

The design of each project must be divided into phases of development that Massport reviews periodically to ensure that the Consultant has achieved all of the project's goals and objectives, including all technical and functional requirements. A project's typical phases, which this section discusses, are:

- Phase One* - Design Criteria Establishment
- Phase Two* - Preliminary Design
- Phase Three* - Final Design

The Consultant Agreement will individualize submission requirements for each project, but they typically will include:

- ◆ Design Criteria
- ◆ Preliminary Design
- ◆ 30-, 60-, and 90-percent Complete Interim Documents
- ◆ Final Bid Documents.

The Agreement will also include number of sets of documents that the consultant needs to submit to Massport, which will include drawings, specifications and cost estimates as described in this section. At each submittal phase of the project, the Consultant must provide written responses to Massport's comments.

## UNDERSTANDING PROJECT DESIGN CRITERIA

The Consultant must develop Design Criteria for all major disciplines that the project requires, such as architectural, site/civil, structural, mechanical, electrical, plumbing/fire protection and all other applicable disciplines. The Consultant may also submit preliminary Design Criteria to Massport to record the Consultant's understanding of the project's design requirements.

The Preliminary Design Phase will not commence until Massport acknowledges in writing that it has received the Project Design Criteria.

As the project proceeds, involved parties may revise the Design Criteria. In these cases, the Consultant must present Final Project Design Criteria during the latter stages of the Final Design Phase. Exhibit 1 provides an example of the Final Design Criteria submission for HVAC design.

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# PERFORMING PRELIMINARY DESIGN PHASE

The Consultant must perform the tasks below during the Preliminary Design Phase.

## A. Consultations with other Affected Parties

The Consultant, as the Agreement stipulates and with Massport's Project Manager's approval and direction, must meet with users, abutters, groups, agencies, Federal, state, local and applicable utility companies to gain input and approvals (building codes, fire codes, utility, and environmental regulations, etc.).

## B. Conditions Survey/Building Code Analysis/ Handicap Access

As part of the Preliminary Design Submission, the Consultant must prepare and submit a bound document containing the requirements described below:

### 1. Conditions Survey

The Conditions Survey, if the Agreement requires it, will describe and verify the existing site/civil, subsurface/geotechnical, architectural, structural, mechanical, electrical, plumbing and fire protection, and elements of all other applicable disciplines at the project site and/or in the subject building pertinent to the specific project.

The Consultant should refer to the enclosed guideline form on Exhibit 14 to see an example of a written account of the Conditions Survey results. The results are by no means all-inclusive, so Massport encourages the Consultant to add to the survey any additional, relevant, project design information.

In each situation, the Consultant must describe the following:

- ◆ all of its observations, including potential problems with their possible causes
- ◆ all unique features
- ◆ other special items.

Photographs may accompany the form to visually refer all notations to the reader. The photographs and form must be cross-referenced in a user-friendly format.

The Consultant, if the Agreement requires, must perform additional surveys and field tests to provide specific existing site and/or building conditions. Before commencing with any additional testing or outside services, the Consultant must receive Massport's approval.

The Consultant must immediately notify Massport's Project Manager of any situations affecting the public's safety.

## **2. Building Code Analysis**

The Consultant must perform an early analysis of applicable Building Code requirements for the project. The Consultant must carefully determine the appropriate reviewing authorities and restrictive codes. The Consultant must include the complete written analysis, with any reviewing authority comments, in this submission and in the project files for record-keeping purposes.

The Building Code Analysis determines which Building Code requirements apply to the project, including handicap access requirements.

This document must include at least the following information:

- ◆ Analysis of Massachusetts State Building Code requirements
- ◆ Analysis of applicable NFPA requirements, particularly those relating to life safety and fire protection
- ◆ Energy Conservation and Sustainable Design Analysis

For each Building Code item, the Consultant must:

- ◆ record the corresponding Building Code reference(s) (page and section).
- ◆ determine the classification or violation.
- ◆ list possible alternatives to remedy problem areas.

## **3. Handicap Access**

The Authority's policy is to efficiently provide handicap access to the public and its employees. The Consultant must request a copy of "Access Massport Guidelines for Barrier Free Facilities" from the Project Manager, be completely familiar with all applicable access codes for implementation of this policy, and address at least the following in the Preliminary Design Submittal:

- ◆ A floor plan indicating normal and emergency egress paths of travel.
- ◆ A floor plan indicating both ingress and egress ADA paths of travel, highlighting points of ADA-specific construction features, such as curb cuts, accessible toilet rooms, accessible elevators, etc.
- ◆ Analysis of applicable ADA, MAAB and Access Massport requirements.

## **C. Analysis of Major Systems**

The Consultant must perform and submit a detailed analysis of all major systems and/or building components that are proposed for the project. The following is a partial list of systems and/or components that Massport requires the Consultant to analyze:

- ◆ Geotechnical
- ◆ Foundations
- ◆ Utilities (water, sewerage, drainage)
- ◆ Environmental (wetlands)
- ◆ Contaminated Materials
- ◆ Transportation, Traffic
- ◆ Site/Civil
- ◆ Architectural (provide color scheme boards on architecturally significant projects)
- ◆ Structural
- ◆ Plumbing
- ◆ Fire Protection
- ◆ Mechanical (HVAC)
- ◆ Electrical
- ◆ Security

## D. Preparation of Schematic Drawings

The Consultant may be required to prepare and submit schematic drawings showing the work's magnitude, scope, and character, and the essential basic elements (site/civil, geotechnical, architectural, structural, plumbing, fire protection, mechanical, electrical, transportation, traffic, environmental and all other applicable disciplines).

## E. Outline Specifications

The Consultant must prepare and submit outline specifications for the proposed project that consist of a comprehensive description of the following:

- ◆ scope of the project
- ◆ the major systems
- ◆ equipment
- ◆ materials (including major components)

The Consultant must have a preliminary analysis performed and the necessary backup (e.g., cost/benefit analysis, technical data, cost comparison) to support the recommended systems, structure, equipment and/or materials.

Massport does not require the Consultant to submit a detailed description of the materials, workmanship procedures or warranties in this submittal.

The Consultant must discuss the bid format, e.g., lump sum or unit price, with Massport's Project Manager.

## F. Preliminary Constructability Review

The Consultant must prepare and submit to Massport a report entitled "Preliminary Constructability Review" with the Preliminary Design submission(s).

This report must analyze the feasibility of construction, including the following information:

- ◆ constraints of the work site, laydown and mobilization areas

- ◆ cost effectiveness and function of the proposed system(s)
- ◆ projected labor or material shortages
- ◆ sole source or proprietary items
- ◆ long lead time items
- ◆ Massport's ongoing operations
- ◆ convenience to the public
- ◆ safety and security of the public
- ◆ aesthetics and safety of temporary construction barriers
- ◆ proposed construction cost and schedule
- ◆ QC/QA adequacy

## G. Preliminary Probable Construction Schedule

The Consultant must prepare and submit a Preliminary Probable Construction Schedule as previously described in Chapter I, Section 6, Paragraph A.

This schedule must determine whether or not the time required to construct the project is consistent with Massport's project schedule requirements.

Massport requires the Consultant to provide a more detailed Probable Construction Schedule during the project's Final Design Phase.

## H. Preliminary Probable Construction Cost Estimates

The Consultant must prepare and submit a Preliminary Probable Construction Cost Estimate for each system or discipline, as previously described in Chapter I, Section 6, Paragraph A.

## I. Alternates (if applicable)

The Consultant must prepare and submit an analysis and backup for each proposed alternate, as described in Chapter I, Section 2, Paragraph L.

## J. Energy Conservation and Sustainable Design Analysis

The Consultant must evaluate Energy Conservation and Sustainable Design features. Then, it must include a statement to the effect that it has either evaluated and incorporated cost-effective energy conservation and sustainable design systems/features, or has excluded this effort for specific, acceptable reasons. The Consultant must maximize the energy savings and sustainable construction features by applying the most recent, proven technology, and engineering, methodology, environmental and air quality standards throughout the design. The Consultant may submit alternative proposals, if appropriate, that indicate measures it wishes to take to reduce energy consumption, and the effect the measures would have on the project's facility construction and operations costs.

## K. Revisions

Once Massport has reviewed the Preliminary Design Submission, the Consultant must revise it according to Massport's recommendations and comments.

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## PERFORMING FINAL DESIGN PHASE

Upon receiving Massport's written approval of the Preliminary Design Submission, the Consultant can proceed with the design by preparing final, appropriate contract documents for public bidding.

The Consultant must make interim submissions of Bid Documents at the 30-, 60- and 90-percent interim completion levels of the design phase for review by Massport's Project Manager, unless the Agreement omits this effort or stipulates otherwise. Unless otherwise noted, the 30-, 60- and 90- percent submittals must include the information below.

### A. Drawings

*Site/Civil Drawings* - These drawing should be identified as "L" drawings and show at least the following items:

- ◆ the location and dimensions of all existing and proposed buildings, structures and features of the project
- ◆ existing contours and finished contours; bench marks and other control elements
- ◆ items of work requiring demolition
- ◆ foundation drains
- ◆ site oil/water separators
- ◆ ground floor elevations
- ◆ utilities (new and existing)
- ◆ right-of-ways or easements
- ◆ site construction, construction contract limits
- ◆ outside drainage and disposal from land and structures
- ◆ all existing foundations, obstructions and other physical characteristics of the site which may affect the work and which the Consultant, after exercising reasonable diligence, has discovered
- ◆ all development of landscape spaces, features and elements, including, without limitation, all walks, roads, recreation areas, parking areas, retaining walls and exterior lighting
- ◆ all architectural landscaping materials and equipment must be indicated

*Architectural Drawings* - These drawings should be identified as "A" drawings and dimensioned, and should include the necessary following items:

- ◆ all planned spaces (including floor, reflected ceiling and roof plans)
- ◆ all fixed equipment and fixtures
- ◆ all permanent fixtures
- ◆ overall elevations and sections through the structure(s)

- ◆ roof details including roof drainage outlets, flashing details, pitches of roof, chimneys, vent housing and the like; including all penetrations for vents, conduits, mechanical equipment, flues, pitch pockets and curb details
- ◆ detail drawings showing construction and materials
- ◆ wall sections for all typical and all unique conditions showing construction and materials
- ◆ sections through the structure(s)
- ◆ sections through stairways and such additional sections as are needed to clearly illustrate the interior
- ◆ room finish schedules showing all windows, doors, interior of rooms, corridors, stairs and partitions
- ◆ detail sections of windows, doors, permanent fixtures, finishes and similar basic elements of the structure(s), curtain walls and exterior walls
- ◆ design and drawings of construction barriers
- ◆ location of all mechanical and electrical penetrations through walls and floors
- ◆ mechanical equipment (e.g., elevators, escalators, conveyors, cranes, etc.)
- ◆ color scheme boards on architectural projects

*Structural Drawings* - These drawings should be identified as “S” drawings and show at least the following items:

- ◆ the foundation construction, materials and details with the locations and sizes of all piles, caissons, spread footings, floating slabs, pressure injected footings as applicable
- ◆ design soil bearing pressures must be indicated on the foundation plans
- ◆ complete foundation wall elevations showing location, dimensions, and grades for all floorings, steps and wall openings
- ◆ elevations of top of structural slabs and finish floor elevations; complete dimensions for all openings, depressions, and changes in elevation of structural slabs; concrete floors relative to granolithic finish and concrete topping
- ◆ complete dimensions and schedule for all lintels, beams, joists and columns
- ◆ typical structural sections showing methods of connection, floor and roof deck selection, and the methods and locations of lateral bracing
- ◆ complete dimensions and details for all members of the superstructure and for all expansion and construction joints
- ◆ design live load for each roof and floor area
- ◆ class and 28-day strength of concrete for each portion of the structure
- ◆ boring plan, log of borings, date(s) borings were taken (bottom grades of footings, ground elevations, and slab and water elevations must be plotted on boring schedule)
- ◆ framing plans and schedules showing location, size and description of all columns, beams, joists and all other framing members
- ◆ location of all major mechanical, plumbing and electrical penetrations through walls and floors

The Structural Drawings must show all the project’s design loads, and indicate allowable live loads for all of the various floor areas requiring different allowable live loads and snow load conditions including:

- ◆ drift conditions
- ◆ horizontal loads for wind and hurricane design conditions, if applicable
- ◆ seismic loadings for earthquake conditions

- ◆ concentrated loads and penetration resistance for special equipment
- ◆ deflection loadings
- ◆ any other applicable design loads

*Plumbing Drawings* - These drawings should be identified as “P” and show the following necessary items:

- ◆ a complete operative system of storm water and sanitary piping connecting to all drains, fixtures and equipment and extending to 5 feet from the outside of the building
- ◆ a complete system of cold and hot water distribution and re-circulation piping connecting to fixtures and equipment
- ◆ insulating covering on all cold water and hot water piping and on rainwater piping and on other piping types as necessary
- ◆ hot water storage heater, including insulation, controls, relief valves, thermometer, piping connections and appurtenances
- ◆ backflow preventors in accordance with BWSC and State Plumbing Code
- ◆ wall hydrants
- ◆ all interior sleeves, wall and floor plates, brackets, hangers, inserts, expansion sleeves, fixture supports and appurtenances
- ◆ floor drains; special purpose drains to receive sanitary wastes
- ◆ shower receptors and service sink receptors
- ◆ all plumbing fixtures
- ◆ hot water circulating pumps and controls
- ◆ grease interceptors and flow controls for kitchen sinks
- ◆ traps and vents for all equipment
- ◆ control valves
- ◆ toilet room and shower room accessories
- ◆ equipment and valve name tags and/or plates
- ◆ water supply and drainage to air conditioning units and incinerating scrubber
- ◆ shut-off valves on each water service to a group of fixtures
- ◆ access panels for valves and cleanouts
- ◆ concealed air chambers on each water supply to each fixture
- ◆ water service connection
- ◆ complete operating systems for distribution of all air, gas, or vacuum requirements
- ◆ system riser diagrams
- ◆ gas and other ancillary systems
- ◆ piping, filters, controls and accessories
- ◆ temporary services
- ◆ all piping must be carefully sized and all sizes must be indicated on drawings and riser diagrams, with all directions of flow and pitch on piping

*Fire Protection Drawings* - These drawing should be identified as FP and show the following items:

- ◆ Fire Protection Drawings must provide the level of detail indicated in MPA Standard Specification Section 01050 - Record Documents and Field Engineering in Exhibit 40. The Consultant should also refer to Fire Protection Systems Approval and Acceptance Guidelines in Exhibit 20.

*Mechanical Drawings* - These drawings should be identified as HVAC drawings and show Heating, Ventilating and Air Conditioning Systems including at least the following information:

- ◆ Mechanical Engineering Drawings - These drawing should show the location, within the mechanical spaces, the type and size of the principal items of heating, ventilating, air conditioning, including fixtures and the necessary control systems and diagrammatic layouts of primary and modular destruction duct and piping systems for such equipment and fixtures, together with the types of necessary control systems. Also, heat loss and heat gain calculations of the major heating, cooling and ventilating equipment must be included in a report describing the approach for meeting the Energy Code. All directions of flow and pitch on piping, and direction of flow, volumes for duct systems must be indicated. All ductwork must be shown double line.
- ◆ Mechanical Room Layouts - These drawings should including Boiler and/or Equipment room for: boilers to steam to HW converters; refrigerator machines; pumps-HW, CW, CT, expansion tanks; storage tanks; water service; all associated piping and accessories; louvers; flues and stack controls and instrumentation; equipment removal provisions; temperature control system elements, (e.g., compressors, panels, etc.).
- ◆ Sections through Congested Spaces.
- ◆ Air Handling Units - These drawings should include FA intakes and louvers; fans and drives; filters; HW and CW coils; controls; associated ductwork.
- ◆ Piping Distribution Systems - These drawings should include the location and size of all piping systems and all valves, accessories and appurtenances.
- ◆ Cooling Tower - These drawings should include the tower location and size, and associated piping and controls.
- ◆ Equipment Piping and Duct Insulation.
- ◆ Flow Diagram - This drawing should show all the piping systems with necessary instrumentation and control systems.
- ◆ Equipment and Valve Name Tags and/or Plates.
- ◆ Schedules, Legends and Symbols - This information should accompany air handling units, fans, exhausts, diffusers, registers, pumps, etc.
- ◆ Ducts - These drawings should include all supply and return duct distribution systems with access panels, damper controls, and insulation.
- ◆ Ventilation and Exhaust Systems - These drawings should include toilets, lockers, storage and janitorial rooms; fountains with humidity control; a kitchen exhaust; and concourses.
- ◆ Radiation.
- ◆ Sleeves, Hangers, Inserts and Equipment Supports.
- ◆ Shut-off Valves and Access Panels.
- ◆ Temporary Services.
- ◆ All Large Equipment Items - These items must include sufficient servicing and/or replacement space indicated on the drawings.

*Electrical Drawings* - These drawings should be identified as “E” and show at least the following information:

- ◆ The Locations, Types and Sizes of: electrical power equipment, with estimates of total electrical load; service connections; power, lighting and signal distribution systems; typical electrical fixtures; total load; conformance to the applicable Electrical Code(s)
- ◆ Security Drawings developed with Massport’s requirements, including but not limited to plans showing location and type of proposed security devices

- ◆ Lighting Systems - The types of wiring, location, types, and sizes of all fixtures, receptacles and switch outlets; mounting heights of all fixtures; sizes and types of all lamps; sizes, types and location of all panels; branch circuit wiring; sizes of feeder conductors and conduits; all other essential special details; system riser diagrams, fixture schedules; details and method of supporting all electrical fixtures and conduits.
- ◆ Power Systems - The locations, types and methods of control of all motors, heaters, and appliances; types, sizes, and locations of all controllers; starters, thermostats and other control devices; branch circuit and control wiring; sizes, types and location of all panels; sizes of feeder conductors and conduit; all other essential special details; riser diagrams; panel board and switchboard schedules; details and methods of supporting electrical conduit.
- ◆ Signal Systems - The locations, types and sizes of all outlets and equipment for TV, telephone, sound, and public address systems; service connections; wiring diagrams; riser diagrams and all other essential details.
- ◆ Fire Alarm Systems - Drawings related to Fire Alarm Systems must provide the level of detail indicated in MPA Standard Spec. Section 01050 - Record Documents and Field Engineering (See Exhibit 40).
- ◆ Services - The locations and details of all services; metering arrangements; service switchboard diagrams and arrangement; extent of installations to be provided by power and telephone companies.
- ◆ Generator or Sub-Stations - The locations, sizes and methods of connecting and protecting all generators, transformers, exciters, motor generators, switch gear, and associated equipment; current characteristics and equipment capacities; connections by means of one line and wiring diagrams; schedules of all major items of equipment and all instruments.
- ◆ Underground Work - The locations, sizes, number and types of manholes, ducts and cables; methods of cable, support and fireproofing; duct line profile; one line diagram of connections.
- ◆ Pole Line Work - The locations, lengths, treatment and class of: poles; guying; insulators; circuit; transformers; current characteristics; protective and switching devices; lightning arresters; grounding; special structures; and diagrams.
- ◆ Street Lighting - The locations, sizes and types of all transformers, luminaires, poles, cables, ducts and manholes, details of control equipment, and connection diagrams.
- ◆ Temporary Services - All necessary wiring, switches and accessories required for the temporary light and power installation during construction.
- ◆ Security Systems - The locations, types and sizes of all outlets and equipment for security alarm systems located in, but not limited to doors, windows, hardware, roofs, fences and mechanical equipment. All security systems must be developed in coordination with Massport requirements.
- ◆ All of the above final drawings must be checked, coordinated and referenced to those drawings and specifications of other disciplines that they affect or interface with.

## **B. Contract Specifications**

The Consultant must submit Specifications in the format discussed in Chapter I, Section 2. Drawings and specifications must be cross-referenced to ensure that involved parties properly coordinate all technical provisions. Terminology used on the drawings and within the various specification sections must be consistent. All proposal items must be coordinated with the technical specifications.

Along with the specifications, the Consultant must include brochures, catalog cuts, etc., of proposed major building components and equipment, such as architectural features (floor, wall and ceiling finishes; toilet partitions and equipment; casework and other architectural

equipment; doors, windows, hardware and glass; roofing and insulation; components of exterior envelope); plumbing fixtures and accessories, HVAC and sprinkler equipment, and electrical equipment (panelboards, transformers, lighting fixtures, etc.).

Consultant shall prepare a schedule of all required submittals for the project and include it within Division III, Technical Specification, Section 01300 – Submittals and Substitutions.

## C. Probable Construction Schedule

As part of the 30-, 60-, and 90-percent submissions, the Consultant must prepare a Probable Construction Schedule in enough detail to substantiate that it can construct the project within the Massport-specified time. If the Consultant feels that the project cannot be constructed within such a time frame, it must submit a written notice of such to Massport's Director of Capital Programs and Logan Modernization. The project's size and/or complexity will determine the Schedule's detail and method, but, generally, it will follow the format discussed in Chapter I, Section 6, Paragraph B.

In preparing the Probable Construction Schedule, the Consultant must consider the following factors:

- ◆ trade(s) (specification section number(s)) involved in the project
- ◆ description of major items of work
- ◆ lead times (delivery time) required to secure the necessary materials and equipment
- ◆ erection/installation time
- ◆ critical path activities

The Probable Construction Schedule must be an unbiased practical evaluation of the sequence and times for the various activities. With a start date, this schedule is intended to serve Massport merely as a guide. The Bid Documents must describe the work that will be bid and executed, and the construction duration. The Bid Documents should not include the Probable Construction Schedule.

## D. Probable Construction Cost Estimates

The Consultant must develop detailed, itemized cost estimates based upon interim and final design documents in a format compatible with Massport's bidding requirements, such as that described in Chapter I, Section 4. The estimator must identify estimates of sub-trades and potential subcontracting opportunities for Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE). The Consultant must use the latest SOMWBA listing of eligible trades and subcontractors to help it identify potential subcontracting opportunities for the project.

## E. Final Constructability Review

As part of the Final Design (90-percent) submission, the Consultant must conduct a Final Constructability Review to reaffirm the conclusions in the Preliminary Constructability Review Report (PCRR).

If anything has changed that would affect the PCRR results, the Consultant must notify Massport's Project Manager. The Consultant must update and reconsider all items listed in

Chapter II, Section 2, Paragraph F. A report entitled “Final Constructability Review” must be presented to Massport with the Final Design submission(s).

## F. Updated Building Code/Handicap Access Analysis

As part of the 30-, 60- and 90-percent submissions, the Consultant must update and refine the analysis described in Chapter II, Section 2, Paragraphs B2 and B3.

## G. Testing and Quality Control Programs

The Consultant may be required to develop a testing and quality control/quality assurance (QC/QA) program for various project elements as the Agreement stipulates and submit it as part of interim submissions.

## H. Construction Barriers

The Consultant must design the construction barriers and include them in the Interim and Final Bid Documents. Massport requires that the General Contractor construct temporary construction barriers at the onset of the project. Such temporary barriers must be located around or through work sites, and next to areas where the general public may pass through. The barriers should serve as a safety measure for the traveling public and as an aesthetically pleasing aid.

## I. Obtaining Approvals

Before going out to bid, the Consultant must prepare and file applications, and obtain all necessary approvals from those local, state (e.g., MA Dept. of Public Safety) and Federal authorities that the statutes and the Agreement require.

Before printing the bid documents for a building project, the Consultant will meet with the State Building Inspector and Massport’s Fire Rescue Department to secure their approvals of the plans. This step will also facilitate the General Contractor’s application for a Building Permit, and ultimately, for a Certificate of Occupancy. Also at this meeting, Consultants must submit Certification Construction Control Forms (Refer to Exhibit 19), which are signed by the respective architects and engineers who have stamped their professional seals on the construction documents.

## J. Project Signs

The Consultant should verify with the Project Manager if a project sign is necessary. If one is needed, the Consultant must require the General Contractor to provide it, according to the Standard Detail shown in Exhibit 12, to identify the project to the public. No information must be included on the Project Sign except that which Massport stipulates. The General Contractor must submit a scale drawing of the project sign for the Consultant’s approval before it has been fabricated.

The sign must be positioned in a site location that the Consultant has selected with Massport’s approval. The General Contractor must maintain the sign throughout the Contract and remove

and dispose of the sign when the Consultants directs it to. The Consultant must not remit a separate invoice for furnishing and maintaining the project sign.

## K. Submission of Final Design and Bid Construction Documents, Calculations and Other Pertinent Documents

In this phase of the project, the Consultant must usually submit the following documents:

- ◆ Specifications (originals and electronic files)
- ◆ Drawings (original mylars and electronic files)
- ◆ Final Color Scheme Boards (for architecturally significant projects)
- ◆ Two original copies
- ◆ Construction Cost Estimate
- ◆ Construction Schedule
- ◆ Final Design Criteria and Calculations
- ◆ Bidding Instructions and Forms
- ◆ Bid Schedule
- ◆ Other documents and information specified here
- ◆ Written responses to Massport 90-percent review comments

As part of the complete Bid Documents, the Consultant must include all final design calculations for the site and building systems including sewer, water and drainage systems, structural systems, HVAC, plumbing, fire protection systems and electrical systems including short circuit analysis. It must be submitted to Massport in a neatly bound indexed format with a table of contents within 30 days of submission of the Bid Documents. The Consultant must turn over all other data, information, reports, and surveys to Massport at the end of the project, as they will remain Massport's property.