

A/E PROCEDURE MANUAL FOR DESIGN & CONSTRUCTION

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	PROGRAM COMPLETION PHASE.....	1
2.0	SCHEMATIC DESIGN PHASE.....	3
3.0	DESIGN DEVELOPMENT PHASE.....	6
4.0	CONSTRUCTION DOCUMENT PHASE.....	7
5.0	BIDDING AND NEGOTIATION PHASE.....	8
6.0	CONSTRUCTION ADMINISTRATION PHASE.....	10

A/E PROCEDURE MANUAL FOR DESIGN & CONSTRUCTION

The Architect/Engineer's (A/E) Basic Services consist of the phases described in the modified AIA B101 Document and as further described herein. Basic services shall include the normal services of the A/E and normal complementary or supplementary services of his Consultants. Review Documents of each phase shall be submitted to the Project Manager (PM) for their review. The A/E shall not proceed to any subsequent phases until the requisite written comments are received and until authorized by the PM in writing to so proceed. In case of conflict(s), AIA B101 document takes precedent.

A proposed project schedule will be provided to the A/E by the PM. The established Project Schedule, once agreed upon via Contract, shall be followed to the fullest extent possible. The PM will also provide the A/E with a Transition Package, which includes the information detailed in Exhibit _____ of the A/E Contract.

1.0 PROGRAM COMPLETION PHASE

1.1 General

The Completed Program Document consists of the Design Program, Site Analysis, Budget Analysis, Time Schedule and Outside Consultant Reports, if any, and shall be submitted to the PM for review and thereafter only the PM shall have the authority to alter the Program Document. Any authorization by the PM to alter the Completed Program Document shall be in writing.

1.2 Design Program

The A/E shall review the Transition Package provided by the PM, meet with the PM to determine more detailed program requirements for the project and complete the Design Program to the satisfaction of the Owner.

1.3 Site Analysis

The A/E shall conduct a Site Analysis to verify the information in the Transition Package and determine the ability of the site to support the proposed facility. The Site Analysis shall consider and report on the following site characteristics:

- a) Zoning
- b) Drainage
- c) Sewer
- d) Traffic
- e) Soils
- f) Environmental
- g) Flood Elevation
- h) Potable Water Capacities (pressure tests)
- i) Fire Protection Capacities (pressure tests)
- j) Power
- k) Gas
- l) Telephone
- m) Cable Television

Each site characteristic shall be identified and analyzed to determine its ability to support the proposed project. Where an element is inadequate, an estimate shall be made by the A/E to determine the cost and schedule impact to the project.

1.4 Existing Conditions

The Project Manager and the A/E will tour the site and document existing conditions through notes, photographs, and other media as appropriate.

1.5 Budget Analysis

Based on the final building design program and site analysis, the A/E shall determine whether the funds available for construction are realistic for the project. If the funds are not satisfactory, the A/E shall notify the PM immediately, with justification of his/her position.

1.6 Project Time Schedule

Based on the design program and the findings in the site analysis, the A/E shall update the project time schedule. The schedule shall include specific milestones for design submittals based on the design phases identified in the contract, PM reviews, bidding, construction, Owner installed equipment and owner occupancy.

1.7 Outside Consultant Coordination

1.7.1 Environmental Consultant

The Owner shall contract for and coordinate the services of an Environmental Consultant when required by site conditions. The A/E shall include in the Site Analysis the conclusions of the environmental engineering study and reflect the cost impact of any mitigation requirements in the budget analysis.

1.8 Submittals

Three copies of the Program Document shall be submitted to the PM. The document shall be in 8 1/2 x 11" format and bound in a three ring binder with tabs dividing the program elements. Copies of surveys or other drawings may be 11" x 17" folded and bound to fit. All documents shall be provided electronically in PDF format. The Completed Program shall consist of the following elements:

- a) Preliminary Scope/Narrative
- b) Preliminary Design
 - i. Space Requirements (Scale Study)
 - ii. Functional Adjacencies (Relationship)
- c) Proposed Building Systems
- d) Preliminary Estimate of Construction Cost
- e) Project Timeline

2.0 SCHEMATIC DESIGN PHASE

2.1 General

Based on the Notice to Proceed (NTP) issued by the PM for the completed Program, the A/E shall prepare Schematic Design Documents. The schematic documents shall be in such format and detail as required by the PM, consisting of drawings, outline specifications and other documents illustrating the general scope, scale and relationship of the Project components for the review of the PM.

2.2 Architectural Design/Documentation

Services during the Schematic Design Phase shall consist of the investigation and development of design concepts that respond to the program requirements, provide optimal utilization of the site and meet the schedule and cost limitations of the project. Environmentally responsible design approaches shall be considered.

2.3 Structural Design/Documentation

Services during the Schematic Design Phase shall consist of recommendations regarding basic structural materials and systems, analyses, and development of conceptual design solutions for a structural system with a proposed grid layout.

2.4 Civil Design/Documentation

Consideration of alternate materials and systems and development of conceptual design solutions for

- a) On-site utility systems
- b) Off-site utilities work
- c) On-site Storm Water Drainage Systems
- d) Off-site Storm Water Drainage Improvements
- e) Paving & Grading
- f) Vehicular & Bus Access to the site.
- g) Environmental

2.5 Mechanical Design/Documentation

Consideration of alternate materials and systems and development of conceptual design solutions for:

- a) Energy Source(s)
- b) Energy Conservation
- c) Heating and Ventilation and Air-conditioning
- d) Plumbing
- e) Fire Protection. Flow tests on projects containing sprinkler installations shall be performed during the schematic design phase of projects to insure that adequate water pressure and flow quantities are available for all buildings included in the project.
- f) Special Mechanical Systems
- g) General Space Requirements for Mechanical Equipment.

2.6 Electrical Design/Documentation

Narrative defining consideration of alternate systems, recommendations regarding basic electrical materials, systems and equipment, analyses, and development of conceptual design solutions for:

- a) Power Service and Distribution
- b) Lighting (types of fixtures, illumination levels, color temperature, CRF, CRI, etc.)
- c) Any required Special Systems such as CATV/CCTV Distribution, Fire Alarm, Intercom/Paging, Lightning Protection, Security, Telecommunications Distribution
- d) Electrical Equipment Room Space, Quantity, Location, and Environment Allocations for all of the above
- e) Outline Plans and Specifications that include the items in this list
- f) List Energy Conservation Measures that will be considered

2.7 Specifications

The A/E shall prepare outline specifications in CSI format to adequately describe the building design and selection of building systems and materials.

2.8 Detailed Code Analysis

The A/E shall prepare a detailed code analysis of the proposed building based on the applicable codes. The project will be permitted in the local municipality having jurisdiction or the parish and will be subject to all current applicable codes and ordinances including the Louisiana State Fire Marshal.

2.9 Preliminary Estimate of Construction Cost

The A/E shall submit to the PM a Preliminary Estimate of Construction Cost based on current area, volume or other unit costs method.

2.10 Project Time Schedule

Based on the schematic design, the A/E shall update the project time schedule. The schedule shall include updates to specific milestones for design submittals based on the design phases identified in the contract, PM reviews, bidding, construction, Owner installed equipment and owner occupancy.

2.11 Sustainable Design

The A/E shall endeavor to incorporate sustainable or green building design concepts into the project when feasible and shall use the 2007 LEED for School checklist to identify and document the design features incorporated into the project. The project will not be required to be registered with the USGBC for certification, but the A/E shall endeavor to achieve at least 29 points using the 2007 LEED for Schools Checklist.

2.12 Informational Meetings

The A/E reviews any Project related documents provided by the Client and PM, visits the site and gathers additional information from other parties that will affect the design. At a minimum, the A/E must meet with representatives of the following agencies:

- a) Fire Marshal having jurisdiction

- b) City (or Parish) Engineering and Planning Departments for existing conditions of street profiles, curbs and walks, sewers, storm drains, reclaimed water and utility services
- c) City (or Parish, State) Department of Transportation (DOT) for driveway locations and traffic signal requirements
 - c) Local Fire Department for site access, dispersal areas and on-site fire hydrants
- d) Utility Companies for location of existing and proposed water, electric, gas, telephone and cable services
- e) City, Parish, or State Department of Health for food service and athletic facilities, including pools
- f) City or Parish Industrial Waste Management for acid waste requirements
- g) Local jurisdictions having permitting authority

Concurrent to meeting with local agencies, a community meeting(s) is scheduled by the PM on new schools and designated renovation and addition projects. The purpose of the meeting(s) is to introduce the Team, describe the design and construction process, provide Project information and solicit community feedback, comments or concerns.

2.13 Submittals

Three copies of the Schematic Design Documents shall be submitted to the PM for review.

- a) Drawings (one full size 22x34 and two 11x17)
 - Overall Site Plan
 - Floor Plans
 - Exterior Elevations
 - Preliminary Building and Wall Sections
 - Exterior Perspective Sketches

Vicinity Plan: For new facilities, in order to show the neighborhood environment and its possible influence on design, submit Drawings indicating streets and properties surrounding school site, indicating signalized intersections, traffic and pedestrian density by observation, existing land use and type of improvements on adjacent property and on frontage property across each street.

- b) Outline Specifications
- c) Statement of Probable Cost
- d) Code Analysis report
- e) Checklist of Offsite Work, Utilities and Easements (by others)
- f) 2007 LEED for Schools Checklist
- g) Structural Design Narrative
- h) Mechanical Design Narrative
- i) Electrical Design Narrative
- j) Civil Design Narrative
- k) Project Timeline

All documents shall be provided electronically in PDF format.

3.0 DESIGN DEVELOPMENT PHASE

3.1 General

Based on the NTP issued by the PM and any further adjustments in the scope or quality of the Project or in the funds Available for Construction, authorized by the PM, the A/E shall prepare for review by the PM, the

following documents, all sufficiently complete and clear to define the quantity and quality of the work. Design documents shall be submitted to the local and state authorities having jurisdiction for review.

3.2 Preliminary Estimate of Construction Cost

The A/E shall submit to the PM an updated Preliminary Estimate of Construction Cost based on the 16 Divisions of the Construction Specifications Institute format with back-up material.

3.3 Specifications

The A/E shall prepare specifications in CSI format for all equipment and special systems for review and approval by the PM.

3.4 Submittals

Three copies of the Design Development Documents shall be submitted to the PM for review.

- a) Energy Conservations Analysis
- b) 2007 LEED for Schools Checklist Updated
- c) Specifications with cut-sheets for all equipment and special systems.
- d) Drawings (one full size 22x34 and two 11x17)
 - Dimensioned Overall Site Plan
 - Site Grading and Drainage Plan
 - Site Paving Plan
 - Floor Plan(s)
 - Reflected Ceiling Plan
 - Room Finish Schedule
 - Exterior Elevations
 - Key Interior Elevations
 - Building and Wall Sections
 - Foundation Plan
 - Structural Framing Plan
 - HVAC Plan
 - Plumbing Plan
 - Electrical Power Plan
 - Lighting Plan

All documents shall be provided electronically in PDF format.

4.0 CONSTRUCTION DOCUMENT PHASE

4.1 General

Based on the NTP issued by the PM and any further adjustments in the scope or quality of the Project or in the funds available for Construction, authorized by the PM, the A/E shall prepare for review and approval by the PM and other State and Local Regulatory Agencies as required by law, the following documents bearing the A/E's seal and those of his consultants, all sufficiently complete to define the quantity and quality of the work to bid and build the Project. This phase will not be accepted by the PM without the A/E acquiring all required permit approvals. There will be periodic in process reviews of the A/E's progress by the PM. A formal review will occur at the 50% completion of Construction Documents.

4.2 Drawings

Dimensioned plans, elevations, sections, details and/or schedules of all Architectural, civil, landscaping, structural, mechanical, electrical, food service and other equipment and interior design work required for a completely functional Project.

4.3 Technical Specifications

Identification of the materials, processes, or systems to be incorporated in the work shall be in conformance with the 16 Division format of the Construction Specifications Institute. Comply with state law which prohibits the A/E from closing specifications on any item in the specification except as provided for in R.S. 38:2290-2296 and in R.S. 38:2290(A). Any reason for closing specifications as provided for by law shall be brought to the attention of the PM in writing for review.

4.4 Bidding and Construction Contract Forms

The PM will furnish to the A/E policy requirements that the A/E must include in his Documents including the following: Advertisement for Bids, Instructions to Bidders, Bid Form, General Conditions, Supplementary General Conditions, Agreement between Owner and Contractor, Performance and Payment Bond, Non-Collusion Affidavit, and other forms used by the Owner. State Public Bid Laws shall be adhered to.

4.5 Preliminary Estimate of Construction Cost

The A/E shall submit to the PM an updated Preliminary Estimate of Construction Cost based on the 16 Divisions of the Construction Specifications Institute format with back-up material. If the A/E's cost estimate is more than the funds budgeted, the project will not be advertised. A/E shall provide construction documents that meet the program/design intent, and that is within the funds budgeted.

4.6 Energy Conservation Analysis

The A/E shall update and verify the Energy Conservation Analysis and Energy Usage Analysis prepared in the Design Development Phase.

4.7 Design Calculations

The A/E shall submit one bound copy of all design calculations on the Project. The PM will not review or comment on the design calculations for engineering integrity. This shall be the sole responsibility of the A/E.

4.8 50% Completion Review

The 50% in progress review must show that at least 50% of total drafting has been completed including the work of the A/E and consultants, except work specifically excluded by Project Manager in writing.

The 50% Submittal of Architectural Drawings must include, but is not limited to the following:

- a) A schedule sheet of all anticipated drawings with sheet numbers for complete 100% set, indicating which sheets are included in the 50% submittal.
- b) A site plan drawing indicating all buildings, clearly identifying the limit of work, property lines, existing and new work, as well as offsite improvements.
- c) Dimensioned floor plan drawings of each building.
- d) Reflected ceiling plans and roof plans for each building.
- e) Dimensioned interior and exterior elevation drawings.
- f) Architectural and Structural details necessary to fully explain character of project.
- g) Interior finish, door and window schedules.
- h) Requirements for the 50% submittal for Civil, Landscaping, Structural, Mechanical and Electrical drawings are described in the attached checklists.
- i) Detailed cost estimate.
- j) Updated calculations and diagrams.
- k) Marked 50% Check-list of work completed.

One full set of prints of each drawing and specifications should be submitted. Two other full sets should be available upon request. All documents shall be provided electronically in PDF format.

4.9 100% Contract Document Submittals

One full size (22x34) and two 11x17 copies of the final Contract Documents shall be submitted to the PM for review. Two copies of the project manual shall be submitted along with the final LEED Checklist. All documents shall be provided electronically in PDF format.

The A/E shall prepare and submit one color board for the owner's use indicating the color selections/recommendations for all interior and exterior finishes.

5.0 BIDDING AND NEGOTIATION PHASE

5.1 General

Upon review of the PM and approval of Local and State Permitting regulatory agencies, receipt of corrected and completed Construction Documents and approval of the latest Preliminary Estimate of Construction Cost, the PM may advertise the Project for bids and shall be assisted by the A/E in obtaining and evaluating bids.

5.2 Final Estimate of Construction Cost

The A/E shall submit to the PM an updated Estimate of Construction Cost based on the 16 Divisions of the Construction Specifications Institute format with back-up material within thirty (30) days prior to the first date of advertisement for bids. The project will not be advertised if the A/E's Estimate of Construction Cost exceeds the fixed Limit of Construction Cost unless directed in writing by the PM.

5.3 Professional Liability Verification

The A/E shall submit a current certificate of insurance for the A/E's professional liability insurance prior to the start of construction.

After receipt of bids, the A/E shall consult with the PM and submit a written recommendation to the PM to award the contract or reject all bids.

5.4 Electronic Bidding

The A/E will be required to provide electronic files for all addendums to the PM with in the timetable listed in Section 5.6. The PM shall be responsible for submitting the electronic files for the advertisement for bids, bid form, and bidding instructions/requirements. The A/E's contact information will be listed on the electronic posting by the PM for anyone seeking copies of the complete construction documents.

5.5 Distribution of Plans

The A/E shall be responsible for the furnishing and distributing of copies of Construction Documents to:

- a) All Contractors licensed in accordance with State law who desire to bid the Project, subject to deposit requirements as provided for in the Advertisement for Bids
- b) Recognized construction trade organizations maintaining plan rooms as directed by the PM
- c) The PM
- d) Other State agencies and regulating authorities as required or directed by the PM.
- e) Plan deposits shall not be excessive and shall be subject to PM's approval.

5.6 Prior Approvals, Addenda, Pre-bid Conference, and Bid Opening

The A/E shall be responsible for evaluating prior approval requests for substitution of materials, products and equipment required by the applicable statutes and Owner Procedures.

The A/E shall prepare and issue all addenda, in accordance with the Contract Documents, as required to modify or clarify the Construction Documents. Items not included in the approved program and/or items previously rejected or not approved shall not be included in any addendum without PM's approval.

The A/E will have to work within the timetable for posting all Prior Approvals/Addendums electronically. Pursuant to the deadlines listed in the Instruction to Bidders, the A/E will have to submit addenda to the PM for review (electronically in PDF format) seventy-five (75) hours prior to bid deadline. The addenda are not to be issued without direction from the PM in writing.

The A/E shall conduct a pre-bid conference in accordance with the Contract Documents, arranged by the PM.

Unless waived by the PM, the A/E shall be present for the opening of bids by the PM and shall assist the PM in tabulating the bids.

After receipt of bids, the A/E shall analyze the bids, consult with the PM and make written recommendation to the PM for one of the following:

- a) Award the Construction Contract to the lowest responsible bidder or
- b) Reject all bids.

6.0 CONSTRUCTION ADMINISTRATION PHASE

6.1 General

The A/E shall provide administration of the Construction Contract as set forth in the modified AIA B101 Owner A/E Contract and as described herein and in the Construction Documents. The A/E, as the representative of the Owner during the Construction Phase, shall advise and consult with the owner through the PM and communicate all instructions to the Contractor in writing.

6.2 Testing

The A/E shall specify in the contract documents that the Testing Lab will be a sub-consultant to the contractor and provide detailed information regarding the type and number of tests required for the Project. The A/E shall review the Contractor supplied test results for compliance with the specifications, notify the PM and contractor of any deficiencies, and define the necessary corrective actions.

6.3 Notices, Reports & Meetings

6.3.1 Pre-Construction Conference

After the execution of the Construction Contract the PM will issue a Notice to Proceed to the Contractor and will notify the A/E to arrange for and conduct a pre-construction conference. The A/E shall furnish to the Contractor sets of the Construction Documents required to construct the project.

6.3.2 Monthly Progress Meetings

The A/E shall instruct the Contractor to establish and conduct a regular schedule of monthly progress meetings to be held on the job site each month throughout the construction period, and shall require attendance at the meetings by representatives of his principal Consultants. The PM shall be notified of such meetings and will be represented. It shall be the principal purpose of these meetings, or conferences, to effect coordination, cooperation and assistance in every practical way to the end of maintaining progress of the project on schedule and completing the project within the contract time. More frequent meetings may be required at critical stages of the Project.

6.3.3 Monthly Progress Reports

The A/E shall prepare and submit to the PM and Contractor a monthly Status Report on the Project. The form of the Report shall be supplied to the A/E at the Pre-construction Conference. The A/E's Status Report shall be submitted to the PM monthly along with the Contractor's Certificate for Payment and A/E's Invoice for Professional Services.

6.4 Site Observations

The A/E and his principal consultants shall visit the project as often as necessary to become generally familiar with the progress and quality of the work and to determine in general if the work is proceeding in accordance with the contract documents. Such visits by the A/E shall not be less than once per week when the work is in progress. On the basis of the A/E's on-site observations, he shall endeavor to guard the Owner against defects and deficiencies in the Work of the contractors.

A written report of each visit by the A/E to the project shall be mailed to the PM and Contractor within forty-eight (48) hours after each visit. No observation photos shall include students or faculty.

The A/E shall give prompt written notice to the PM if the A/E becomes aware of any fault, defect, error, omission or inconsistency in the project or in the Contract Documents.

6.5 A/E's Construction Administrator

The A/E agrees that his designated representatives on the construction project shall be qualified by training and experience to make decisions and interpretations of the Construction Documents and such interpretations shall be binding upon the A/E as if made by him. All such decisions shall be confirmed in writing immediately with copies to the PM and Contractor conditioned that such decisions and interpretations shall not modify adversely the requirements of the contract documents.

6.6 Certificates of Payment

Based on observations at the site and on the Contractor's Applications for Payment, the A/E shall determine the amount owing to the Contractor and shall issue to the PM Certificates for Payment in such amounts. Applications for payment shall be reviewed on a monthly basis and in accordance with 3.6.3 of the AIA B101 Owner/A/E Agreement.

No Certificate of Payment shall be issued until a schedule of values has been submitted by the Contractor, reviewed by the A/E, and received by the PM.

The A/E shall process contractor applications for payment within seven (7) calendar days from the time the certified application is received by the A/E from the Contractor. The A/E shall submit the original signed copies to the PM with copies to the Contractor. If a certificate is held up or adjusted for any reason, written notice stating the reasons for the delay or adjustment must be given to the Contractor and PM within seven (7) calendar days. If a certificate is incorrect or has major adjustments, it shall be returned to the contractor immediately with a written explanation for the return. It is the intent of the PM that the certificates be thoroughly reviewed by the A/E prior to the monthly progress meeting and adjusted accordingly at the meeting in order to expedite the payment process.

6.7 Shop Drawings and Submittals

The A/E shall promptly review shop drawings, samples and other submissions of the Contractor for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents.

The A/E shall maintain one complete set of approved shop drawings to be turned over to the PM at the completion of the project.

The A/E shall submit for owner approval any changes to the final color selections submitted at the construction documents phase.

6.8 Change Orders

Only with the authorization of the PM, shall the A/E prepare Change Orders. The A/E shall obtain from the Contractor his estimate of cost and time changes in accordance with the Contract Documents for the Change Order, review and approve same, and submit it to the PM for review before any changes are made in the Contract. No additional compensation shall be due the A/E for preparation of Change Orders without the written prior acceptance of such compensation by the PM.

6.9 Contractors Request for Information

The A/E shall acknowledge receipt of each contractor generated Request for Information (RFI) within three (3) days after receiving it. The A/E shall upload all RFI's (with responses) through a web-based program provided by the PM. The written answer should be issued simultaneously with the acknowledgment but in no case more than five (5) days after receipt of the RFI.

6.10 Construction Closeout

6.10.1 Substantial Completion

A/E to comply with Article 3.6.6 of the AIA B101 Owner/ A/E contract and modified AIA A201 General Conditions for procedures relative to issuing substantial completion. The A/E is responsible for scheduling the Fire Marshal final inspection and obtaining approval from the Inspector prior to the substantial completion inspection. The A/E is also responsible for preparing and signing the ADAAG Certification Form.

6.10.2 Close-out Documents

A/E shall receive, review and forward to the PM guarantees, operation and maintenance manuals, keys and other close-out documents as required by the Contract Documents. A/E shall confirm all training required for the local staff for all systems and operations equipment. A/E shall obtain a written receipt for these and forward same to the PM, together with copies of all guarantees and warranties.

After acceptance of the Project by the Owner, the A/E shall prepare and furnish to the PM:

- a) A Final Report in the format and containing information as required by the PM,
- b) Two sets of Record Drawings (As-Builts) prepared by the A/E.
- c) Electronic version of the Record Drawings in the latest AutoCAD format. The Record Drawings shall be prepared on the basis of information furnished by the Contractor and the change orders and shall be reviewed with and approved by the Contractor prior to submission. Provide a PDF set of documents also.
- d) A/E shall inspect and approve completion of "punch-list" items remaining after acceptance and shall certify final payment to the Contractor.

6.11 One-Year Correction Period Phase

Compliance with all of the above will constitute completion of the A/E's Basic Services for compensation purposes. However, the A/E shall be required to follow up on items to be corrected during the "one-year correction period" and shall arrange for and conduct an inspection of the Project prior to expiration of the "one-year correction period" (Schedule during the 11th month.). The A/E shall be required to inform the PM and Contractor of any items to be corrected and shall inspect the Project as required until the work is completed, without additional compensation.