

Upgrade Facility Lighting

541-23-209

07-27-2022

TABLE OF CONTENTS

SECTION	TITLE
1.0	SCOPE OF WORK
2.0	GENERAL
3.0	PROPOSED CONSTRUCTION DOCUMENT SCHEDULE
4.0	MINIMUM REQUIREMENTS FOR DESIGN DEVELOPMENT (DD) SUBMISSION
5.0	MINIMUM REQUIREMENTS FOR 65% SUBMISSION
6.0	MINIMUM REQUIREMENTS FOR 90% SUBMISSION
7.0	MINIMUM REQUIREMENTS FOR 100% SUBMISSION
8.0	MINIMUM REQUIREMENTS FOR FINAL SUBMISSION
9.0	CONSTRUCTION PERIOD SERVICES

1.0 SCOPE OF WORK

1. The A/E (Architect/Engineer) firm shall provide all Programming, Design Submissions, Site Investigation/Field Verification Services, Construction Documents, Technical Specifications, Cost Estimates, Reports, and Construction Administration Services for the project "Upgrade Facility Lighting" located at the Louis Stokes Cleveland VAMC, Cleveland, Ohio.
2. This is a multi-phased project that will completely replace all non-LED lighting fixtures in the CARES Tower Floors A, B, 1, 3, 4, 5, 6. Additionally, the A/E shall verify that the lighting levels within the retrofitted areas are compliant with the latest TIL & IESNA Standards as well as addressing lighting occupancy sensors and dimming where applicable. A/E shall also verify if the upgrade to LED will have any adverse effects on the HVAC systems due to the removal of heating loads, etc.
3. This project will address any Facility Condition Assessment (FCA) issues that pertain to the project areas based on the most recent FCA report.
4. A/E firm shall develop construction documents for bidding for project award not to exceed the construction budget of **\$875,000** for construction bidding in Fiscal Year 2023.
5. A/E firm shall develop a phasing plan for this project. Develop project phases as necessary to minimize disruption to the continued operation of the Medical Center. Phasing plans for all disciplines are to be produced to show all of the work that is being completed in a specific phase on separate plan drawings; temporary partitions and contractor access doors that will be needed for the phase; temporary and final MEP connections that will need to be made for a fully functioning space at the end of a phase; and life safety travel distances at the end of each phase. The phasing plan shall include the scope and timing sequence of each identifiable phase or major activity. Each phase shall be described in terms of the work involved and the required preceding and follow-on activities, such as staff relocations, underground utility locating services, and medical equipment procurement.
6. A/E firm shall provide up to 4 Deduct Bid Alternates for a minimum of 10% or greater of the Construction cost.
7. Project Schedule is **210 Calendar days** from date of notice to proceed to complete Construction Documents, Technical Specifications and Cost Estimate of Construction. Completion of Construction Administration Services will be dependent upon award of Construction Contract.
8. As a part of this contract, the A/E firm shall field verify all existing conditions.
9. Six submissions are required (DD, 65%, 90%, 100%, and Final) plus a Bid Issue submission which constitutes a complete bid package consisting of drawings, specifications, and detailed cost estimate.
10. Provide brand name product list to the COR for preparation of the VA brand name/ equal memo and/or sole source justification.

11. Provide a submittal log based on final specifications.
12. Provide wayfinding locations and solutions if the project modifies any of the facility entrances.
13. Enhanced Commissioning – Will not employ a third-party commissioning agent for this project. However, the A/E shall provide notes on the drawings for the General Contractor to commission the Lighting Controls & Verify Lighting Levels, etc.
14. Independent Life-Safety Review – The VA will employ a third-party life-safety reviewer for this project to provide a peer review of the project to ensure that the design meets the requirements of the most current version of the NFPA 101 Life Safety Code. The A/E team shall work with the independent life-safety reviewer throughout the design and construction process to assure that the requirements of the NFPA 101 Life Safety Code are being met. A/E shall respond in writing to the independent life-safety reviewer review comments and incorporate any required changes into the Construction Documents.

2.0 GENERAL

1. The A/E firm shall prepare all necessary documents. Minimum submission requirements of each phase are outlined in the Design Submission Instructions (PG-18-15) located on the Technical Information Library on the CFM website (<http://www.cfm.va.gov/til/aeDesSubReq.asp>). Information within this SOW shall take precedence over conflicting information in the Design Submission Instructions document. The A/E firm shall edit and tailor the VA Master Construction Specifications as necessary to reflect the project technical requirements.
2. The VAMC will make available the design criteria, and CAD/ BIM files of the existing space. The VA record drawings are not to be expected accurate in all respects and the A/E firm is to verify all features affecting the project by field investigation.
3. A/E firm discussion with the VA Medical Center personnel concerning requirements will be arranged by and participated in by appropriate Engineering and VISN Contracting personnel. The A/E firm shall participate, when required, with the appropriate Project Chief and VAMC COR and other Services in review of project scope, design review comments, etc.
4. In each submission, the A/E firm shall re-submit the material specified in the prior submission, revised according to the comments made by the VAMC at the prior review. The A/E is to respond in writing addressing each VA comment.
5. The A/E firm shall pay particular attention to the fact that during the construction document stage, plans are not subject to change at the request of the VA Medical Center staff without the approval of the Chief, Engineering Service and the VISN Contracting Officer.
6. The A/E firm shall develop the project using BIM software.
7. The A/E firm shall follow the VA BIM guide when developing the BIM model (<https://www.cfm.va.gov/til/projREq.asp>).
8. Integrated Design: Use a collaborative, integrated planning and design process that initiates and maintains an integrated project team in all stages of a project planning and delivery. Establish performance goals for siting, water, materials, and indoor environmental quality along with other comprehensive design goals and ensure incorporation of these goals throughout the design and lifecycle of the building.
9. Master Construction Specifications are available at the VA website <http://www.cfm.va.gov/til/spec.asp> in Microsoft Word Format. The A/E firm shall provide as part of their service edited specifications to the VAMC for incorporation into the VA Bid Package.
10. All work shall be coordinated with current and upcoming projects to prevent any duplication of efforts. The VA will provide information regarding upcoming projects that may require coordination.
11. The floor plans for all disciplines shall be at the same scale as the Architectural drawings to facilitate coordination.
12. The VA has ownership of the rights at the date of Closeout Submittal to all CAD files, and Facility Data developed for the Project. The VA may make use of this data following any deliverables.
13. Design shall comply with applicable sections of the Technical Information Library on the Office of Construction and Facilities Management (CFM) website www.cfm.va.gov. Project is to be designed to

comply with the latest codes as outlined in the VHA Program Guide PG-18-3, Topic 1 – Codes, Standards, and Executive Orders on the TIL. A/E firm will be responsible for complete functional design and provide bidding documents meeting those requirements.

14. Design must comply with the requirements of the most current version of the Office of Electronic Health Record Modernization – OEHRM Site Infrastructure and End User Device (EUD) requirements guide. Contact VA for most current version.
15. Design must comply with the fire alarm zones and fire alarm node locations established under the “Upgrade Fire Alarm System” project (541-18-101).
16. The A/E firm shall carefully review all requirements of the latest edition of the Accreditation Manual for Hospitals, of the Joint Commission of Accreditation of Hospitals, with respect to design and operating requirements and report all conflicting conditions in writing.
17. Applicable chapters of VA Master Construction Specifications will be prepared by the A/E firm, including any necessary adaptations. VA HVAC Design Manual, VA Sustainable Design and Energy Reduction Manual, and, ASHRAE Standards 90.1-2004 and 90.1-2007, shall apply to specific design requirements. Refer to Contracting & Architect/Engineer Information and Technical Information Library on the CFM website www.cfm.va.gov for specific Contract Document requirements.

3.0 PROPOSED CONSTRUCTION DOCUMENT SCHEDULE

- A. The first submission is the Design Development (DD) Submission and shall be submitted within 35 days after contract notice to proceed.

This submission shall include:

1. Construction drawing prints - 5 sets half-size (15x21)
 - a. 5 sets are to be delivered to Engineering
2. Preliminary cost estimate
3. AutoCAD and PDF drawing files provided on CD or posted to A/E FTP site.
4. Narratives
5. Calculations

- B. There will be a 14-day VA review period of the Schematic Design Submission by the VAMC.

- C. The second submission is the 65% Construction Document Submission and shall be submitted 28 days after VA approval and comments on the Design Development submission (77 days after contract notice to proceed).

This submission shall include:

1. Construction drawing prints - 5 sets half-size (15x21)
 - a. 5 sets are to be delivered to Engineering
2. Cost estimate with Deduct Bid Alternates
3. 1 copy of the preliminary specifications on CD or posted to A/E FTP Site – no hard copy required.
4. AutoCAD and PDF drawing files provided on CD or posted to A/E FTP site.
5. Narratives

- D. There will be a 14-day VA review period of the 65% Construction Document Submission by the VAMC.

- E. The third submission is the 90% Construction Document Submission and shall be submitted within 42 days after VA approval and comments on the 65% submission (133 days after contract notice to proceed)

This submission shall include:

1. Construction drawing prints - 5 sets half-size (15x21)
 - a. 5 sets are to be delivered to Engineering
2. Updated and refined Cost estimate with Deduct Bid Alternates

3. Revised specifications – 1 hard copy and 1 digital file copied on CD or posted to A/E FTP Site
4. 1 copy of the preliminary specifications on CD or posted to A/E FTP Site – no hard copy required.
5. AutoCAD and PDF drawing files provided on CD or posted to A/E FTP site.
6. Narratives

F. There will be a 14-day review period of the 90% Construction Document Submission by VAMC.

G. The fourth submission is the 100% Construction Document Submission and shall be submitted within 35 days after VA approval and comments on the 90% submission (182 days after contract notice to proceed).

This submission shall include:

1. Construction drawing prints - 5 sets half-size (15x21)
 - a. 5 sets are to be delivered to Engineering
2. Updated and refined Cost estimate with Deduct Bid Alternates
3. Revised specifications – 1 hard copy and 1 digital file copied on CD or posted to A/E FTP Site
4. AutoCAD and PDF drawing files provided on CD or posted to A/E FTP site. Send to Engineering
5. Calculations

H. There will be a 14-day review of the 100% Construction Document Submission by VAMC

I. The fifth submission is the Final Construction Document Submission and is to be submitted within 14 days after VA approval and comments on 100% submission (210 calendar days after contract notice to proceed). This issue will be sent for Capital Asset Manager, Contracting, and Legal / Technical Reviews.

This submission shall include:

1. Construction drawing prints - 6 sets half-size (15x21)
 - a. 6 sets are to be delivered to Engineering
2. Final specifications - 2 hard copies and 1 digital copy on CD or posted to A/E FTP site. Send to Engineering
3. Final cost estimate with Deduct Bid Alternates
4. Final AutoCAD, BIM and PDF drawings files provided on CD or posted to A/E FTP site.
5. Brand name product list
6. Submittal Log
7. Project Independence Certification Memo

J. If there are any comments from Contracting or Legal/Technical they are to be incorporated by the A/E firm within 7 business days. All drawings and specs will then be re-issued as Bid Issue with a new date. The drawings will be issued with quantities as noted below. If there aren't any Contracting, or Legal / Technical comments, then the Final Issue will be used as-is for Bidding. The A/E firm will provide the documents listed below for the Bid Issue.

K. The Bid Issue Submission shall include:

1. Construction drawing prints - 6 sets half-size (15x21)
 - a. 6 sets are to be delivered to Engineering
2. Bid issue specifications - 1 hard copy and 1 digital copy on CD or posted to A/E FTP site. Send to Engineering
3. Bid Issue Cost estimate with Deduct Bid Alternates
4. AutoCAD, BIM and PDF drawings files provided on CD or posted to A/E FTP site.

4.0 FIRST SUBMISSION – DESIGN DEVELOPMENT DOCUMENTS

A. Architectural

1. Submit final 1/8" scale design development plans with all of the revisions from the first submission incorporated into the plans. This includes the fire plans and exit calculations. The 1/16" scale preliminary floor plans should show net program area of each room with the designed net area. Outline and label activities or services as required for first submission.
 2. Submit 1/8" scale floor plans for each floor showing all plumbing fixtures, room names, room numbers, door locations and swing, and the net program area over the designed net area (which will not be shown on the working drawings). Outline and label activities and services, as required for the first submission.
 3. Show schematic sections, as needed, to define the building concept.
 4. Submit elevations at all significant sides of the building in sufficient detail for the VA to judge its appearance. All significant materials, including their colors, must be indicated. This includes rooftop mechanical equipment and any architectural screens.
 5. Submit a sample sheet of filled out finished Interior Finish schedule forms. The Medical Center will provide Interior Design input, review, and approval.
- B. Transport Systems
1. Provide recommendations for all transport systems involved in the project.
- C. Structural (If Applicable)
1. Submit preliminary drawings to scale showing tentative sizes of column, beam foundations and slabs.
- D. Heating, Ventilating and Air Conditioning (HVAC)
1. Provide complete economic analysis of the HVAC and central refrigeration systems. Provide completed feasibility analysis of the approved energy conserving concepts. Provide full documentation of the computerized methodology and full explanation of all coded and abbreviated terms. Make recommendations for the preferred system.
- E. Plumbing and Sanitary
1. Show and identify all plumbing fixtures. Show location of pumps, compressors, tanks, and other major central plumbing equipment.
 2. Complete plumbing layout for work required in existing buildings including pipe sizes and plumbing fixture identification.
 3. Identify smoke partitions, fire alarm zones and fire sprinkler zones on plumbing drawings.
- F. Electrical
1. Show preliminary sizes of major components of the electrical one-line and riser diagrams, including high voltage and normal and emergency distribution equipment.
 2. Provide preliminary updated load calculations.
 3. Show tentative locations of primary distribution, switchgear/switchboard, engine-generator sets, unit substations/ pad mount transformer, manholes, and other major items. Indicate the electrical equipment (panel boards, transformers, etc.) to be installed in the proposed electrical closets based on the preliminary riser. Show fire alarm risers and locate fire alarm devices.
 4. On typical floor plan indicate location and type of lighting fixtures to be used in each space. Show special features such as under floor raceways, power outlets, exit lights, fire alarms and signal system devices, and panel boards. Show typical circuitry of branch circuits including receptacles, lighting and power for one major representative area.
 5. Electrical drawings shall show fire alarm zones and smoke partitions.
 6. All drawings shall show room designations.
 7. Existing or demolition work shall be shown by dashed lines.
- G. Sustainable Design & Energy Efficiency
1. Submit a narrative describing how this project will meet the requirements of the VA Sustainable Design Manual for Non-Recurring Maintenance (NRM) Projects.
- H. Cost Estimating
1. Provide DD submission cost estimate developed with the BIM software.

5.0 SECOND SUBMISSION - 65% CONSTRUCTION DOCUMENT SUBMISSION

- A. Specifications
 - 1. Submit sample edited and marked up VA Master Specifications of each trade for review.
- B. Architectural
 - 1. Submit near complete floor plans and half complete details, schedules and large-scale plans. The architectural working drawings should be 65% complete.
 - 2. Show room titles and numbers, door sizes, types and swings on the 1/8" scale plans. Dimension corridors, rooms, etc. Indicate and identify fixed and portable equipment and plumbing fixtures.
 - 3. Show room finish symbols and key them to the room finish.
 - 4. Indicate all fire partitions, smoke partitions, life-safety and protective elements.
 - 5. Draw special details or elevations, etc., at 1/4" scale to show layout and identification of equipment.
 - 6. Draw reflected ceiling plans of all areas and special rooms, indicating all ceiling mounted equipment, lighting fixtures, air diffusers, registers, sprinkler heads, etc.
 - 7. Submit updated Life-Safety drawings for each phase of the project. Identify life safety measures that are needed to maintain life-safety during each phase of the project including blanking off/removing exit signs, adding new exit signs, travel distance requirements and any required Interim Life Safety Measures (ILSMs).
 - 8. Draw the phasing plans. Plans shall include all necessary notes and description (intent).
- C. Heating, Ventilation and Air Conditioning (HVAC)
 - 1. As part of the study for the SD & DD, if there are modifications required due to the modification of heat loads within the rooms they shall be noted and addressed.
- D. Structural (If Applicable)
 - 1. Submit drawings to scale showing tentative sizes of column, beam foundations and slabs. The structural drawings shall be complete enough to correlate with architectural and mechanical features. Submit computations developed to date.
 - 2. Show typical details so that construction features can be defined.
- E. Plumbing
 - 1. Show and identify existing and new fixtures, supply/ waste/vent lines, steam lines, etc.
 - 2. Describe basis of design including basic factors and formulate which will be used in subsequent computations. Submit written description of proposed system or combination of systems.
 - 3. Show and identify fire sprinkler fixtures.
 - 4. Show locations and section of pumps, valves, flow switches, etc. as necessary.
- F. Electrical
 - 1. Show locations of existing and new electrical and telephone/communications closets, devices and equipment.
 - 2. Submit one-line riser diagram of the electrical power distribution system and the auxiliary power system connection along with tentative one-line riser diagrams of all signal and communication systems.
 - 3. Show locations of major items and equipment (i.e., switch, gear, transformers, panel boards, etc.).
 - 4. All floor plans shall have room titles and area function. Location of majority of lighting fixtures and outlets for power and signal systems shall be shown along with tentative layouts of special systems. This shall include a TV entertainment system.
 - 5. Typical lighting and power calculations.
 - 6. Show locations of fire alarm system devices, tie-in's/extensions of system and a circuit diagram.
- G. Phasing
 - 1. Present proposed phasing plans.
 - 2. Identify items/areas for Deduct Bid Alternates, including estimated cost.
 - 3. Phasing of project shall be developed so as to minimize disruption to Medical Center's operation. Also, coordinate with any present or future projects in the planning stages.
- H. Cost Estimating

1. Submit cost estimates for each submission of drawings and specifications utilizing the BIM model.
 2. Each submission shall contain certification that the quantities have been checked and found to be correct.
 3. All estimates shall be based on the most up-to-date working BIM model and shall be current as of the date of submission.
 4. On phased projects, the cost associated with each phase shall be kept separate.
 5. Costs shall include insurance, taxes, and applicable sub-contractor's mark-up.
 6. Use wage rates that reflect current wages at the time the estimate is submitted. For union labor, include welfare and pension fund costs in labor units as appropriate.
 7. Estimate taxes and insurance on labor, such as: public liability, property damage, workmen's compensation, bodily injury, Federal Insurance Contribution Act, social security, federal and state unemployment compensation as an average cost experience for each trade.
 8. Price material at the contractor's buying level. Sales taxes are not applicable. Compute insurance and taxes on labor.
 9. Because overhead and profit will vary with the trade, size of project, and competition, estimates should reflect an appropriate percentage of each of these items after the labor and material costs have been totaled for each item.
 10. Escalation as of time of award shall be shown as a line item.
 11. Show costs for the applicable major numerical headings, if available.
 12. Show sub-items of major numerical headings, if available.
 13. Show sub-contractor's overhead and profit.
 14. Show total estimated cost.
 15. Provide Data Sheets.
 16. Show premium for work being performed by a SDVOB.
 17. Provide up to 4 Deduct Bid Alternates totaling a minimum of 10% or greater of the construction cost.
- I. Sustainable Design & Energy Efficiency
1. Submit a narrative describing how this project will meet the requirements of the VA Sustainable Design Manual for Non-Recurring Maintenance (NRM) Projects.
- J. Comments
1. Incorporate all comments shown on the Design Development review and provide a written response for each item.

6.0 THIRD SUBMISSION – 90% CONSTRUCTION DOCUMENT SUBMISSION

- A. General
1. Contract drawings and all related documents shall be nearing completion.
 2. One set of drawings are to be sent directly to VA provided life safety reviewer. A/E firm will modify drawings as required for full compliance with review.
- B. Calculations
1. Assemble complete computations and engineering data including basis of design, systems narratives, equipment selections, pipe and duct sizing. Recapitulations, from which the basic heat load calculations served, sound attenuation for high pressure systems and computations and like data for this submission. Provide a separate volume for each discipline with an index and numbered pages, bound with removable metal fastenings.
- C. Specifications
1. When the drawings and specifications are nearing completion, the A/E firm shall furnish the VA with a brief description of work for inclusion in the invitation for Bids.
 2. Submit original, photocopies of VA Master Specification sections to marked-up suit the project requirements and, also, copies of any sections originated by the A/E firm. Editing and marked-up of Master Specifications shall easily identify modifications, deletions, and insertions. Specifications shall be typed after the review.

- D. Architectural
 - 1. Submit completed plans, elevations, details and schedules.
- E. Heating, Ventilation and Air Conditioning (HVAC)
 - 1. As part of the study for the SD & DD, if there are modifications required due to the modification of heat loads within the rooms they shall be noted and addressed.
 - 2. The drawings and calculations shall be complete.
 - 3. Duct sizing and pipe sizing computations shall be complete with system layout and tabulated data.
 - 4. Show complete equipment schedules.
 - 5. Show complete control diagrams.
 - 6. Details, elevations, sections and legends on the drawings are to be completed. Show a section of each critical point in corridors indicating the location and space allocation intended for all ducts, piping, and larger conduits regardless of trade.
- F. Structural (If Applicable)
 - 1. Include all structural plans, elevations, sections, details, schedules, and general notes necessary to complete the drawings.
- G. Plumbing and Sanitary
 - 1. Submit complete drawings.
 - 2. All piping shall be drawn and all pipes sized.
 - 3. Submit legend, notes, details, plan views and sized riser diagrams, equipment, etc.
- H. Electrical
 - 1. Submit complete electrical plans.
 - 2. On drawings, show outlets circuited, all motor outlets, complete riser diagrams, switchboards, panels, and feeders. Show panel and switchboard schedules for all equipment with sizes of mains and branches determined.
 - 3. On detail drawings, show symbols, lighting fixture details and construction details.
 - 4. Electrical floor plans shall be complete with panel location and major components located.
 - 5. Show coordination with all new and relocated VA equipment.
- I. Phasing
 - 1. Phasing drawings for new and demo for each discipline are to be complete and coordinated.
- J. Cost Estimating
 - 1. Follow the same general instructions as first working drawings submitted.
 - 2. Furnish additional details to the estimator, as design progresses, to show sub-headings under each major numerical heading.
 - 3. Show unit quantity, unit measure, unit cost, and total cost of labor and material for sub-heading.
 - 4. Show a subtotal of labor and material for each sub-heading.
 - 5. Show taxes and insurance on labor.
 - 6. Show sub-total of the total cost.
 - 7. Show applicable sub-contractor's mark-up as a percentage of cost.
 - 8. Show total cost of each sub-heading.
 - 9. Show total estimated cost of each major heading.
 - 10. Show summary of major headings.
 - 11. Provide Data Sheets.
 - 12. Show premium for work being performed by a SDVOB.
 - 13. Provide up to 4 Deduct Bid Alternates totaling a minimum of 10% or greater of the construction cost.
- K. Sustainable Design and Energy Efficiency
 - 1. Submit a narrative describing how this project will meet the requirements of the VA Sustainable Design Manual for Non-Recurring Maintenance (NRM) Projects.
- L. Comments
 - 1. Incorporate all comments shown on the 65% design review and provide written response to each item.

7.0 FOURTH SUBMISSION – 100% CONSTRUCTION DOCUMENT SUBMISSION

A. General

1. Contract drawings and all related documents shall be completed, fully coordinated, and ready for reproduction for bidding and construction purposes at this review.
2. The A/E firm shall deliver the original working drawings to the Contracting Officer for signature after review and approval of the review material. The working drawings shall bear the seal of the Registered Architect, Professional Engineers, and the principle CIH for the project.
3. The A/E firm shall make any changes to the working drawings or specifications identified as necessary during the 90% CD review.

B. Calculations

1. Assemble complete computations and engineering data including basis of design, systems narratives, equipment selections, pipe and duct sizing. Recapitulations, from which the basic heat load calculations served, sound attenuation for high pressure systems and computations and like data for this submission. Provide a separate volume for each discipline with an index and numbered pages, bound with removable metal fastenings.

C. Specifications

1. When the drawings and specifications are nearing completion, the A/E firm shall furnish the VA with a brief description of work for inclusion in the Invitation for Bids.
2. Submit final specifications. Verify that all brand names are brought to the attention of the COR for inclusion in Brand Name or Equal memo or Sole Source justification.
3. Verify that Spec Writer notes and double hash marks // // have been removed.
4. Verify that all referenced spec sections are either included or removed as a reference.
5. Verify that the number of pages in the TOC matches the actual number of pages used.

D. Architectural

1. Submit completed plan, elevations, details and schedules.

E. Heating, Ventilation and Air Conditioning (HVAC)

1. The drawings and calculations shall be complete.
2. Duct sizing and pipe sizing computations shall be complete with system layout and tabulated data.
3. Show complete equipment schedules.
4. Show complete control diagrams.
5. Details, elevations, sections and legends on the drawings are to be completed. Show a section of each critical point in corridors indicating the location and space allocation intended for all ducts, piping, and larger conduits regardless of trade.

F. Structural (If Applicable)

1. Include all structural plans, elevations, sections, details, schedules, and general notes necessary to complete the drawings.

G. Plumbing and Sanitary

1. Submit complete drawings.
2. All piping shall be drawn and all pipes sized.
3. Submit legend, notes, details, plan views and sized riser diagrams, equipment, etc.

H. Electrical

1. Submit complete electrical plans.
2. On drawings, show outlets circuited all motor outlets, complete riser diagrams, switchboards, panels, and feeders. Show panel and switchboard schedules for all equipment with sizes of mains and branches determined.
3. On detail drawings, show symbols, lighting fixture details and construction details.
4. Electrical floor plans shall be complete with panel location and major components located.

I. Phasing

1. Phasing plans are to be complete showing demolition, new, and life safety complete for each phase and each trade.

J. Cost Estimating

1. Follow the same general instructions as previous submission.
 2. Furnish additional details to the estimator, as design progresses, to show sub-headings under each major numerical heading.
 3. Show unit quantity, unit measure, unit cost, and total cost of labor and material for sub-heading.
 4. Show a subtotal of labor and material for each sub-heading.
 5. Show taxes and insurance on labor.
 6. Show sub-total of the total cost.
 7. Show applicable sub-contractor's mark-up as a percentage of cost.
 8. Show total cost of each sub-heading.
 9. Show total estimated cost of each major heading.
 10. Show summary of major headings.
 11. Provide Data Sheets.
 12. Show premium for work being performed by a SDVOB.
 13. Provide up to 4 Deduct Bid Alternates totaling a minimum of 10% or greater of the construction cost.
- K. Certification Memo
1. A/E to submit a certification memo to the VA indicating that their design is independent of future projects and includes all equipment required for the project to be activated and fully functional as required by the OCAMES Updated Construction Guidance and Expectations Memo dated September 12, 2016.
- L. Comments
1. Incorporate all comments shown on the 90% design review and provide written response to each item.

8.0 FINAL ISSUE CONSTRUCTION DOCUMENTS SUBMISSION

A. General

1. A/E firm shall provide a certification memo that the design is independent of future projects and includes all equipment required for the project to be activated and fully functional as required by OCAMES Updated Construction Guidance and Expectations Memo dated September 12, 2016.
(<http://capital.vssc.med.va.gov/Minor%20Construction/Minor%20Construction/Updated%20Construction%20Guidance%20and%20Expectations.pdf>)
2. Complete any corrections noted from the 100% CD submission.
3. Provide complete and coordinated drawings and specifications including comments from Independent Life Safety Plans Examiner.
4. The A/E firm shall provide a final written certification on the drawings form a Certified Industrial Hygienist as to the mitigation of asbestos for the project.
5. A/E firm interior designer shall submit final 3-ring binder of finish samples labeled with manufacturer's data and referenced to finish schedule. Coordinate with VA Interior Designer on submission requirements.
6. When requested, the A/E firm shall upload drawings and specifications to a document printing service for use by Bidders as directed by the Contracting Officer. The Contracting Officer will provide the legal portion (front end section) of the specification.
7. Submit a final cost estimate of construction costs for the project; estimate shall clarify changes or modifications of previous estimates based on projected construction award date. Final estimate shall identify pricing for each of the major design components of the project. Estimate shall also identify up to 4 Deduct Bid Alternates totaling a minimum of 10% or greater of the construction cost.

10.0 CONSTRUCTION PERIOD SERVICES

A. Contract Procurement

1. Attend one contractor's Pre-Bid site visit and respond in writing with recommendations to any questioned items. If necessary, develop amendments or assist with project procurement.
- B. Submittal Review
1. The A/E firm shall review all construction materials and equipment and change orders proposed by the contractor for use in construction of this project. All submittals and change order proposals will be reviewed for compliance with the specifications and reasonable costs and returned to Engineering Service within 7 calendar days after receipt.
 2. The A/E firm shall review and respond to all RFI's within 5 business days.
 3. Commissioning of the mechanical, electrical, plumbing, fire protection, lighting, and other building systems shall be implemented to verify the intent of the design by inspecting and testing the systems as outlined in the VA Whole Building Commissioning Process Manual and per applicable ANSI/ASHRAE Standards.
- C. Site Visits (In addition to site visits listed in Item 'A' above)
1. Attend 1 pre-construction meeting, after award of construction contract.
 2. Attend 8 above ceiling and below ceiling 4-hour site inspections held at the 25%, 50%, 75%, and final inspection of project.
 3. Spot checking of contractor's progress based on eight (8) 4-hour site visits when requested by the COR. These meetings may also be used to answer technical questions and/or develop minor changes due to site conditions, etc.
 4. The A/E firm shall attend 2 construction meeting per month by phone (assume 1 hour) for the duration of construction.
 5. The A/E firm shall visit the site at the request of the Contracting Officer to answer technical questions and/or provide clarification to documents due to errors or omissions at no cost to the government. These meetings will not count for meetings noted above.
- D. As Built Drawings
1. The A/E firm shall modify design drawings based on marked drawings supplied by the contractor and are to be verified by the A/E firm in field. As-Builts to include all addenda and Bulletins issued by the VA and the A/E firm during construction. The changes shall be incorporated into the final BIM Model with the revision documented on the title block as appropriate. These changes shall be bubbled and dated. The A/E firm is to reformat the drawings based on the VA layering system before final submission. A reproducible hardcopy and the electronic model of the "As-Builts" are to be submitted to the COR on DVD. Any approved shop drawings with major differences from contract drawings, supplemental agreements processed change orders, etc., shall be incorporated.

-----END OF DOCUMENT-----