

GOVERNMENT OF THE DISTRICT OF COLUMBIA

**OFFICE OF THE DEPUTY MAYOR FOR PLANNING
AND
ECONOMIC DEVELOPMENT**

“TECHNICAL REQUIREMENTS AND SUBMITTAL GUIDE”

APPLICABILITY OF ATTACHMENT-A3

Unless otherwise stipulated, the Architect-Engineer shall be responsible to comply with only those Sections and Sub-Sections of the Attachment-A3 as shall be applicable to and usually or customarily found necessary for performing the “Scope-of-Work Services” described herein, and required by Attachment-A1 and Attachment-A2 of this Contract.

CONTRACT NO. _____

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INDEX

<u>Section Numbers</u>	<u>Section Title</u>	<u>Page</u>
1.	General Information	3
2.	Scope and Definition	3
3.	Surveys and Hazardous Materials	7
4.	Basic Services	9
5.	Design Phases	12
5.1.	Schematic Design Phase	12
5.1.1.	Preliminary Evaluation and Design Phase	12
5.1.2.	Schematic Design Phase	17
5.2.	Design Development Phase	24
5.3.	Construction Document Phase	32
5.4.	Compliance Phase	41
5.5.	Certification of Drawings	42
5.6.	Architect-Engineer Responsibility to Obtain Building Permits	42

**OFFICE OF THE DEPUTY MAYOR FOR PLANNING AND ECONOMIC
DEVELOPMENT****“TECHNICAL REQUIREMENTS AND SUBMITTAL GUIDE”****1. GENERAL INFORMATION:**

- 1.1. All written requests or correspondence regarding this Contract shall be addressed to the DMPED, Office of Contracts, Procurements and Grants, 1015 Half Street, SE, Suite 675, Washington, DC 20003. In all matters pertaining to this Appendix, information and coordination shall be through the DMPED.
- 1.2. All final decisions relating to design are within the purview of the Deputy Mayor for Planning and Economic Development’s authorized representative.
- 1.3. During the construction period of the facility for which services are to be performed under this Contract, the Architect-Engineer shall, without additional cost to the District of Columbia (District), be available for complete consulting services on errors, omissions and discrepancies in drawings and specifications for all phases of the design.
- 1.4. Changes in this Attachment-A3 may be made from time to time to accommodate modifications in the requirements of the District, or the requirements for the particular project set forth in the Scope of Work (SOW) of the Contract. Such changes, when required, shall be identified as a supplement and/or errata sheet and numbered sequentially, and/or specifically amended. Changes applicable only to a specific project and contract shall be identified as supplement and/or specifically amended in the SOW, and be applicable to have effect only with respect to the project and contract number to which attached and made a part thereof.

2. SCOPE AND DEFINITION:

This Attachment-A3 defines both the technical requirements and the submittal schedules as required for the District

2.1. Technical Requirements:

It is expressly understood and agreed that requirements set forth hereafter are minimum requirements only, not intended to be all inclusive, and that, notwithstanding the absence of any provision of this Attachment-A3. Therefore it is the responsibility of the Architect-Engineer to provide all services necessary for a complete and integrated design of the facility specified in the SOW. This will include all design and engineering features, equipment, system, etc., usually or customarily found in or necessary for the design of a structure or facility of the kind and type described therein, together with technical specification, design analyses, construction cost estimates, renderings, photographs, and scale models.

2.2. Submittal Schedule:

The preparation of the documents for construction work is complex, exacting, and time-consuming. In each project there are a minimum of three interested parties: the end user, DMPED and the Architect-Engineer. The establishment of a mutually acceptable design with the minimum effort will be accomplished by graphic and textual design solutions to be submitted for critical review and comment at certain development stages. The quantity and the development stage of these submissions will vary according to complexity of the work. Following are the submissions for most projects and their minimum contents, unless specifically amended in supplement(s) and/or Scope of Work Attachment-A1:

<u>NO.</u>	<u>Submission</u>	<u>% Completed</u>
I.	Schematic Design Phase.....	25% Completed
	a. Preliminary Evaluation and Design Phase.....	10%
	b. Schematic Design Phase.....	15%
II.	Design Development Phase.....	50% Completed
III.	Construction Documents Phase.....	100% Completed
IV.	Compliance Phase.....	Final

2.3. Document Preparation:

All documents to be prepared under this Contract will be:

- 2.3.1. Accomplished by the Architect-Engineer in a clear, orderly, intelligible and professional manner; suitable for reproduction; and
- 2.3.2. Identified by the appropriate project name and number assigned by DMPED.
- 2.3.3. Prior to the submittal of any design drawings, specifications, engineering analyses, construction cost estimates, and studies, the Architect-Engineer shall completely check and coordinate same for accuracy, compliance with the District of Columbia Building Codes, other applicable codes and regulations, and for compliance with the additional requirements outlined hereafter.

2.3.4. Review Time: In accordance with the Schedule of Work specified in the Contract General Provisions, Attachment-B, Section 3, Progress Schedules and Reports included hereof, the Architect-Engineer shall submit to DMPED, a schedule (Monthly Progress Report) showing the salient features of the Work and its start and finish dates. The Architect-Engineer will develop a “Monthly Progress Report Guide” for approval by the Project Manager. In preparing the Schedule of Work, the Architect-Engineer shall allow time for each review by DMPED/Office of Contracts, Procurement and Grants. The review time allowance in calendar days to be measured from time of receipt until return in DMPED, will be as follows unless otherwise altered in the SOW:

<u>NO.</u>	<u>SUBMISSION</u>	<u>REVIEW TIME</u> (business days)
I.	Survey and Report on Recommended Repairs	5
II.	90% Construction Documents	5
III.	100% Construction Documents	3

Note: The above submissions and schedules may be amended by Scope of Work Attachment-A1 and / or Supplement(s) for specific Contract.

2.3.4.1. **Monthly Progress Report:** See General Provisions, Section 3.

2.3.4.2. **Time:**

It is understood and agreed that time is of the essence for the performance of the Services provided or required by this Contract. The Architect-Engineer shall assist the District in preparing, modifying and updating a schedule which will provide for the timely provision of the Architect-Engineer’s services, DMPED reviews and approvals, and the review and approval of governmental authorities having jurisdiction over the Project and the orderly progress of the design and development of the Project and each Phase thereof (the “Project Schedule”). The Project Schedule will be prepared so as to coordinate with the dates and objectives of the District’s schedules, and the design schedules, the construction phase schedule, and will provide for the expeditious, timely, and practical execution of the Architect-Engineer’s services in such a manner as to facilitate (and not delay) the construction and completion of the project and each phase thereof in accordance with said project schedule and the documents. Should the Architect-Engineer become aware of delays from any source caused by the Architect-Engineer or others, it will, within three

(3) days of becoming aware of such delays, provide written notice to the Project Manager of such delays.

2.4. **Reviews:**

2.4.1. The preparation of construction documents is a combined effort of the professional Architect-Engineer, DMPED, the user and other assignees that are expert in their disciplines. The documents must accurately and completely reflect the design concept if the project is to be aesthetically appealing, efficient and carefully planned for maximum usage, and economical in construction, operation and maintenance costs. DMPED retains private professional architects and engineers to accomplish this work, confident that their expertise and experience will yield proper documents for the construction of a complete project.

2.4.2. The District will provide reviews to aid in the correct interpretation of the users' requirements, to encourage appropriate creativity in design, to corroborate the selected engineering system, and to assess the synthesis of the project. DMPED does not consider checking and cross-checking for accuracy of the document to be its obligation. The Architect-Engineer is totally responsible for all facets of the development of the documents constructability reviews. The constructability review process should assure that:

2.4.2.1. The project, as detailed in the plans and specifications, can be constructed using standard construction methods, materials and techniques;

2.4.2.2. The plans and specifications provide the contractor with clear, concise information that can be utilized to prepare a competitive, cost-effective bid; and

2.4.2.3. The Work, when constructed in accordance with the plans and specifications, will result in a project that can be maintained in a cost-effective manner by the District over the life of the project.

2.4.3. "On-Board" Reviews: When authorized as being necessary, DMPED may include On-Board (over the shoulder) Reviews to accommodate an accelerated schedule or to address issues best resolved in that manner. The review is typically held at the Architect-Engineer's office and is used to review progress of the design with respect to scope, schedule, and maximum allowable construction cost. The review will consist of discussion, questions, answers, action-item assignments, and follow-up of outstanding issues. Items identified for action by the Architect-Engineer shall be shown in subsequent deliverables. The Architect-Engineer will issue date-stamped documents to the Project Manager at least five (5) days prior to the review. At a minimum, participants will include the Architect-Engineer team, sub-consultants and the Project Manager. The Architect-Engineer shall prepare and distribute minutes of each

meeting documenting all resolutions of Project issues and/or features, and open action items identifying persons responsible for action items with due dates, to all attendees within three (3) working days of each meeting.

3. SURVEYS AND HAZARDOUS MATERIALS:

3.1. Surveys:

3.1.1. Plat Map:

A "Plat Map" for the project site will be provided by the District of Columbia Surveyor and furnished to the Architect-Engineer by the District to be incorporated in the construction documents.

3.1.2. Topographic Survey:

The Architect-Engineer shall order the topographic survey immediately after receiving the commission for the work. He shall prepare and submit one (1) reproducible copy of a topographic survey map of the site of the facility in sufficient detail to permit the proper and efficient execution for the work required by this Contract, unless notified otherwise. The area to be surveyed will include a 50 feet wide strip around the entire perimeter except where there is no right of entry. The topographic survey map will be at a scale of not less than 1" = 20'-0", and will show and/or include: (i) contours at 1'-0" vertical intervals where slopes are 10% or less, contours at 2'-0" vertical intervals where slopes are greater than 10% (ii) all natural and artificial features including, but not limited to, the following: (a) building, sheds and other structures, both existing and previously demolished, where possible; (b) elevation of basements, areaways, vault floors, etc.; (c) retaining walls, terrace walls, steps, curbs, etc., with top, bottom and adjacent grade elevations; (d) roads, walks, driveways, and other paved areas (Indicate kind); (e) fences, gratings and drainage structures; (g) water, sewer and utility lines, manholes, vaults and both rim elevation and invert elevation; (h) telephone, power and light poles; (i) grass, lawn, weed, bush, and wooded areas; (j) trees, 3" diameter and over, and (k) fields, bare earth and exposed rock areas. The boundary, as indicated by the "Plat Map" and the location of existing markers will be shown on the topographic map. The marker location will be obtained from the D.C. Surveyor's office. At least one boundary line extending the full length of the site will be located from existing markers and defined by a new marker at each end. All topographic features and all new construction will be accurately located from this boundary line. This will be a survey of record and must be sufficiently accurate for building design to be developed with out necessitating any major plan change when the official survey is prepared.

3.1.3. Zoning Report:

Prepare a zoning analysis and site map that describes what the current site allows and requires in terms of the site setbacks, height restrictions, FAR, Use Groups and Prohibited Uses. Identify any site easements or rights of way as well as any special restrictions or considerations that may have an impact on how the site may be used.

3.1.4. Soils Data:

The Architect-Engineer shall confer with the Project Manager within five (5) days after NTP and also immediately after acceptance of the Schematic Phase by DMPED on the location, quantity and depth of soil identification holes.

3.1.3.1. The Architect-Engineer shall provide with each required soil evaluation: Soil boring, soil samples and certified boring logs. The boring logs will show strata description, resistance to penetration of standard sampling spoons, ground water levels and other pertinent data, [two (2) copies required].

3.1.3.2. The Architect-Engineer shall provide the following as needed but only upon authorized approval (payable by the District):

3.1.3.2.1. Perforated pipes for water level readings.

3.1.3.2.2. Core drilling in rock, core samples and drilling logs.

3.1.3.2.3. Test pits, test caissons, test piles, load tests, bearing tests and certified records of all pertinent test data.

3.1.3.2.4. Laboratory tests of soil strata and such borings and samples as may be needed in addition to 3.1.3.1. above.

3.1.3.2.5. Two (2) copies of analysis and recommendations from professional soil mechanics and foundation engineer.

3.1.3.3. The Architect-Engineer shall utilize all soils data secured under 3.1.3.1. above as an aid in his determination for designs of foundations, sub-structures, retaining walls, etc., and for all earthwork such as cuts, fills and embankments.

3.1.3.4. The scope and sequence of various phases of soils investigations under 3.1.3.2. above will be established by consultations and mutual agreement between the Architect-Engineer and DMPED.

3.1.3.5. The Architect-Engineer shall provide all administrative and engineering services as needed to secure adequate soils data including the preparation of boring location plans and specifications, supervision

of boring operation and evaluation of soils data during progress of the borings. He shall also provide a drawing (or drawings) to be included with the drawings to be furnished under 4.3.2.5. showing:

- 3.1.3.5.1. Locations of test borings and test pits.
- 3.1.3.5.2. Description and location of soil strata encountered in borings and test pits.
- 3.1.3.5.3. Record of blow counts on sampling spoons when taking soil samples.
- 3.1.3.5.4. Water level reading with time and date the record taken.
- 3.1.3.5.5. Any other data pertinent to the construction of foundations and/or earthwork.

3.2. Hazardous Materials & Contamination:

Removal, Encapsulation, or Enclosure: For any project wherein the Scope-of-Work Attachment-A1 calls for the alteration and/or modernization of any part or all of any existing building or facility, including any replacement or improvements to HVAC and Plumbing System, the Architect-Engineer shall prepare and furnish a report as set forth below:

- 3.2.1. The Architect-Engineer shall be responsible to determine by initial field check, and to report promptly to the Contracting Officer’s Technical Representative (Project Manager) whether or not asbestos exists on the premises. If findings are positive, the Architect-Engineer shall determine and photograph the locations and the extent, and furnish a comparative budget type cost estimate for each (1) removal and (2) encapsulation, and (3) enclosure; all to be in accord with the current Public Law and OSHA standards and regulations. Architect-Engineer will notify Project Manager of any suspicion of hazardous materials or contamination.
- 3.2.2. When Asbestos exists on the premises, the report from the Architect-Engineer shall contain inspection photographs as follows:

Requirements for Asbestos Inspection Photographs:

- 3.2.2.1.1. Photographs will be created digitally and reproducible in enough detail to clearly delineate the issue.
- 3.2.2.1.2. Each photo will be uniquely identified so as to clearly identify the location of the issue, the name/number of the Project, date taken, and other pertinent information as necessary.

4. BASIC SERVICES:

The Architect-Engineer's Basic Services consist of all services included in and attendant to the stages as described hereinafter in this Section. It is the responsibility of the Architect-Engineer to provide all services necessary for a complete and integrated design of the facility specified in the SOW. This may include, without limitation, all architectural, engineering, technical, interior design, administrative, and other services related to all architectural, structural, mechanical, electrical, plumbing, fire protection, life safety systems, civil engineering, interior design, FF&E, landscape design, vertical transportation (including elevators and pneumatic tubes), IT and telecommunications, medical equipment planning, acoustical, vibration and noise, audio/visual design, lighting design, security system design, graphics/signage/way finding design, materials management, roofing and waterproofing, traffic and parking, hardware materials, and other elements and services as typically provided by an Architect-Engineer and its consultants for similar projects in similar locations necessary to fully and properly complete the Project, and any and all other services identified in any other provision of this contract as basic services. The Architect-Engineer recognizes, agrees and accepts that the District is relying upon it for the complete and total design, development, implementation and administration of the design of the Project and each Phase thereof and, notwithstanding the specific listing of services contained in this Section.

4.1. Review Comments:

All review comments from DMPED will be in writing. As these comments are incorporated in the documents, the Architect-Engineer shall carefully indicate the action taken. If incorporated, the word "done", "complied" or "not complied" will be written adjacent to the comment; if the comment is not acceptable to the Architect-Engineer, the Architect-Engineer shall note that the request is "not done or not complied because [insert reason]." The Architect-Engineer and DMPED shall discuss within ten (10) days after each review, and agree to a mutually acceptable action. The final decision, in every instance, remains with DMPED. If the Architect-Engineer cannot concur, the Architect-Engineer shall modify the work in accordance with DMPED directive, then write to DMPED that "the work has been done but not in accordance with his professional judgment because [insert reason]."

4.2. Consultations:

In addition to these required submissions, DMPED is available for consultation at any time during the contract. This office urges understanding and agreement throughout the job by frequent consultation via telephone, email or in person.

4.3. Conferences:

The Architect-Engineer shall furnish all information material necessary to coordinate the project with all agencies and with DMPED. The Architect-Engineer or its authorized representative shall attend all meetings, arranged by other agencies or community groups or the Project Manager, to obtain the necessary approval of such

agencies or groups. The Architect-Engineer shall furnish all information, data and exhibits required for such meetings or reviews.

4.4. Small Scale Drawings:

The Architect-Engineer shall provide small scale drawings of floor plans for the new additions and existing buildings and the site along with the final submission of the contract drawings. Drawings will be 1" = 30' scale. Minimum sheet size is 11" x 17", Site plans will be drawn at a scale of 1" = 50'. Record square foot area on each floor plan as well as the square feet area on the site plan. Submit the originals reproducible and one (1) set of prints.

4.5. Submission Copies:

At each submission the Architect-Engineer shall submit blue line prints and loaded computer disk (s) in quantities as detailed hereunder unless modified in Scope of Work Attachment-A1:

<u>PHASE</u>	<u>DISK(S)</u>	<u>PRINTS</u>
I Schematic Design Phase		
a. Preliminary Evaluation and Design Phase	1 set	2 sets (one full-size; one half-size)
b. Schematic Design Phase	1 set	2 sets (one full-size; one half-size)
II Design Development Phase	1 set	2 sets (one full-size; one half-size)
III Construction Documents Phase	1 set	2 sets (one full-size; one half-size)
IV Compliance Phase	1 set	2 sets and the signed drawings
Specifications, Preliminary (SD Phase)	1 set	2 sets
Specifications, Outline (DD Phase)	1 set	2 sets
Specifications, Draft (CD Phase)	1 set	2 sets
Specifications, Final (Compliance Phase)	1 set	2 sets

When the contemplated design of the facility is expected to involve architectural features that are likely to have impact on the use by physically handicapped, the number of sets of prints required for submission of the Schematic, and Design

Development Phases will be increased by one (1) set. That is to say, three (3) sets will be required instead of the two (2) sets indicated in the chart.

4.6. Computerized Drafting:

All design drafting will be prepared utilizing computerized graphic software as specified by the Project Manager.

5. DESIGN PHASES:

5.1. Schematic Design Phase:

The purpose of this phase is to arrive at an approved design scheme that fully address the program requirements and other information furnished by the District, and that responds to applicable laws, codes and regulations pertaining to the use and location of the project. The work is divided into two phases: Preliminary evaluation and Design and schematic design. These phases will prepare sufficient information for the client to select an approach to the design, and to reach a documented understanding with the Architect-Engineer regarding the requirements of the project. Further, consistent with the preliminary design, a complete schematic design will be prepared and presented for client's written approval.

5.1.1. Preliminary Evaluation and Design Phase:

The goal of this sub-phase is the evaluation of the program, District Standards – including environmental considerations -- schedule, budget, and applicable laws, codes and regulations that pertain to the project. Informed by this evaluation, alternative approaches to design and construction will be explored, and a project requirements document prepared for sign-off by the client.

5.1.1.1. The Architect-Engineer shall prepare a preliminary evaluation of the District's Standards, program, schedule, budget for the cost of work, site, and the proposed procurement or delivery method and other initial information, each in terms of the other, to ascertain the requirements of the Project. The Architect-Engineer shall promptly notify the DMPED of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

5.1.1.2. The Architect-Engineer shall present its preliminary evaluation to the DMPED and shall discuss with the DMPED alternative approaches to design and construction of the project, including the feasibility of incorporating environmentally responsible design approaches. The Architect-Engineer shall reach an understanding with the DMPED regarding the requirements of the Project.

- 5.1.1.3. Based on the Project’s requirements agreed upon with the DMPED, the Architect-Engineer shall prepare and present for the DMPED’s approval a preliminary design illustrating the scale and relationship of the Project components.
- 5.1.1.4. The Architect-Engineer shall consider environmentally responsible design alternative, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the DMPED’s program, schedule and budget for the cost of the work. The Architect-Engineer shall prepare a written report discussing energy conservation measures and techniques to be employed consistent with the DMPED’s standards or the Architect-Engineer’s proposed variances from the DMPED’s standards. Such written report shall include an analysis of the cost savings attributable to the incorporation of such measures and techniques.
- 5.1.1.5. **Project Requirements Document:**
 - 5.1.1.5.1. A group of drawings and documents manifesting the Architect-Engineer’s understanding of the client’s requirements as defined in the documents and an assessment of the context (conditions, codes, and requirements) within those requirements must be met.
 - 5.1.1.5.2. The drawing size will be variable on a reproducible medium.
- 5.1.1.6. **Subject Matter:**
 - 5.1.1.6.1. Existing Condition report
 - 5.1.1.6.1.1. Review condition assessment reports prepared by DMPED and critically review and assess the findings.
 - 5.1.1.6.1.2. Site visits to verify existing site information and data collection.
 - 5.1.1.6.1.3. For the site provide drawings that fully describe existing conditions and locations of existing utilities.
 - 5.1.1.6.1.4. Provide digital and hard copy graphic documentation of existing site conditions, i.e., photos.

- 5.1.1.6.1.5. Identify areas that require additional investigation, e.g., geotechnical, structural defects, etc.
- 5.1.1.6.2. Site Survey (See Section 3.1.)
- 5.1.1.6.3. Hazardous Materials Report (See Section 3.2.)
- 5.1.1.6.4. MEP Assessment (where applicable)
 - 5.1.1.6.4.1. Prepare detailed Mechanical, Electrical and Plumbing (MEP) Systems Assessments, including electrical capacity, plumbing capacity, lifecycle assessment and existing energy utilization (baseline) assessment. Develop acceptable Engineering strategies to be considered within the Design Phase.
- 5.1.1.6.5. Program. The programs for the facility may consist of the following:
 - 5.1.1.6.5.1. Replace and/or upgrade mechanical, electrical and plumbing systems as needed to meet current International Building Code (IBC) and all applicable code requirements. Replace non-functioning and outdated equipment to improve the efficiency of the MEP systems. Determine lifecycle costs of existing and replacement MEP equipment.
 - 5.1.1.6.5.2. Renovation of interior spaces will be in conjunction with MEP upgrades.
 - 5.1.1.6.5.3. All proposed work to be designed to be maintained by the current staff and/or similar levels of capability.
 - 5.1.1.6.5.4. Bring buildings into full ADA compliance, based on the value and extent of the work and the code requirements. This provision will not be construed to increase program requirements. Design tactile signage, doors and door hardware and other items as may be required.

To address the program the Architect-Engineer shall:

- 5.1.1.6.5.5. Hold ‘programming meetings’ and conduct fact finding meetings with DMPED, its client agency and other stakeholders as necessary, to clarify and define programmatic requirements. Use “block and stacking” technique to clarify programmatic relationships.
- 5.1.1.6.5.6. All developed solutions must not hinder existing shelter programs that are to remain in place. The Architect-Engineer shall confirm that the programmatic and functional requirements of the facilities are met, and that any deficiencies are remedied by the scope of the program.
- 5.1.1.6.5.7. Provide program analyses, including defined programmatic requirements.
- 5.1.1.6.6. Code and Regulatory Requirements
 - 5.1.1.6.6.1. Architect-Engineer will provide initial code reviews and summaries. Architect-Engineer shall prepare a report listing all required submission set DCRA permitting, and approval by applicable oversight agencies. Architect-Engineer shall update its schedule to reflect any time frame duration changes resulting from this review.
- 5.1.1.6.7. UFAS/ADAAG Compliance Report
 - 5.1.1.6.7.1. Identify any aspects of the above work that may have impacts on UFAS/ADAAG compliance for the facility.
- 5.1.1.6.8. DC Green Building Act of 2006/LEED
 - 5.1.1.6.8.1. Report what may be addressed/accomplished in this facility (LEED/Green Communities) based on requirements and standards included in the subject act.
- 5.1.1.6.9. Summary of Options
 - 5.1.1.6.9.1. Taking the existing conditions and other Reports into consideration, prepare a summary of strategies or approaches to the

developments that successfully address the programs and reconciles the above findings.

5.1.1.6.10. Permit Requirements:

5.1.1.6.10.1. Floor plan(s), two (2) elevations, one (1) each longitudinal and transverse sections and site plan.

5.1.1.6.10.2. Drawing dimensions should be to the appropriate scale. Minimum scale will be 1/8" = 1'-0" for plans and elevation, 1/4" = 1'-0" for sections, and 1" = 50' for the site plan (s). North arrow and Building Identification Number (BIN) will be shown on all floor and site plan (s). The sheet size is variable, but must be adequate for a clear submission. Approval of sheet size and bin will be obtained from the Project Manager prior to start of design.

5.1.1.6.10.3. Notes and dimensions will be sufficient to enable the reviewer(s) to analyze the submission for conformance to the project requirement and to evaluate the quality of design. Include tentative elevations of finish grade and each floor.

5.1.1.6.10.4. Material of construction will be identified in a general manner, i.e. masonry, concrete, curtain wall, steel, etc.

5.1.1.6.10.5. Required egress information:

5.1.1.6.10.5.1. Square footage of all interior spaces.

5.1.1.6.10.5.2. Square footage of all interior spaces as allotted per Scope of Work Attachment-A1.

5.1.1.6.10.5.3. Egress requirements showing calculated population, egress flow diagram, required exit units and area classification.

5.1.1.6.11. Reviews:

5.1.1.6.11.1. This submission will be made to DMPED for review by the user, the Construction Division and the Project Manager. Others may review for program conformance.

5.1.1.6.11.2. More than one (1) submission may be required before acceptance.

5.1.1.6.12. Budget Review:

5.1.1.6.12.1. Review construction budget to ensure Project Scope is consistent with budget amount.

5.1.1.6.12.2. The Architect-Engineer is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the Architect-Engineer will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DMPED.

5.1.1.7. **Deliverables:**

5.1.1.7.1. Preliminary Evaluation

5.1.1.7.2. Preliminary Design

5.1.1.7.3. Existing Conditions Report

5.1.1.7.4. Site Survey

5.1.1.7.5. Hazardous Material Report

5.1.1.7.6. MEP Assessment

5.1.1.7.7. Project Program

5.1.1.7.8. Code and Regulatory Report

5.1.1.7.9. DC Green Building Act/LEED Report

5.1.1.7.10. Summary of Options

5.1.1.7.11. Budget Review

5.1.1.7.12. Other items as required in the Scope of Work

5.1.2. Schematic Design Phase:

The goal of this sub-phase is the preparation and approval of schematic design documents. These shall consist of architectural drawings, and 2D, 3D and digital modeling, as necessary, to fully describe a design that is consistent with the District's program, and meets all issues raised in the Project Requirements document. It shall also include a schedule and a Cost Estimate. The Schematic Design documents shall be submitted for the Client's written approval.

If required, the completed schematic design shall be submitted as the "Concept Design" submission for preliminary design review by oversight agencies such as DCRA, CFA, NCPC and Zoning/BZA.

5.1.2.1. Definition:

The Schematic Design Phase consists of drawings, description of materials, area tabulations and all other graphic representations necessary to convey the project's concept. The Architect-Engineer will schedule a pre-design conference immediately after approval of the preliminary evaluation and design phase. The purpose is to establish both a mutual understanding of the project and a common acceptance of the proposed engineering system(s). In-depth discussion will require simple plans and will develop acceptable Engineering solutions to be included within the Construction Documents.

5.1.2.1.1. The Schematic drawings will be developed from the annotated Preliminary Evaluation and Design Phase drawings. These drawings will be accurate, sufficiently complete architecturally to enable an exhaustive check for conformance to the Scope of Work. All pertinent information must be included. These documents should confirm that all items identified in the Preliminary Report have been addressed, including but not limited to:

5.1.2.1.1.1. Existing Conditions (Site and MEP)

5.1.2.1.1.2. Site Survey

5.1.2.1.1.3. Hazardous Materials

5.1.2.1.1.4. MEP Assessment

5.1.2.1.1.5. Project Program

5.1.2.1.1.6. Code/ADAAG

5.1.2.1.1.7. Green/LEED, including fully completed LEED Checklist

5.1.2.1.1.8. Summary of Options

5.1.2.1.1.9. Budget Review

5.1.2.1.2. The Architect-Engineer will schedule a pre-design conference immediately after approval of the Preliminary Evaluation and Design Phase. The purpose is to establish both a mutual understanding of the project and a common acceptance of the proposed engineering system(s). In-depth discussion will require simple plans and will develop acceptable Engineering solutions to be included within the Construction Documents.

5.1.2.1.3. The Engineering drawings prepared in the Schematic Design Phase will include information and written comments that will be sufficiently complete to portray, on sheets for each discipline, the proposed engineering systems. The drawings for this phase may be prepared to a convenient and easily read scale.

5.1.2.2. Subject Matter:

5.1.2.2.1. Floor plan(s), four (4) elevations, one (1) each longitudinal and transverse sections and site plan.

5.1.2.2.2. Drawing dimensions should be to the appropriate scale. Minimum scale will be 1/8" = 1'-0" for floor plans and elevations, 1/4" = 1'-0" for section, 1/2" = 1'-0" for typical wall sections, and 1' = 50" for plot plan. North-arrow will be shown on all floor and site plans(s). The sheet size is 29" x 41" (unless modified in Scope of Work Attachment-A1), and must be legible, clear, and easily read.

5.1.2.2.3. Notes and dimensions will be adequate for the information required.

5.1.2.2.4. All rooms will be identified and sized, typical furnishing and equipment to be named and location, elevations to be developed identifying façade to include fenestration types and openings, site development, overall dimensions, approximate floor and finish grade elevations.

5.1.2.2.5. A description of materials in which will be included the proposed engineering systems (structural, mechanical and electrical), materials of construction, and other information describing the project. This will include indicating

intended locations and provisions for mechanical systems, meter rooms, duct chases, etc.

5.1.2.2.6. Provide on the drawings (within the confines of the area delineated), the seating capacity of assembly halls, auditoriums, gymnasiums and stadiums, plus any other spaces when identification of capacity is essential to the determination of compliance with the Code and Scope of Work.

5.1.2.2.7. The requirements of the Building Code will be equaled or exceeded. For egress, show the calculated population, egress flow diagram (complex system), identify required, existing and the area classification. Also identify the type of occupancy, type of construction, fire safety requirements, etc.

5.1.2.2.7.1. Include ADA diagrams confirming code and ADA compliance, and any special provisions required.

5.1.2.2.8. LEED Assessment (See Scope of Work Attachment-A1, Section 3)

5.1.2.2.9. General submission requirements for all projects: The Architect-Engineer must provide on each plan drawing, the gross square foot area of each plan or plans on the sheet. On the cover or index sheet, provide the gross square footage of the complete building project. The area of the site is to be expressed separately in terms of gross area.

5.1.2.2.9.1. The required information is applicable to each review submission and will be prominently called out and shown as follows:

5.1.2.2.9.1.1. When a single floor plan only is shown, the square footage is to be placed in proximity of the Title Block. If more than one floor plan is shown on a sheet, show square footage as a part of floor plan identification. For example: (2nd Floor Plan; Area = _____ square feet, etc.).

5.1.2.2.9.1.2. On the cover or index sheet, the required information may be

shown by “Key Plan” or schedule. The Architect-Engineer shall prepare, but need not submit, computations in support or aggregate figures unless requested.

5.1.2.2.9.1.3. Area will be computed as set forth in item 4.4.11.

5.1.2.3. Architectural:

5.1.2.3.1. The sheets will incorporate preliminary evaluation and Design Phase comments and additional sheets as may be required for the Architect-Engineer to accomplish its work.

5.1.2.3.2. Topographic survey information, either official or taken by Architect-Engineer.

5.1.2.3.3. The computation developed to determine egress requirements.

5.1.2.3.4. Descriptive Specifications, not in detail, but that describe the project, its intent, and its systems and identifies key areas for consideration or that will require additional study.

5.1.2.3.5. Preliminary Cost Estimate representing the likely cost, possibly established on a per-system or per-square foot basis, of the Schematic design. This should accompany each Schematic Option if there is more than one.

5.1.2.4. Structural:

5.1.2.4.1. Live and dead loads.

5.1.2.4.2. Proposed Structural system with the back-up information use to make the selection.

5.1.2.4.3. Foundation system based on sub-soil data.

5.1.2.4.4. The proposed structural system to be shown on the plans in a legible, simple manner.

5.1.2.5. Electrical:

5.1.2.5.1. Lighting level, based on Illumination Engineering Society (IES) standard, listing of security, fire alarm, telephone and data communication systems.

- 5.1.2.5.2. Luminaire types, in general.
 - 5.1.2.5.3. Preliminary electrical load, selected voltage level to be applied.
 - 5.1.2.5.4. The major components and services to be drawn on the plans in a legible, simple manner. Include room and approximate area requirements for control panels.
 - 5.1.2.5.5. Written analysis, when applicable, explaining the comparative advantages of one or more systems and the reasons for selection of the recommended system.
 - 5.1.2.5.6. Prior to this meeting, the consultant shall have conferred with all utility organizations and have their comments regarding availability of service, their recommendation for type, etc.
- 5.1.2.6. **Mechanical (HVAC):**
- 5.1.2.6.1. Heat loss/heat gain load calculations (Block Load) for the building as a whole.
 - 5.1.2.6.2. Assumed quantity and approximate area requirement for boilers, chillers, air handling units, compactors, elevators, and all other equipment to be installed in mechanical room(s) and other rooms or spaces.
 - 5.1.2.6.3. Draw on the plan in a legible and simple manner all rooms and spaces for the required equipment. Show the equipment layout to scale in it proper relationship.
 - 5.1.2.6.4. Written analysis explaining the comparative advantages of one or more systems and the reason for selection of the recommended system.
- 5.1.2.7. **Plumbing:**
- 5.1.2.7.1. Draw in the plans in a legible and simple manner all rooms and spaces identifying all plumbing fixtures.
 - 5.1.2.7.2. Prior to the pre-design meeting the consultant shall have conferred with all utility organizations and have their comments regarding availability of service, their recommendations for type, etc.

5.1.2.8. Specifications:

5.1.2.8.1. Outline specifications including all of the likely relevant CSI sections, with basic scope identified (e.g. CSI Section 8: Windows shall include replacement ‘monumental’ metal windows for all existing exterior walls, and new ‘residential’ wood windows for the North wing extension. Windows surrounding the main entry shall be repaired and restored.)

5.1.2.9. Reviews:

5.1.2.9.1. The review submission(s) will be delivered to DMPED for review by the user and the Project Manager. Others may review for aesthetics, orientation and placement.

5.1.2.9.2. If the project is to be submitted to either the US Commission of Fine Arts (CFA), the Historic Preservation Review Board (HPRB), the National Capital Planning Commission (NCPC) or the Community, the Architect-Engineer shall prepare a set of plans for a formal presentation by mounting on board stock (board mounting not required for NCPC), by shading, by crisp black lines and bold, clear lettering. The submissions may be reviewed by Commission members from a distance of ten to twelve feet; hence prepare this submission accordingly. At the option of the Architect-Engineer, a rendering may be prepared for submission to CFA; if the work is accepted and the rendering remains correct, it may be used as the one for which DMPED has contracted. A model is optional except as specified in Scope of Work Attachment-A1. If the Architect-Engineer has prepared a study model for office use, it may be submitted in both Commissions’ scheduled monthly meetings. The dates for these meetings may be obtained from the Project Manager.

5.1.2.9.3. If the submission is rejected by DMPED, the Architect-Engineer may revise and resubmit promptly; if CFA or NCPC rejects the submission, the earliest resubmission time is one (1) month. It is incumbent upon the Architect-Engineer to carefully and completely prepare the submission.

5.1.2.9.4. It is entirely the Architect-Engineer’s responsibility to prepare a design acceptable to all authorized review agencies.

5.1.2.9.5. The Architect-Engineer is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the Architect-Engineer will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DMPED.

5.1.2.9.6. Acceptance of this submission by the authorized review agencies establishes the aesthetics and the configuration of the project. Only minor refinements of these items will be permitted thereafter. However, interior spaces and operating systems continue to be subjected to intensive review and adjustment.

5.1.2.10. Deliverables:

5.1.2.10.1. Schematic Design Drawings

5.1.2.10.2. Area Tabulations

5.1.2.10.3. LEED Assessment

5.1.2.10.4. Preliminary Cost Estimate

5.1.2.10.5. Structural loads and systems

5.1.2.10.6. Electrical loads and written analysis as needed

5.1.2.10.7. Heat loss/gain load and written analysis as needed

5.1.2.10.8. Descriptive Specifications

5.1.2.10.9. Special Reports as required (e.g., Commission of Fine Arts)

5.1.2.10.10. Other items as required in the scope of work

5.2. Design Development Phase:

The purpose of this phase is to develop the design approved in the Schematic Design phase, and complete all design-related decisions – esthetic or technical – for the Client’s approval. During this phase, the Architect-Engineer shall illustrate and describe the developed design and its systems, and prepare architectural drawings and other documents required to fix and describe the size and character of the Project, with outline specifications that identify major materials and systems, and establish their quality levels. All studies and technical models necessary to fully develop the environmental design aspects of the project, and an updated cost estimate shall be completed during Design Development as well. The Design Development documents shall be submitted for the Client’s written approval.

5.2.1. Definition:

The Design Development Phase consists of basic plans, elevations, sections and details with computation and analyses of all disciplines required for the project.

5.2.2. Subject Matter:

5.2.2.1. Typical submissions for the review of the Design Development phase will include the following suggested features. The plans and specifications will include all information necessary to enable a valid judgment of the final design as developed by the Architect-Engineer.

5.2.2.2. Existing Conditions Plan showing locations of previously demolished structures, structures to be demolished by others and any other changes that are expected to occur on the site between the time the topo survey is made and the time the site is released to the Contractor for its construction operations. Information shown on this drawing will include, but not necessarily be limited to, the following: (i) outline of proposed structures; (ii) locations of demolished structures and rubble fills in basements, areaways, vaults, etc.; (iii) locations of all structures, wall, walks, curbs, trees, paved areas, etc., remaining on the site; (iv) a complete scope and clear definition of all site work to be performed by the contractor related to existing conditions that involve demolition and removal of existing structures, retaining walls, areaways, vaults, walks, footings, basement slabs, paving, etc., removal of rubble and other fills, removal of trees, etc. Existing conditions plan will show relationship of existing conditions to new construction in both horizontal and vertical planes of reference.

5.2.2.3. Site Plan at a scale not less than 1 " = 20'-0" showing and/or including location and dimensions of: (i) proposed building(s); (ii) existing proposed sidewalks, street, exterior utilities, property lines, paved areas, play areas, service and parking areas; (iii) existing streets or alleys to be closed; (iv) total square feet; (v) extent of contract lines, and (vi) Building identification number (to be furnished by DMPED), include street addressed, lot and square feet numbers (for all projects).

5.2.2.4. Reflected ceiling plans – structural members both heads, horizontal and vertical, luminaries, HVAC registers, sprinkler beads, electronic devices, all other exposed items, and ceiling material layout. Wherever, in the ceiling space, ducts, conduits, beams, etc. indicate possible acute congestion, a vertical section will be included establishing adequate clearances.

5.2.2.5. Elevations – fully completed indicating materials, fenestration, finish grade, etc.

5.2.2.6. Sections – identification, longitudinal and transverse sections, all wall sections, stair sections, vertical transportation sections, and all other sections, as needed.

5.2.2.7. Details – door and window, all other as needed.

5.2.2.8. Schedule – completed.

5.2.3. Architectural:

5.2.3.1. All floor plan sufficiently complete for exterior building dimensions and interior dimensions of all major partitions; floor elevations; all windows, openings, door and door swing; other items in keeping with this degree of completion.

5.2.3.2. Site plans sufficiently complete for location of improvements showing the existing topography, point elevations for finish grade in the vicinity of the improvements, location of all existing utilities and clearly identifying each with its capacity, other items in keeping with this degree of completion.

5.2.3.3. All elevations sufficiently complete to show all prominent features of the building; i.e., doors, windows, steps, roofs, projections, eaves; other items in keeping with this degree of completion.

5.2.3.4. Sections sufficiently complete to show foundation support, foundation, exterior walls, interior floors, roof, etc.; dimensions vertically and all walls and partitions horizontally; sections to be shown are longitudinal, transverse, others of all major elements, stairs outlined; other items in keeping with this degrees of completion.

5.2.3.5. Architect-Engineer’s selection of details to be sufficiently complete in keeping with this degree of completion.

5.2.3.6. Room finish schedule identifying basic materials.

5.2.4. Structural:

5.2.4.1. All floor plans, foundations plan and roof plan sufficiently complete for all major structural components to be dimensioned and sized; other items in keeping with this degree of completion.

5.2.4.2. Soil boring plan and log; both complete.

5.2.4.3. Sections sufficiently complete to show foundation support, foundation, walls, columns, beams, girders, joists, floors, roof; all typical and major atypical conditions; other items in keeping with this degree of completion.

- 5.2.4.4. Schedules completed and coordinated for all typical and major atypical elements.
- 5.2.4.5. Complete and coordinate computations for all typical and major atypical members.
- 5.2.5. **Electrical:**
 - 5.2.5.1. All floor plans with luminaries, convenience outlets, power outlets, and all other electronic communication, and all attendant systems that are to be provided.
 - 5.2.5.2. Required equipment rooms to be shown with location of major components and services; service equipment, panel-boards, motor starter centers, substations, switchboards, transformers.
 - 5.2.5.3. Computerized computations for correct lighting levels; lighting levels tabulated for the various spaces; total estimated power requirements; calculations indicating selection of voltage; other items in keeping with this degree of completion.
- 5.2.6. **Mechanical (HVAC):**
 - 5.2.6.1. All floor plans showing heating and cooling equipment to scale; all other equipment previously named will be drawn to scale.
 - 5.2.6.2. Computerized computations for each room, area and zone, with design factors and assumptions. Provide all reference for data used.
 - 5.2.6.3. A baseline energy model will be developed, reflecting the accepted Schematic Design. During Design Development, the baseline is what “improved performance” will be measured against.
 - 5.2.6.4. Other items in keeping with this degree of completion.
- 5.2.7. **Plumbing:**
 - 5.2.7.1. All floor plans showing the plumbing equipment to scale.
 - 5.2.7.2. Computations for determining equipment and piping sizes.
 - 5.2.7.3. Other items in keeping with this degree of completion.
- 5.2.8. **Color Charts:**

Color charts will be submitted as follows:

- 5.2.8.1. Color charts will be prepared and submitted with Color Design Section of specifications.
- 5.2.8.2. Individual boards will be approximately 12” x 15”. Display an actual sample whenever practicable of each color specified for every material used. Number of display boards will depend on site and quantity of samples.
- 5.2.8.3. Miniature samples should be used if possible. Lithographs generally are not acceptable. For ceramic floor tiles, use sufficient individual tiles to show pattern.
- 5.2.8.4. Paper reproductions of items such as metal partitions, steel equipment, laminated plastics, porcelain enamels, and similar facsimiles which appear to be actual finishes specified are acceptable.
- 5.2.8.5. Where large and/or heavy samples (e.g. brick, cast stones, etc.) are required, it is not necessary to mount these on display boards, however, they must be properly identified with project name and number, D.C. Color Code and manufacturer’s identification.

5.2.9. Computerized Design Analyses:

- 5.2.9.1. The Architect-Engineer shall prepare design analyses in reproducible form complete in such detail as to accurately reflect the development of all engineering design, and sufficient to support all design work prepared to date. Mechanical and Plumbing Design Analysis will: (i) be complete and will include detailed room by room heat loss and heat gain calculations; (ii) load summaries; (iii) detailed equipment selection calculations with major performance data and dimensions of all major equipment items; (iv) air balance calculations; (v) ventilation calculations; and (vi) pipe and duct sizing, diagrams, etc.

5.2.9.2. Computer Software:

Software to be used for HVAC Design Analysis will be either Carrier Co.’s “E-20” or Trane Co.’s “Trace” program or other approved. For Plumbing Design Analysis, use Elite software or other approved. Approval must be obtained from DMPED prior start of Design analyses.

5.2.10. Preliminary Draft Specifications:

The Architect-Engineer shall prepare and submit outline specifications using the current CSI MasterFormat, giving principal characteristics of construction materials and finishes to be used in each principal area and for each feature of construction, together with types and capacities of equipment. Specifications

may be included on each drawing to which they are pertinent, or they may be prepared on letter size sheets and properly keyed for identification with areas to which they are pertinent as illustrated on the drawings.

- 5.2.10.1. For all projects involving repairs, restoration, alterations or additions, and/or unless otherwise stipulated in the Scope of Work, or subject construction documents, it is the requirement that all walls, ceilings and floor finishes will “MATCH EXISTING” with respect to color, texture, quality of material and all architectural details contained within and utilized in a space or area. This requirement will also apply to contiguous areas and spaces when visual continuity and aesthetic consideration dictate a “MATCH OF EXISTING”.
- 5.2.10.2. The requirement set forth above will also apply to all types of fixtures, trim, sash, doors, cabinetry, and hardware, unless same will no longer be manufactured or meet code requirements. In this event, it will be incumbent upon the Architect-Engineer to call out and present alternate solutions with cost estimates to the DMPED, or the authorized representative, for consideration.
- 5.2.10.3. Historic facilities listed in the Federal and/or District Register are subject to the constraints of Public Law as pertains to HISTORIC PRESERVATION. Projects in this category will receive special consideration and are subject to special reviews and approval by Agencies and Commissions established for this purpose such as the Historic Preservation Review Board (HPRB). Consult with the Project Manager for details.
- 5.2.10.4. Reference is made to sections 4.3. “Construction Documents Phase” and 4.4. “Compliance Submission Phase”. The Architect-Engineer, in preparing these documents, will make sure that the intent and specific features and requirements called-out in the “Approved Outline Specifications” are properly and fully translated into these documents. No significant deviation will be permitted unless prior approval has been granted by the DMPED.
- 5.2.10.5. Responsibility of the Architect-Engineer is stipulated in Section 4 of the General Provisions, Attachment-B. The Architect-Engineer is cautioned that notwithstanding its receipt of documents from the Project Manager such as “Original Bid Documents”, “As-Built”, etc., the Architect-Engineer will be held fully responsible to make a comprehensive site investigation to confirm and/or determine actual existing conditions in every significant detail. The importance of this effort cannot be overemphasized where the design objective is to “match the existing” and avoid conflict of new work with the existing.

5.2.11. Rendering:

The Architect-Engineer shall submit one (1) perspective rendering in color, when required by Scope of Work Attachment-A1. Rendering will be of professional quality and will be furnished matted, suitably framed, protected with non-glare glass, and ready for 'hang' mounting. Additionally, the Architect-Engineer shall be guided by the following:

5.2.11.1. Preliminary Sketch Submission: A preliminary sketch of the proposed rendering will be submitted for DMPED review and approval with respect to items 4.2.12.2., and 4.2.12.3., below prior to proceeding for finalization.

5.2.11.2. Size: The rendering will be appropriate for the scale of the building portrayed and as may otherwise be dictated by good practice and pleasing proportions. Generally, any overall dimensions (including frame) in excess of approximately 30" x 40" will not be considered necessary.

5.2.11.3. Perspective Viewpoint: It may be either eye-level or bird's-eye view taken from a point which will best show the scope and aesthetic quality of the project. At least one full principal façade must be shown. Foregrounds for purposes of relating to scale, may show persons, landscaping, vehicles, equipment, etc., provided they do not obscure important architectural elements or otherwise invite attention away from the primary purpose of the rendering which is the delineation of the architectural quality of the building. Shade and shadows will be used to emphasize architectural and other features as appropriate.

5.2.11.4. Medium: Renderings will be computer generated unless otherwise specified.

5.2.11.5. Project Title and Credits: The title of the project (not project number) will be appropriately placed on the lower portion of the matted area along with name of the Architect-Engineer of record. If the project has, or is to have, a "dedicated" name, use same for the title. The delineator may Sign and date his work in a discreet manner directly on the rendering.

5.2.12. Construction Cost Estimate:

5.2.12.1. The estimating procedure will be in accordance with CSI (Construction Specifications Institute) MasterFormat standards. In preparing the estimate at this stage, it is recognized that many items will not have been ascertained to a point where a quantity survey is possible. Nevertheless, a number of the general construction features

will have been selected which will permit an itemization of basic quantities under the major branches of work, such as: general excavation, concrete, masonry, etc. In those instances where insufficient information has been developed to determine specific quantities, systems, fixtures, or equipment, an appropriate allowance may be indicated. For each allowance, an explanation of its development will be included. This preliminary estimate will show separately (a) the cost of each new building or addition, (b) the work in existing buildings, and (c) costs of all work outside the buildings. The estimate will be broken down to show the cost analyses or allowances (noted as such) based on these units. As example: building construction cost will be shown separately from mechanical and equipment costs and these will be separated into the various trades and types in the summary sheets to the degree practical at this stage of development. Similarly, outside work will show components of grading, roads and sidewalks, landscaping, sanitary and electrical services, etc. Computer software such as "Means" or other approved software will be used in developing construction cost estimates.

5.2.13. Reviews:

- 5.2.13.1. This review submission will be delivered to DMPED for review by the user, Design and Engineer Division/DGS and other agencies that have a required input.
- 5.2.13.2. This scheduled review submission must be complete to the degree described. If any discipline is not completed thus. The entire submission will be returned. It is the Architect-Engineer's responsibility to ascertain that all work is done to this level, qualitatively and quantitatively, prior to making a submission. The Department of General Services will usually decide the adequacy of a submission by the working day from the date submission is made.
- 5.2.13.3. The Architect-Engineer is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the Architect-Engineer will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DMPED.
- 5.2.13.4. Acceptance of this submission by the authorized review agencies establishes the project's structural, mechanical, electrical, HVAC, plumbing and other systems as required. Additionally, site, landscaping, architectural, structural, mechanical, plumbing and electrical plans; sections; elevations; typical construction details; and exterior and interior materials and finishes are defined to fix and describe the size and character of the Project as may be appropriate. The budget estimate is now based on comprehensive design and

systems. Outline specifications are provided to establish in general their quality levels.

5.2.14. Deliverables:

5.2.14.1. Design Development Drawings (including all technical sections described above)

5.2.14.2. Baseline Energy Study Update

5.2.14.3. Color Charts

5.2.14.4. Computerized Design Analysis

5.2.14.5. Preliminary Draft Specifications

5.2.14.6. Rendering as required by Scope of Work

5.2.14.7. Construction Cost Estimate

5.2.14.8. Other items as required in the Scope of Work

5.3. Construction Documents Phase:

The purpose of this phase is to prepare the Construction Documents for the District's DGS and DCRA Approval. The Construction Documents shall illustrate and describe the complete development of the approved Design Development Documents and shall consist of a complete set of Drawings and Final Specifications setting forth in detail the quality levels of materials and systems, and other requirements for the construction of the work. A detailed Cost Estimate of the work will be prepared. The Construction Documents and the Cost Estimate shall be submitted for the Client's written authorization before permitting. Upon receipt of that authorization, the AE shall submit to appropriate governmental authorities having jurisdiction over the Project, and acquire their permit(s). Further, the AE shall provide the permitted sets and specifications to the District, which will prepare the documents for bidding.

5.3.1. Definition:

5.3.1.1. This review will be at the completion of the construction documents and known as Construction Documents Phase. This is the development of the documents that constitute the Contract for Construction. Included for this review will be complete plans, specifications in draft form, final estimate, and final detail computations. This submission requires that the plans be complete and ready for issue to bidders including the specifications.

5.3.1.2. Notes and dimensions will be adequate for the information required.

- 5.3.1.3. The Architect-Engineer is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the Architect-Engineer will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DMPED.
- 5.3.1.4. Drawings will be complete and prepared using Computerized Graphic Software as specified by the Project Manager as specified in the Scope of Work Attachment-A1.
- 5.3.1.5. The plans will be printed as follows:
 - 5.3.1.5.1. Size 29" x 41" trim line unless stipulated otherwise in Scope of Work Attachment-A1, inside border 1-1/2" on binding edge, 1/2" on other edges.
 - 5.3.1.5.2. Optimum readability is a requirement at full size reproduction.
 - 5.3.1.5.3. A graphic scale will be shown on each drawing for each scale used.
 - 5.3.1.5.4. The quality and spacing of lines on the drawings must be carefully controlled. Clear space between parallel lines should always be of greater width than the adjoining lines.
 - 5.3.1.5.5. All lettering will be vertical capitals with an open quality and will be not less than 1/8" high.
 - 5.3.1.5.6. Material symbols must be bold and not dense.
 - 5.3.1.5.7. Do not use any kind of half tone or opaque shading or hatch except solid black on the face of the drawings where applicable for small or thin sections.
 - 5.3.1.5.8. Drawings will be of the best quality for possible scanning reproduction.
 - 5.3.1.5.9. The format and wording of the title block to be used on the drawings will be approved by DMPED before proceeding with printing of blank reproducible sheets.
- 5.3.1.6. Specifications will follow MasterSpec (Latest Version) to be used as a guide; deleted, appended and corrected by the Architect-Engineer. DMPED will review and note the comments with required changes prior to its return to the Architect-Engineer.

5.3.2. Subject Matter:

The minimum work accomplished for the review will have progressed to the levels hereinafter described:

5.3.2.1. Site**5.3.2.2. Topographical Survey of site (section 3.1.2.).**

5.3.2.3. Existing Conditions Plan showing locations of previously demolished structures, structures to be demolished by others and any other changes that are expected to occur on the site between the time the topo survey is made and the time the site is released to the Contractor for its construction operations. Information shown on this drawing will include, but not necessarily be limited to, the following: (i) outline of proposed structures; (ii) locations of demolished structures and rubble fills in basements, areaways, vaults, etc.; (iii) locations of all structures, wall, walks, curbs, trees, paved areas, etc., remaining on the site; (iv) a complete scope and clear definition of all site work to be performed by the contractor related to existing conditions that involve demolition and removal of existing structures, retaining walls, areaways, vaults, walks, footings, basement slabs, paving, etc., removal of rubble and other fills, removal of trees, etc. Existing conditions plan will show relationship of existing conditions to new construction in both horizontal and vertical planes of reference.

5.3.2.4. Site Plan at a scale not less than 1" = 20'-0" showing and/or including location and dimensions of: (i) proposed building(s); (ii) existing proposed sidewalks, street, exterior utilities, property lines, paved areas, play areas, service and parking areas; (iii) existing streets or alleys to be closed; (iv) total square feet; (v) extent of contract lines, and (vi) Building identification number (to be furnished by DMPED), include street addressed, lot and square feet numbers (for all projects).

5.3.2.5. Sub-soil information drawing (see Section 3.1.3.)

5.3.2.6. Landscape Plan at a scale not less than 1" = 20'-0", identifying plant material and location of same and including a list of materials.

5.3.2.7. Architectural: (min. scale 1/8" = 1'-0") at appropriate scales to adequately describe the work.

5.3.2.8. Floor plans – dimensioned, completely referenced partitions and fixed equipment located, doors and windows, egress location and identification of sections, details, and other pertinent data.

- 5.3.2.9. Reflected ceiling plans – structural members both heads, horizontal and vertical, luminaries, HV AC registers, sprinkler beads, electronic devices, all other exposed items, and ceiling material layout. Wherever, in the ceiling space, ducts, conduits, beams, etc. indicate possible acute congestion, a vertical section will be included establishing adequate clearances.
 - 5.3.2.10. Elevations – fully completed indicating materials, fenestration, finish grade, etc.
 - 5.3.2.11. Sections – identification, longitudinal and transverse sections, all wall sections, stair sections, vertical transportation sections, and all other sections, as needed.
 - 5.3.2.12. Details – door and window, all other as needed.
 - 5.3.2.13. Schedule – completed.
 - 5.3.2.14. All other – fully complete in keeping with the spirit and intent of the plans.
 - 5.3.2.15. Marked-up plans, computations, notes and a copy of the DMPED review comments (with annotated action taken by ARCHITECT-ENGINEER) from the previous submission.
- 5.3.3. **Civil:**
- 5.3.3.1. Plans - existing, removal, finish, all complete. Particularly the location and identification of all utility lines both existing and new. This information will be shown on the site plans.
 - 5.3.3.2. A copy of DMPED review comments on the previous submission.
- 5.3.4. **Structural:**
- 5.3.4.1. Floor Plans, foundation plan, roof plan – dimensioned, all structural members and/or system(s), location and identification of section(s) and details, and other pertinent data.
 - 5.3.4.2. Sections – identification, longitudinal and transverse sections, wall sections, stair sections foundation and foundation support sections, and all other major sections.
 - 5.3.4.3. Details – all details as needed.
 - 5.3.4.4. Schedules – completed.

- 5.3.4.5. Computerized Analysis – all computations including corrections necessitated at original submission review and changes made as the work progressed, as well as located on computer disk(s) with label(s) to show project No., project title and date.
- 5.3.4.6. Review comments (with annotated action taken by Architect-Engineer) on the previous submission.
- 5.3.4.7. All other: completed as needed.
- 5.3.5. **Electrical:**
 - 5.3.5.1. Floor plans, ceiling and roof plans - locations of luminaries, switches, wiring panels, switch gear and electrical room, service entrance, transformers, etc. All systems will be shown fully complete.
 - 5.3.5.2. Riser diagrams – all systems.
 - 5.3.5.3. Schedules – panels, fixtures, switchboard, etc.
 - 5.3.5.4. Computerized Analysis – complete lighting and final power load calculations including PEPCO information regarding available short circuit current and maximum permissible inrush current.
 - 5.3.5.5. All other – communications, security alarm, etc.
 - 5.3.5.6. Manufacturer’s catalogue cuts of power equipment, wiring devices and lighting fixtures.
 - 5.3.5.7. Marked-up plans, computations, notes and a copy of DMPED review comments (with annotated action taken by ARCHITECT-ENGINEER) from the previous submission.
 - 5.3.5.8. Miscellaneous utilities information from suppliers.
- 5.3.6. **Mechanical HVAC:**
 - 5.3.6.1. Floor plans, roof plan – all HV AC units, registers, louvers, controls, piping, ductwork and their sizes etc.
 - 5.3.6.2. Risers, control diagrams and description, all mechanical notes and details.
 - 5.3.6.3. Capacities of boilers, chillers, fans, pipe sizes, valves, expansion tanks, and other associated equipment, accessories and data as well as schematic flow diagram(s).

- 5.3.6.4. Complete computerized Analysis for each room – heat loss, heat gain, ventilation, and total building load with air supply/return and outside air.
- 5.3.6.5. Fuel tanks, piping, and sizes etc.
- 5.3.6.6. Equipment schedules, catalogue cuts.
- 5.3.6.7. Boiler and equipment room size and layout. Room layout and vertical sections (where needed) at 1/4 "scale, minimum.
- 5.3.6.8. Marked-up plans, computations, notes and copy of DMPED review comments (with annotated action taken by ARCHITECT-ENGINEER) from the previous submission.

5.3.7. Plumbing:

- 5.3.7.1. Floor plans, roof plan with vent, equipment locations and roof drains, all fixtures, hot and cold water with distribution, recirculation and waste piping, vents, drains, sprinkler system pumps, etc.
- 5.3.7.2. All riser diagram(s) to include water, sanitary, gas, sprinkler system, projection (option).
- 5.3.7.3. Schedules – completed and catalogue cuts.
- 5.3.7.4. Toilet and equipment room layouts at 1/4" scale, minimum.
- 5.3.7.5. Computerized load analyses and sizing calculations.
- 5.3.7.6. Marked-up plans, computations, notes and a copy of DMPED review comments (with annotated action taken by Architect-Engineer) from the previous submission.

5.3.8. 50% Specifications:

The Architect-Engineer shall be required to submit full Draft Specifications at the 50% Construction Document Phase.

The Architect-Engineer shall prepare and submit one (1) copy of the architectural, structural, mechanical, plumbing and electrical specifications for review and comment. Preparation of specifications will be accomplished by marking-up a copy of the latest version of the AIA ARCOM MASTERSPEC Specifications (as a guide) in accordance with the requirements set forth below, and with the addition of double spaced typed inserts and pages, bound in loose leaf folders, as well as loaded on computer disk (or CD) properly labeled with Project No., Project Title and date.

- 5.3.8.1. The Architect-Engineer shall procure latest version of AIA ARCOM MASTERSPEC Specification and use it as a guide. The Architect-Engineer shall modify the AIA ARCOM MASTERSPEC Specification as may be needed to meet the project requirement. Items appearing therein, which are not included in the project, will be omitted. New paragraphs and sections will be developed as required and will conform to the standard format, using section numbers format of the MASTERSPEC.
- 5.3.8.2. Proprietary materials and systems will not be indicated or specified without prior written approval of the Director, Department of General Services or the Director's authorized representative.
- 5.3.8.3. The use of trade and manufacturer's names to describe a product, material, fixture or type of construction will be avoided. If and when it becomes necessary to make such a reference, the specifications will state that the reference is made to establish a standard of quality and performance only, and not for the purpose of limiting competition.
- 5.3.8.4. Specifications for materials, equipment and fixtures will be written in terms of physical characteristics, chemical composition tests, performance, or any combination of these as may be applicable.
- 5.3.8.5. Specify only such articles, materials, and supplies as have been manufactured in the United States substantially from articles, materials, or supplies mined, produced, or manufactured (as the case may be) in the United States. This provision will not apply to such articles, materials, or supplies of the class or kind to be used or such articles, material, or supplies from which they are manufactured, as are not mined, produced, or manufactured, as the case may be, in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality, or to such articles, materials, or supplies as may be expected under the provisions of Title-III, Section 3, of the Act approved March 3, 1933, 47 Stat. 1520 (U.S. Code, Title 41, Sec. 10b), as amended.
- 5.3.8.6. One (1) copy of all manufacturers' catalogs, specifications or similar materials referred to in the specifications and/or plans will be submitted when requested by DMPED.

5.3.9. Final Specifications:

The Architect-Engineer shall submit Final Specifications at the end of the Construction Document Phase. Final Specifications will reflect all DMPED comments from the 50% Specification review and any missing elements not included in the 50% Specifications.

The Architect-Engineer shall prepare and submit two (2) copies of the complete specifications for review and comment. Preparation of specifications will be accomplished by marking-up a copy of the latest version of the AIA ARCOM MASTERSPEC Specifications (as a guide) in accordance with the requirements set forth above in the 50% submission, and with the addition of double spaced typed inserts and pages, bound in loose leaf folders, as well as loaded on computer disk (or CD) properly labeled with Project No., Project Title and date.

5.3.10. Miscellaneous:

5.3.10.1. Elevators, escalators, dumb-waiters, pneumatic tube, waste and other transportation systems.

5.3.10.2. Special equipment - swimming pools, food services, etc.

5.3.10.3. Trash and disposal equipment.

5.3.11. Construction Cost Estimates:

5.3.11.1. The cost will be based on an accurate detailed quantity survey of both labor and material. Any approved standard estimating procedure will be acceptable provided that the conclusions are presented in the order and detail shown on the CSI MasterFormat. Lump sums or allowances for major items of the estimates will not be used. However, quantity surveys that could be used to order materials, while desirable from a cost control viewpoint, are not necessary. For example concrete formwork may be priced on the basis of square area for slabs, walls, beams, etc., rather than the actual quantity of lumber or metal formwork required. Plumbing take-offs will show the linear feet of various pipe sizes, but need not itemize fittings. Fittings may be calculated as a percentage allowance. The same procedure may be used for fittings on ductwork and electric conduit where appropriate.

5.3.11.2. Bidding Alternates are to be indicated on the Recapitulation Form by adding an additional column or columns and adjusting the appropriate items.

5.3.11.3. Explanation of Terms on Recapitulation Form:

Gross Building Area: The gross square foot areas will include all spaces (including all openings in floors) measured to the exterior surfaces of the enclosing walls for all floors, basements, balconies, mezzanines, usable attics, service and equipment rooms, penthouse(s), enclosed passages, and tunnels. The total will include ½ the gross area for pitched roof space (not usable attic), roof enclosures, cornices, areaways, pipe spaces, crawl spaces, covered areas, such as open play areas under buildings, and all other unfinished excavated spaces. The

item 1.0 “General Expenses” on the Recapitulation Form: These are the costs experienced by the General Contractor, which are not covered in the other items enumerated on the Recapitulation Form.

5.3.11.4. The computation copy will be sharp and legible.

5.3.12. Reviews:

5.3.12.1. This review submission will be delivered to DMPED for review by the user, Design and Engineer Division/DGS and other agencies that have a required input.

5.3.12.2. This scheduled review submission must be complete to the degree described. If any discipline is not completed thus. The entire submission will be returned. It is the Architect-Engineer’s responsibility to ascertain that all work is done to this level, qualitatively and quantitatively, prior to making a submission. The Department of General Services will usually decide the adequacy of a submission by the working day from the date submission is made.

5.3.12.3. The Architect-Engineer is required to design within budget at every stage of design unless otherwise authorized. If the design is over the budgeted amount, the Architect-Engineer will redesign the submittal until the scope and budget differences are resolved to the satisfaction of DMPED.

5.3.12.4. Acceptance of this submission by the authorized review agencies establishes the project’s further development of the approved Design Development Documents and shall consist of drawings and specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The Architect-Engineer shall also incorporate into the construction documents the design requirements of government authorities having jurisdiction over the project. Any adjustments to the budget estimate shall be reviewed and resolved.

5.3.13. Deliverables:

5.3.13.1. Construction Document Drawings

5.3.13.2. Topographic survey

5.3.13.3. Architectural - marked-up DMPED review comments from previous submission

5.3.13.4. Civil –marked-up DMPED review comments from previous submission

- 5.3.13.5. Structural computerized analyses and marked-up DMPED review comments from previous submission
- 5.3.13.6. Electrical computerized analyses, catalogue cuts and marked-up DMPED review comments from previous submission
- 5.3.13.7. Mechanical computerized analyses, equipment schedules, catalogue cuts and marked-up DMPED review comments from previous submission
- 5.3.13.8. Plumbing computerized load analyses, sizing calculations and marked-up DMPED review comments from previous submission
- 5.3.13.9. 50% Specifications
- 5.3.13.10. Final Specifications
- 5.3.13.11. Miscellaneous Reports (elevators, transportation, etc.)
- 5.3.13.12. Construction Cost Estimate
- 5.3.13.13. Other items as required in the Scope of Work

5.4. Compliance Phase:**5.4.1. Definition:**

- 5.4.1.1. The Compliance Phase will consist of all documents fully completed, signed and ready to print.
- 5.4.1.2. The plans will be in accordance with Section 4.3.1.2. as approved by the Project Manager prior to start of design, as well as accompanied by computer disk (or CD) loaded with the entire design work and with proper labels. The labels will identify project number(s), project title and date as well as agreement number.

5.4.2. Technical Specifications:

In accordance with the approved Draft, the Final Specifications will be prepared for reproduction by Photocopy. The electronic word processing file will be formatted for printing on sheets of 8-1/2" x 11" bond paper with margin for side binding, Times New Roman font type and black imprint. The Architect-Engineer shall submit in electronic format unless otherwise specified by the Project Manager. Wherever in the specification an item is designated to be installed or performed "where indicated" or "as shown on the drawings" or words of like import, it will be the responsibility of the Architect-Engineer to check such drawings and determine if such requirement is in fact shown and/or indicated with sufficient clarity so as to preclude the possibility of disagreement

as to contract requirement during the actual construction of the facility as designed.

5.4.3. Design Analysis:

The Architect-Engineer shall submit one two (2) copies of all final corrected design analyses, complete in every respect and one (1) set of electronic files with the entire Design Analysis. The electronic files will be labeled as indicated for previous submission.

5.4.4. Photographs:

The Architect-Engineer shall submit electronic digital images of the rendering in format specified by the Project Manager.

5.4.5. Completion:

Upon acceptance of this submission, the Architect-Engineer has fulfilled the initial terms of the contract.

5.6. Certification Of Drawings:

The Architect-Engineer shall certify that the drawings were prepared under the Architect-Engineer's supervision and that the Architect-Engineer acknowledges responsibility for their correctness by placing its professional license stamp and signing the final documents at the completion of compliance phase and again by stamping and signing those prints that will be submitted to the Department of Consumer and Regulatory Affairs, Permit Processing Center for a building permit.

5.7. Architect-Engineer Responsibility To Obtain Building Permits:

5.7.1. The Architect-Engineer shall be responsible for obtaining any such building permits and clearance as may be required for the construction of the Project (s). Permits and clearances are required by Public Law and D.C. Regulations. For example, if the project is located in a historic area or is a property listed on the register of historic places, clearances to proceed must be provided by either the Joint Committee on Landmarks or the Commission of Fine Arts. The conduct of preliminary reviews at the conceptual design stage in conjunction with the Permit Center is encouraged and recommended, particularly, when complex or high cost projects are involved. Step 1 in the procedure for review and permit issuance is to initially contact the Permit Information Counter (the location and telephone number can be obtained from the Project Manager). Other examples of permits and clearances are DCARA, DDOT, DDOE, DOH, SHPO, WASA, etc. The Architect-Engineer shall develop a responsibility matrix listing all permits and clearances for the Project, including timing, responsibility, who pays and status.

- 5.7.2. The Architect-Engineer shall submit five (5) sets of drawings to the permit processing center. The Center will retain one (1) set for their permanent file. The remaining four (4) sets of approved drawings and the permit will be given to the Architect-Engineer who in turn will deliver the same to the Project Manager.
- 5.7.3. Be it known that the Architect-Engineer, for no additional fee, shall be responsible to make any and all such changes and/or corrections as may be required by the Department of Consumer and Regulatory Affairs; compliance being a mandatory requirement prior to the issuance of a permit.
- 5.7.4. Architect-Engineer compensation for performing these services shall be included as a part of the Title-I portion of the fee. The Permit to be applied for is not for private construction, but will be for District Owned, Department of General Services. Therefore, the permit will be issued “no fee”.
- 5.7.5. Title-I Services will not be considered 100% complete pending satisfactory accomplishment of the requirements set forth as above.