using the Design-Bid-Build ("DBB") construction delivery method pursuant to M.G.L. c. 149, this Contract shall be amended using the Authority's Standard Amendment for DBB, as it may be amended from time to time by the Authority.

For the performance of the services required under this Contract for the Feasibility Study Phase and the Schematic Design Phase, and excluding those services specified under Articles 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, and 8.3, the Designer shall be compensated by the Owner for Basic Services in accordance with the Payment Schedule included as Attachment A.

Designer's Project Architect/Engineer: _____

The Subconsultants to provide services, either as Basic or Extra Services, to the Designer under this contract may include the following, as identified on the RFS:

	Name of Firm	Name of Principal	SDO CERT.
Educational Programming			
Civil Engineering			
Landscape Architecture			
Structural Engineering			
Architecture			
Fire Protection Engineering			
Plumbing Engineering			

HVAC Engineering			
Electrical/Lighting/			
Data/Communications			
Environmental Permitting			
Geotechnical Engineering			
Hazardous Materials			
Cost Estimating			
Kitchen/Food Service Consultant			
Laboratory Consultant			
Acoustical Consultant			
Specifications Consultant			
Library/Media/Audio Visual Consultant			
Technology Consultant			
Theatrical Consultant			
Sustainable/Green Design/Renewable Energy Consultant			
Code Consultant			
Accessibility/ Universal Design Consultant			
Traffic Consultant			
Furniture, Fixtures and Equipment Consultant			
Site Surveying			
Security Consultant			

IN WITNESS WHEREOF, the Owner and the Designer hereby agree to the terms of the Contract and have caused this Contract to be executed by their respective authorized officers or other authorized representatives.

OWNER

(print name)

(print title)
By _____
(signature)
Date _____

DESIGNER

(print name)

(print title)
By _____
(signature)
Date _____

ATTACHMENT A

PAYMENT SCHEDULE

Payments shall be made in accordance with the provisions outlined in the Contract and with the following schedule:

Basic Services

Feasibility Study Phase	\$
Schematic Design Phase	\$
Design Development Phase	\$
Construction Documents Phase	\$
Bidding Phase.....	\$
Construction Administration Phase	\$
Completion Phase	\$
TOTAL.....	\$

Extra Services

Extra Services provided pursuant to Article 8 shall be compensated as determined by the Owner (a) by a lump sum fee agreed upon in advance in writing by the Owner and the Designer, or (b) on an hourly basis in accordance with the rate schedule set forth below for time expended, up to a not to exceed amount.

Hourly Rates:

ATTACHMENT C

PARTICIPATION SCHEDULE FOR DESIGNER CONTRACTS BY SDO CERTIFIED ENTERPRISES

This form shall be submitted to the Owner by the Designer upon execution of the Contract for Designer Services attached hereto.

Owner:

Project No:

<u>Name of Company</u>	<u>Description of Work</u>	<u>SDO Cert.</u>	<u>Dollar Value Participation</u>
1.	-	-	\$
2.	-	-	\$
3.	-	-	\$
4.	-	-	\$
5.	-	-	\$
6.	-	-	\$

Dollar Value of MBE Commitment: \$

Dollar Value of WBE Commitment: \$

Dollar Value of VBE Commitment: \$

Dollar Value of SDVOBE Commitment: \$

Total Dollar Value Commitment: \$

Original Fee for Basic Services Amount \$

DESIGNER CERTIFICATION

The undersigned certifies under the penalties of perjury that (1) it intends to subcontract with the above listed firms for the identified work and dollar amounts and (2) certifies that he/she has read the terms and conditions of the Designer Contract with regards to SDO certified entities participation and is authorized to bind the Designer to the commitment set forth above.

Date

Name of Architect/Engineer

Authorized Signature

Address

City, State & Zip Code

ATTACHMENT C

ATTACHMENT C

ATTACHMENT D

**M.G.L. c.30 §39R - INTERNAL ACCOUNTING CONTROLS
APPLIES TO CONTRACTS OF \$100,000 OR MORE
SAMPLE LETTER TO BE PREPARED ON DESIGNER'S LETTERHEAD**

Date

CEO
Owner
123 Reservoir Street
Enfield, MA 01234

RE: Enfield High School

Dear:

This Statement of Internal Accounting Controls is being submitted in accordance with Article 17.5.3 of the Contract for Design Services for the above captioned project. Please be advised that our firm, the Designer under the Contract, has a system of internal accounting controls which assures that:

1. transactions are executed in accordance with management's general and specific authorization;
2. transactions are recorded as necessary, to permit preparation of financial statements in conformity with generally accepted accounting principles, and to maintain accountability for assets;
3. access to assets is permitted only in accordance with management's general or specific authorization; and
4. the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Sincerely,

ATTACHMENT E

**MGL c.30 §39R – INTERNAL ACCOUNTING CONTROLS
APPLIES TO CONTRACTS OF \$100,000 OR MORE
SAMPLE LETTER TO BE PREPARED ON CPA'S LETTERHEAD**

CEO
Owner
123 Reservoir Street
Enfield, MA 01234

RE:

Dear

Please be advised that we have reviewed the Statement of Internal
Accounting Controls prepared by the _____ in connection with the

Name of Designer
above-captioned project. This statement is required under M.G.L. c.30 §39R.
In our opinion, representations of management are consistent with our
evaluations of the system of internal accounting controls. In addition, we
believe that they are reasonable with respect to transactions and assets in the
amount which would be material when measured in relation to the firm's
financial statements.

Sincerely,

(CPA)

ATTACHMENT F

CONTRACT FOR DESIGNER SERVICES

AMENDMENT NO. _____

WHEREAS, the _____ (“Owner”) and _____, (the “Designer”) (collectively, the “Parties”) entered into a Contract for Designer Services for the _____ Project (Project Number _____) at the _____ School on _____.
“Contract”; and

WHEREAS, effective as of _____, the Parties wish to amend the Contract:

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained in this Amendment, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

1. The Owner hereby authorizes the Designer to perform services for the Design Development Phase, the Construction Phases, and the Final Completion Phase of the Project, pursuant to the terms and conditions set forth in the Contract, as amended.
2. For the performance of services required under the Contract, as amended, the Designer shall be compensated by the Owner in accordance with the following Fee for Basic Services:

Fee for Basic Services:	Original Contract	After this Amendment
Feasibility Study Phase	\$ _____	\$ _____
Schematic Design Phase	\$ _____	\$ _____
Design Development Phase	\$ _____	\$ _____
Construction Document Phase	\$ _____	\$ _____
Bidding Phase	\$ _____	\$ _____
Construction Administration Phase	\$ _____	\$ _____
Completion Phase	\$ _____	\$ _____
Total Fee	\$ _____	\$ _____

This Amendment is a result of: _____

3. The Construction Budget shall be as follows:

Original Budget: \$ _____

Amended Budget \$ _____

4. The Project Schedule shall be as follows:

Original Schedule: \$ _____

Amended Schedule \$ _____

5. This Amendment contains all of the terms and conditions agreed upon by the Parties as amendments to the original Contract. No other understandings or representations, oral or otherwise, regarding amendments to the original Contract shall be deemed to exist or bind the Parties, and all other terms and conditions of the Contract remain in full force and effect.

IN WITNESS WHEREOF, the Owner, with the prior approval of the Authority, and the Designer have caused this Amendment to be executed by their respective authorized officers.

OWNER

(print name)

(print title)

By _____
(signature)

Date _____

DESIGNER

(print name)

(print title)

By _____
(signature)

Date _____