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SECTION TWO DESIGN REVIEW SECTION

2-100 DESIGN PROFESSIONAL SERVICES SELECTION PROCEDURES

(A) To ensure an equitable opportunity for all practicing design professionals, and in accordance with Arkansas Code Annotated § 22-2-101 et. seq., ABA has initiated the following procedures that shall be followed to select firms or individuals to perform professional services for capital improvement projects. All agencies except as exempted by law, are required to use the MSC.

(B) Agencies shall comply with the Department of Finance and Administration, Office of State Procurement guidelines and policies in the development of requests for qualifications, structure of evaluation committees and evaluation of responses in the solicitation, evaluation and selection of design professional under this section.

(C) Any reference to the words "the Section" within Section Two shall mean the Design Review Section.

2-101 SELECTION AUTHORITY SCHEDULE

(A) Agencies' whose fund's have been appropriated by the General Assembly to the Agency or appropriated to ABA for specific buildings within Pulaski County shall have the responsibility for selecting the Design Professional. Any questions regarding the interpretation of this method should be directed to the ABA Design Review Section.

(B) Agencies desiring to enter into a professional services agreement wherein the contemplated fee, exclusive of reimbursable expenses, are \$5000 or less, may contact any qualified provider without ABA approval and negotiate an agreement for the required services.

~~(B C)~~ Agencies desiring to enter into professional services agreements wherein the contemplated fee, exclusive of reimbursable expenses, do not exceed \$25,000, may utilize a purchase order for these services in accordance with Ark. Code Ann. §19-11-1014~~2~~(b)(9)(A). Agencies may enter into such purchase order agreements without prior approval of ABA.

~~(G D)~~ Agencies desiring to enter into a professional services agreement wherein the contemplated fee, exclusive of reimbursable expenses, are more than \$5000 but \$25,000 or less, may solicit qualifications from 3 or more qualified providers without ABA approval. Agencies should review Ark. Code Ann. §19-11-801 before initiating the process. The following is the recommended process:

(1) Issue a letter of request to the selected firms describing the nature of the services desired, the description of the project contemplated and require interested parties to submit a statement of qualifications and or pertinent information;

(2) Form a selection committee to evaluate the qualifications of the respondents and select the firm or individual to negotiate with;

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(3) Should negotiations for a fee of less than \$25,000 fail, Agencies may approach their next selection and initiate negotiations. If negotiations are unsuccessful with all respondents, the agency should determine to terminate the selection process and either re-evaluate the scope of services required and begin this process over or move to the formal selection process described in this section;

(4) While these agreements (\$25,000 or less) are not submitted to ABA or DF&A for prior approval, Agencies must report the agreements to DF&A/OSP in accordance with their rules; ~~and regulations.~~

(5) While ABA approval is not required for contracts \$25,000 or less, Agencies can make a written request for ABA assistance in the selection process. (See §2-102 on the process of written requests.)

(E) Agencies desiring to enter into a professional services agreement wherein the contemplated fee, exclusive of reimbursable expenses exceeds \$25,000 shall follow the procedures described in § 2-102 through § 2-106.

~~(D)~~ (F) Selection of design professionals and consultants will be coordinated by the State Architect or State Engineer or designee depending upon their respective or related fields.

(G) Agencies desiring to enter into a sole-source professional services agreement wherein the contemplated fee, exclusive of reimbursable expenses exceeds \$5,000 shall follow the procedures established by DF&A/OSP. Upon DFA/OSP approval of a contract which exceeds \$25,000 in fees (excluding reimbursables), the Agency shall attach a copy of the justification and approval to the contract when submitting for ABA review.

2-102 AUTHORIZATION TO CONDUCT SELECTION

(A) Advertising shall not be implemented until approved by the Section. The Section shall assign the solicitation process the appropriate RFQ number for tracking purposes. This RFQ number shall be referenced on all documents and correspondence related to the selection process and shall be shown on the lower left-hand corner of the first page of the professional services contract. Any Agency requiring design professional services or other appropriate consultants, regardless of the nature of funding, shall submit by letter their intentions, and request "Authorization to Proceed" from the Section, providing the following information:

(1) Agency name and project;

(2) Location of project;

(3) Description of services desired;

(4) Source of funding;

(5) Description of the work to be accomplished and approximate square footage where applicable;

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(6) Approximate time frame for the anticipated need to start and complete the project;

(7) Agency Project Coordinator and telephone number.

(8) Estimated cost of the construction project or estimated total fees that will be expended over the life of the contract.

(9) Acknowledgement that the agency has the request for qualification (RFQ) document ready for distribution.

(B) Draft of advertisement, name of newspapers advertising in, and deadline for submitting advertisement. Notice shall be placed on the ABA website. ~~All published notices should run on Sunday, unless approved in writing by the Section.~~ Published notices shall run at least one (1) time each week for not less than two (2) consecutive weeks. The date of publication of the last notice shall not be less than one (1) week before the day fixed therein for the receipt of the responses. See 2-105 EXCEPTION.

(C) The draft advertisement should contain but not be limited to the following information:

(1) Advertisement cost billing information from the Agency including the name, address, and phone number of the purchasing official to which all invoices should be submitted;

(2) Notice to the Design Professional as needed (i.e.: Architects, Engineers, Environmental Consultants or specialized fields such as Electrical Engineers);

(3) Name of the Agency, division, department and location of the project; and RFQ number;

(4) A brief description of the project, including the approximate square footage for new construction or renovations and the desired services;

(5) The desired deadline for responses to the request for qualifications;

(6) Instructions for obtaining a copy of the Request for Qualifications package (i.e. website address, telephone number, contact name);

(7) The name, address, and phone number of the Agency person to whom the responses should be directed.

2-103 PUBLIC NOTIFICATIONS REQUIRED

After approval by the Section to conduct selection procedures, the selecting Agency shall be required to publish a notification that Design Professional services are being solicited. A notice shall be published in at least one (1) statewide newspaper for each project pursuant to the advertisement criteria under §2-102(C). Agencies are encouraged to publish notification in other publications, including but not limited to newspapers or trade journals with general circulation in the county where the project will be located.

2-104 DESIGN PROFESSIONAL QUALIFICATIONS

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The following are minimum qualifications required for Design Professionals desiring working to contract for design services with the State:

(A) All Design Professionals shall demonstrate their capability to perform the design of the project to the satisfaction of the ~~Section or their designee~~ selection committee.

(B) All Design Professionals, except for geo-technical engineers, whether prime or serving as consultants to the prime, shall have in force professional and general liability insurance in the amounts shown in § 2-311 and § 2-312 and proof of compliance shall be attached to all standard professional services contracts.

(C) All Design Professionals, whether prime or serving as consultants to the prime, shall be licensed in their respective disciplines in Arkansas or shall be capable of being licensed and shall do so immediately, ~~with~~ in accordance with their respective licensing boards rules entities, if awarded the project. Bid documents shall not be released to bidders without Design Professional's Arkansas registration stamp or seal and signature as evidence of compliance.

2-105 RESPONDING PROCEDURES

Allow a minimum of not less than one (1) week after the last advertisement in for the receipt of responses from will be allowed for all interested design professionals. to respond Responses shall be in writing and in the format stipulated in the RFQ, (FAX or telegram communications are not acceptable), and addressed to the Agency official identified in the RFQ document, indicating their interest in providing professional services for the particular project published EXCEPTION: Allow a minimum of not less than two (2) weeks for projects that are large or complex and that might require the services of an out-of-state design or consultant firm.

2-106 SELECTION METHOD

(A) After the response period, the receiving Agency, if it decides to move forward, shall take one of the following actions:

(1) For design professional type services or single project contracts wherein the estimated construction cost is less than one million dollars (\$1,000,000), pursuant to Arkansas Code Annotated § 19-11-801 through § 19-11-805, Agencies may select a design professional from annual statements of qualifications on file with the Agency. Nothing in this policy shall prohibit an agency from conducting an individual solicitation for on-call services or single projects regardless of estimated cost.

(a) Agency shall issue a public notice of their intent to solicit annual statements of qualifications and performance data from interested design professionals in accordance with § 2-103.

(b) Agency shall maintain qualifications received on file for a period of not more than 12 months after closing date of solicitation.

(c) When an Agency has a need for design professional services, the agency shall notify the Section of the need and the type of services desired. The Agency shall select no

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less than three (3) qualified firms (or individuals) from the qualifications on file and shall submit the names of the firms (or individuals) selected for consideration to the Section.

(d) The Section shall review the list of consultants and the scope of the services desired to determine that the correct type of design professionals are being considered. Upon a favorable determination, the Section will issue a letter of authorization and the Agency may then proceed with the selection process. The Section may request additional information as necessary to conduct this review.

(e) Agency shall then evaluate the qualifications of the consultants and select the best qualified candidate capable of providing the desired services and negotiate a contract. The agency shall conduct oral interviews of all selected candidates prior to making the final selection.

(f) Agencies shall initiate a contract with the Design Professional and then submit it to the DFA/OSP for review, approval, and processing. Prior to final approval, DFA/OSP submits contracts and amendments for the Section to review which are under its jurisdiction. Agencies may request the assistance of the Section in the negotiation phase of the contract development.

(2) For project specific contracts wherein the estimated construction cost is over one million dollars (\$1,000,000) per project, Agencies shall select design professionals from qualifications received from a specific public notification of request for qualifications.

(a) The Agency shall ~~designate~~ convene the Preliminary Selection Screening Committee. This Screening Committee shall be composed of no less than three (3) members from the particular Agency desiring design professional services. It is recommended members should have subject matter experience or expertise in the areas the project will affect, and/or financial management, contracting or experience managing construction or design professional services contracts.

(b) The Preliminary Selection Screening Committee shall meet at a designated time and place, and review all responses. There shall be no more than five (5) finalists selected. A minimum of three finalists may be selected for smaller, low budget projects (under \$5,000,000). The agency may request the assistance of the Section during the preliminary selection process. If requested, a Section representative will be assigned to the committee to guide the committee through the process but shall not vote. If five (5) or less firms (three (3) or less for smaller projects) respond, the Agency may submit a written request to the Section for a waiver from the pre-selection process provided the Agency agrees to interview all firms that responded. If only one firm responded, the Agency may submit a written request to the Section for a waiver of the pre-selection and interview process and may begin negotiations with the firm that responded to the advertisement. The Agency may also request authorization to begin the selection process over. Nothing shall prohibit an agency from interviewing more than the initial five (5) finalists, if the agency determines that is in their best interest to do so upon written approval of the Section.

(c) Upon completion of the pre-selection process, the committee chairperson shall complete the Design Professional Selection Tracking Form and return it provide ~~(see tracking form)~~ to the Section with the following information: list of all responses received, list of respondents selected for evaluation, list of respondents selected for interview, and

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~~list of committee members. Include a compact disk containing a copy of the RFQ documents, one complete copy of each respondent's qualification package received and a copy of the ABA tracking form completed to this point.~~

(d) Within three (3) working days, the agency shall notify all responding applicants by mail of the selection results, naming the finalists selected for interview.

(e) The Final Selection Screening Committee shall be made up of the Preliminary Selection Screening Committee ~~minus the Section representative, if requested.~~ While it is recommended that no substitution of members of the final selection committee occur, if more than 3 members served on the pre-selection committee, agencies may reduce the number to a minimum of 3 members. ~~The representative of the Section is allowed to sit on the Final Selection Screening Committee by request of the Agency.~~

(f) The final selection shall be made by the Agency following an open public hearing the interviews and oral presentations from the finalists selected by the Preliminary Selection Screening Committee. Notice of said hearing interviews shall be mailed to the finalists notifying the respective finalists of the time and location of the interview at least ten (10) days prior to the hearing interview. Exception: Allow fifteen (15) working days for projects that are large or complex and that may require the services of an out-of-state design or consultant firm.

(g) Each finalist shall be given a specific time to make ~~his~~ their presentation and a time schedule to follow. The order of presentations shall be determined by random drawing during the pre-selection process.

(h) Preliminary designs or suggested designs shall not be permitted during the selection process and shall be grounds for disqualification. However, audio/video presentations and boards may be used to help communicate that the firm understands the nature of the proposed project and unique design challenges that may be encountered.

(i) Nothing in the MSC shall be construed to prohibit an ABA representative from attending any pre-selection or final selection proceeding for the purposes of auditing the process.

(j) The Agency shall forward the name of the Design Professional selected to the Section within ~~24 hours~~ two working days after the final selection is approved by the Agency. This notification will become part of the permanent record and the Agency shall notify all finalist of the result of the interviews. With the notification to the selected design professional, the Agency shall initiate a contract with the Design Professional and submit it to the ~~Section~~ DFA/OSP for review, approval, and processing. The DFA/OSP shall forward to the Section the contracts and amendments subject to ABA review. Agencies may request the assistance of the Section in the negotiation phase of the contact development.

(B) Agencies shall be responsible for maintaining a complete record of the selection process from initiation through execution of the contract and contract closeout. This record shall include copies of all qualifications, scoring, notes, and correspondence including the firms not selected for consideration. ABA is responsible for maintaining documents or copies thereof which have been submitted in the approval process.

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(C) At the conclusion of the selection process submit to the Section a compact disk containing a copy of the initial request to begin the selection process, Section letter of authorization to proceed, the advertisement publication (tear sheet), a copy of the RFQ documents, one complete copy of each respondent's qualification package received and a copy of the completed ABA tracking form, and copies of all letters on notification. The professional services contract may not be approved until receipt of this information. To facilitate tracking, the contract shall reference the assigned RFQ number. The disk submitted to ABA should be labeled with the RFQ number and project name or type of services requested.

2-200 STANDARD FEE SCHEDULE FOR PROFESSIONAL SERVICES

The fees shown in this schedule § 2-211 are the maximum that will be allowed and are considered necessary for the performance of adequate professional services, unless exempted by law. Any increase beyond the scope of the fee schedule must be approved by the ABA Director if such increases are determined to be in the best interests of the state.

2-201 DESIGN PROFESSIONAL'S BASIC SERVICES DEFINED

(A) Basic services, when referred to in the following fee schedules, shall be defined as follows and include all the services of the architectural, landscape architect, civil, mechanical, electrical, and structural consultants under one (1) base basic fee. For review of funding and Agency programs refer to §2-401 through 2-404.

(1) Estimate of probable construction cost. Provide a separate line item for each of the technical specification divisions.

(2) Perform life cycle cost analysis of building components and systems in accordance with the Arkansas Energy Office rules for Energy Efficiency for Public Buildings for new construction projects exceeding 20,000 SF and renovation projects exceeding 20,000 SF wherein the estimated construction cost exceeds 50% of the insured valued of the building.

~~(2)~~ 3 Schematic design, approximately 15% complete. (To be submitted to Agencies only for approval.)

~~(3)~~ 4 Design development, approximately 50% complete. Include an estimate of the annual operation costs and energy consumption of all utilities, using industry standard average energy use for the building type. (To be submitted to the Agencies only for approval.)

(4) 5 Seismic Design as required for projects to comply with Arkansas laws and the current Arkansas Fire Prevention Code.

~~(5)~~ 6 Construction bid documents. 100% complete documents to be submitted to the Agencies for review and following the agency review, submitted on to and the Construction Section for review and approval. Include an up to date copy of the estimated annual operation cost and energy consumption submitted with the design development documents. Consumption data shall be expressed in terms of total BTUH/SF/YR for new buildings and additions over 20,000 SF and for renovations

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exceeding 20,000 SF wherein the estimated cost of the renovation exceeds 50% of the insured value of the building. For all other projects, Consumptions shall be expressed as total BTUH/YR for the affected work.

(6 ~~7~~) Agency reviews as applicable, which includes but is not limited to, ABA, the State Fire Marshall, and the Arkansas Department of Health.

(~~7~~ 8) Advertisement, bidding of project, and contract negotiations as required to conform to the project funding ~~per § 2-215.~~

(B) Basic Services are also to include periodic construction observation (site visits) by the prime Design Professional and all consultants at key critical times, for that applicable portion of the work for which they are involved, during construction and construction administration, including:

(1) Contract, bonds, insurance requirements review, coordination of contract documents and processing to the Construction Section;

(2) Shop drawing and material submittal reviews by the appropriate Design Professional or consultant;

(3) Periodic observation reports, a minimum of one (1) per month, complying with § 2-1605, "Design Professional Observation Requirements", prepared by the Design Professional and his appropriate consultants and furnished to the Agency and the Construction Section. Include sub-consultant site visit(s) and an observation report(s) which is provided with the prime design professional's observation report and certification of contractor's payment applications.

(4) The appropriate Design Professional or Consultant shall monitor and ensure that all Agency operations/orientation/training or equipment manuals, or all, are submitted, reviewed, approved and transmitted to the Agency. Acknowledgment of this transmittal shall be included in the final closeout documents.

(5) Receive for the Agency from the Contractor, "record" drawings and all project close-out items pursuant to §3-500 through §3-504 and prepare a compact disc containing the record documents.

(6) Follow up inspection by all parties within thirty (30) days prior to the expiration of the one (1) year Contractor's Warranty.

2-202 ARCHITECTURAL AND BUILDING RELATED ENGINEERING SERVICES FEES

(A) Fees shall be based on the Design Services Fee Schedule shown in §2-211. This fee schedule is to be used for all Architectural, Civil, Landscape Architecture, Structural, Mechanical, and Electrical Design Professional Services. These fees shall be considered part of "Basic Services" for a project as defined in §2-201.

(B) Fee schedule shall be used to determine the base fee, which includes all consultants noted above, computed on the basis of the design professional providing all basic

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services, as defined in this Standards and Criteria manual, times a percentage of the total construction cost.

(C) Base fees shall include the "full services" (unless otherwise negotiated) of all normal consultants, i.e., civil, architectural, landscape, structural, mechanical, and electrical, per §2-201.

(D) Note: All standard professional services contracts, negotiated as a percentage of construction cost, shall pay compensation to the Design Professional on the basis of actual construction cost, including all negotiations and change orders through final acceptance and payments to the contractor. Estimated construction cost, as approved by the Agency, shall be used until the bids are accepted, or if the project is canceled.

2-203 OTHER DESIGN PROFESSIONAL SERVICES

For boundary or topographical land survey services refer to §2-207; for Geo-technical engineering services, refer to § 2-208; for environmental engineering services, refer to § 2-209; for interior design services refer to § 2-206; for seismic design fee allowance refer to §2-204 and for asbestos consultant fees refer to §2-210.

2-204 SEISMIC DESIGN FEE ALLOWANCES

(A) For projects requiring seismic design and certification to comply with Arkansas laws and the current Arkansas Fire Prevention Code, fees may be increased, with the approval of the Section, as follows:

(1) Arkansas Seismic Design Categories A, B, and C: Basic services as defined under §2-200, §2-201.

(2) Arkansas Seismic Design Category D: Multiply base fee only, up to 1.04, maximum.

(3) Arkansas Seismic Design Category E: Multiply base fee only up to 1.05, maximum.

(4) Where applicable, the multipliers may be used to compute the seismic design allowance in Seismic Design Categories D and E only. These allowances shall be listed under the base fee shown on the standard professional services contract under "Compensation" as: Seismic Design Fee Allowance, "Category D" (or "E") = \$ (Amount). Do not list as a combined fee.

(B) Compliance with all applicable seismic design building codes shall include all ABA defined structural and normal non-structural elements. Refer to § 2-900.

(C) Additional Services for Non-Structural Elements (All Zones). Earthquake resistant design of specific, "out-of-the-ordinary" items or equipment not listed, may require "additional services" on the standard professional services contract, unless otherwise negotiated, for these non-structural seismic design bracing details. These "additional services", may be negotiated on an hourly, lump sum, or percentage of construction cost agreement when approved by the Section.

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(D) Additional Services for Dynamic Structural Analysis: Should dynamic structural analysis be required for the seismic design of a structure to meet all applicable building codes, this analysis shall be considered an "additional service" under the standard professional services contract or its attachment, unless otherwise negotiated. This expense shall not be incurred without the approval of the Section.

2-205 SPECIALIZED CONSULTANTS

Fees may be negotiated on a percentage of construction cost, lump sum, or hourly fee (not to exceed) agreement with approval by the Section. Specialized consultants could include the following specialized fields including but not limited to: acoustical, theatrical lighting, parking, food service, solar, computer, exhibit planners, building commissioning, graphic, geo-technical, testing, land surveying, and land planning. Include a line item for each specialized consultant's fee under "compensation" in the Professional Service Contract and list as "Additional Services-[TYPE OF CONSULTANT] Fees".

2-206 INTERIOR DESIGN SERVICES

A basic interior design service fee not to exceed ten percent (10%) maximum of the total cost of all furniture, draperies, equipment, fixtures, paintings, artifacts, and the like, including planning and observation of placement and installation of same, shall be used by all agencies. Extra services desired by the owner shall require prior approval by the Section. Include all "Interior Design Fees" under "compensation" in the Professional Service Contract and list as "Additional Services-Interior Design Fees".

2-207 BOUNDARY OR TOPOGRAPHICAL LAND SURVEYING SERVICES FEES

Boundary or topographical land surveys are considered a specialized engineering services and fees for these types of services shall be negotiated on an hourly not-to-exceed rate or a lump sum commensurate with the scope of the survey. Fees for this type of service require the approval of the Section. Prior to finalizing the negotiations, agencies shall submit a draft of the scope of the work and the proposed fee arrangement to the Section.

2-208 GEO-TECHNICAL ENGINEERING SERVICES FEES

Geo-technical investigations are considered a specialized engineering service and fees for geo-technical services may be negotiated on an hourly not-to-exceed fee or a lump sum agreement. If conditions are such that a lump sum (not to exceed) cannot be guaranteed, then a unit price per boring or trench may be included to cover the suspected conditions that may be encountered. Fees for this type of service require the approval of the Section. Prior to finalizing the negotiations, submit a draft of the scope of the work and the proposed fee arrangement to the Section.

2-209 ENVIRONMENTAL ENGINEERING SERVICES FEES

For projects involving purely environmental engineering services, excluding asbestos consulting services, independent of a new building construction project and where the

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services of the engineer are contracted directly to the Agency, the fees may be negotiated on a percentage of the construction cost, lump sum, or hourly fee (not to exceed) agreement with approval by the Section. Prior to finalizing negotiations, submit a draft of the scope of the work and the proposed fee arrangement to the Section.

2-210 ASBESTOS CONSULTANT FEES

Asbestos inspection, design, air monitoring and project management services are considered a specialized consulting services and fees for these types of services shall be negotiated on an hourly not-to-exceed rate, a daily or abatement shift rate or a lump sum commensurate with the scope of the project. The Section shall approve fees for this type of service. Agencies shall submit a draft of the scope of work and the proposed fee arrangement to the Section prior to finalization of negotiations.

2-211 DESIGN SERVICES FEE SCHEDULE

(A) The following fee schedule for basic services as defined in § 2-201 is based upon a percentage of the total (final) construction cost including all adjustments (increases and decrease) by change order or negotiations and as modified by the footnotes at the bottom of this schedule. For projects less than \$50,000 or more than \$50,000,000, fees may be negotiated subject to ABA approval.

CONSTRUCTION COST	BASIC FEE
Less than \$50,000	As Negotiated
\$50,001 to \$75,000	9.25%
\$75,001 to \$100,000	9.00%
\$100,001 to \$200,000	8.75%
\$200,001 to \$300,000	8.50%
\$300,001 to \$400,000	8.25%
\$400,001 to \$500,000	8.00%
\$500,001 to \$600,000	7.75%
\$600,001 to \$700,000	7.50%
\$700,001 to \$800,000	7.25%
\$800,001 to \$900,000	7.00%
\$900,001 to \$1,000,000	6.75%
\$1,000,001 to \$20,000,000	6.50%
\$20,000,001 to \$ 22,500,000	6.25%
\$22,500,001 to \$25,000,000	6.00%
\$25,000,001 to \$27,500,000	5.75%
\$27,500,001 to \$30,000,000	5.50%
\$30,000,001 to \$32,500,000	5.25%
\$32,500,001 to \$35,000,000	5.00%
\$35,000,001 to \$37,500,000	4.75%
\$37,500,001 to \$40,000,000	4.50%
\$40,000,001 to \$42,500,000	4.25%
\$42,500,001 to \$50,000,000	4.00%
Over \$50,000,000	As Negotiated

(B) Prior to applying any of the modifiers listed below, Agencies shall submit a request to the Section for authorization to negotiate a contract containing these

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modifiers. The request shall include a description of the services to be added or deleted and the range the Agency intends to negotiate to.

(1) For simple projects such as warehouses, parking lots, parking decks, agricultural facilities or similar, deduct a minimum of 1% from the fees indicated.

(2) For projects involving the site adaptation of an existing design such as a standard bath house, employee residence, or similar, deduct a minimum of 2% from the fees indicated.

(3) For complex projects such as hospitals, medical or research facilities, laboratories containing extensive amounts of scientific equipment, add a maximum of 1.5% to the fees indicated.

(4) For projects involving the renovation of existing structures where accurate as-built information does not exist, add a maximum of 2% to the fees indicated to allow the design professional to survey the facility and develop accurate plans of existing conditions.

(5) For ~~civil engineering~~ projects where more intense observation is required to ensure proper execution of the project such as but not limited to; installation of underground utilities, pouring of massive or structural concrete structures, add a maximum of 4% to the fees indicated. Agencies are encouraged to negotiate these additional fees on an hourly rate not to exceed the 4% maximum. These services shall be listed on the professional services under "compensation" as a separate line item entitled "Additional Project Observation".

2-300 PROFESSIONAL SERVICES CONTRACT DEVELOPMENT **[INTENTIONALLY LEFT BLANK]**

(A) All professional service contracts and amendments shall be submitted on the forms developed and approved by DFA/OSP only. Attachments to these standard forms are permitted and encouraged. All attachments shall be edited to be in compliance with applicable rules and laws.

(B) Contracts may be amended to increase or decrease the fees, to add or replace sub-consultants or modify the terms and conditions at any time during the contract period and may be amended to extend the time annually until the project is completed. However, the contract may not be amended to extend the time beyond maximum limits for professional services contracts as established by laws and the DFA/OSP rules.

(C) All contracts and the selection of the design professional shall be only as approved by the Section, and must follow all ABA MSC rules and OSP rules regarding submission schedules, fees and reimbursable expenses for reporting and tracking unless exempted by law.

(D) All reports, studies, budget cost estimates and the like produced under these contracts shall be submitted to the Section for record in the same manner as plan reviews. Failure to do so may result in forfeiture of design fees.

2-301 PROJECT SPECIFIC TYPE CONTRACTS

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(A) Agencies are required to use a project specific contract for each capital improvement project where the estimated construction cost exceeds \$1,000,000 including contingency cost. These contracts shall not be amended to add additional projects or to increase the scope of the work to add or alter additional buildings, or to make additional improvement to site work or utilities beyond the original defined scope in the solicitation for design service.

~~(B) Project specific contracts shall be initially written for a term not to exceed the current biennium fiscal year period in which the contract is written. These types of contracts may be amended to increase or decrease the fees at any time during the contract period and may be amended to extend the time annual until the project is completed. However, the contract may not be amended to extend the time beyond maximum limits for professional services contracts as established by laws and the DFA/OSP rules.~~

~~(C) (B) Fees for professional services under this type of contract should be are customarily based on a percentage of the construction cost as established in § 2-211. Fee arrangements other than a percentage fee require written justification submitted to the Section for approval prior to negotiating the contract. Additional services beyond the basic fee may be added as appropriate and as defined in § 2-200.~~

~~(C) Agencies may enter into design professional contracts for project specific type of contracts in which the project is less than \$1,000,000.~~

2-302 DESIGN PROFESSIONAL SERVICES (MULTIPLE PROJECT TYPE) CONTRACTS

(A) In some instances, Agencies may elect to enter into a standard professional services contract with an architect, engineer, or consultant for multiple minor projects not ~~exceeding \$1,000,000~~ or minor projects which are time critical during the contract period. Do not use the phrases "Indefinite Delivery or Open End" when referring to these contracts. The use of these phrases implies that these contracts will not end. State contracts must have a finite term and cost. These types of contracts are referred to as design professional contracts as defined in Arkansas Code Annotated § 19-11-1001. All contracts and the selection of the design professional shall be only as approved by the Section, and must follow all MSC regulations, regarding plan review submissions for tracking projects to ensure funding. All reports, studies, budget cost estimates and the like produced under these contracts shall be submitted to the Section in the same manner as plan reviews. Failure to do so may result in forfeiture of fees.

(B) These types of contracts are to provide professional services for small projects and additions, particularly renovation and maintenance type projects, that do not exceed \$1,000,000 in construction cost. These types of contract are also applicable for feasibility studies, programming studies, budget estimates, technical assistance, emergency damage recovery projects and other similar activities involving architectural or engineering expertise. These contracts may be amended, as required, to be in force a maximum of four (4) consecutive years. At the end of the four year period, a new selection process shall be initiated in order to allow other equally qualified firms to submit proposals and be selected based on their overall qualifications.

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(C) Fees for each individual project under this type of contract should be based on a percentage of construction cost, lump sum, or an hourly (not to exceed) type contract. Detail statement of work documents or task order assignment documents should be developed for each assignment defining the scope of the assignment, fee arrangement, completion time and deliverables required from the consultant at the time of the project assignment. Fee payments should be closely audited to ensure they do not exceed the maximum allowable fee authorized by the assignment order. Terms for these contracts must remain the same for the duration of the contract period.

2-303 LUMP SUM OR HOURLY FEES (NOT TO EXCEED)

As an alternative to the fees as a percent of construction cost set forth in § 2-211, the Agency may negotiate a lump sum or hourly (not to exceed) fee contract, subject to approval by the Section. The lump sum or hourly (not to exceed) fee should be based on the estimated construction cost, which is applied the percentages set forth in § 2-211 or a lesser percentage figure may be used if the ~~Section~~ Agency determines that portions of the design work can be furnished by other qualified sources. ~~When a lump sum or hourly (not to exceed) fee basis is contemplated, then public notification to Design Professionals should so state.~~

2-304 ADDITIONAL SERVICES FEES

(A) Fees for "Additional Services" may be based on lump sum or hourly (not to exceed), unit prices. "Additional Services" fees shall be agreed upon in writing prior to the encumbrance of expense.

(B) Multipliers for additional services may not be used in an attachment to a professional services contract or invoice for services unless approved by the Agency and the Section in the initial standard professional services contract. Design Professionals may include a "multiplier" only where "above normal and lengthy" coordination of the additional services of outside specialized consultants is involved and approved by the Agency. This multiplier shall not exceed ~~4.20~~ 1.10 times actual cost and should be clearly stated in any invoices for payment.

(C) Multipliers shall not be applied to equipment, material, or incidentals furnished to complete a project. Only consultant or personnel charges are applicable.

2-305 MULTIPLIERS FOR REIMBURSABLE EXPENSES

(A) Certain contracts, such as the AIA Document B454, "Abbreviated" "Standard Form of Agreement Between Owner and Architect", provide for the use of multipliers when computing the expenses incurred by the Architect (Design Professional), his employee, or consultants. Multipliers shall not be used when submitting invoices without the written agreement of the Agency and the Section during the initial preparation of a standard professional services contract. Multipliers up to a maximum of ~~4.20~~ 1.10 times actual expenses for the procurement, coordination, and review of the work required such as legal surveys, geo-technical services, specialized consultants requested by the Agency, and the like, may be used only if acceptable to the Agency and the Section, and are clearly stated and referenced to the standard professional services contract in an attachment.

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(B) Reimbursable expenses for material items, printed materials, and reproduction of plans and specifications, testing lab fees, or Agency review fees shall not be billed or invoiced with any multipliers. Invoices are accepted for actual expenses incurred only. Expenses will not be accepted without an invoice.

2-306 ACCEPTABLE/ALLOWABLE REIMBURSABLE EXPENSES

(A) Certain expenses will be incurred during a construction project, which may need to be included in all standard professional services contracts and also included as allowances in the design professional's contract under "Reimbursable Expenses", such as:

(1) Reproduction of design and bid documents (blueprints, printing, electronic media, cost, and the like). NOTE: These expenses to the Agency are limited to those provided the review agencies during the design review phases of the project, the minimum number of set required to bid the project subject to approval of the Agency, and the minimum numbers of sets to be furnished to the successful contractor (§2-1603). This includes all bid documents, drawings, specifications, addenda, negotiated changes, and change orders. Sub-contractors and suppliers requesting additional copies shall be responsible for all printing and shipping costs. The Design Professional shall furnish documentation of all printing and delivery cost. Acceptable documentation for printing cost shall be an invoice on letterhead or business forms from an outside printing company or service. Invoicing for these services on the design professional's letterhead only is not acceptable.

(2) Land and topographical surveys.

(3) Geo-technical soils testing services and material testing (soils compaction, asphalt, concrete, and similar testing services).

(4) Agency review fees, (example, Health Department plan reviews.)

(5) Postage and delivery expenses (including overnight or priority shipping when authorized by the Agency) related to transmittal of submittal documents, contracts, pay applications, and correspondence related to the project or contract. Request for reimbursement of these expenses must be accompanied by a receipt from the provider or a photo copy of the envelop showing the address of the recipient and value of postage when using regular mail where a receipt is not otherwise rendered.

(B) Travel Expenses:

(1) Out of state travel expenses, including airfare, lodging, meals, ground transportation, parking and tolls, for in-state design professionals when specifically requested by the Agency. Reimbursement rates shall be subject to the guidelines published by DF&A for out of state travel by state employees.

(2) In state travel expenses, including airfare, lodging, meals, ground transportation, parking and tolls, for out of state design professionals and out of state specialized consultants when specifically requested by the Agency. Reimbursement rates shall be subject to the guidelines published by DF&A for out of state travel by state employees

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2-307 UNACCEPTABLE REIMBURSABLE EXPENSES

(A) Professional service contract and/or invoices for services shall not list any of the following as a "Reimbursable Expense":

- (1) Mileage to and from a project site at any time.
- (2) Any other connected travel expenses such as meals, lodging, and parking (except for out-of-state travel when specifically requested by the Agency).
- (3) Facsimile communications (fax).
- (4) Long distance telephone expenses.
- (5) In-house computer or CAD time or equipment expense.
- (6) Telegrams.
- (7) In-house printing or reproductions.

(B) This applies to all design professionals and consultants, including geo-technical consultants, whether in-state or out-of-state. These expenses are considered normal overhead costs covered in the contract agreement, and are not reimbursable expenses.

2-308 PROGRESS PAYMENTS TO THE DESIGN PROFESSIONAL (RENDERING OF COMPENSATION)

(A) While contract requirements may vary greatly, a mutually agreed upon Method of Rendering of Compensation shall be established in the standard professional services contract, under Section V, "Rendering of Compensation", or in a separate attachment. Compensation may be paid monthly or in stages of completion, but compensation or invoices may not be paid or processed until an Agency has received that portion of work.

(B) In a normal, average construction project, compensation for services and reimbursable expenses may be paid at the end of the following stages:

- (1) Schematic Design: Up to 15% of fee (after completion of the Owner/Agency Review).
- (2) Design Development: Up to 50% of fee (after completion of the Owner/Agency Review, where applicable).
- (3) Construction Documents: Up to 75% of fee (after completion of ABA Plan Review and approval).
- (4) Bidding, Negotiations, Award, Contract Administration: Up to 80% of the fee (after issuance of notice to proceed).
- (5) Construction Administration through the final inspection and final punch list preparation up to 95% of fee.

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(6) Project Closeout: Up to 100% after processing final pay request and project closeout items (Maximum 45 days). (Refer to §3-500 through §3-600)

(C) Any supplemental contracts (such as AIA Owner/Architect Agreements) listed as an "Attachment" to the standard professional services contract shall agree as to language and intent for all compensation, reimbursables, multipliers, and the like, noted.

2-309 PROJECTS WITH FIXED LIMITS OF CONSTRUCTION COST

(A) Where applicable, the Agency and the Design Professional may jointly agree to a fixed limit of construction cost as a condition of a standard professional services contract between the Agency and the Design Professional (or on the project assignment form or letter for projects executed under multiple project type contracts). If such a fixed limit has been established, the Design Professional and the Agency will cooperate to mutually agree with the Section on contingencies for design, bid climate and price escalation, on building program scope, construction materials, equipment, component systems, and types of construction to be included in the contract documents.

(B) The fixed limit of construction cost shall be included with all plan review submittals to the Section. The fixed limit of cost shall be stated in bold letters on the cover sheet of all documents submitted for review. The cost shall be stated in the following manner, "FIXED LIMIT OF CONSTRUCTION COST = (enter dollar amount)." This statement shall be removed from the documents prior to publishing for bids. Budgetary concerns by all parties shall be resolved during program review and the schematic design phase, before the first plan review submittal to the Section.

(C) Where this fixed limit of construction cost is exceeded, the Design Professional shall, without additional compensation, modify the construction documents as necessary to comply with the fixed limit, if provided under the terms of the standard professional services contract.

2-310 PROJECTS EXCEEDING CONSTRUCTION FUNDING AFTER BIDDING

(A) When it becomes apparent, after bids have been opened and reviewed, that the project cannot be awarded because of budget overruns, and that bids exceed the maximum allowed for negotiations pursuant to Arkansas laws, the Design Professional shall initiate the following steps:

(1) Meet with the designated project coordinator of the Agency or campus to review bids, budgets, program, and Owner's needs, within seven (7) working days.

(2) Review project costs with bidders for areas of possible savings or cost reduction. Analyze areas of excessive cost.

(3) Review project with the Agency's Project Coordinator(s), the Section, and the Construction Section to resolve project status as quickly as possible.

(4) Modify bid documents as approved and directed by all parties and resubmit the bid documents to the Section for review, comments, and approval for re-bidding.

(5) Re-bid project. Coordinate bid date with the Construction Section.

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(6) The Design Professional may be required to re-design the project for re-bid without additional compensation. Additional redesigns beyond one (1) re-bid may be eligible for additional compensation subject to the approval of the Section.

(B) Other than reimbursables for printing costs, no additional compensation for re-bidding will be allowed unless approved in writing by the Section.

2-311 OMISSIONS AND ERRORS IN CONSTRUCTION DOCUMENTS

(A) Omissions, or errors, or both in construction documents often arise from unrealistic project schedules, lack of communication, failure to coordinate, review, or edit construction documents accordingly, as well as many other shortcomings in the design and construction process.

(B) The Agency project coordinator should work closely with the chosen design professional to set realistic project schedules which allow time for review and coordination by all parties, particularly during the scheduled ABA plan reviews.

(C) Failure to include necessary construction detailing, lack of coordination in the architectural, civil, structural, mechanical, electrical, and other, portions of the drawings and specifications, may result in costly change orders.

(D) If these change orders are reasonably attributed in whole or part to errors or omissions on the part of the design professional or his consultants, the Design Professional shall without additional compensation (to the degree the change orders are responsibly required because of the errors and omissions of the Design Professional), correct or revise all errors or omissions in its designs, drawings, specifications and other services, and prepare construction change orders to effect corrective work. Good judgment and fair practice should be exercised by all parties in making these types of decisions. The Section and the Construction Section will review all decisions respectively.

(1) An omission of an item (such as a flagpole inadvertently left out of a set of project bid documents) which would have otherwise been included in the base bid for the project should not be used to penalize the Design Professional. However, if remedial work to the landscaping or concrete paving is needed to allow for installation of the flagpole at a later, less opportune time in the course of construction, then the Design Professional may be held responsible for these remedial costs (assuming the Agency has reasonably documented this requirement during preparation of bid documents for the project).

(2) In general, when additional costs are incurred in a construction project, which are directly attributed to negligent errors or omissions or both on the part of the Design Professional, said Design Professional may be required to bear some or all of the costs for remedial work needed to correct these negligent errors or omissions. The Design Professional should work closely with the Agency and the General Contractor to ensure that all errors or omissions or both are corrected in a timely manner, before any remedial costs are incurred, to contain and reduce change order costs. Errors and omissions should be resolved between the Agency and the Design Professional whenever possible, and as quickly as possible.

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(3) The Administrator of the applicable section(s), shall have the authority to settle or resolve disputes concerning errors or omissions in a set of bid documents prepared for any Agency project utilizing professional judgment and accepted standards of care required of Design Professionals.

(4) Any dispute involving negligent omissions, errors, or both not resolved by the Agency and the Design Professional shall be submitted to the Section. Either party may then request a conference review with the Section and the other party to attempt to resolve the issue. Request to the Section shall include but not be limited to a description of the omission or error, all documentation related to the item or items in question, copies of all meeting notes, and correspondence, or instructions referring to the issues in question. The requesting party shall copy all other parties on the request and documentation. All other parties shall submit a letter stating their position on the issue and any additional documentation related to the issue within 10 working days to the Section and copy all other parties. The Section will review the information provided and issue a letter of opinion within 15 working days (30 working days after receipt of the initial request) or request additional information from the parties.

(5) Change Orders required as a result of an error, omission, or both may not be eligible for Design Professional fee compensation. For omissions, the Design Professional may be assessed a percentage of the cost of the change order, subject to the Section approval as determined in § 2-312, to cover the additional cost of the work due to failure to include the work in the original bid package. For an error, the Design Professional may be assessed the full cost of the change order, not as punishment, but in fulfillment of the principal of betterment, that the owner should not be required to pay twice for the same element of construction.

2-312 DESIGN PROFESSIONAL'S LIABILITY INSURANCE

(A) The Design Professional shall carry professional liability insurance covering negligent acts, errors and omissions. Include a copy of the current certificate of insurance as an attachment to the standard professional services contract. The minimum policy value shall be \$500,000 except that the value shall be increased to a minimum of \$1,000,000 for projects where the estimated construction cost is between \$5,000,000 and \$20,000,000. For projects exceeding \$20,000,000 in estimated construction cost, the policy value shall be a minimum of 5% of the estimated construction cost. The Design Professional may utilize a Project Specific Professional Liability Policy for projects exceeding \$5,000,000 in estimated construction cost. The Design Professional shall be required to disclose the size and nature of all pending claims against his liability insurance during the negotiation phase. The Design Professional shall maintain this insurance in force after the completion of the services under the contract for a period of one (1) year after substantial completion of the construction.

(B) Neither the Section's nor the Agency's review, approval, acceptance of, nor payment for, any of the services required shall be construed to operate as a waiver by the Owner of any rights or any cause of action arising out of the Contract. The Design Professional shall remain liable to the State for reasonable project costs, which are incurred by the State as a result of negligent acts, errors, or omissions, or both on the part of the Design

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Professional. This liability shall extend to the Prime Design Professional's subcontractors and consultants in the performance of any of the services furnished.

(C) The Design Professional may be held responsible for reasonable project costs resulting from its professionally negligent acts, errors, omissions, or other breaches of the applicable standards of care established by Arkansas laws or regulations. Liability may include, but not be limited to, the Design Professional's own cost of for labor and other in-house cost, any resulting Contractor Change Order cost including demolition, cutting patching, repairs, or modification of work that is already in place. The Design Professional may also be held responsible for any Contractor or Owner delays or damages, and any judgment, fines, or penalties, against the Agency resulting from the Design Professional's professionally negligent acts, errors, omissions, and other breaches of the applicable standards of care.

(D) However, the Design Professional may not be held responsible for the cost of the correct equipment or system which should have been originally specified, except that the Design Professional shall be responsible for any increased cost, whether the result of inflation, reordering, restocking or otherwise of incorporating the corrected work into the Contractor's Change Order

(E) Upon determination that there may be Design Professional financial responsibility involved, the Design Professional shall be contacted by the Agency. The Design Professional shall be advised of the design deficiency, informed that it is the Agency's opinion that the Design Professional may be financially responsible, and requested to provide a technical solution to the problem, including a cost estimate. The Design Professional shall be given the opportunity to take the measures necessary to minimize the consequences of such defects within a timely manner without jeopardizing the integrity of the project. The Agency Project Coordinator shall promptly inform the Section of the issue and shall keep the Section informed until the issue is resolved.

(F) If the Design Professional refuses to cooperate in the negotiations, the Agency shall have the right to proceed with the remedial construction and/or change order negotiations without the Design Professional. Disputes shall be resolved as set forth in the Standard Professional Services Contract.

(G) Alternatively, the Design Professional may discharge its financial responsibility through negotiations with, and direct payment to, the Contractor. This action must be participated in and approved by the Owner. Evidence of the Agency's participation and approval of these negotiations and a description of the corrective action and cost incurred by each party shall be reported in writing to the Section for record.

2-313 OTHER INSURANCE REQUIRED OF THE DESIGN PROFESSIONAL

(A) Prior to the start of any work under the Professional Services Agreement, the Design Professional shall provide to the Agency Certificates of Insurance forms approved by the State and shall maintain such insurance until completion of all work under the agreement.

(B) The minimum limits of liability shall be as follows:

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(1) Workers' Compensation: Standard Arkansas Workers' Compensation Policy with statutory requirements and benefits.

(2) Employers Liability: \$100,000 minimum.

(3) Broad Form Comprehensive General Liability: \$1,000,000 minimum

Combined Single limit coverage. The State shall be named as an additional insured with respect to the services being provided. The coverage shall include but not be limited to premises/operations liability, Products and completed operations coverage, independent contractors liability, owners and contractor's protective liability, personal injury liability.

(4) Automobile Liability: Arkansas Statutory Limits

2-314 PROFESSIONAL SERVICES CONTRACT

(A) Selection of architect, landscape architects, interior designers, engineers, land surveyors, and other related building consultants shall be coordinated and verified by the Section. When the Agency has completed the selection process then the agency shall prepare a standard professional services contract. All basic compensation items, compensation for additional services, and reimbursable expense items, shall be carefully reviewed by both the Agency and design professional before signing the standard professional services contract. The signature page of this form shall be the only signature page in the agreement. Delete or strikeout the signature pages from all attachments to avoid confusion. Upon request, the Section is available for contract draft reviews between the Agency and the design professional.

(B) For Compensation and Reimbursable expenses, see §2-200 et seq. and §2-300 et seq. Additional services of the Design Professional may be based on a percentage of construction cost, lump sum or hourly fee with a not to exceed amount stated on the contract.

(C) All standard professional service contracts and amendments shall be submitted to the DFA/OSP website. DFA/OSP will forward the contracts and amendments to the Section for review. For new contract reviews, submit two copies. For an amendment review, submit two copies of the amendment and two copies of the original contract and all previous amendments. Contracts or amendments expected to receive Legislative review must have attached appropriate information regarding the contract or amendment ~~justification~~. Contracts shall also contain disclosure forms and documents pursuant to EO 98-04. Appropriate information includes but is not limited to: Agency name; project description; construction and Design Professional funds; # of standard professional services contracts; identify Design Professional and the objectives and scope; Design Professional fees; estimated construction cost; contract control number; amendment compensation with explanation; Design Professional reimbursables with breakdown; contract extension date; name of the contractor; contract amount and change orders. Contracts shall be completed in its entirety prior to submission for review. Particular attention will be given to areas concerning "Calculations for Compensation" and "Description of Services to be provided. ~~New contracts or amendments to contracts shall be submitted to the Section seven (7) calendar days before the deadline as set by the Department of Finance and Administration.~~

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(D) Failure to meet the ~~above~~ DFA/OSP submittal schedule for review and approval can cause a delay of 30 days or more for legislative review. All standard professional services contracts \$25,000.00 or more require Legislative review. The standard professional services contract form takes precedent over any and all attachments regarding time, funds, and compensation. ~~After approval by the Department of Finance and Administration one (1) copy will be sent to the Owner/Agency for distribution to all other parties and one copy will be retained by the Department of Finance and Administration.~~

2-315 ATTACHMENTS TO THE PROFESSIONAL SERVICES CONTRACT

(A) Agency and Design Professionals may wish to add attachments to the standard professional services contracts. These attachments may be used to clarify the extent of the professional services, either basic or additional, for the Agency and the Design Professional. When Agencies and Design Professionals wish to add attachments to the standard professional service contract, the following shall be done:

(1) Attachments shall be referenced Attachment "A", "B", "C", or "1", "2", "3" and the like, and referenced on the contract under "Objectives and Scope".

(2) Attachments shall be neatly typed additions or the Agency and Design Professional may choose to use the standard American Institute of Architects "Abbreviated Standard Form of Agreement Between the Owner and the Architect", the Engineers Joint Council on Construction Documents "Standard Form of Agreement Between Owner and Engineer", or other documents approved by the Section. (ABA neither endorses nor rejects the use of these documents.) If these documents are used, they shall be carefully edited to fully agree with the standard professional services contract, Arkansas laws and regulations including the MSC regarding allowable fees, compensation, multipliers, acceptable reimbursable expenses, and the like, and the services to be provided under the contract. Hourly rates and attachments shall remain in place for the duration of the contract, subject to annual or biennial review and negotiations. The language contained within the standard professional services contract shall take precedence over all attachments except the ABA "Basic Services Defined" attachment.

(B) In addition, the ABA "Basic Services Defined" (refer to § 2-201) shall be attached to, or added under the AIA contract, Article 12, "Other Conditions or Services." All contracts shall adhere to the ABA "Basic Services Defined" as a condition of the contract.

2-316 AMENDMENTS TO PROFESSIONAL SERVICES CONTRACT

(A) Any modification to an existing standard professional services contract requires the submission of an "Amendment" for approval by all parties, as per the original contract, including, but not limited to, changes in the project cost and scope of the project, fee or hourly rate adjustment, reimbursable expenses or additional services adjustments, contract extension, funding change (character code), and additional sub-consultants.

(B) The base fee in a standard professional services contract will normally remain constant for the duration of a project. However, if the funding or scope of the project changes significantly enough to reduce or increase the base fee allowed by the ABA Standard Fee schedule (see § 2-211), then the standard professional services contract

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shall be amended by both parties to reflect the new base fee agreement, and submitted for approval.

2-800 ENERGY CONSERVATION

(A) The life cycle cost of operating a building, including energy cost and labor cost, can often exceed the cost of the building construction by 8 to 10 times. Efforts to reduce energy consumption or improve employee efficiency by as little as 10% can often result in lifetime cost savings equaling the cost of new construction. It is therefore incumbent upon each building operator, manager, and designer to be aware of the issue regarding energy consumption in the building and to plan construction and operations as wisely as possible to minimize the energy consumption while meeting the operational needs of the facility and while promoting a healthy indoor environment.

(B) Energy Conservation for only the sake of avoiding energy consumption can often lead to indoor environmental problems that can have a potential cost far greater than the value of the energy saved. All energy plans should consider not only the energy reduction but also the impact upon the building materials, systems and upon the occupant's health and productivity. Pursuant to the Arkansas Energy Code and the Arkansas Fire Prevention Code, all new construction projects and renovations shall comply with these codes. Agencies should give careful consideration to the principles of the standards and codes for incorporation into the project design to allow a stable base from which the building operator can begin to manage the building's energy consumption. All occupied buildings shall be designed to maintain the indoor environment within the parameters of the "Comfort Envelope" as defined in the ASHRAE Fundamentals Handbook. This envelope defines a range of temperatures and humidity levels that are deemed to be acceptable to most occupants under normal activity levels.

2-801 LIFE CYCLE COST ANALYSIS

In accordance with the Arkansas Energy Office (AEO) rules for Energy Efficiency and Natural Resource Conservation in Public Buildings, Agencies and the Project Designer are encouraged required to evaluate all material and equipment selections on the basis of life cycle cost as opposed to a first cost only for new construction projects exceeding 20,000 SF and for renovations of buildings exceeding 20,000 SF wherein the renovation cost exceeds 50% of the insured value of the building. During a competitive bid process for construction, often the product having the better life cycle cost can be incorporated into the project for little or no incremental cost over the lesser quality product. Agencies should evaluate the proposed products at a 25—~~or~~ 30 year life cycle. Careful consideration should also be given to the utility escalation rates, the maintenance rate and the discount rates for the cost of money. These factors can vary significantly from those applied to private sector cost (shorter life cycle) and if improperly applied can invalidate the analysis. Agencies are encouraged to use life cycle costing on all other projects to the extent that it is economically feasible.

2-802 AUTOMATED CONTROLS

Where possible use automatic controls for HVACR systems and for lighting applications. Space temperature and humidity should be controlled by automatic controls capable of

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maintaining the space set-point within a fixed upper limit and lower limit. Where practical, provide for the automatic setback or setup of the space temperature during the un-occupied periods. Avoid turning off systems where the rise in space temperature or humidity above the ASHRAE recommended maximums might result in damage to the building materials or growth of microbiological organisms. Avoid exposing the building water systems or other components to potentially damaging freezing conditions. Where possible, use space occupancy sensors such as motion sensors to control lighting and individual room air conditioning terminal units allow setback or to turn out the lights when a space is unoccupied. Where sufficient natural lighting exist due to windows or skylights, use automatic lighting controls to regulate the overall space lighting levels.

2-803 MANUAL CONTROLS

When automatic controls are not part of the building systems, the building manager should develop policies for each building or facility. These policies should be written and distributed to all employees. The policy should encourage the conservation of energy through the direct involvement of the building occupants. Occupant efforts should include activities such as turning lights off when not in use; maintaining thermostat settings as directed by the building manager; set-back or set-up thermostat settings during the un-occupied periods; do not leave windows open when the building heating or air conditioning systems are in operation; use the blinds or drapes to moderate the lighting level in the space so as to take maximum advantage of the natural lighting and so as to reduce the building air conditioning load; leave blinds or drapes closed when the space is un-occupied and over the weekends and holidays; do not use electrical space heaters in spaces that are air-conditioned. Adjust the heating/cooling set-points or encourage employees to dress in multiple layers of lightweight clothing such as jackets or sweaters, which can be removed or added to accommodate individual variations in comfort levels.

2-804 EQUIPMENT EFFICIENCY

(A) Do not overlook water conservation as an opportunity to reduce or manage the building operating cost. When selecting water-cooled or liquid-ring seal equipment, consider the water usage rates. When designing or operating lawn irrigation systems, consult with the Cooperative Extension Service to determine the maximum water rates for all vegetation. Evaluate the soil conditions with regards to absorption rates. Where possible, provide irrigation systems that calculate the evaporation transpiration rate based on local conditions. It is more effective to have multiple watering cycles to allow ample time for the water to absorb into the soil than to have longer cycles, which result in excessive run-off. Be cautious not to over water especially where large trees are concerned. The damage caused by the loss of an old growth tree due to over watering can be many times the cost of proper watering in that area. Where possible, use plumbing fixtures with infrared sensors to activate the flow of water. This not only saves water but also is also more sanitary and reduces the transmission of bacteria from hand contact with the fixture.

(B) Agencies and designers should endeavor to specify new equipment and fixtures to be Energy Star compliant. Energy Star equipment has been tested and certified to be low energy consuming during normal operation. In addition many Energy Star products such as computers have built-in power reduction modes that further reduce energy consumption during non-use or standby periods. Building managers should encourage

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occupants to not defeat or disable these energy reduction features. Equipment, like building systems, should be selected based on the best life cycle cost for each specific application.

2-805 ENERGY STAR BUILDING PROGRAM

(A) The Energy Star Building Program is a voluntary partnership between U.S. organizations and the U.S. Environmental Protection Agency (EPA) to promote energy efficiency in buildings. These organizations represent owner-occupied public and privately owned buildings. The EPA provides participants in the program with unbiased technical information, customized support services, public relations assistance, and access to a broad-range of resources and tools.

(B) The Energy Star Building Program allows building owners to benchmark their building's energy performance relative to other similar properties in the program database. The Energy Star Building Label is awarded to buildings performing in the top 25% percentile of the market. This mark of excellence in energy performance signifies that the building has out-standing energy performance, lower operating cost and superior value. Buildings qualifying for the Energy Star Building Label are eligible to receive a placard to display on the building denoting the building as an Energy Star Building and the year date the building was certified.

(C) The Energy Star Building Labeling program is co-sponsored by the EPA and the U.S. Department of Energy. Information concerning the program criteria and participation can be accessed through the EPA web site at www.epa.gov/buildinglabel. Agencies are encouraged to apply for the building label.

(D) The Energy Star Portfolio Manager building benchmarking program is recommended for agencies subject to the energy reduction mandate of Executive Order 09-07 and Arkansas Code Annotated § 22-3-2001 et. Seq. as a tool to monitor and achieve the goals of the Agency's Strategic Energy Plan.

2-900 DESIGN STANDARDS ~~[INTENTIONALLY LEFT BLANK]~~

(A) The standards contained herein are considered the minimum acceptable for capital improvement projects submitted to the Section. Agencies and their design professionals are encouraged to exceed these standards when in the best interest of the State. If the Agency encounters a situation whereby these minimum standards cannot be met, the Agency shall submit a written request to the Section for a waiver of each specific standard. The wavier request shall define the conditions of the project that cannot meet the MSC, the applicable paragraph references for which the waiver is sought, the cost of compliance with the MSC if the waiver is not granted, and the cost of the proposed alternate construction and why the Agency cannot comply with the standards under the proposed project. All waivers must be approved by the Section in writing prior to the first plan submittal to the Section.

2-901 DESIGN PHILOSOPHY

(A) The goal of the Agency and its consulting Design Professionals should be to create a capital investment that meets the user's functional requirements, program requirements

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and provides the most economical life cycle cost for the taxpayer. Buildings and structures will often be used for periods exceeding fifty (50) years and consequently, should be designed for durability, adaptability, and economy of operation and ease of maintenance. The State currently has many functioning buildings that are over fifty (50) years old.

(B) Building system components should be selected on the basis of life cycle cost. If an increased first cost or initial cost can be documented to show a reduced life cycle cost for the State, particularly for operating and personnel cost, then the design should incorporate the more expensive first cost feature or system. Studies have shown that the initial construction cost for most buildings equals 10 percent or less of the total cost of owning and operating a building over the life cycle of the building. Agencies ~~are encouraged to~~ shall require the Design Professional to produce life cycle cost data for analysis review before approving a design element or system where required by the AEO rules for Energy Efficiency and Natural Resource Conservation in Public Buildings.

(C) Agencies must be alert to ensure their consulting Design Professionals exercise discipline in their designs to ~~avoid inefficient~~ promote efficient use of facility space in terms of floor area and building volume. Exterior design features and materials should be consistent with the architectural character of the surrounding buildings and should complement the natural materials at the site. Excessive features or unusual geometry, which are not related to the function or intended use of the facility, ~~should~~ shall be avoided.

(D) Acceptance of a particular design does not imply that other more cost-effective designs are not acceptable. Good architecture can be achieved simply by good design which implies sensitivity to scale, mass, proportion, color, materials, lighting and detail, none of which necessarily cost more.

2-902 DESIGN STANDARDS AND REQUIREMENTS FOR OWNER/AGENCIES

(A) The Agency and the Design Professional should be aware of differences between private work and work performed for the State. Failure to comprehend these basic differences in rules and policies can result in costly disputes, protest, claims, and document re-submittals. The Design Professional should become familiar with these differences, which include but are not limited to the following areas:

(B) Since the knowledge and experience of the contractors bidding on the project is unknown, drawings and specifications requirements shall be clear as to the intent of the work. The plans and specifications must be clear, concise, and provide thorough detailing of existing and new construction.

(C) Sections, details, and dimensions must be in sufficient quantity, clarity and detail to allow the bidder to understand what is expected, to make takeoffs of material types and quantities, and once hired, to prepare shop drawings and execute the construction. This particularly applies to stairs, special connections for framing, typical details of system interfaces, flashing for roofs, walls, and similar building features.

(D) Details should clearly distinguish between existing and new construction. The drawings must also clearly show the beginning and the ending point of demolition requirements.

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(E) The project design is solely the responsibility of the Design Professional. Specifications requiring the contractor to provide engineering design are not acceptable unless the products specified for contractor design are closed-engineering systems. Closed engineering systems may include pre-engineered metal buildings, elevated water storage tanks, prefabricated trusses, post tensioned structural concrete slabs, pre-cast concrete systems and common steel structural connections. Other systems can be classified as closed-engineering systems if approved in writing by the State Engineer. When closed-engineering system specifications are used, the Design Professional shall include the requirement for such systems designs to be stamped by a professional engineer duly licensed to practice in the State pursuant to Ark. Code Ann. §22-9-101 et seq. Closed-engineering system shop drawings shall be submitted through the Design Professional to the engineer of record for review and approval for incorporation into the overall project design.

(F) In order to encourage competition required in the expenditure of public funds, performance specifications that define a desired result or assembly are strongly preferred. If performance specifications are not practical, and a manufactured product must be used to define a desired result of assembly, then at least three manufacturers and three products should be referenced. Do not reference both manufactured products and performance criteria because conflicts in the performance criteria and the product performance may create ambiguity and result in the misapplication of a product, a protest, or a claim. ~~Sole source and proprietary specifications are not allowed without prior written approval by the Section.~~

2-903 SPECIFICATION STANDARDS

(A) Specifications shall clearly define the quality, performance, and installation standards for the Work and the conditions under which the Work is to be executed. They shall be in sufficient detail to describe the materials, equipment and supplies, and the methods of installation and construction. Required tests and guarantees shall be indicated in the specifications.

(B) Federal Specifications, MILSPECS, Corps of Engineers Specifications, Arkansas Highway and Transportation Department Specifications, and the like often contain requirements or standards, which are not applicable to State work. Those specifications may contain requirements and options ranging from the lowest quality to the highest quality product, which must be carefully reviewed, selected and identified in the specifications. Therefore, it is recommended that all any reference to these types of specifications should be avoided.

(C) Specifications shall be on 8 ½" by 11" sheets and bound into a project manual with bid sets preferably printed on both sides of the sheet. Type print size shall be suitable for microfilming and shall not be smaller than 12-point type size. The table of contents pages, or index, shall be dated with the same date as the drawings and shall be sealed and signed by the appropriate Design Professionals.

(D) The Project Manual shall include but not be limited to:

(1) Title of Project and Name of Agency;

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(2) Names, address, phone and fax numbers of the Design Professional and all consultants;

(3) An index of all contents;

(4) Notice of Invitation to Bid;

(5) Instructions to Bidders;

(6) Bid Form;

(7) The General Conditions;

(8) Supplemental General Conditions, (if applicable);

(9) Contract Between Owner and Contractor;

(10) Workers Compensation Insurance Certificate;

(11) Standard Performance and Payment Bond;

(12) List of Drawings;

(13) Other Division Zero (0) ~~1-General Requirements, Special Conditions, and the like~~ as appropriate;

(14) Technical Specification (Divisions ~~2-16~~ 1-49 Applicable Sections);

(a) Technical Specification Sections shall be numbered with appropriate ~~five~~ six digit section numbers corresponding to the CSI numbering system. The preferred paragraph numbering system format is the Alpha Numeric format.

(b) Technical Sections shall be subdivided into the Part I-General, Part II, Products, Part III-Execution format.

~~(c) The Construction Specification Institute's recently published 49 division format shall be adopted by ABA on July 1, 2010 and shall be the only acceptable format after that date. Until this date, Agencies may submit specifications in either the 16 division format or the 49 division format. This delay in implementation is intended to allow ample time for design professionals to update their in-house specifications.~~

(15) Appendices containing Soils Report, Asbestos Report, or other information pertinent to the project but not a part of the Work. Such material should be noted as, "INFORMATION ONLY", for use by the Contractor as he deems appropriate.

(E) The four (4) types of specifications used on State projects are performance specifications, non-proprietary specifications, proprietary specifications and sole source specifications.

(F) Performance Specification or Non- Proprietary formats are the preferred methods of specifying materials, equipment and systems. A non-proprietary specification shall be

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written either as a generic performance specification (preferred); or as a specification naming a minimum of three (3) manufacturers with model or series numbers. The following describes the ABA requirements for performance specifications and non-proprietary specifications.

(1) A generic performance specification must be written to describe the required characteristics, performance standards, capacities, quality, size or dimensions, and the like, of the item or system. The specifications must be written with sufficient detail to allow manufacturers to determine if their product meets the requirements of the project. Include only the salient features that will be used to judge a product's acceptability for the project. The performance specification shall not name manufacturers or brand name products.

(2) A non-proprietary specification may be based on a manufacturer/model number type specification and must list at least three (3) manufacturers with their respective model numbers. Each of the listed manufacturers/model numbers must have been determined by the Design Professional to meet the specifications and be acceptable. If a named manufacturer prepackages or preassembles its item or system, the model number shall be specified. If the named manufacturer(s) custom builds the item or system, naming of model numbers is not required. When model numbers are used in a specification, be aware that each number and letter may be a unique identifier for various features of that manufacturer's product line. Avoid listing model long numbers. Limit the model number to the point necessary to describe the appropriate series of products and describe the unique product characteristics in the body of the specification or the schedules.

(3) The non-proprietary specification must describe the required characteristics, performance standards, and capacities that will be used to determine equal products. Do not specify extraneous characteristics that do not relate to the products' performance or suitability for the project. The specification shall not be contrived to exclude any of the manufacturers listed or to benefit any one (1) manufacturer over any of the other manufacturers. If only two (2) acceptable manufacturers can be found and documented by model number but other equal products are acceptable if found by the bidder, the Design Professional may list only those two (2) manufacturers and the phrase "or approved equal". If the phrase "or equal" is used the design professional may only reject the unnamed substitute if there is clear evidence of non-compliance in the submittal information presented for review or documented evidence that the substitute product or material has failed to perform satisfactorily as intended.

(G) A specification is proprietary if it fails to meet requirements of a generic specification or a non-proprietary specification. Although a proprietary specification should be avoided because it restricts competition, circumstances such as space limitations, mandatory performance standards, compatibility with an existing system, and the like, may leave no other reasonable choice. Two (2) typical situations that may require proprietary specifications are:

(1) When only two (2) manufacturers or suppliers provide an acceptable product or system, when there are no equals and when no substitutions are allowed or

(2) When only one (1) manufacturer is available, but two (2) or more vendors or suppliers can purchase the material and compete to provide the product or system to contractors or bidders.

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~~(H) Proprietary specifications may only be used when the Agency requests and receives, in writing, approval from the Section, to use a proprietary specification. The Agency must request approval as soon as the need for the specification is recognized, preferably in the preliminary design stage but definitely prior to submission of Final Plan Review Documents. The Agency request shall justify why the proprietary specification is necessary. A specification is sole source when it names only one (1) manufacturer or product to the exclusion of others, or when it is contrived so that only one (1) manufacturer, product, or supplier can satisfy the specification. A product or piece of equipment that is available only through a single franchised vendor is also considered to be a sole source item.~~

~~(I) A specification is sole source when it names only one (1) manufacturer or product to the exclusion of others, or when it is contrived so that only one (1) manufacturer, product, or supplier can satisfy the specification. A product or piece of equipment that is available only through a single franchised vendor is also considered to be a sole source item. Proprietary and sole source specifications may be used only when the Agency requests and receives, in writing, approval from the Section, to use a sole source specification. The Agency must request approval as soon as the need for the specification is recognized, preferably in the preliminary design stage but definitely prior to submission of Final Plan Review documents. The Agency request shall justify why the sole source specification is necessary. has determined that a proprietary or sole source specification is in the best interest of the State and that use of alternate materials or equipment will be cost prohibitive. When a sole source specification is used, the specification shall clearly identify the materials or equipment as a proprietary or sole source item, the approved supplier or installer and a cost allowance shall be allocated in the appropriate section for Allowances in the project manual. In this manner, all bidders will have equal pricing for all allowance items within their bid price. For projects awarded by summation of unit pricing, the item(s) may be shown as a unit price line item without the allowed cost shown. The Agency shall incorporate the proprietary or sole vendor/supplier's pricing based on the final construction drawings into the allowance item and shall retain a copy of the vendor/supplier's price proposal for the item for record. To ensure that accurate cost accounting of allowances is maintained, adjustments in the allowance cost during the construction phase shall be by individual line items matching the allowance schedule. Combining multiple allowance items into a single price or lumping allowance adjustments into a single pricing with other items is prohibited. It is acceptable and appropriate to include allowance adjustments with other cost items in a single change order provide supporting documentation is attached to delineate the allowance adjustments.~~

~~(J) Prior to advertising the project for bids that contain sole source specifications, the Agency is encouraged to either procure the sole source item and specify it as Owner furnished/Contractor installed or the Agency may pre-select a sole source item through a competitive life cycle cost request for proposals (RFP). The RFP, and evaluation criteria, shall be approved by the Section, prior to issuance of the RFP. The analysis shall also be submitted for and approved. The product having the lowest life cycle cost shall be selected and shall be included in the specification as an allowance cost item listing manufacture, product number, allowance price, vendor contact name, address and phone number and the manufacturer's quote number. The specifications shall clearly indicate that the specified product was selected on the basis of a Life Cycle Cost Analysis.~~

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(K) The use of standardized specifications or “guide specs” as a basis or resource for editing has many advantages for the Design Professional, the Reviewer and the Contractor. The Design Professional shall edit the guide specifications to include only the materials, requirements, and procedures applicable to the project. Specifications, which are submitted without editing, will be rejected as an incomplete submittal. Where Military guide specifications are used on a project, they shall be edited to delete references to Military and Federal Specifications. References to the Contracting Officer shall be changed to the Agency. Also, requirements for tests, inspections, and visits to the manufacturer’s plant, and the like, which are not normally required for state projects shall be deleted.

(L) The Design Professional shall not require samples, shop drawings, or similar materials to be submitted for approval prior to receipt of bids without the specific written approval of the Section. The specifications must contain sufficient information to describe to the contractor and bidders the performance and quality standards that will be used to evaluate the submittals.

(M) Complex or sensitive systems such as locking systems, detention equipment and security control systems for prisons often require manufacturers with a proven history of reliable, operable equipment in special situations with minimal malfunctions. ~~as well as subcontractors who are experienced installers of that manufacturer’s products. In such instances, the Agency and Design Professional should develop the necessary documents to pre-qualify the manufacturers and/or subcontractors prior to bidding. The names of those pre-qualified shall be listed in the bid documents for use by all general contract bidders.~~ In these instances, sole source or proprietary specifications may be appropriate.

(N) Projects for the State are not “testing grounds” for new type of materials or equipment. However, the fact that a material is newly developed does not preclude its use if documentation of recognized, independent laboratory tests clearly shows that the material will meet the applicable requirements for the project. The Agency shall submit a written request and justification to the Section for approval to specify a new product or material prior to the Final Plan Review submittal. Unless the manufacturer of a new product furnishes factual data sufficient to evaluate the product, it should not be considered for use. If a new product is considered for use, a competitive-type specification should be written to assure that a competitive, good-quality product will be obtained. In instances where competitive specifications are not appropriate, a sole source or proprietary specification may be appropriate. The Agency, with the approval of ABA, may authorize use of a new material, equipment or system for a particular project on a trial basis for observation or evaluation.

(O) Specifications must clearly indicate the requirements for the project. Words or phrases, which are vague or may be interpreted more than one way often lead to problems during bidding or construction and result in change order or claims. The following instructions are intended to reduce common errors and conflicts evolving from interpretations of the specifications.

(1) Under Requirements, do not say, “the Work consists of.” Drawings should show the entire ‘scope of the work’. If necessary to list certain parts, say “Generally, the Work includes...”

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(2) In lieu of reference to the accompanying drawings, use the words "as shown," "as indicated," "as detailed" or "as approved by...," "as directed by.....," "as permitted by....."

(3) The Contractor is responsible for determining the packages of work for each subcontract. It is acceptable to specify certain specialty work to be performed by person qualified, certified or licensed (if appropriate) and experienced in this type of work. If it is necessary to reference a specific trade group, it may be referred to as that group or trade by the CSI division number or section number i.e.: "Division ~~46~~ 26" for electrical work instead of "electrical sub-contractor" or "Section ~~46724~~ 283100-Fire Detection and Alarm" instead of "fire alarm contractor".

(4) Do not use "etc." This term is too indefinite for bidding and inspection purposes.

(5) Minimize the use of cross-references and in no case use paragraph numbers for this purpose. If it is necessary to refer to a particular paragraph, do so by its section number and title (e.g. Section 03 30 00, Cast-in-Place Concrete).

(6) Do not include a paragraph in the various sections entitled "Work not Included", describe only the work that is included under the respective sections.

(7) Specifications should clearly delineate air conditioning ducts, heating ducts and piping systems, which require insulation. The phrase "insulating all ducts except in conditioned spaces" has resulted in differences of opinion and claim situations. All duct systems should be appropriately designated as supply, exhaust, outside air intake, transfer, relief, or return and further clarified by stating insulating requirements.

(8) Do not confuse "any" and "all": "Correct any defects" should read "Correct all defects."

(9) Do not confuse "either" or "both"; e.g., "Paint sheet metal on either side" should read "Paint sheet metal on both sides." "Either" implies a choice.

(10) Do not confuse "or" and "and"; e.g., "The equipment shall not have defects in workman-ship and material." The use of "and" in this sentence indicates both requirements must be met. e.g. "Additives that decrease strength or durability are not permitted.

(11) Do not use "and/or." The courts have considered this phrase to be intentionally ambiguous and, therefore claims are often rendered in favor of the Contractor.

(12) Use statements that are definite and contain no ambiguous words and phrases "Remove" implies to take away from its current location. If "remove" is used, the Design Professional must also indicate whether to dispose of, salvage, or re-install the material "removed". "Reinstall" implies putting the existing back in the indicated place. If "reinstall" is used, the Design Professional must also indicate that the Contractor must carefully remove the item, properly store it, and then "reinstall" the item at appropriate time. "Replace" implies removal of old material and furnish and install new material. The preferred wording would be to "remove" and "provide".

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(13) "Provide" is defined as "furnish and install." When material or equipment is "furnished" by the Agency directly or under other contracts for installation by the Contractor, the term, "install" should be used; however, the Contractor may be required to "provide" foundations, fastenings, and the like, for the installation. If the word "install" is used alone, the Bidder or Contractor has a right to assume, on the basis of the definition cited, that the Agency will "furnish" the materials in question.

(14) Do not include equipment schedules in the specifications. Equipment schedules should be provided on the plans for quick access and review. The construction record prints are often used by the building maintenance and operation personnel on a daily basis. Having the equipment schedule information readily available on the plans can save critical time and avoid confusion during an operational emergency or repair.

(15) Ensure that the plans and specifications do not contain statements or requirements similar to the following: "[Contractor][Supplier][Installer] must have a minimum of X-years of experience in [installation][manufacture] of the specified [project][product] or must have [office][facilities] located within X-miles of the project site." These types of statements can be construed to unfairly limit competition in the procurement of State funded projects by unnecessarily excluding some Arkansas providers and can result in bid protest which may result in lengthy delays in award of the project or rejection of all bids and necessitate re-bidding and or redesign of the project. This prohibition will not negate the use of LEED MR Credit 5 for regional materials as this credit allows materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site. This range encompasses the entire state of Arkansas regardless of project locations so no Arkansas manufacturer or provider will be excluded by this requirement.

2-904 DRAWING STANDARDS

(A) The following represents the minimum requirements, standards, and expectations applicable to all drawings prepared for bidding and construction on state projects. Refer to § 2-1504 for a description of the contents of each discipline submittal. Note that not every category will be used on every project. The Design Professional shall select the appropriate categories for each specific project.

(B) Arrangement of Drawings: Drawings shall be arranged in the following order with the discipline identifying character shown:

- T Title Sheet & Index
- TS Topographical Surveys & Plot Plan Drawings
- B Boring Logs & Soils Data
- D Demolition Drawings
- C Civil Site Drawings
- L Landscaping Drawings

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- FA Fire Service Access Drawings
- A Architectural Drawings
- K Kitchen Equipment Drawings
- S Structural Drawings
- M Mechanical (HVAC) Drawings
- FP Fire Protection Drawings (Sprinkler Systems)
- P Plumbing Drawings
- E Electrical Drawings

* Special Category Drawings (Assigned by the Section)

* For special categories such as laboratory case work, acoustical plans, audio-visual plans, and the like, that do not readily fit into the defined categories, contact ABA for a drawing category assignment.

(C) Drawing Numbers: Drawings shall be sequenced by discipline letter and number, i.e., A1, A2, A3.1, A3.2, S1, S2, and the like. For large projects (exceeding 20 sheets) the Section recommends the designer use a flexible numbering system such as A1.01, A1.02 for plans, A2.01, A2.02 for sections, and the like. This will allow Designer to insert additional drawings as the project develops without requiring a re-numbering of sheets.

(D) Sizes of Drawing Sheets: Drawing sheet size, except in special cases approved by the Section, shall be 24" by 36" (preferred) or, alternatively, 30" by 42". Drawings shall be prepared so as to be suitable for microfilming and for making clear, legible half-size reproductions.

(E) Lettering: Unnecessary letter embellishments, poor spacing, careless lettering, weak lines, and lettering which is crowded or too small result in illegible films and poor reproductions. The minimum height for hand lettering on all projects shall be 1/8". Mechanical (typed or CADD) lettering shall be 1/10" minimum and in all caps. Make minimum gap between lines equal to one-half the letter height. Lettering and line weight must be in accordance with classical drafting practices.

(F) Detail Numbers: Each plan view, section view or detail shall be given an individual detail number to facilitate written and verbal communication.

(G) Scales: An indication of the scale of the object drawn shall be located directly under the title of each plan, elevation, section, detail, and the like. (Example: Scale 1/8"=1'0"). All floor plans shall be drawn at a minimum scale of 1/8" = 1'-0". The use of a smaller scale for floor plans must be approved in writing by the Section prior to the first submittal. Avoid odd size scales such as 3/32" = 1'-0" as these scales often lead to takeoff errors. In addition to the standard inch/foot scale, provide a graphic bar scale that can be used for the approximation of dimensions on reduced size plan sets. Use break lines and match lines for larger building plans. For sheets with one plan such as a floor plan or site plan, the title should be located centered under the main part of the plan

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or at the lower right-hand corner of the sheet. The north arrow should be located at the right side of the title.

(H) Provide a master listing of all applicable abbreviations and symbols used in the set of drawings or provide a listing of all common abbreviations and symbols at the beginning of the drawings and provide a listing of the discipline specific abbreviations and symbols at the beginning of each discipline. For complex piping schematics, electrical riser diagrams of special system layouts, the designer is encouraged to provide an abbreviated legend of symbols on those specific sheets to minimize the need to flip sheets to find critical symbols.

(I) Topographic and civil site drawings shall conform to the approved site plan and shall show building location by dimensions, existing and approximate new finished grades, roads & walks, temporary & permanent erosion and sediment control devices, and storm-water management facilities.

(J) Boring logs representing soil conditions encountered in the site investigation including pertinent logs from previous explorations in the project location should be presented in the project manual for informational purposes. Logs shall show the ground elevation, the depths of borings, depths and classifications/descriptions of materials encountered, blow counts per ASTM D-1586, ground water elevation, and other pertinent information. Boring locations relative to the project shall be shown on a small-scale location plan or on the Site Plan.

(K) Building Floor Plan drawings for all disciplines shall be oriented the same to avoid confusion and to facilitate overlaying of drawings. It is customary for a building plan to be oriented with north toward the top or left edge of the sheet. All plans shall have a North Arrow for orientation. For projects where the plan is divided and shown on multiple sheets, provide a key plan on each plan sheet and crosshatch or shade the area of the key plan shown on the sheet. Provide clearly defined match lines and reference the sheet where the match can be found. Avoid showing construction information across the match lines as this can lead to confusion and duplication of material counts.

(L) The drawings shall describe/show the Work to be provided by the Contractor. Existing features, structures, or improvements to remain shall be so noted. Existing features, structures, or improvements to be demolished and/or removed shall be clearly identified. Work, improvements, demolition or construction, which the Agency will perform or have performed by separate contract, shall be identified as "Not in Contract" or "NIC" if the abbreviation has been defined. Do not use the phrase "Work by Others".

(M) All foundation and floor plans shall be drawn to a scale not less than 1/8"=1'-0" with all necessary dimensions shown. Roof plans are preferred at 1/8"=1'-0" scale; however, roofs without mechanical equipment and metal/shingled pitched roofs may be drawn at a 1/16"=1'-0" scale if approved in writing by the Section prior to the first submittal to the Agency. Foundation, floor and roof plans shall show all permanent equipment vents, utilities or pipe penetrations, openings and such items affecting the construction. All plans shall be provided with column numbers or grid numbers to facilitate written and verbal communication describing the location of specific information on the plan.

(N) Design live load capacity for all floors and the roof in pounds per square foot shall be noted on structural floor plans.

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(O) Every floor plan or partial plan or space shall be provided with a unique room number and/or name. All schedules shall reference the specific room number to which the schedule applies. Reflected ceiling plans shall show room numbers, locations of lights, HVACR items, sprinkler heads, speakers, smoke detectors, and the like.

(P) Enlarged plans to 1/4" scale shall be furnished to clearly show the location and arrangement of built-in equipment/casework and of the furniture, fixtures, equipment, and the like, which influence the location of utilities, including electrical, plumbing, heating, and the like, and the assignment of space within the project.

(Q) A minimum of one transverse and one longitudinal section through the building shall be shown along with as many additional sections as are needed for understanding the overall construction requirements. Include necessary dimensions on each. All elevations shall be drawn to scale at not less than 1/8" equals 1'-0".

(R) Typical wall sections shall be drawn at not less than 3/4"=1'-0" scale. Typical window, door and special opening details shall be drawn at 1-1/2"=1'-0" scale or larger.

(S) Provide stair sections for each stair configuration including dimensions, sizes, framing members, components, and any special details required.

(T) Provide all necessary interior and exterior details, including special doors, windows, woodwork, paneling or other decorative work, toilets and washrooms, and the like, with plans and elevations at a minimum scale of 1/4"=1'-0" and with construction details at a minimum of 3/4"=1'-0".

(U) Door schedules shall include door number, label or type, size, material, frame, lintel, and remarks. Also provide elevation and detail references. Window schedules shall include make or type, size, material, and lintel remarks. Also provide elevations and details, if required for complete description. Finish schedules shall include space or room number, space name, floor finish, wall type/finish, ceiling type/finish, ceiling height, base, wainscot, remarks, and other comments, if required.

(V) Provide an enlarged plan view of each unique mechanical, electrical or equipment room. Equipment room plans shall be drawn at 1/4"=1'-0" scale minimum. Provide a minimum of one section through each equipment room drawn at 1/4" = 1'-0" minimum to clarify the height of, equipment, ductwork, piping and the like. Provide one (1) longitudinal section and one transverse section through the building (minimum) to show mechanical and electrical work with relation to the work by other disciplines. Provide other partial sections as required to clearly explain the scope of the work and to describe the restrictions at congested areas.

(W) Relation of Drawings and Specifications: Drawings generally indicate the scope of work, locations, relationships, and dimensions while specifications generally indicate quality, performance and installation requirements. Drawings and specifications shall supplement each other and must not conflict. Terminology used in specifications and drawings should be the same. For State projects, the drawings and specifications are considered complimentary of each other and neither shall take precedence over the other. Where conflicts arise between the drawings and specifications, the more stringent requirement shall apply.

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(X) Since the final plan review drawing submittals are, in the opinion of the Design Professional, complete and ready for bid, all drawings submitted for final review shall bear the Arkansas registration seal and signature of the individual or individuals responsible for its design (and corporate seals where applicable). To prevent incomplete drawings from being mistaken as construction drawings, the Design Professional shall over stamp the seal with either "Preliminary" or "Not for Construction" or "For Review Only". To facilitate proper review by the Section, the name and registration numbers on the seal should be visible and legible.

(Y) All drawings and the specifications submitted with the final plan review responses and issued for bid or construction shall be dated with the same date which is established by the Design Professional as the date the documents are (or will be) complete. Documents printed for bidding shall bear the date described above with no revision numbers or dates. In accordance with Architectural Act and the Engineering Act, the Design Professional shall sign and date the stamp.

2-905 QUALITY CONTROL

(A) The Design Professional shall be responsible for the professional and technical accuracy and coordination of all designs, drawings, specifications, cost estimates and other work or materials furnished under the standard professional services contract.

(B) The Design Professional shall perform a Quality Control review of the specifications and drawings prior to making a plan review submittal to the Agency. The Design Professional shall ensure that the plans and specifications being submitted for review meet the MSC submittal requirements and that all elements of the design have been coordinated with respect to function and location. It is not the responsibility of the Agency, ABA, or the Contractor to ensure that the plans have been coordinated from sheet to sheet and discipline to discipline.

(C) The cover sheet of all plans and specifications submitted for review to the Section shall contain the following statement signed by the responsible Design Professional who is a Principal in the firm. Failure to perform proper coordination or to include and sign this statement may be grounds for rejection of the submittal without review. This statement may be removed from the cover sheet prior to issuing the plans for bids:

" A Quality Control check, including the appropriate coordination among disciplines, has been made on this project's documents, and corrections related to this check have been made. The undersigned principal/owner states that these plans and specifications as submitted for review are, to the best of his or her knowledge and ability, complete and ready for review."

Signed _____ Date _____
(name and title)

(This statement need not appear on sets of documents issued to bidders)

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2-1000 ACCESSIBILITY FOR THE PHYSICALLY DISABLED INDIVIDUALS WITH DISABILITIES STANDARDS

(A) Purpose: The requirements in this standard are intended to make buildings and facilities accessible to and usable by, ~~people with physical~~ individuals with disabilities such as ~~but not limited to:~~ the inability to walk, difficulty walking, reliance on walking aids, blindness and visual impairment, deafness and hearing impairment, coordination, reaching and manipulation disabilities, lack of stamina, difficulty interpreting and reacting to sensory information, and extremes of physical size. Accessibility and usability allow a ~~physically handicapped person~~ individuals with disabilities to get to, access, enter, and use a building or facility.

(B) This standard provides guidance for design and specifications for constructed elements that can be used in making functional make spaces accessible. ~~For example, it specifies technical requirements for making doors, routes, seating, and other elements accessible. These accessible elements can be used to design accessible functional spaces such as classrooms, hotel rooms, lobbies, or offices.~~

~~(1) Application: (C) This standard can be applied to the following: the design and construction of new buildings and facilities, renovations, alterations and rehabilitation of existing buildings and facilities and is applicable to permanent construction as well as temporary construction and emergency conditions.~~

(D) Arkansas Code Annotated § 6-20-1407(e) authorizes the Section to review and approve construction documents for new public school facilities for compliance with this standard prior to bidding or construction. Construction documents submitted for review shall comply with these standards.

~~(a) The design and construction of new buildings and facilities, including spaces and elements, site improvements, and public walks.~~

~~(b) Remodeling, alterations, and rehabilitation of existing construction.~~

~~(c) Permanent, temporary, and emergency conditions.~~

2-1001 ACCESSIBILITY DEFINITIONS

~~(A) The following are definitions for accessibility:~~

~~(1) Access Aisle: An accessible pedestrian space between elements, such as parking spaces, seating, and desks, that provides clearances appropriate for use of the elements.~~

~~(2) Accessible: Describes a site, building, facility, or portion thereof that complies with this standard and that can be approached, entered, and used by physically disabled people.~~

~~(3) Accessible Route: A continuous unobstructed path connecting all accessible elements and spaces in a building or facility that can be negotiated by a person with a severe disability using a wheelchair and that is also safe for and usable by people with other disabilities. Interior accessible routes may include corridors, floors, ramps,~~

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~~elevators, lifts, and clear floor space at fixtures. Exterior accessible routes may include parking access aisles, curb ramps, walks, ramps, and lifts.~~

~~(4) Adaptability: The capability of certain building spaces and elements, such as kitchen counters, sinks, and grab bars, to be altered or added so as to accommodate the needs of persons with and without disabilities, or to accommodate the needs of persons with different types or degrees of disability.~~

~~(5) Administrative Authority: A jurisdictional body that adopts or enforces regulations and standards for the design, construction, or operation of buildings and facilities; also used in conjunction with "authority having jurisdiction."~~

~~(6) Assembly Area: A room or space accommodating a number of individuals as specified by the authority having jurisdiction and used for religious, recreational, educational, political, social, or amusement purposes, or for the consumption of food and drink, including all connected rooms or spaces with a common means of egress and ingress. Such areas as conference rooms would have to be accessible in accordance with other parts of this standard, but would not have to meet all of the criteria associated with assembly areas.~~

~~(8) Automatic Door: A door equipped with power-operated mechanism and controls that open and close the door automatically upon receipt of a momentary actuating signal. The switch that begins the automatic cycle may be a photoelectric device, floor mat, sensing device, or manual switch mounted on or near the door itself (see power-assisted door).~~

~~(9) Children: People below the age of twelve (that is elementary school age and younger).~~

~~(10) Circulation Path: An exterior or interior way of passage from one place to another for pedestrians, including, but not limited to, walks, hallways, courtyards, stairways, and stair landings~~

~~(11) Clear: Unobstructed.~~

~~(12) Common Use: Refers to those interior and exterior rooms, spaces, or elements that are made available for the use of a restricted group of people (for example, residents of an apartment building, the occupants of an office building, or the guests of such residents or occupants).~~

~~(13) Coverage: The extent or range of accessibility that a particular administrative authority adopts and requires.~~

~~(14) Cross Slope: The slope of a pedestrian way that is perpendicular to the direction of travel (see running slope).~~

~~(15) Curb Ramp: A short ramp cutting through a curb or built up to it.~~

~~(16) Detectable: Perceptible by one or more of the senses.~~

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~~(17) Detectable Warning: A standardized surface texture applied to or built into walking surfaces or other elements to warn visually impaired people of hazards in the path of travel.~~

~~(18) Disability: A limitation or loss of use of a physical, mental, or sensory body part or function.~~

~~(19) Dwelling Unit: A single unit of residence that provides a kitchen or food preparation area, in addition to rooms and spaces for living, bathing, sleeping, and the like. A single-family home is a dwelling unit, and dwelling units are to be found in such housing types as townhouses and apartment buildings.~~

~~(20) Egress Means of: A path of exit that meets all applicable code specifications of the Regulatory Building Agency having jurisdiction over the building or facility.~~

~~(21) Element: An architectural or mechanical component of a building, facility, space, or site that can be used in making functional spaces accessible (for example, telephone, curb ramp, door, drinking fountain, seating, water closet).~~

~~(22) Facility: All or any portion of a building, structure, or area, including the site on which such building, structure, or area is located, wherein specific services are provided or activities are performed.~~

~~(23) Functional Spaces: The rooms and spaces in a building or facility that house the major activities for which the building or facility is intended.~~

~~(24) Housing: A building, facility, or portion thereof, excluding inpatient health care facilities, that contains one or more dwelling units or sleeping accommodations. Housing may include, but is not limited to, one-family and two-family dwellings, multifamily dwellings, group homes, hotels, motels, dormitories, and mobile homes.~~

~~(25) Marked Crossing: A crosswalk or other identified path intended for pedestrian use in crossing a vehicular way~~

~~(26) Multifamily Dwelling: Any building containing more than two dwelling units.~~

~~(27) Operable Part: A part of a piece of equipment or appliance used to insert or withdraw objects, or to activate, deactivate, or adjust the equipment or appliance (for example, coin slot, push button, handle).~~

~~(28) Physically Disabled Person: An individual who has a physical impairment, including impaired sensory, manual, or speaking abilities, that results in a functional limitation in gaining access to and using a building or facility.~~

~~(29) Power Assisted Door: A door used for human passage, with a mechanism that helps to open the door, or to relieve the opening resistance of the door, upon the activation of a switch or the use of a continued force applied to the door itself. If the switch or door is released, such doors immediately begin to close or close completely within 3 to 30 seconds (see automatic door).~~

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~~(30) Principal Entrance: An entrance intended to be used by the residents or users to enter or leave a building or facility. This may include, but is not limited to, the main entrance.~~

~~(31) Public Use: Describes interior and exterior rooms or spaces that are made available to the general public. Public use may be provided at a building or facility that is privately or publicly owned.~~

~~(32) Ramp: A walking surface in an accessible space that has a running slope greater than 1:20 and no greater than 1:12.~~

~~(33) Running Slope: The slope of a pedestrian way that is parallel to the direction of travel (see cross slope)~~

~~(34) Service Entrance: An entrance intended primarily for delivery of service.~~

~~(35) Signage: Verbal, audible, symbolic, and pictorial information.~~

~~(36) Site: A parcel of land bounded by a property line or a designated portion of a public right-of-way.~~

~~(37) Site Improvement: Landscaping, pedestrian and vehicular pathways, outdoor lighting, recreational facilities, and the like added to a site.~~

~~(38) Sleeping Accommodations: Rooms in which people sleep (for example, dormitory and hotel or motel guest rooms).~~

~~(39) Space: A definable area (for example, toilet room, hall, assembly area, entrance, storage room alcove, courtyard, or lobby).~~

~~(40) Tactile: Describes an object that can be perceived using the sense of touch.~~

~~(41) Temporary: Applies to facilities that are not of permanent construction but are extensively used or essential for public use for a given (short) period of time. For example, temporary classrooms or classroom buildings at schools and colleges, or facilities around a major construction site to make passage accessible, usable, and safe for everybody. Structures directly associated with the actual processes of major construction, such as portable toilets, scaffolding, bridging, trailers, and the like, are not included.~~

~~(42) Vehicular Way: A route intended for vehicular traffic, such as a street, driveway, or parking lot~~

~~(43) Walk: An exterior pathway with a prepared surface intended for pedestrian use, including general pedestrian areas such as plazas and courts.~~

~~(44) Walking Aid: A device used by a person who has difficulty walking (for example, a cane, crutch, walker, or brace).~~

~~(B) Questions relating to these definitions should be directed to the applicable Section.~~

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~~2-1002 AMERICANS WITH DISABILITIES ACT~~

~~The Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Buildings and Facilities is the standard for all new construction and alterations as established in 28 CFR 35, Appendix A as amended. In instances such as, parking in which Arkansas law conflicts with the Americans with Disabilities Act, the more stringent requirements shall be met.~~

~~2-1003 COPIES OF AMERICANS WITH DISABILITIES ACT~~

~~Copies of this rule are available in the following alternate formats: large print, Braille, electronic file on computer disk, and audiotape. Copies may be obtained from Architectural and Transportation Barriers Compliance Board at (202)-272-5434 (Voice) or (202)-272-5449 (TTY). These telephone numbers are not toll-free numbers. For toll free ADA information call 1-800-872-2253. For email access, refer to TA@access-board.gov.~~

2-1001 REVIEW AUTHORITY

(A) The Section is responsible for the review of accessibility standards and criteria for capital improvement projects of those state agencies under its jurisdiction and for public school new construction projects. (See Ark. Code Ann. §6-20-1407 (e)).

2-1002 ACTS, CODES AND STANDARDS

(A) There are numerous codes and standards which address accessibility issue in the constructed environment. The most common are the 2010 ADA Standards for Accessible Design which is the current standards adopted by the U.S Department of Justice(USDOJ), ANSI A117.1 Standard for Accessible and Usable Buildings and Facilities which is the standard adopted by the Arkansas State Fire Marshall through the Arkansas Fire Prevention Code (AFPC), the Uniform Federal Accessibility Standards (UFAS) which applies to certain projects funded partially or fully with Federal funds, and the Fair Housing Accessibility Guidelines adopted by the U.S. Department of Housing and Urban Development (HUD) just to name a few.

(B) Since one or more of these standard may apply to a particular project (i.e. the ADA Standard and AFPC will apply to most projects subject to ABA review), the design professional should gain familiarity with the standards that apply to their specific project prior to submitting for review. When competing standards have differing requirements on a particular project, the most stringent requirement (the one providing the most accessibility) must be met.

(C) In certain projects, the use of a design guide other than the ADA Standard or the AFPC may be warranted or mandated by the funding source. Several of the standard accessibility guide documents are considered "Safe Harbor Documents" by the enforcement authority of other document review agencies. When the design professional prepares construction plans using one of the "safe harbor documents" he

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should include a note on the coversheet or the accessibility details sheet stating which guideline documents were used in the preparation of the plans and specifications.

(D) Copies of the Standards for Accessible Design, Code of Federal Register (Federal law pertaining to ADA) and technical guideline bulletins published by the US Department of Justice and the Access Board may be obtained at the following website www.ada.gov or by calling the US Department of Justice ADA Information line at (800) 514-0301 voice or (800) 514-0383 TDD.

(E) Furthermore, copies of the American with Disabilities Act of 1990 are available in the following alternate formats: large print, Braille, electronic file on computer disk, and audiotape. Copies may be obtained from Architectural and Transportation Barriers Compliance Board at (202)-272-5434 (Voice) or (202)-272-5449 (TTY). These telephone numbers are not toll-free numbers. For toll free ADA information call 1-800-872-2253. For email access, refer to TA@access-board.gov. The ACT addresses program requirements and defines the situations for which accessibility must be provided. The ADA Standards provide scoping and technical requirements that define the method or manner in which the constructed environment must be built to provide program access. The limits of ABA's review is to the constructed environment as governed under the Act and as defined in the current enforceable ADA Standards. It is within this parameter that the Section reviews are limited to the technical requirement of the scoping provided in the submitted construction documents. The Section does not provide commentary on the scoping or program requirements for the agency's facilities. ABA review will be limited to the technical requirements for the scoping provided in the construction documents presented for review.

2-1003 OWNER/AGENCY RESPONSIBILITIES

Owners are responsible for ensuring all facilities are in compliance with accessibility acts, laws and codes. Owners should evaluate facilities for the minimum scoping requirements, such as minimum number and types of accessible parking spaces on a campus and the like, to ensure compliance with the ADA and ADA Standards. These evaluations should be reviewed when contemplating future capital improvement projects.

2-1004 CONSTRUCTION DOCUMENT SUBMITTAL REQUIREMENTS

(A) Unless the project has been approved under the Delivery Method, a full set of plans and specifications should be submitted to the Section for review when the documents are 100% complete. A full set of documents is required for plan review and record.

(B) Plans submitted for Agency and ABA review should clearly define the elements and features required to be accessible. Partial plans, section views, elevations and details shall be provided at a scale large enough to show all applicable clearance and mounting heights and dimensions for each unique accessible feature. The drawings shall include but not be limited to the following:

(1) Provide a plan view of the building showing the intended accessible path into the building and to each accessible space or clearly describe the accessible path with a general or keyed note on the plan. Incorporating the accessible path by arrows, shading or other identifiers on the life safety plan is an acceptable method.

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(2) Where parking is a part of the project, define the accessible path from the designated parking into the building.

(3) Where multiple buildings are included in the scope of the project show the accessible path between buildings.

(4) Where construction of a public transit stop such as a bus or trolley stop is included in the scope of the project or is existing on the developed site, define the accessible path between the stop and the project facilities.

(5) A detail sheet (or sheets) should be provided with the standard accessible elements shown and dimensioned and the plans should be cross referenced to the appropriate details. Referencing the ADA Standard is not a substitute for proper and accurate dimensions or specifications. Specific information on the drawing is required for the construction phase.

(6) Technical specifications shall clearly require that accessible components such as door hardware, furniture and fixtures be manufactured to meet accessibility standards and installed in accordance with the standards and manufacturer's recommendations. Components requiring adjustment pressure thresholds of the standards shall clearly specify the minimum and maximum allowable limits as required by the standards.

(7) Field construction techniques and issues often arise that can cause a designed accessible element to be built out of compliance. Field verification during the construction phase by the design professional, building inspectors, and the building owner are essential to ensuring that non-compliant issues are identified early and corrected before the project is completed. Plans and specifications shall have sufficient details and dimensions to allow proper verification during and after construction.

2-1200 ROOFING SYSTEM REQUIREMENTS

These Minimum Roofing Systems Requirements are to provide design professionals and State personnel with functional, working guidelines to aid in the determination of the required roofing systems and specifications. A proper understanding of the roofing industry, methods of construction, application, workmanship, and its inherent problems and pitfalls is necessary in order to design a proper roof system.

2-1201 DETERMINATION OF THE PROPER ROOF SYSTEM

(A) In designing and specifying the proper roof system for a new building, the following should be considered:

(1) Type of building refers to a state owned or leased property (library, office buildings, campus buildings, the like.) under ABA oversight.

(2) Special considerations refer to what goes on in the building. For example, will there be a pool, a unique use inside the structure? The uses of the building will determine roof traffic, surfacing, need for a vapor retarder sheet and insulation ("R" value) requirements.

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(3) External considerations include high winds, snowfall, rains and their concentrations, and outside contaminating processes.

(4) Life of the building determines how long it will be expected to last.

(5) Building and Regulatory Codes refer to Underwriters Laboratories, Factory Mutual, and the various applicable local, state and national codes.

(6) Structural considerations mean that the roofing system must work with the other building components. For example, are the edges of the roof deck flush or are there parapets. Dimensions of the building and shape of the roof deck will determine the need for expansion joints. Any protrusion ~~in~~ through the roof will require flashing materials.

(B) The Roofing System as specified should be a complete and compatible system. The system should be manufactured by a manufacturer doing business in this region of the United States. The design professional shall investigate the need for, and specify all roofing components needed for a complete roof assembly.

2-1202 STEEP ROOFING

(A) Asphalt shingles on sloped roofs shall be Class "A", fiberglass based, asphalt shingles with a recommended 25-year minimum limited warranty over felt underlayment installed as per manufacturer's specifications minimum slope: 4 in 12. "Peel & stick" self-adhered Ice and Water Shield synthetic underlayments are recommended along the roof perimeter, valleys and penetrations.

(B) Wood shingles shall not be used on buildings unless approved in writing by the Section. Any shingles used shall carry the "B" classification as listed by the Underwriters Laboratories, Inc. Minimum slope: 4 in 12.

(C) Metal roofing systems on sloped roofs in excess of 1 in 12 slope (minimum: 2 in 12 (+) slope preferred) are acceptable when properly detailed and specified.

2-1203 ~~SINGLE PLY MEMBRANES~~/UNCONVENTIONAL ROOFING SYSTEMS

(A) ~~All single ply membranes and Unconventional roofing systems~~ (roof systems other than Built-up, Modified Bitumen, EPDM (Ethylene Propylene Diene Monomer) or Single-Ply) shall be submitted for review to the Section, for approval on a case by case basis for use on the roof of a State buildings under ABA oversight. ~~Note: A torch applied, modified bitumen roof system applied over a base sheet in a mopping of hot asphalt over insulation is not considered a single ply roof system.~~

(B) Criteria for approval shall be:

(1) Acceptable material and method of application;

(2) Ability of local installers to apply the proposed roof system;

(3) Ability of the State to obtain competitive bids on the proposed roofing system;

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- (4) Proven track record of the system and the manufacturer; and
- (5) Roof warranty available from the manufacturer for the particular installation.

2-1204 ROOF SYSTEM COMPONENTS

(A) Decking:

(1) The type of structural deck and the complete roofing system to be used should be determined by the design professional. Slope for drainage shall be achieved by structural means if possible. If structural slope is not feasible, a lightweight concrete fill, sloped perlite board, or tapered insulation board shall be specified.

(2) The structural deck must be designed to provide an adequate "foundation" or base for the roofing system. In addition to supporting all design loads, it must also be relatively smooth, free of humps, depressions, offsets at joints, allow for expansion and contraction, and be rigid enough to support the equipment and materials needed to apply the roof system without undergoing excessive deflection or deformation, which could impair the life of the roofing system.

(3) Metal decks shall be fabricated from adequate gauge steel, accurately aligned, securely anchored to structure below. Provide side lap connections to prevent displacement between adjacent sheets. The design professional shall inspect deck for any possible defects prior to the installation of any insulation and roofing.

(4) On poured decks such as concrete, gypsum, light weight insulating concrete, the like, adequate drying time for the material shall be allotted prior to application of the roofing membrane.

(5) Over low slope wood decks, always specify a nailed down layer of sheathing, (5 lb. rosin paper), as a separator sheet followed by felt underlayment and a layer(s) of insulation to prevent problems with roofing such as nails backing out, expansion and contraction, the like.

(B) Insulation:

(1) Insulation thickness shall be specified by the design professional and be such that when combined with complete roof and ceiling construction, shall have an overall heat transmission coefficient to obtain a satisfactory "R" value meeting applicable energy use codes. Insulation should have sufficient density and rigidity to span any flutes or irregularities in the decking and support the weight of all anticipated traffic on the roof without crushing or breaking down of the edges. The design professional or consultants or both shall verify the insulation requirements for each particular building and roofing system. Provide adequate ventilation in the plenum spaces to prevent moisture and condensation from damaging the interior spaces of the building.

(2) All insulation shall be applied in two (2) layers with all joints broken and staggered. All insulation boards shall be installed in the same direction throughout, unless fields are separated by an expansion joint. Butt edges of insulation tightly and cut in neatly around all roof penetrations.

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(3) Insulation shall be secured to deck using approved fasteners conforming to Factory Mutual System, Class I construction for wind uplift protection unless otherwise approved by the Section.

(C) Securement/Fasteners: All roof assemblies for new construction shall meet or exceed specifications for Factory Mutual System, Class I, construction in regard to wind uplift protection.

(D) Fire, wind, and code requirements: New roof construction on buildings shall meet or exceed all applicable codes. In addition, the roof assembly shall meet or exceed specifications for Underwriters Laboratories, Inc., Class "A" construction and Factory Mutual System, Class I construction, in regards to fire resistivity and wind uplift. When re-roofing existing buildings, this may not always be possible, especially when re-roofing over existing membranes. Submit plans and specifications to the Section for approval.

(E) Vapor Retarder Sheets:

(1) The design professional shall investigate the need for, and specify as required, the proper vapor retarder sheet and its applications. All buildings with high humidity (such as swimming pools where moisture migration will be a problem) should be specified with vapor retarders unless otherwise approved by the Section.

(2) The vapor retarder sheet shall be installed over the roof deck prior to the installation of the insulation or roof membrane or both. Seal all edges, punctures, and around all penetrations through the roof to form an envelope enclosing the insulation.

(3) The vapor retarder application shall meet all fire retardant requirements which building use requires. Refer to ~~proper~~ applicable building codes for requirements. Determine proper attachment for wind uplift protection from manufacturer's specifications.

(F) Venting Base Sheets are usually heavy-coated base sheets with an embossed grid designed to channel current moisture out of built-up and modified bitumen roof assemblies and prevent blistering. Venting base sheets are primarily used on re-roofing applications or to vent moisture out of poured gypsum or lightweight concrete decks. Application is by spot mopping to existing membranes or mechanical attachment to a nailable deck. In some instances, it is more desirable and economical to use gypsum board fiberglass or perlite "re-cover" boards in lieu of a separate venting base sheet. Moisture release vents should always be specified in conjunction with a venting base sheet. See § 2-1204 (G).

(G) Moisture release vents shall be installed on all roof systems when required for certain type of poured decks and re-roofing over existing membranes. Vents for bitumen roof systems shall be only 'factory made' vents with spun aluminum housings designed to vent moisture out, but not allow moisture back into the roofing system. 'Shop built' sheet metal vents are not acceptable for use on buildings. Moisture release vents are primarily designed to vent moisture from a roof system including insulation and to reduce the possibility of blistering. To properly vent, holes should be cut all the way down to the deck, or vapor retarder sheet where applicable, according to the manufacturer's specifications.

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(H) Membranes for Built-Up Roof Systems:

(1) Built-up roofing membranes for buildings shall be asbestos-free felts with fiberglass and/or polyester mats.

(I) Membranes for Modified Bitumen Roof Systems:

(1) Membranes for Modified Bitumen roofing shall be a minimum of an asbestos-free felt with fiberglass and/or polyester mat overlaid with a modified bitumen cap sheet.

(J) Roof surfacing for Built Up and Modified Bitumen Roof Systems:

(1) For APP (or Atactic Polypropylene) Modified Bitumen and Built Up Roof Systems: An Energy Star® approved fibrated aluminum roof coating (asbestos free) (A.S.T.M., D-2824, Type III) ~~containing a minimum of 3 pounds of aluminum paste per gallon of coating~~, applied in two (2) separate coats, at the rate of 1 1/2-2 gallons per 100 sq. ft., is the preferred roof coating for state-owned buildings. Aggregate ballast is not recommend for built-up roofing with aluminum coating.

(2) For (or Styrene-Butadiene-Styrene) Modified Bitumen Roof Systems: Ceramic Granules or Metal Clad "Veral"

(3) For Built-Up roofs, where aggregate ballast is allowed by code: ~~aggregate roof surfacing is not recommended.~~ All aggregate surfacing shall be clean, dry, rounded pea-gravel ranging in size from 1/4" to 3/8", applied as per manufacturer's specifications for the particular installation. (400 pounds per square, minimum is the typical application.) Light color aggregates are preferable to aid in heat reflectivity.

(4) Asphalt and Emulsion coatings are not recommended.

(K) Roof Cants

(1) Roof cants shall be required at all vertical projections including walls, equipment curbs, and the like on bituminous roof systems. Cants shall be securely set in hot steep asphalt or cold applied adhesives. Precautions should be taken to avoid bitumen drippage where it can occur, such as steel decks. Provide a minimum face width of 4" to provide a transition of the roofing felts from the horizontal to the vertical face.

(L) Membrane Flashing:

(1) All membrane roof flashing shall be compatible with the manufacturer's installed system.

(2) Membrane roof flashing shall be provided at all vertical projections, roof perimeters, curbs, parapets, walls, roof penetrations and elsewhere as required, and should be properly designed and carefully detailed to provide a watertight installation.

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(3) All membrane flashing at vertical surfaces shall extend a minimum of 6" above the top of the cant strip (10" above the roof surface if a 4" cant is used) and 8" onto the roof surface from the bottom edge of the cant. Do not hot mop the base flashing above the top of the cant strip. Bituminous Membrane flashing shall be set in hand rubbed applications of industrial roof cement. The top edge of the membrane shall be sealed and metal counterflashing provided for protection. Do not surface mop base flashing of bituminous roof systems with hot asphalt.

(M) Metal Counterflashing:

(1) Metal counterflashing shall be provided over all membrane flashing where it occurs at vertical projections, parapet walls, equipment curbs, and the like.

(2) A two-piece locking type counterflashing shall be used in all masonry wall construction. The horizontal flashing part shall be laid in the wall during construction at the proper height. The vertical face of the counterflashing shall lock in place and be removable to facilitate maintenance and re-roofing.

(3) The counterflashing should be approximately 4" in height, have a hemmed edge and turn out at the bottom to form a drip edge. The counterflashing should never extend below the top edge of the cant.

(4) Refer to §2-1205(O) for the type, gauge, and quality of sheet metal to be specified and used.

(5) Cast-in-place reglets are acceptable. Specify only non-deteriorating type metal. Surface mounted extruded aluminum anchor bars will be acceptable if no other method is feasible. Anchor bars shall be fabricated of non-deteriorating type metal, of sufficient strength and rigidity, have pre-punched, slotted holes for attachment, using heavy-duty fasteners. (Note: Plastic anchor pins are not acceptable).

(~~M~~ N) Sheet Metal Components:

(1) All metal components of the roof assembly shall be fabricated of a non-deteriorating metal free of dents, waves and blemishes.

(2) 24-gauge pre-finished sheet metal or Mill finish aluminum of .032" thickness (minimum) shall be the standard material used on buildings.

(3) Other non-deteriorating metals such as copper and stainless steel are acceptable.

(4) 24-gauge pre-finished sheet metal or .040" thickness aluminum is recommended for scuppers, guttering, down spouts and splash pans.

(O) Expansion Joints:

(1) Provide expansion joints in the roofing system wherever structural expansion joints occur, wherever structural framing or roof decks change direction or materials, and where roof areas dictate the need for an expansion joint.

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(2) Provide additional expansion joints within the roofing system itself wherever the roof perimeter is interrupted by either a projection into, or out of, the major field of roofing to form an isolated segment of roofing at the same elevation and as may be required by the dimensional stability of the several components used.

(3) Curb type expansion joints, in lieu of low profile type, are desirable for purposes of maintenance and longevity. Treated 2x's should be used of sufficient height to install cant strips and membrane flashing of sufficient height for a watertight installation.

(4) Consider using, warranty permitting, metal expansion joint covers of .040" mill finish aluminum in lieu of neoprene expansion joints for all roof and roof-to-wall expansion joint conditions on state owned buildings. Hex-head fasteners shall only be used. Nails are prohibited.

(P) Roof Penetrations:

All roof penetrations shall be flashed as recommended by the roofing membrane or metal panel manufacturer furnishing materials for the particular installation and the recommendations of the National Roofing Contractors Association, based on the best, current roofing practice.

(Q) Roof Drainage:

(1) All roof drains are to be located at the low points of the roof deck. Areas drained should be limited so that no drain exceeds 4" diameter. Locate drains so that all roof surfaces may be readily drained (each side of expansion joints, and the like.). The roof drain itself should be set a minimum of 3/4" below the roof surface. Taper insulation in a 3'0" diameter around drains.

(2) Coordinate roof drain placement with drainage slopes so as to stay within acceptable limits according to manufacturer's recommendations. Install roof crickets between drains where required to properly drain roof areas.

(3) Roof drains shall be interior where possible in order to allow for future expansion of the building.

(4) Every roof shall have an appropriate overflow scupper or emergency roof drain to prevent flooding or roof failure should the roof drains become stopped up.

(R) Roof Protection Walk Pads:

(1) In most cases roof pads or walk boards are not recommended on roof except in extreme high traffic conditions that may include but are not limited to:

(a) Roof top protection walk pads are only recommended on roofs where mechanical equipment, flagpoles, penthouses, laboratory experiments, and the like, are located which required periodic maintenance and protection from daily foot traffic.

(2) Walk pads should be neatly laid out and designed in such a manner as to not impede roof drainage.

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(3) 12" X 24" is the recommended size of the individual pieces of roof protection walk pads. Walk pads shall comply with and be installed per roof membrane manufacturer's warranty requirements.

(4) Walk pads should be installed prior to aggregate surfacing, or, if smooth surface roof membranes, before the application of the coating.

(5) In many instances, simply adding an extra layer of membrane for walk paths and roof protection is preferred.

2-1205 ROOFTOP MOUNTED MECHANICAL EQUIPMENT

(Self-contained heating and/or cooling package units and associated ductwork)

(A) Mechanical equipment shall not be located on the roof unless contained in a separate mechanical roof penthouse or submitted for approval in writing to the Section prior to the first plan review. Refer to §2-408 regarding unacceptable design configurations.

(B) In those instances where mechanical equipment is approved to be located on the rooftop, due to the building budget or design, the following guidelines should be followed:

(1) Rooftop equipment (defined here as self-contained heating and/or cooling package units and associated ductwork), which is elevated above a roof, shall be designed with adequate support and clearance. The larger a piece of equipment is, the more clearance it will require. Provide a minimum of 10" clearance above the finished roof surface and additional clearance as required sufficient to maintain and re-roof the building. Contact or refer to National Roofing Contractor's Association's "for recommended minimum heights of equipment and support systems above the roof.

(2) Rooftop equipment shall be adequately supported and attached to the structural system of the building.

(3) Provide vibration isolation, as required.

(4) Legs of equipment (of substantial size and weight) supports should be surrounded by a pitch pan filled with 1" of fast setting gypsum cement and topped off with a commercial Pitch Pan Sealer sloped to shed water. Lightweight equipment should be set on water-resistant treated wood blocking and secured to the roof structure (with metal straps) as needed for protection and safety.

(5) Protect pitch pans and pan sealants by installing watertight aluminum or pre-finished sheet metal umbrellas with drawbands attached to equipment support legs.

(6) Provide support for any piping or lightweight equipment on the roofs. Piping or equipment shall be supported by treated wood blocking set on an extra layer of loose membrane set in industrial roof cement on the roof surface. Electrical conduit shall not be surface run on the roof.

2-1206 MINIMUM ROOF SLOPES FOR POSITIVE ROOF DRAINAGE

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(A) All state facilities of new construction shall be required to have roof surfaces, ~~which~~ with a minimum slope of 1/4" per foot for positive drainage.

(B) Where possible, roof slopes shall be accomplished structurally, in lieu of large amounts of tapered insulation fill to reduce costs and weight on the structural system.

(C) Avoid excessive slopes (in excess of 1/2" per foot) in built-up and modified bitumen roof assemblies which cause slippage and bitumen run-offs. Use proper fasteners and bitumen for the slope of the roof and the type of roof assembly.

(D) On re-roofing of existing facilities, the roof slope may be reduced to 1/8" per foot. The existing roof should be surveyed for areas which pond water. These areas should be leveled or filled as required and practical for the type of substrate. Verify that equipment curbs, counterflashing heights, and the like, are of sufficient height for re-flashing after the installation of new tapered insulation and roof membrane.

2-1207 ROOF ACCESS REQUIREMENTS

(A) Roof access for inspection and periodic maintenance shall be required on all buildings.

(B) A lockable, factory produced roof access scuttle (minimum size 2'6" X 3'0") with an insulated curb and hinged door, shall be located as directed by the owner's representative in a convenient location such as a janitor's closet, mechanical equipment room, and the like.

(C) A heavy duty metal ladder (20" wide, minimum) shall be provided at all roof access scuttles. Bolt ladder to floor, wall, and scuttle curbing. Ladders shall comply with current OSHA requirements ~~with the centerline of rungs 7" from wall.~~

(D) Access to all roof levels shall be provided. Utilize lockable type doors, windows (of sufficient size), roof access scuttles or exterior mounted rungs or ladders to provide access.

(E) When re-roofing existing buildings, verify need for roof access and provide as needed. Coordinate locations with the owner's representative.

2-1208 WORKMANSHIP/QUALITY CONTROL

(A) Installer's Qualifications: Installers shall be recognized roofing contractors, specializing in the chosen system roof application, skilled and experienced in the type roofing required. In addition, installer shall be familiar with the specific requirements and methods needed for proper performance and workmanship in accordance with recognized standards of the industry and the manufacturer

(B) Pre-Installation Conference: A pre-installation conference shall be held prior to installation of any roofing and associated work on a state building. The pre-installation conference shall be initiated by the design professional at the proper time with a minimum of three (3) day notice for the following parties to attend:

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- (1) Installer's representative (roofing sub-contractor).
- (2) General contractor's representative (where applicable).
- (3) Mechanical contractor's representative (where applicable).
- (4) Electrical contractor's representative (where applicable).
- (5) Deck installer's representative (where applicable).
- (6) Testing services representative (where applicable).
- (7) Design Professional.
- (8) ABA Construction Section representative.
- (9) Agency representative or project coordinator.
- (10) Physical plant or maintenance representative.

(C) Review the Following with All Concerned Representatives:

- (1) Letter from manufacturer furnishing roofing system/roof warranty, stating manufacturer has reviewed job specifications and agrees to furnish warranty as specified.
- (2) Project requirements, drawings, specifications, construction details, and the like.
- (3) Material submittals, manufacturer's requirements for bonding (where applicable).
- (4) Deck condition, installation (where applicable).
- (5) Storage of materials.
- (6) Installers' set-up directions.
- (7) Safety considerations.
- (8) Protection of rooftop, building and grounds.
- (9) Scheduling of work.
- (10) Roof inspection, testing.
- (11) Weather limitations. Rejection of "phased" construction.
- (12) Application of materials/building and regulatory codes.
- (13) Clean-up.

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(14) Project close-out. A record shall be made by the design professional of the pre-installation conference discussions, the decisions and agreements reached, and a copy of the record shall be made available to each party attending

(D) Roofing Materials Delivery and Storage Requirements Delivery:

(1) No materials are to be delivered to the site prior to approval of the materials submittal, the pre-installation conference, and the owner's representative's approval.

(2) No materials are to be delivered to the site without the proper arrangements for placement, storage and protection from the weather.

(3) Agencies and their representatives are instructed not to accept delivery or be responsible for acceptance.

(4) Deliver materials in manufacturer's original containers, dry, undamaged, seals and labels intact.

(E) Sheet Material Storage:

(1) Storage of all sheet materials (roll goods) and insulation shall be subject to the following requirements: If within 50 miles of contractor's warehouse: All sheet materials (roll goods), insulation, and the like, shall be trucked to job daily from enclosed warehouse storage.

(2) All other storage shall conform to the following:

(a) Enclosed trailer, vans, or truck storage on the project site.

(b) Canvas (no plastic sheeting is acceptable) tarpaulins, with material on wooden pallets, 6" minimum above the ground, secured by ropes, top and sides of all material protected from moisture and rain.

(c) Bitumen may be stored separate, adjacent to kettle location.

(F) Rejection of "Phased" Construction:

(1) The installer shall not "phase" the application of the roofing system. The roof system components shall be applied consecutively as recommended by the manufacturer (within the limits of a days work, and be weather-tight so that in the event of inclement weather, no damage will occur to the roof components or interior contents of the building. "Phased" roof construction will be rejected by the owner's representative and shall be removed and replaced by the installer.

(2) Final surfacing of aluminum coating, where applicable, may be delayed until the roof membrane cap sheet has properly weathered. Allow owner's representative time to inspect roof surfaces, all roof surfaces shall be clean and dry for approximately 48 hours prior to application of final surfacing.

(G) Weather Condition Limitations:

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(1) Proceed with roofing and associated work only when weather conditions will permit unrestricted use of materials and quality control of the work being installed, complying with all requirements of the specifications and recommendations of the roofing materials manufacturers, without "phased" construction.

(2) Proceed only when the installer is willing to guarantee the work as required and without additional reservations and restrictions. Record decisions or agreements to proceed with the work under unfavorable weather conditions, and contact ABA, Construction Section. State the reasons for proceeding and the names of the persons involved in the decisions, along with changes (if any) in other requirements or terms of the contract.

(H) Protection and Clean-Up

(1) Rooftop Protection and Clean Up

(a) Protect roof surfaces over which work is to be performed.

(b) Exercise care and caution that roofing materials placed on rooftop do not overload structure, or damage decking or other roofing materials.

(c) Take care to prevent bitumen, aggregate and debris from running into and clogging roof drains and rainwater conductors. Remove trash and debris promptly.

(d) Schedule work in order not to track over and damage newly installed roofing in place. If absolutely necessary to cross a newly applied roof area, coordinate exact protection procedures with owner's representative.

(e) The installers shall be responsible for all damage to any related items to his trade and will be responsible for the cleaning and repair or replacement of any such items.

(2) Building Protection and Clean-up:

(a) Properly and efficiently protect building and work of other trades from damage by roofing materials during the performance of the work.

(b) The installer shall protect building walls and other surfaces from disfiguration by bitumen stains, runs or spillage, etc. and the installer shall bear the labor and material costs for repair of these surfaces from damage by the roofing installer's work.

(c) Protection of the building and its interior contents is mandatory. The installing contractor shall submit a written plan for providing this protection to the owner's representative for approval. The installing contractor shall furnish plastic sheeting to protect computers, word processors, printers, typewriters, and any other sensitive equipment in the building.

(d) It is suggested, and may be necessary, for the installing contractor to contract with the Agency's designated employee(s) (custodial or physical plant) for after hours clean-up and protection.

(3) Grounds Protection and Clean-up:

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(a) Coordinate access, parking, storage of materials and equipment on the grounds with the owner's representative designated at the pre-installation conference.

(b) Protect the grounds, lawn, landscaping, shrubbery, and the like, from abuse and damage during roofing work.

(c) Remove trash, debris, wrapping, and the like, promptly and clean up daily around the job.

(d) The installer shall be responsible for removing all equipment and surplus material from the grounds prior to final acceptance of the work. Installer shall leave his portion of the work, as specified, clean, and in complete order. Upon final completion, the ground shall be cleaned of all trash, debris, gravel, bitumen, lumber, scraps, and the like, and the grounds raked to conditions prior to roof work.

(I) Installer's Guarantee

(1) Terms: Upon completion of all work and as a condition of its acceptance, deliver to the owner a written guarantee signed by the general contractor and the installing sub-contractor agreeing to correct all leaks and defects in the roofing system work.

(2) Time Period: The time period for correction of the roofing system work shall be two (2) years from the date of final acceptance of the roof by the owner's representative and ABA. Sixty (60) days before the end of the two-year period, review roof conditions of the site with the owner and all parties concerned and correct all defects in conformance with the original specifications

(3) Warranty Repairs: During the correction of work period, the roofing installer shall, upon notice from the owner, make immediate temporary repairs and notify the roofing materials manufacturer, a report made, and, if covered by this guarantee or the roofing materials manufacturer's guarantee, the roof shall be permanently restored to a water-tight condition, at no cost to the owner.

(J) Manufacturer's Roof Warranty

(1) A Manufacturer's Warranty shall be required on all re-roofing, new construction, and associated roof work on a state buildings unless the cost and size are very minor. General: Specified work shall be guaranteed by the roofing materials manufacturer for a period as specified (maximum term and maximum penal sum available) starting from date of final acceptance by the owner, of the completed roofing system. The materials manufacturer shall approve the roof warranty. Surety company bonds are not acceptable. Submit one (1) copy ~~two (2) copies~~ of the roof warranty on manufacturer's standard printed form to the Agency, upon acceptance of the roof.

(2) Specified work shall be inspected by qualified representatives of the manufacturer during its installation and at final completion, for conformance to manufacturer's warranty program. Minimum follow-up inspections shall be made in accordance with the manufacturer's requirements and corresponding observations and reports provided to the owner.

(K) Installer's Warranty Signs

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(1) Provide 10" X 12" minimum size painted signs (quantity of signs as needed or specified) made of aluminum with a light color background and letters of a contrasting color. Use paint that is compatible with the aluminum. Make the sign to read as follows:

"DO NOT MAKE REPAIRS OR ALTERATIONS TO THIS ROOF" without the written approval from the Agency's authorized representative. This roof is maintained until (insert the date, month and year, two years after date of final acceptance), by (insert contractor's name, address, and telephone number).

(2) Permanently post signs as directed by the owner's representative. Provide as least one (1) sign on each roof of the building where new roof work occurs.

(L) Roof Inspections/Roof Cuts

(1) The design professional's specifications, based on the manufacturer's recommended installation procedures, when approved by the owner and ABA, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.

(2) Roof Inspections: Provide safe access to the roof for proper inspection by the owner's representative. Notify the roofing materials manufacturer whenever roofing work is to be done in sufficient time to arrange all inspections necessary for bonding of the roof system. Keep the owner's representative and Construction Section, informed of the status of the project and schedule for completion.

(3) Roof Tests, Roof Cuts:

(a) Roof cuts will be made only when considered absolutely necessary to determine compliance with specifications.

(b) When necessary, cut 4" X 42" test samples (to cut a total cross-section of all roof plies), of installed roofing as directed by the owner's representative. Immediately repair roof to conform to adjacent roof construction without cost to the owner.