



Division of Facilities Development and Management

**Policy and Procedure Manual
for
Architects/Engineers and Consultants**

Updated December 2018

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SUPPLEMENTAL DOCUMENTS

Many supplemental documents exist which accompany this Division of Facilities Development and Management Policy and Procedure Manual for Architects/Engineers and Consultants. These supplemental documents are routinely updated to reflect current statutes, laws, and requirements. Consultants should visit the DFDM website frequently to verify revision dates and that the most current reference document is being utilized for DFDM projects.

Supplemental documents can be located by navigating the State Building Program portion of Department of Administration, Division of Facilities Development and Management website. The web address for this site is as follows: <https://doa.wi.gov/Pages/DoingBusiness/StateBuildProgram.aspx>. Special attention should be given to the "DFDM Document Library" hyperlink on the left viewing pane of this page.

PREFACE

Periodically check the Division of Facilities Development and Management (DFDM) website for procedural changes and always use the latest revision of Specifications and Guidelines. Prior to submitting Final Review or bidding documents, make sure the latest Division 01 templates are incorporated into the document.

FOREWORD

The Division of Facilities Development and Management (DFDM) serves as technical staff to the State Building Commission (SBC) in support of its policy to “improve the adequacy of the public building facilities that are required by the various state agencies for the proper performance of their duties and functions ... in the interest of economy, efficiency and the public welfare...” (ref. Wis. Stats 13.48(1)). As such, the Division is responsible for establishing budgets and managing the design, construction, and architectural/engineering (A/E) services for more than 6,500 buildings. Each year approximately 1,800 projects are initiated to support planning, hazardous substances remediation, design, renovation and construction in order to support the 86 million square feet of space.

This Policy and Procedure Manual provides project guidance for the consultants we hire in support of our responsibilities. We recognize that expertise, types of consultant services, project conditions and Agency program needs differ, but the overall framework for project expectations, interactions and requirements remain the same.

We welcome architects, engineers and consultants to team with DFDM and the Bureau of Architecture and Engineering to foster cooperation to complete projects on time and within budget meeting the needs of the occupants.

SECTION ONE • GENERAL

1.A The State of Wisconsin Building Program

1.A.1 BUILDING PROGRAM GOALS

The State of Wisconsin Building Program originates with the needs of the people of Wisconsin as embodied in the missions of the various Agencies. The Agencies are responsible for the operation and maintenance of their facilities and initiate and define construction projects so that the building will support their overall mission. Its goal is to implement the highest priorities of the Agencies' long-range master plans while keeping within the limit of borrowing which protects the State's favorable bond rating. Maintenance of the State's multi-billion-dollar investment in its facilities and maximizing the healthy, safe, efficient, and environmentally-responsible use of those facilities are the top priorities of the State Building Program.

1.A.2 THE CAPITAL BUDGET PROCESS

The State Building Program, funded by the Capital Budget, consists of capital improvements, equipment purchases, and land acquisitions. Funding for the Capital Budget is enacted biennially in odd-numbered years by the Legislature as part of the overall State Budget Bill. The State Budget sets overall spending levels and prescribes how the Capital Budget is spent.

The Capital Budget process begins with the Agencies updating their Facilities Investment Plan (Six-Year Facilities Plans) and submitting their prioritized project requests to the Division of Facilities Development and Management (DFDM) for the upcoming biennium. DFDM reviews all requests and recommends a Biennial Capital Budget to the State Building Commission (SBC). After approval by the SBC, the Capital Budget is introduced as an amendment to the operating budget. The proposed budgets become a single Budget Bill that makes its way through the legislative process and becomes law when signed by the Governor.

1.A.3 STATE OF WISCONSIN BUILDING COMMISSION

The SBC has the statutory responsibility of overseeing the planning, improvement, and major maintenance of State facilities and the supervision of all matters relating to contracting of public debt. The structure, powers, and duties of the SBC are prescribed in Wisconsin Statutes, Sections 13.48 and 20.924.

The SBC is chaired by the Governor and comprised of six legislator-members and one citizen-member who form two Subcommittees. The Higher Education Subcommittee is responsible for reviewing University of Wisconsin System projects and the Administrative Affairs Subcommittee is responsible for all other State Agencies. The Administrator of DFDM serves as the non-voting Secretary to the SBC. The Secretary is responsible to the Commission for scheduling of meetings, establishing agendas, publishing meeting minutes, interpreting and carrying out Commission intent, and making recommendations on matters before the Commission. The SBC meets at the call of the Governor throughout the year. Official notices for these meetings are posted on the DFDM website.

1.A.4 STATE AGENCIES AND FACILITIES

The State Agencies which operate and maintain facilities funded under the State Capital Budget Program are the Departments of Administration, Agriculture Trade and Consumer Protection, the Department of Safety and Professional Services, Corrections, Employment Relations, the Educational Communications Board, Financial Institutions, Children and Families, Health Services, Justice, Military Affairs, Natural Resources, Public Instruction, Revenue, State Fair Park, State Lab of Hygiene, Tourism, Transportation (non-highway), Veterans Affairs, Workforce Development, Wisconsin Economic Development Corporation, Wisconsin Historical Society, and the University of Wisconsin System.

1.B The Division of Facilities Development and Management

1.B.1 AUTHORITY

The Division of Facilities Development and Management (DFDM), as a component of the Department of Administration, exercises the powers and duties prescribed by Section 16.85 to 16.91, Wisconsin Statutes:

"To take charge of and supervise all engineering or architectural services or construction work as defined in § 16.87 performed by, or for, the state..."

DFDM carries out the policies of the State Building Commission (SBC) as described in the State of Wisconsin Building Commission Policy and Procedure Manual. In addition, DFDM operates pursuant to Wisconsin Administrative Code, which prescribes rules for: Selecting and Contracting Architect/Engineer Services (Chapter ADM 20), Advertising, Bidding and Award of Construction Contracts (Chapter ADM 21) and Wisconsin Environmental Policy Act, Procedures for Departmental Actions (Chapter ADM 60).

1.B.2 VISION AND MISSION

DOA's Vision:

- Be the most effective, secure, innovative, and transparent agency for our customers.

DOA's Mission:

- DOA delivers effective and efficient services at the best value to government agencies and the public.

1.B.3 FUNCTIONS

DFDM develops and implements the State Building Program under the policy direction of the SBC and provides primary technical architectural and engineering support to the Commission. Other major functions of DFDM are Statewide facilities planning and evaluation; architectural and engineering design, consultation, and technical support to Agencies; administration of professional services and construction contracts; and field supervision of construction projects. In addition, DFDM administers a statewide program of maintenance and repair work to protect the State's investment in its physical plants.

1.B.4 ORGANIZATION

DFDM, a division within the Department of Administration, is organized into four bureaus: the Bureau of Architecture and Engineering (BAE), the Bureau of Capital Budget and Construction Administration (BCBCA), the Bureau of Building Management (BBM), and the Bureau of Real Estate Management (BREM).

DFDM's main office is on the seventh floor of the State of Wisconsin Administration Building at 101 East Wilson Street, Madison. Construction administration regional offices are located at Eau Claire, King, and Madison.

1.B.5 PROJECT MANAGEMENT

State construction projects are managed under a policy of "single-point responsibility." Throughout the life of the project, from approval of planning funds through final completion, the Project Manager is responsible for monitoring the program, budget, and schedule approved by the SBC. The Project Manager is the A/E's primary contact with the State. During the Construction Phase the DFDM Construction Representative oversees day-to-day construction administration. DFDM Project Representatives such as technical specialists, inspectors, Construction Representatives, and contracted service providers may be assigned by DFDM depending upon the need.

On every project, DFDM emphasizes teamwork. Throughout the project, the Project Manager works with and is supported by DFDM's expertise in accessibility, architecture, structural, mechanical, electrical, civil engineering, hazardous material abatement, budget analysis, specifications, and contract preparation. With all professional consultants, DFDM encourages a philosophy of "partnering" in order to promote a timely, efficient and satisfactory outcome to all projects for the mutual benefit of all parties.

1.B.6 WEB-BASED COMMUNICATION WITH DFDM

DFDM and other State Agencies are connected through various web-based applications and tools.

1.B.6.a DFDM Web Page

The Internet has become the primary medium for obtaining information from and about DFDM. This *Policy and Procedure Manual for A/E and Consultants* is available only via the DFDM web page. For DFDM's most current policies and procedures, A/E's are encouraged to check the DFDM main web page and this manual regularly.

1.B.6.b WisBuild™ DFDM Information System

The WisBuild™ DFDM Information System is the DFDM web-based data management site. It is a secure, "log-in" site accessible only to vendors (consultants and contractors) who are actively engaged in consulting or construction projects with DFDM. The WisBuild system provides project-specific access to a central DFDM data base for management of design and construction.

APPLICATIONS

Pre-Design Phase

- A/E Selection process
- Creating and updating A/E Data Record Form
- Checking status of A/E Contract(s)
- Execution of Contract and design Change Orders for Professional Services
- Submitting A/E Pay Requests

Preliminary Design Phases

- Processing of A/E Contract Payment Requests and A/E Change Orders
- DFDM design Review Comments and A/E Responses
- A/E Performance Evaluation by DFDM

Bidding Phase

- Posting bidding documents
- Posting bid results
- Contract Offer

Construction Phase

- Processing Construction Contract Payment Requests
- Tacking of contractor paperwork Submittals
- Requests for Information
- Construction Bulletins
- Change Orders

Post-Construction Phase

- A/E Contract Close
- Project Closeout

Hardware

- Minimum requirement: Review requirements on the WisBuild Online Help Manual, Introduction to WisBuild, System Requirements

WisBuild Training

- Information on basic WisBuild functions can be found in the WisBuild Online Help Manual. For answers to any other questions not found under the online help manual, email the WisBuild Administrator at wisbuild@wisconsin.gov.

1.C Types of Projects

1.C.1 BUDGET THRESHOLDS

The budget for a capital project includes all project-related costs, generally itemized as follows: design/professional services, construction, movable equipment, contingency, and land acquisition (if applicable). The State's funding and approval process results in the following classification of projects:

1.C.1.a Major Projects

Any project with a total budget over \$1,000,000 that provides for acquisition of facilities, construction of any new facility, or remodeling or improvement of any existing facility is considered a Major Project and must

be individually listed, or enumerated, in the Budget Bill. Major Projects are sometimes referred to as an “enumerated project”.

Generally, the State Building Commission (SBC) reviews a major project three times. The first approval comes with its inclusion in the Biennial Capital Budget. The second action is the SBC release of building trust funds for planning, when necessary. The final SBC review comes with the approval of the Design Report (See Section 4.K) and authorization to construct. Any subsequent changes in the project's total budget or program may require approval by the SBC.

1.C.1.b Minor Projects

Minor Projects are defined as any construction project having a total budget of \$1 Million or less (regardless of the funding source) and does not qualify a small project. All minor projects must be individually approved by the SBC prior to Final Design regardless of the source of funding or whether it is being accomplished by contract or State personnel. Minor Projects are sometimes referred to as ‘All-Agency’ Projects.

Project Budget Increases: The Division of Facilities Development and Management (DFDM) Administrator is authorized by the SBC to approve a 10% increase in minor project budgets as long as the total funds under the authorized State Building Program are not exceeded and the total project budget does not exceed \$1 Million. The Agency may request this budget increase with the approval of the Project Manager, when all alternatives for keeping the project within budget have been exhausted.

Project Combinations: The DFDM Administrator is also authorized to combine minor projects to achieve economies in administration, design, bidding, and/or construction. This policy of combining projects is not intended to permit project budget increases of more than 10% without the approval of the SBC.

1.C.1.c Small Projects

Small Projects are a special category of projects as defined by Wis. Stat 13.48(10). Small Projects are generally defined as a project which has a total budget not exceeding \$300,000.

The SBC periodically releases special allotments of all-agency appropriations for Small Projects. Small Projects are requested by the Agency and are managed by DFDM according to the Guidelines for the Small Projects Program. For Small Projects, the SBC has prescribed simplified procedures for soliciting bids.

For additional information on the Small Projects Program, refer to DFDM's website and see the Guidelines for the Small Project Program.

1.C.2 FUNDING

The Biennial Budget Bill authorizes funding by enumerating specific, individual capital improvement projects and by allocating funds by category, which are available to every state agency for repair and maintenance-type work. These ‘All-Agency’ funds are categorized as: Facility Maintenance and Repair, Utility Repair and Renovation, Health Safety and Environment, Preventive Maintenance, Capital Equipment, and Land and Property Acquisition.

The State Building Program is funded through borrowing, cash, federal funding allocations, and gift funding. Cash only must fund planning and design. The source of cash (used for design) is generally reimbursed by bonded funds after construction is approved. The State borrows money by issuing bonds. Improvements funded with bonded money must be owned by the State and must have a design life of not less than the term of the bonds.

1.C.3 PROJECT DELIVERY METHODS

1.C.3.a Traditional Design-Bid-Build Approach

This is the approach used for most DFDM projects. Based on a Program Statement prepared by the Agency, DFDM hires an A/E who is responsible for design, preparation of bidding documents, bid services, and construction administration, as described in the DFDM 'A/E Contract for Professional Services' (DOA-4519P). The A/E is under contract to DFDM from start to finish.

1.C.3.b Limited Design-Build Approach

This approach is sometimes used for simple projects, such as metal storage buildings, generally under \$500,000 total budget and requiring minimal A/E services. It does not fit the true definition of Design-Build, since the bid documents include a preliminary design defining the scope of work.

DFDM solicits bids and awards a single-prime contract to the lowest, qualified, responsible bidder. The contractor, who becomes the A/E-of-Record, is then responsible for final construction documents as required for DFDM and building code approval. This is rarely used as it requires SBC approval to waive 16.855 single prime bidding and statutes still require certification and bidding MEP trades separately.

1.C.3.c Design-Build Approach

In a very limited number of cases, when so directed by the SBC, a design-build approach is followed.

DFDM, sometimes with the assistance of the A/E, prepares a Request for Proposal (RFP) consisting primarily of a Program Statement that includes all functional performance criteria and minimum design and construction standards for the facility. The RFP may be publicly advertised, or proposals may be solicited from qualified firms. DFDM receives competitive proposals, which it evaluates based on criteria stated in the RFP. These criteria usually include responsiveness to program, cost, schedule, and qualifications of the design-build team. Sometimes this written proposal stage serves as an initial screening, from which top-scoring finalists are invited to make an oral presentation. The process may or may not involve presentation of a design concept. The successful design-build team is then awarded a contract for full design and construction at a not-to-exceed cost to the State. This is rarely used as it requires SBC approval to waive 16.855 single prime bidding and statutes still require certification and bidding MEP trades separately.

1.C.3.d Construction Management

For special large projects, when directed by the SBC, DFDM may contract with an A/E to work in conjunction with a Construction Manager who is under separate contract to DFDM. Based upon a written program, the A/E performs basic services, excluding bidding services. The Construction Manager contracts to build the facility at a guaranteed maximum price and a guaranteed completion date, based on scope documents. This is rarely used as it requires SBC approval to waive 16.855 single prime bidding and statutes still require certification and bidding MEP trades separately.

1.C.3.e Lease/Purchase

Occasionally, the State leases a building or portion of a building with an option to purchase the building. This may or may not involve A/E services.

1.C.4 PROJECT PHASING AND MULTIPLE BID PACKAGES

1.C.4.a Project Phasing

Occasionally, projects have unique characteristics that require they be undertaken in multiple phases. For DFDM's purposes, the determination of having multiple phases does not rest solely on whether or not there will be sequential phases of construction (e.g. remodeling of a 4-story building where the initial construction phase remodels floors 1 and 2, and the next phase remodels floors 3 and 4 – all with the same design team and contractors).

Multiple phases should be considered if there will be separate design or construction contracts where the designers and/or the construction contractors in one phase will not need to be party to the project correspondence (notices, Submittals, RFI's, CB's, CO's, Issues Log, etc.) in another phase. An example

might be: a statewide project with multiple locations around the State, where the A/E's and/or contractors may be different at each location. The design team and/or construction contractor(s) at one location may not be the same as those at another location or may not need to be aware of matters on the Issues Log at another location.

1.C.4.b Multiple Bid Packages

Some projects require the issuance of separate bid packages at separate times, but where the design team and/or construction contractors are the same. An example might be: a project requiring the demolition of a building wing prior to construction of a new building addition where a bid package for the demolition work might be issued separately from, or in advance of the bid package for the construction of the new addition. In this instance, all the work is done at the same location and access to the construction-related correspondence (RFI's, CB's, CO's, Issues Log, etc.) from the work under the demolition package would be of interest to the A/E team and construction contractor(s) for the work under the building addition package. Even though the demolition work precedes the new construction work, it is considered a separate bid package – not a separate project phase (as discussed in 1.C.4.a above).

1.D Architect/Engineer Services

1.D.1 GENERAL

The State hires Architects/Engineers/Consultants for a wide range of services and project types. In accordance with Wis. Stats. 16.85(1) all A/E procurement including selection and contracting is administered by DFDM for all State construction projects, with the exception of highway projects. The Department of Safety and Professional Services oversees the licenses of design professionals following the S.443.01 Wis. Stats.

1.D.1.a Standard Services

For the typical project, following the traditional design/bid/build approach, the Division of Facilities Development and Management (DFDM) will contract with the A/E for standard professional design "basic" services using DFDM's 'A/E Contract for Professional Services' (DOA-4519P).

1.D.1.b Special / Limited Consulting Services

DFDM procures specialized professional consulting or design services, such as programming, commissioning, feasibility studies, structural investigations, facility assessments, Historic Structure Studies/Reports and Environmental Impact Studies. These services are often employed during the planning phase, prior to authorization of a particular construction project. For smaller projects, DFDM may seek services for limited design and preparation of bidding documents. For the limited design or consulting services, DFDM's 'Consultant Services Contract' (DOA-4147) is used.

1.D.1.c Agency Delegated Design/Management

DFDM has the authority to "delegate" responsibility for design, bidding, construction contracting, and supervision of construction projects to State Agencies. Authority is granted, upon request of the Agency, on an individual project basis depending on project scope and complexity, Agency's staff capability, workload, and prior performance. The projects that are delegated to the Agency usually fall under the Small Projects Program. DFDM still assigns a Project Manager to oversee the overall project documentation and to initiate any A/E contracts. Small Projects are still subject to all applicable codes, DFDM design and construction standards, and the Policies and Procedures described in this Manual.

1.D.1.d A/E Consultant-On-Call

DFDM has initiated a Small Project Program that will allow Agencies, institutions, or individual campuses to have an A/E consultant "on call" to assist with low risk/low complexity architectural or engineering consulting such as:

- preparing studies;
- investigating structural, site, mechanical, electrical, security or communications problems;
- assisting in developing scope or limited design work for Small Projects or All-Agency Projects.

The structure of A/E Consultant-on-Call projects deviates from typical projects since no initial specific scope is identified. The intent is to allow the Agency flexibility to determine services that are most needed while the Project Manager approves the Agency's request for various services during the contract period, maintains the budget, manages the A/E contract terms and conditions, termination or close out, and tracks service proposals and subsequent payment requests. It is hoped that these roles and responsibilities will be acted upon in good faith and trust by all parties to promote the integrity of the Program's flexibility.

The A/E Consultant-on-Call projects are limited to a \$300,000 cumulative total and only to one prime A/E per institution or campus, with a one to three-year duration. The Agency is responsible for adhering to the maximum \$300,000 limit. Subconsultants may be hired by the prime A/E, with documented approval from the DFDM Project Manager. All costs are to be figured into the proposal; no reimbursable expenses are allowed. All work performed is required to follow the Policy and Procedure Manual and DFDM guidelines. The AE Consultant-on-Call is required to adhere to all applicable codes and submit record drawings to DFDM.

The A/E Consultant-on Call can be used as the design firm on Small Projects not exceeding \$50,000 construction cost as a delegated project. If the total project costs are expected to exceed the \$50,000 threshold, the Agency is to submit a separate project request to ensure public bidding and posting as required by statute and 'State Building Commission Policy and Procedure Manual'.

At about the beginning of each fiscal year, Agencies and DFDM Project Managers are prompted to provide status on their current "on call" contract and continue or close out the current contract and initiate a new Small Project request indicating an estimated contract duration. Total contract costs cannot exceed \$300,000. The initial contract may be for less than \$300,000 (down to a minimum value of \$10,000) but the Agency can request the Bureau Director of Architecture and Engineering to increase the project budget by providing additional funding up to a total of \$300,000. Initiating a contract for a certain dollar amount does not ensure that the full amount will be expended, as funds will be spent only as needed. Agencies may request additional contracts after an existing contract is 80% expended.

Selection of the A/E Consultant-on-Call will follow the procedure for A/E Solicitations Under \$7.4 Million via the Monthly Selection (nomination) process. Firms interested in providing "on-call" services can submit a letter of interest via the DFDM website and uploading their fee schedule to their A/E Data Record (See Division of Facilities Development and Management - A/E & Consultants-Registration Info.) The A/E Consultant-on-Call services will be treated as a Small Project with DFDM issuing and managing the contract. The status of the project in WisBuild will be Pre-Design services with no status points accrued by the A/E consultant.

To solicit, the Agency must complete a DFDM-provided form, including a contact name, e-mail and phone number. The Agency shall also commit to funding to a specific amount not to exceed \$300,000 for a specific duration.

1.D.1.e A/E Consultant Services for Phased Projects or Multiple Bid Packages

Occasionally, projects have unique characteristics that require they be undertaken in multiple phases. For DFDM's purposes, the determination of having multiple phases does not rest solely on whether or not there will be sequential phases of construction, rather it is determined by whether or not any of the project players (designers and/or contractors) will change between the phases (See Section 1.C.4.a).

The DFDM Project Manager should review and determine if the State would be best served by constructing, bidding, or designing the project in phases or with multiple bid packages (See Section 1.C.4.b). When phased delivery or multiple bid packages are beneficial, the Project Manager can create project phases in WisBuild under the main parent project. Solicitation for A/E services may be for the entire parent project or for just specific phases of the project.

Benefits of separate bid packages may be identified during Design Development and can be instituted up to the Bidding Phase. WisBuild tracks the individual design or bid packages by a 2-digit phase identifier; all correspondence and project documents should indicate the appropriate phase.

1.D.2 ARCHITECT/ENGINEER AND CONSULTANT SELECTION

DFDM selects Architects/Engineers on the premise that: 1) it is in the best interest of the State to obtain the best available professional services within the budget; and 2) that the selection process will be conducted in a fair and equitable way. Design and consulting services comprise a very small part of the overall cost to building and operating the State's facilities, and obtaining the best available design services results in cost savings during construction and over the operating life of the facility.

DFDM invites applications from firms who are interested and qualified in providing A/E services. Specific information on how to register to provide services to the State of Wisconsin can be found at the DFDM website. Once registered, the documentation is referred to as A/E Data Record. It is the firm's responsibility to keep the Data Record up to date. Projects that are currently being posted for services are listed at the DFDM website. Results of the selection process are posted on-line once the selections are made and approved. After selection, the DFDM Contract Officer notifies the selected firm by e-mail and indicates that the Project Manager will contact the A/E.

The A/E selection is a qualifications-based process and is prescribed by Wisconsin Administrative Code, Chapter Adm. 20 "Selecting and Contracting Architect/Engineer Services." One of the three procedures described below is followed, depending on the total project budget or as determined by DFDM.

1.D.2.a Selection of A/E or Consultant for Small Projects

The A/E selection process varies by the estimated total project budget. On Small Projects, the A/E may be selected by their qualifications as identified in their A/E Data Record that is established with DFDM. In order to be considered for Small Projects, the A/E must indicate interest in Small Projects and upload a Consultant Fee Schedule. The Project Manager, in consultation with other DFDM personnel and the Agency, initiates the selection. The Project Manager may ask the A/E firm if they are interested in providing professional services for that particular project prior to being selected.

1.D.2.b Solicitation for Services – Project Budget Up to \$7.4 Million (Nomination “Monthly Selection” Method)

On Minor and Major projects with a budget up to \$7.4 million or in the best interest of the State, DFDM posts an agenda and Invitation for Services on its website for project services. A Selection Committee nominates the Architect/Engineer for projects. A/E's or consultants interested in providing services for a specific project shall indicate so by uploading their Letters of Interest on the DFDM website A/E Solicitations Under \$7.4 million- Selection Meeting Agenda by the due date.

The Selection Committee is comprised of classified civil service employees. Five committee members are from DFDM and two committee members are from the Agency. The Director of Capital Budget and Construction Administration acts as Chairperson. The Committee is also comprised of the Deputy Administrator and Director of Bureau of Architecture and Engineering. The Engineering Technical Services Section Chief, the Project Manager for the interviewing project, and two Agency representatives comprise the balance of the Selection Committee. The Selection Committee's agendas are subject to change at any time.

For the evaluation, each Selection Committee member is furnished with:

- An agenda that identifies the projects, their budgets, and the status of the project programs;
- The A/E registration forms of the Architects/Engineers or consultants that have expressed desire in providing services for the project;
- Information on consultants past performance, including number of Change Orders related to design errors;
- Letters of Interest as submitted by the interested A/E or consulting firms.

1.D.2.c Solicitation for Services – Project Budget Over \$7.4 Million (Advertisement “Formal Interview” Method)

For projects with a budget over \$7.4 million, or as determined by DFDM, an advertisement with an Invitation for Services is placed on the DFDM website. The A/E or consultant firms can view the instructions, qualification requirements, project description, budget, screening, and interview information on line. Submittal of interest is expressed by uploading a completed electronic copy of the qualification

document via a secure connection on the DFDM's website. Submit two hard copies and one electronic copy (CD/DVD/Flash) to the DFDM 7th floor office at 101 E. Wilson Street, Madison, WI 53703-3405. Follow the information provided with the project to submit for consideration.

The Selection Committee evaluates nominations received, based on eligibility and the qualification criteria, in accordance to Wisconsin Administrative Code, Adm 20.05 and 20.09.

1.D.2.d Eligibility and Qualifications

The term "eligible Architect/Engineer" (in accordance with Wisconsin Administrative Code, Chapter Adm. 20) means one who meets the following criteria:

- 1) Has more than one Architect/Engineer as a responsible member of the firm;
- 2) Has been in business at least three years;
- 3) Has a permanent office within Wisconsin where responsible direction of all services will be based.
Note: Out-of-state firms will be considered when the Selection Committee determines there are no Wisconsin firms qualified or available to provide the services required;
- 4) Has been responsible for the design and completion of a project with a total construction cost or size at least 50% as large as the project under consideration and of similar design.

For projects with total budgets less than \$1,000,000, criteria 1.D.2.d.1, 2 and 4 may be waived.

Criteria for qualification include the following:

- Past performance on projects for which the A/E has been responsible;
- Production capabilities;
- Current workload of State projects (Status Points);
- Experience in the type or functions of project being considered;
- Geographic proximity to project site.

Status Points: Evaluation of the current workload of DFDM projects is commonly referred to as "status points". Status points are based upon the type of project, the dollar value of the projects, including any Change Orders, and the status of the project at the time of the prescreening review of the A/E qualification documents or submitted Letters of Interest. High status points indicate that a firm has a larger workload of DFDM projects. In the best interest of the State, to more equitably distribute the work load to firms throughout the State, the status points are used in the qualification-based A/E selection process.

The firm's current work load is evaluated by the total A/E fees plus any design Change Orders divided by 100,000. This calculated number is then used with the following modifiers to determine the firm's status points:

- No status points are accumulated on projects with the status of pre-design, being closed, holding, pending approval, project review-hold, reopened project, or land purchase projects;
- Points equal to the status point calculation are accumulated on projects with the status of Preliminary Design, Final Design and bidding;
- Points are reduced by 80% on projects with the status of construction, Substantial Completion and Field Closed;
- No status points are accumulated for studies, reports and investigative projects with the status of pre-design;
- Status points for non-standard projects (which include A/E Consultant-on-Call projects or Environmental Impact Assessments/Studies, etc.) are evaluated on a case-by-case basis;
- Status points for an association is either based on the firm that has the highest points, or if only one firm is from Wisconsin, then upon their points;
- Phased project status points are based on the least advanced phase.

Prior to submitting interest in a project, the A/E firm may want to review the stage of design or construction of their present projects as identified on the WisBuild Project Overview page. If concerned with the stage of construction that is indicated, contact the Project Manager to verify the correct project stage.

Associations (Previously Joint Ventures): The Selection Committee may consider two or more A/E firms organized for the purposes of furnishing professional services as a single entity, providing that:

- The combination of the qualifications of the individual firms constituting the In Association makes the team eligible for selection;
- The assignment of and provisions for continuity of the various responsibilities within the In Association are specified and approved by the Selection Committee.

1.D.2.e Negotiation and Fees

Fees are not considered during the selection process. Only after the selection is made are specific fees discussed. DFDM and the A/E negotiate to further define the A/E's scope of work and arrive at an equitable level of compensation for the work. Fees are generally negotiated as a fixed lump sum based on a specific scope of work and/or deliverables. In some cases, fees are based on an hourly rate with a fixed not-to-exceed limit.

The DFDM Contract Officer will notify the selected A/E firm after a selection is made. The Project Manager will contact the selected A/E firm to schedule an A/E Project Kickoff Meeting to begin the fee negotiation stage. This meeting should be held within two weeks of the notification of selection unless there are mitigating circumstances.

A/E Project Kickoff Meeting: The purpose of the A/E Project Kickoff Meeting (See Section 4.A) is to ensure that all project stakeholders have the same understanding of the project scope, schedule, and authorized funding at that point in time. Attendees at the meeting should include the A/E, the DFDM Project Manager, and appropriate Agency representatives. When possible, the location of the A/E Project Kickoff Meeting should be at or near the project site so that parties can walk through the site to clarify the project scope and required services.

The A/E is to draft and circulate meeting minutes confirming consensus on project scope, schedule, and budget. If questions arise in regards to the scope or required services, the DFDM Project Manager, in conjunction with the Agency, is to research the issues and provide answers in writing within one week to clarify the project requirements.

Draft Proposal Submittal: The A/E is directed to draft a proposal to design the project within the SBC authorized budget and the scope and/or schedule clarified at the Project Kickoff Meeting. For projects less than \$7.4 million - within two weeks after the A/E Project Kickoff Meeting the A/E is to submit a draft proposal to the Project Manager for review. For projects more than \$7.4 million - the A/E is to submit a draft proposal within three weeks of the A/E Kickoff Meeting. The draft may be prepared on DFDM's A/E/Consultant Proposal Template or in the A/E's standard format if all pertinent information is included. **The proposal must not conflict with or modify any terms or conditions of the standard DFDM Agreement for Professional Services.** The proposal should include the following information:

Project Description and Understanding of Scope: For very simple projects, the minimum project description should reference to the DFDM Project Name and DFDM Project Number and include a descriptive narrative or attachments such as the Agency project request, Memorandum of Project Understanding, A/E Project Kickoff Meeting Minutes, Project Charter, etc.

A/E's Scope of Work: Include a description of tasks or services to be provided and/or the deliverables necessary to successfully meet the authorized project scope, schedule, and budget. Specifically identify any additional services with description of tasks or deliverables. It is imperative that the A/E make site visits to the project at vital points during construction to ensure that construction is consistent with the design. Therefore, the proposal must specify the minimum number, frequency and/or a list of vital points of construction for site visits -- (including those required for Commissioning activities).

A/E's Proposed Schedule: The A/E's schedule should successfully accomplish the project within the authorized project schedule or timeline and identify milestones, deadlines, and completion dates as contained in the project description or as defined by all parties at the A/E Project Kickoff Meeting. This proposed schedule is part of the reporting matrix used to evaluate successful project delivery. The

following specific schedule milestones shall be the minimum identified in terms of dates (month & year) and/or durations per activity, as applicable:

1. Pre-Design Phase: For programming and assessments - Completion of services date or other milestones.
2. Preliminary Design Phase: Completion of Design Concept and Development Phase, Design Report, Preliminary Design Review.
3. Final Design Phase: Completion of Working Drawings, Specifications, Final Design Review.
4. Bidding Phase: Anticipated Bid Opening.
5. Construction Phase: Anticipated Construction Start, Anticipated Substantial Completion.
6. Phase Project: Identify the above milestones by individual phases (if applicable).

Proposal Review: The proposal will be sent to the DFDM Project Manager. They will evaluate the fee proposal against the range indicated in the advertised A/E Invitation for Services, the DFDM A/E Design Fee Guideline from the current Capital Budget Cost Estimating Guideline, and similar projects and other design contracts. If the proposed fee exceeds the guidelines or advertisement, the A/E shall substantiate why the fee is greater than what was anticipated. Similarly, where the proposed project schedule exceeds or is different from what is indicated in the advertisement for bids the variance is to be noted and justified. After the initial submittal, the DFDM Project Manager will be the point of contact for responses to and from the A/E regarding the A/E proposal.

For Major projects, variances of the proposed scope or fees exceeding 1% of the DFDM A/E Fee Guideline or the advertised fee must be approved. The Project Manager must obtain the authorization of the Director or Deputy Director of the Bureau of Architecture and Engineering for the increase in cost, scope, or schedule variations. The Director or Deputy Director will determine if additional SBC authorization is required. For Minor projects with significant scope, budget, A/E Fee, or schedule changes, the Project Manager must obtain the authorization of the Director or Deputy Director.

Within two weeks after receipt of the draft proposal, the Project Manager, with consultation of the Contract Officer, will comment on the A/E submittals. Comments will be based upon the needs, schedule, and available financial resources of the project. **The Project Manager shall determine if the proposal is acceptable for a contract and issue a contract request to the Contract Officer.** If good faith negotiations with the first selected A/E does not produce an agreement, DFDM may terminate negotiations and negotiate with the second selected A/E.

Multiple iterations of the proposal submittal/review process may occur until mutual agreement is reached. The final draft of the proposal must be signed by an authorized representative of the A/E firm. All documents and attachments must be dated and/or revision numbered to ensure version control. The proposal shall reference any attached documents and their associated date. A complete negotiation cycle should not exceed thirty days.

1.D.3 CONTRACT AND PAYMENTS

Within one week of reaching an agreement on the proposal, the Project Manager will request that a contract be processed. Within three days, a contract will be issued via e-mail to the A/E for signature. The A/E is to print, sign and return the original signed contract within five days. If the A/E services is above \$300,000, the Governor's approval required. After all State signatures are on the A/E signed copy, a final scanned copy of the contract will be sent to the A/E.

1.D.3.a Contracts

The form of agreement for standard design services is the DFDM 'A/E Contract for Professional Services' (DOA-4519P). This contract will include:

- DFDM's breakdown of the project budget: The A/E should immediately bring to DFDM's attention any significant discrepancy between this and the budget contained in the project program;
- The minimum number/frequency of site visits by the A/E and subconsultants during the Construction Phase to ensure compliance with the design ('Agreement on Construction Phase Site Visits'– Attachment A, DOA-4524). Additional site visits necessitated by A/E error, omission, unauthorized changes or negligence, shall be accomplished without additional cost to DFDM.

Additional site visits, necessitated by significant failure on the part of the lead or other prime construction contractors, will be given consideration as additional services, reimbursable by the responsible construction contractor(s) through DFDM;

- An agreement binding the A/E's subconsultants to the terms of this contract ('A/E Consultant Agreement'—Attachment B, DOA-4526).

For non-standard, specialized consulting services, the form of agreement is the DFDM 'Consultant Services Contract' (DOA-4147). This contract will include a letter or statement describing scope of services.

When executing any contract, DFDM will require the A/E to submit a certificate of professional liability insurance and to update their DFDM A/E Data Record via WisBuild.

1.D.3.b Changes to the Contract

As the project progresses, significant changes to the project scope, required A/E services, schedule, or budget subsequent to the execution of the professional services agreement may necessitate the issuance of a Change Order. Compensation for these additional services, when requested by DFDM, may be added to the contract by Change Order. Prior to performing the services, the A/E must submit a lump sum proposal for fees or an estimate of hours in conjunction with the designated hourly rates.

The A/E will not receive compensation for any additional services performed without the specific prior authorization of the Project Manager. A Change Order for A/E services will be recorded on the project record within WisBuild. A Change Order will be sent electronically in WisBuild to the A/E for acceptance. If the change order is greater than \$300,000, the Governor's approval is required. Request for payments against the Change Order will follow the same procedures as all other payments.

1.D.3.c Payments

The A/E should not begin work until it has received a fully executed contract. Once the A/E contract has been finalized, DFDM will encumber the funds and activate the WisBuild portion of the contract. *No request for payment will be considered until the contract is executed, nor will the State be obligated to compensate the A/E for any services performed without a fully executed contract.* The A/E should be prepared to provide a detailed justification of the services performed and the amount of the payment upon request of the DFDM Project Manager. Pay Requests that include reimbursable expenses in conformance with the A/E contract will also require submittal of documents supporting the request for reimbursement.

All A/E request for payments are to be submitted through WisBuild. Assistance can be found within the WisBuild On Line Help Search for "Enter a Pay Request A/E". The contract billing process varies if it is a Lump Sum Contract verses a Time and Material Contract. Follow the directions according to the type of contract that your firm was awarded. The first time and only the first time choose the "Select FEIN" button. If your FEIN (Federal Employer Identification Numbers) is not registered in our State vendor file, the screens will prompt you to enter a W-9. Once you have entered the "FEIN" information, select "Enter Pay Request" and proceed with requesting a payment. Carefully read the information provided on the WisBuild screen to limit submittal errors.

Most payments will be mailed within thirty days of the Project Manager's approval of the A/E Pay Request.

If a payment is rejected and needs to be revised, assistance can be found in the WisBuild On Line Help Search for "A/E Editing an Existing Pay Request". Follow these directions for resubmitting the Pay Request.

1.D.4 A/E PERFORMANCE EVALUATION

Evaluation of A/E performance is required under Wisconsin Administrative Code (Chapter ADM 20). The evaluation and compiled records are used by the Selection Committee in qualifying an A/E firm for future work. DFDM evaluates the performance of the prime A/E's on all projects and a separate evaluation is completed on the A/E's subconsultants.

DFDM Project Managers, technical review staff, and field staff complete evaluations on WisBuild during the Preliminary Design, Final Design, and Construction Phases of the projects. Scoring categories include Document Quality and Coordination, Document Completeness, Technical Design Merit, Design Bid-ability, Design Construct-ability, Design Maintain-ability, and Use of DFDM Guidelines, Standards and Specifications. DFDM evaluations are a required part of the design review process. Phased project scoring is an average of all contracted phases. As the project proceeds through the Preliminary Design, Final Design, and Construction Phases, the scoring is averaged.

Detailed scoring categories by phases are linked to the WisBuild On Line Help. Search for A/E Consultant Evaluations/Reviews. Rating numbers generally correspond to 0 to 4. A neutral rating would be a value of 2.0. Each project type is classified as Complex, Addition/Remodel, Major Engineering, Standard, Utilitarian or Remedial. These classifications add weighting factors to the scoring to provide a more balanced assessment of performance between the varieties of projects.

To provide a balance between objective and subjective evaluations, the following criteria is used for the scoring and decimals to 0.1 may be used to indicate varying degrees of A/E performance.

Score	Guideline Scoring Criteria
4	A/E performance is excellent.
3	A/E performance is very good.
2	A/E performance is satisfactory.
1	A/E performance is poor.
0	A/E performance is unacceptable.

It is the responsibility of the A/E to check and verify the accuracy of their evaluations at the conclusion of each project phase and to immediately notify DFDM in the event of any errors or inaccuracies.

The evaluation summary will be reviewed with the A/E upon request. The review will be noted and documented along with any suggested corrective measures to be taken to improve services. The A/E may appeal to DFDM in writing any portion of the evaluation summary within a period of 30 calendar days after the A/E was notified of the evaluation. An A/E evaluation will be considered valid for five years, after which time it will be removed from the file.

↶ E N D O F S E C T I O N O N E ↷

SECTION TWO • COMMISSIONING

COMMISSIONING PREFACE

These policies and procedures are written for Division of Facilities Development and Management (DFDM) staff, State Agencies, A/E's, and Commissioning providers (CxPs) involved in the State of Wisconsin Building Program to provide direction to the user for incorporating Commissioning practices into State projects.

2.A Overview

Commissioning is the process of bringing together project stakeholders to ensure that systems are designed, installed, functionally tested, and performing in conformity with the Owner's Project Requirements (OPR), and that the building operator has received complete equipment and systems documentation and training. Commissioning is both a team building and a quality control process that is an integral part of the State Building Program. DFDM expects Commissioning to provide the following benefits:

- Project cost savings by identifying construction and design deficiencies early in order to avoid Change Orders, claims, rework and call backs;
- Operating cost savings from reduced energy consumption and maintenance;
- Maintaining the project schedule by identifying coordination, construction and design issues early in order to avoid delays;
- Reduce facility management and occupant complaints;
- Provide safer and more comfortable buildings;
- Provide better trained maintenance staff.

These Policies and Procedures add further structure and documentation to a process that has always been a part of DFDM project delivery. As such, it is DFDM's policy that all projects are commissioned, including delegated projects commissioned by the Agency. The Project Manager, in consultation with the Agency and DFDM technical specialists, determines the scope of Commissioning appropriate for the project.

To assist users of this guideline, Table 2.1 provides a summary of Commissioning activities and responsibilities. Table 2.2 provides a comparison of DFDM Commissioning to LEED Commissioning activities. The 'Request for Commissioning Services' template provides a checklist of systems to be used when selecting systems for Commissioning.

2.B Levels of Commissioning

2.B.1 LEVEL 1 COMMISSIONING

Level 1 Commissioning formalizes the Division of Facilities Development and Management's (DFDM) practices for documenting, testing, and inspecting construction to ensure quality control in project delivery. This level is most appropriate where the complexity and interactions between the mechanical and electrical systems is moderate or the scope of the project is limited and does not require comprehensive Commissioning services.

The Level 1 Commissioning team is made up of DFDM staff, the Agency, the A/E, and the contractors, and will be typically led by the CxP at DFDM's direction. The A/E is the CxP for Level 1 and provides Commissioning services as basic services under the DFDM 'Contract for Professional Services' (DOA 4519P), Articles 2.A.1 and 2.D.9. If services beyond the basic Level 1 Commissioning are required, they are to be identified within the project's request for services.

2.B.2 LEVEL 2 COMMISSIONING

This is an elevated level of Commissioning which includes Level 1 Commissioning and additional responsibilities and documentation including: CxP review of basis of design/design concept, a formal Commissioning Plan and Log, oversight of Agency training, a Substantial Completion review meeting and a Commissioning Report. Level 2 is appropriate on projects that are complicated or require a higher level of oversight. This includes projects where the mechanical and electrical systems or interactions between systems are complex; where significant testing of life safety, environmental, or building envelope systems are appropriate; where certifications are required (LEED, Green Globes, federal agency certification of labs, etc.), or where the end use requires critical operating parameters.

The Level 2 Commissioning team is made up of DFDM staff, the Agency, the A/E, and the contractors and typically will be led by the CxP. The Level 2 CxP may be a dedicated member of the A/E firm or an independent third party consultant contracted by DFDM. The Project Manager, in consultation with the Agency and DFDM technical specialists, will determine if the project CxP will be the A/E or an independent third party consultant. The project A/E Invitation for Services identifies who will be the CxP.

Selection of an independent third party CxP will be separate from the A/E design firm selection process and initiated by the Project Manager during the Preliminary Design Phase. Solicitation for independent third party CxP services is through the monthly A/E Invitation for Services. Interested consultants must register to provide professional services, select Commissioning services in their A/E Data Record, and then submit a Letter of Interest or follow the qualification process as outlined in the invitation. The 'Request for Commissioning Services' is a template for solicitation of an independent third party CxP consultant.

2.B.3 DETERMINING COMMISSIONING LEVEL

The determination of the level of Commissioning will start in the Agency's Facilities Investment Plan and Capital Budget Request. See the 'Capital Budgeting Manual and Estimating Guideline'.

While all projects receive Level 1 Commissioning as a minimum, the Project Manager, in consultation with the Agency and DFDM technical specialists, will make the final determination of the level of Commissioning and which systems are to be commissioned at the higher Level 2, based on the project complexity, scope, and certifications required. This is most appropriately done prior to A/E solicitation. Reference the above Level 1 and Level 2 descriptions for guidance, Tables 2.1 and 2.2 for activities and types and 'Request for Commissioning Services' for selecting systems to be commissioned.

2.B.4 Projects Pursuing LEED® Certification

Projects pursuing LEED Certification will also meet DFDM Commissioning requirements. A/E design team is responsible for determining specific project requirements based on project scope and specific certification being pursued.

2.C Budgeting

The Project Manager is responsible for documenting the required Commissioning and estimating the budget prior to proceeding to A/E selection. Documentation is to include determination of Commissioning level and services, Commissioning by A/E or independent third party and systems to be commissioned. Fees will vary based upon the project scope, complexity, number of systems commissioned at the higher level and the selected scope of Commissioning services.

The cost of Commissioning is difficult to define so a range of potential costs, rather than specific amounts, is provided as a budget guide. The expected range of fees for Level 1 is 0 to .25% of the construction budget. While Level 1 is considered basic services, these fees are in addition to standard design and construction administration fees. The expected range of fees for Level 2 is .15 to 1.0% of the total construction cost.

2.D Definitions

Commissioning (Cx): The process of bringing together project stakeholders to ensure that systems are designed, installed, functionally tested and performing in conformity with the Owner's Project Requirements and that the building operator has received complete equipment and systems documentation and training.

Commissioning Provider (CxP): The entity identified by the Project Manager to lead, monitor, coordinate, and report on project Commissioning activities. The CxP may be the project A/E (most common), an independent third party, or the Division of Facilities Development and Management.

Owner's Project Requirements (OPR): A summary of the program, use, and functional requirements of the building with a description of the project goals and criteria in general categories (e.g., flexibility of use, ease of maintenance, future expansion, etc.) and specific categories (e.g., specialized environments, specific sustainable features, quality of materials, etc.).

Basis of Design/Design Concept: A detailed description of building design criteria, parameters, set-points, concepts, decisions, and selections used to meet the Owner's Project Requirements that serves as a basis for review, approval, and documentation of the design process used for all building systems.

Commissioning Plan: A detailed plan of the organization, schedule and allocation of resources, procedures, and documentation requirements of the Commissioning process.

Commissioning Log: A detailed list of the Construction Verification checklists and Functional Performance Tests tracking the Contractor Submittals, CxP review, verification and witnessing.

Construction Verification: A quality control verification process performed by the installer as building assemblies, components, equipment, and systems are being installed which documents that the materials and installation procedures interfacing with other trades and start-up, testing, and operation are correct, complete, in compliance with contract documents and manufacturer's recommendations, and are ready for Functional Performance Testing.

Functional Performance Tests (FPT): Contractor testing of installed building assemblies, components, equipment, systems, and interfaces that confirms correct performance through all operating modes and compliance with contract documents and manufacturer's recommendations.

Commissioning Report: A document that records the activities and results of the Commissioning process.

Table 2.1 - Scope of Commissioning & Responsibilities

The following table provides an overview of the Commissioning process and the responsibilities of the parties involved. Commissioning activities followed by an asterisk (*) are not required for Level 1 Commissioning. Primary and secondary responsibilities are designated. CxP may be contracted as a part of the A/E services or as an independent consultant.

Activity	DFDM	Agency	A/E	CxP	Constr Contractor
Pre-Design Phase					
1. Identify Commissioning Team/Retain Agent	P				
2. Develop Owner's Project Requirements	S	P			
3. Review Owner's Project Requirements			P		
Design Phase					
4. Review Basis of Design / Design Concept *	P	S		P	
5. Review Preliminary and Final Design	P	S		P (opt)	
6. Review Preliminary Design (LEED Enhanced) *				P	
7. Incorporate Commissioning Requirements in Bidding Documents			P	S	
8. Develop Commissioning Plan *				P	
Construction Phase					
9. Review Contractor Submittals			P	S	
10. Attend Meetings	P		P	P	P
11. Track and Resolve Outstanding Issues	P		P	P	P
12. Construction Verification					
a. Perform					P
b. Verify (LEED Only) *				P	
c. Witness				P	
13. Functional Performance Testing					
a. Perform					P
b. Verify (LEED Only) *				P	
c. Witness			P	P	
14. Review Construction Verification Checklist and Functional Performance Reports				P	
15. Assemble Operations and Maintenance Manuals					P
16. Review and approve O&M Manuals			P	S	
17. Prepare Systems Manual (LEED Enhanced) *				P	
18. Conduct Agency Training					P
19. Attend Agency Training*		P		P	
20. Verify / Evaluate Training *		P		P	
Substantial Completion					
21. Write Commissioning Report *				P	
22. Conduct Substantial Completion Review *				P	
23. Perform Seasonal Testing					P
24. Optional Commissioning Services				P	
P – Primary Responsibility S – Secondary Responsibility * - Not Required in Level 1 opt - Optional					

Table 2.2 – Comparison of Commissioning Types

The following table compares DFDM Commissioning with LEED¹. It also distinguishes A/E basic and additional services and A/E-provided services from those provided by an independent consultant.

Activity	Basic Services	Cx Services under A/E contract	Cx by separate contract	
	DFDM Level 1	LEED v2.2 Fundamental	DFDM Level 2	LEED v2.2 Enhanced
PRE-DESIGN PHASE				
1) Identify / Retain Cx Services Provider (CxP)	—	—	—	—
2) Develop Owner's Project Requirements	—	—	—	—
3) Review Owner's Project Requirements	A/E	A/E ² & CxP	A/E & CxP	CxP
DESIGN PHASE				
4) Review Basis of Design/Design Concept	—	CxP	CxP	CxP
5) Review Preliminary and Final Design	CxP (opt)	—	CxP (opt)	—
6) Review Prelim Design Docs	—	—	—	CxP
7. Incorporate Cx Reqmts into Constr. Docs	A/E	CxP or A/E	A/E w/ CxP review	CxP or A/E
8. Develop Commissioning Plan	—	CxP	CxP	CxP
CONSTRUCTION PHASE				
9. Review Contractor Submittals	A/E	N R	A/E	CxP
10. Attend Meetings	—	—	—	—
11. Track and Resolve Outstanding Issues	—	—	—	—
12. Construction Verification				
a. Perform	—	—	—	—
b. Verify	A/E	CxP	A/E & CxP	CxP
c. Witness	A/E (opt)	—	CxP or A/E	—
13. Functional Performance Testing	—	—	—	—
a. Perform	—	—	—	—
b. Verify	—	CxP	—	CxP
c. Witness	A/E	—	CxP & A/E	—
14. Review Const Verification & FPT Reports	A/E	CxP	CxP or A/E	CxP
15. Assemble O & M Manuals	—	—	—	—
16. Review & Approve O & M Manuals	A/E	—	A/E & CxP	CxP
17. Prepare Systems Manual	—	—	—	CxP
18. Conduct Agency Training	—	—	—	—
19. Attend Agency Training	—	—	CxP	—
20. Verify ³ / Evaluate Training	A/E	CxP	CxP	CxP
SUBSTANTIAL COMPLETION PHASE				
21. Write Commissioning Report	—	CxP	CxP	CxP
22. Conduct Substantial Completion Review	—	—	A/E or CxP	CxP
23. Perform Seasonal Testing	—	—	—	—
24. Optional Commissioning services	—	—	—	—

¹ Any DFDM project pursuing LEED Certification will be required to meet the additional requirements of DFDM Level 2 Cx.

² Review of OPR is included in A/E basic services (program verification).

³ LEED requires CxP to “verify” training. The intent of this activity is the same for DFDM as for LEED.

Request for Commissioning Services Template

The 'Request for Commissioning Services' Template provides a general checklist of systems the Project Manager uses as a guide in selecting systems to be commissioned. The list is not all-inclusive and additional systems may be added.

It is expected that the general systems to be commissioned will be selected prior to contracting with the A/E firm or CxP and further refined during design. The selection of whether or not a specific system is included is based on anticipated need and complexity. The scope of Commissioning for a given system can vary and may simply require a Construction Verification checklist or it may also include CxP installation oversight, Functional Performance Testing, training, etc. Furthermore, within a particular discipline or system, specific components may be selected for additional Commissioning while others are not. Reference the Construction Verification checklists and Functional Performance Test forms in the master specifications for further detail on systems. Commissioning of temperature control and building automation systems is recommended whenever they are part of a project scope.

2.E Commissioning Activities

2.E.1 PRE-DESIGN PHASE

2.E.1.a Owner's Project Requirements (OPR)

The Owner's Project Requirements is a summary of the program written in simple, straightforward language suitable for a wide audience of facility users, Agency staff, and design team members. It describes the use, basic functional requirements, and overall goals of the project. It serves as a general guide for decision making, design review, and Commissioning activities throughout the life of the project.

For small and limited scope projects, the OPR will typically consist of the project description within the Agency's project request.

For major projects, the OPR will consist of a summary narrative within the Agency's program. In addition to the above requirements, the OPR should include a description of general project criteria as well as specialized project requirements.

Level 1 and 2 Commissioning requires the A/E to review the OPR to determine and develop a design that will support the Agency's operations while balancing the costs.

Review of the Owner's Project Requirements is part of basic A/E services.

2.E.2 DESIGN PHASE

2.E.2.a Basis of Design/Design Concept

For Level 2 Commissioning, the CxP is to review the Basis of Design/Design Concept developed by the A/E and evaluate whether it meets the Owner's Project Requirements and overall project goals. The CxP submits comments and recommendations to the Project Manager and A/E for consideration and incorporation into the Basis of Design/Design Concept.

2.E.2.b Commissioning Requirements in Design Documents

The A/E is responsible for incorporating the project Commissioning requirements into the bidding documents. This includes editing and adding to the Division of Facilities Development and Management (DFDM) Commissioning and technical master specification sections, the A/E's own specification sections, the Construction Verification checklists, and Functional Performance Test requirements to describe which systems are to be commissioned and each contractor's responsibilities for Commissioning activities.

For the Preliminary Design Documents, non-applicable Commissioning checklists and performance tests are crossed out on the Division 01 Table of Contents and items to be added are highlighted. The actual Construction Verification checklists and Functional Performance Test forms do not need to be included in the Preliminary Design review documents. The A/E is responsible for coordinating edits of the project

Commissioning requirements with the CxP and incorporating the CxPs input into the Commissioning documents. At the Project Manager's discretion, the CxP may be requested to review and comment on the preliminary drawings and specifications.

For the Final Review Documents and the Final Design Documents, DFDM expects the Construction Verification check lists to be edited to reflect the project requirements. However, for the Final Review Documents the A/E may provide either Functional Performance Test forms edited for the project requirements or unedited Functional Performance Tests clearly identifying that the unedited test form is a SAMPLE. For unedited SAMPLE Functional Performance Test forms, the A/E provides final editing and test forms to the contractor at the time of the submittal review for that equipment or system.

Along with DFDM and the Agency, the CxP typically reviews the Final Review Drawings and specifications. During bidding, the CxP reviews bid documents to ensure their review comments as well as DFDM's review comments are successfully incorporated. Where design is not complete, not coordinated, or does not follow DFDM direction, the CxP works with DFDM and the A/E to resolve the discrepancies either during the bid period by Addenda or immediately following the award of the construction contracts.

2.E.2.c Commissioning Plan

Level 1 Commissioning does not require a formal Commissioning Plan. However, the CxP is responsible for developing and updating a Commissioning Log that is used to track Commissioning activities.

For projects incorporating Level 2 Commissioning, the CxP is responsible for the development and periodic updating of a Commissioning Plan throughout the project. The CxP solicits and incorporates periodic input from DFDM, the Agency, A/E, and contractors in developing and updating the plan. The initial plan will normally be due at or before the final bidding document review for review by DFDM, the Agency, and A/E. Comments received at the Final Review are to be incorporated into the plan prior to the Pre-Construction Meeting. The plan is used to coordinate Commissioning activities throughout the project.

The Commissioning Plan should at a minimum include the following information:

- Contact information for key members of the Commissioning team;
- Description of procedures to be utilized for each Commissioning task;
- List of commissioned systems and associated equipment;
- Functional Performance Test sampling approach;
- List of responsibilities for each party involved in the Commissioning process;
- Commissioning milestones, tracking of Commissioning progress, and schedule.

2.E.2.d Pre-Bid Tour

At the Pre-Bid Tour, the Project Manager and A/E are to review the Commissioning activities and expectations of the Commissioning process. This is to help ensure the bidders understand the required quality control measures implemented through the Commissioning process. The A/E conducts and documents the Pre-Bid Tour.

2.E.2.e Value Enhancement Proposals

The CxP reviews and comments to DFDM on Value Enhancement proposals received for commissioned systems.

2.E.3 CONSTRUCTION PHASE

2.E.3.a Pre-Construction Meeting

At the Pre-Construction Meeting, the CxP presents an overview of the Commissioning process, identifies the Commissioning Team members, their tasks, and responsibilities; and the Commissioning milestones such as Construction Verification and Functional Performance Testing for incorporation into the contractor's schedule. Routing and number of documents, including Submittals, Commissioning Plans,

Construction Verification checklists, Functional Performance Test reports, Commissioning Reports, and meeting minutes, are reviewed at the Pre-Construction Meeting.

Additionally, each contractor is required to provide DFDM with their quality control and inspection plan. Quality control plans are prepared by contractors and are intended to address all construction operations, both on and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents. DFDM guidelines for developing a project specific plan are available to the contractors at the Pre-Construction Meeting. This plan shall be reviewed by DFDM and the CxP for incorporation into the Commissioning process.

2.E.3.b Review of Contractor Submittals

Review and approval of Submittals are the prime responsibility of the A/E. The A/E provides a copy of reviewed Submittals to the CxP for commissioned systems. If the Functional Performance Test forms were samples within the bidding documents, during the submittal review the A/E edits the Functional Performance Test documents to reflect the operational requirements of each system. Submit the final test forms to DFDM, the CxP, and the contractors during the Submittal reviews and track the process on the Submittal log if final forms were not provided within the contract documents. For LEED enhanced Commissioning projects, the CxP will review Submittals for commissioned systems simultaneously with the A/E's review and provide comments to the A/E for incorporation into their review.

2.E.3.c Construction Progress Meetings

The CxP is expected to attend Construction Progress Meetings to solicit input from the Commissioning team and coordinate and report on Commissioning activities. As part of the project the CxP shall observe, record, and identify construction and design issues, assign responsibility, and assist in identification of corrective actions and closure. It is important that scheduling of Commissioning activities be identified, reported at the regular progress meetings, and integrated into the project schedule.

During the construction progress meeting, Commissioning activities, the WisBuild Issues List, milestones, and schedule are reviewed. The CxP updates the Commissioning Log for Level 1 or the Commissioning Plan for Level 2 to reflect the status, and changes and publishes with the A/E's meeting minutes to track Commissioning activities.

2.E.3.d Commissioning Meetings

For Level 2, the CxP is required to conduct and document regular scheduled Commissioning Meetings. Following building enclosure, regular Commissioning Meetings will be held through Functional Performance Testing. Commissioning Meetings may be scheduled earlier if building structural or envelope components or site work is commissioned prior to building enclosure. These meetings would ideally occur following regular progress meetings.

The Contractors, A/E, CxP, DFDM, and Agency staff are required to attend the meetings. Each party is responsible for providing a review of project progress, Commissioning issues, and scheduling for all future Commissioning tasks. A primary goal of the Commissioning Meetings is to keep on schedule by reviewing the status of the work, identify the impact on the Commissioning schedule, and assist trades with coordination of work related to Commissioning activities.

The Commissioning Plan, associated milestones, and Issues List will be reviewed and updated at each meeting, along with identifying new issues, assigning responsibility for corrections, and reporting on progress. Following the meetings, the CxP updates the Issues List and distributes the updated plan, along with Commissioning Meeting minutes, to the meeting participants and those on the distribution list for the construction progress meeting minutes. It is expected that each participant is prepared, provides necessary input, and acts promptly and with good resolution on assigned issues, respecting all parties for commitment to the success of the project.

2.E.3.e Issues List - Tracking and Resolution

The CxP, A/E and DFDM are responsible for recording all unresolved construction and design issues as items on the WisBuild 'Issues List'; replacing separate punch lists, e-mails, phone conversations, Commissioning lists, or site reports. The CxP is expected to take the lead on maintaining the Issues List

and tracking the issues to resolution and closure. The A/E and DFDM staff assist by entering construction, design, and contract deficiencies and help to obtain closure of an issue. The Contractor has the ability to respond and comment on individual issues. A link to the Issues List is on the WisBuild Project Overview page.

The following are examples of contract deficiencies, concerns, and problems that require entry into the Issues List:

- DFDM - MEP Inspector's Deficiency reports;
- Construction coordination issues resulting in another contractor not able to finish their work;
- A/E Field Report observed deficiencies;
- Punch Lists or Observation Reports;
 - Split the punch list entries into groupings by task. Examples: Paint touch-ups – one entry, if it's a short list, enter the details into the issue description field. If it's a long list, enter a description of the overall deficiency, then attach the detailed list to the issue by using the view/edit attachment feature. Examples of possible groupings - Door hardware, VAV boxes, ceiling installation, cabinetry concerns, etc.
- Substantial Completion Submittals and activities for closeout tracking:
 - Operational and Maintenance Manuals;
 - Record Drawings;
 - Test and Balance Report deficiencies;
 - Certificates of Registration or Release;
 - Training requirements, etc;
- Design deficiencies;
- Track Contractor submittal of Construction Verification Checklist, Commissioning observation, inspection and noted deficiencies;
- Track Contractor Functional Performance Testing, Commissioning witnessing, reporting and deficiencies.

Issues List-WisBuild Background Information

- On the WisBuild Project Selection Screen, A/E's listed as Commissioning providers can select a project as A/E or as a Commissioning provider;
- WisBuild users that can add a new issue to their assigned or contracted projects
 - Construction Representative, Construction Coordinators, prime A/E contact, Project Manager, Commissioning provider, Section Chiefs & MEP field inspector;
- WisBuild users that can respond to an issue on their assigned projects:
 - Contractor, Construction Representative, Construction Coordinators, MEP field inspector, prime A/E contact, Project Manager, Commissioning provider, Section Chiefs.
- WisBuild user that can view only – Agency and Ad Hoc Contact;
- Closing of issues can only be done by the Commissioning provider, Construction Coordinator, MEP field inspector, Section Chiefs, or DFDM's Construction Representative;
- Issues List – uploading attachments. Save the issue then upload in the [view/edit issue](#) screen;
- WisBuild does not notify the contacts when an issue is posted or updated;
- Outstanding issues are considered when DFDM approves and certifies the A/E and Contractor Pay Requests;
- If assigned responsibility is determined to be incorrect, the issue is closed and a new entry is made with the correct responsible contractual party;
- Issues are not to replace Requests for Information, Construction Bulletins, or Change Orders. The issue entry screen provides a quick reference capability to RFIs, CBs and COs;
- WisBuild entry fields are color coded to identify editing capabilities;
- Issue lists can be filtered, sorted, and exported to Excel. Use open issues as an agenda item for the construction progress meeting.

2.E.3.f Construction Verification

The Construction Verification Checklists (CVCs) are a formalized means to provide individual workers the criteria for a successful installation, adherence to the specifications, and easily tracking construction

progress. Contractors are responsible for submitting the filled out CVCs at a minimum frequency of monthly or more frequently if required by the project. The CxP verifies the CVC construction by spot checking the installed work and reviewing the completed checklists. All deficiencies found are to be corrected by the contractor. If the verification process identifies a 10% discrepancy rate or more for any component, the contractor shall revalidate all items covered by that checklist and re-submit the CVCs. The CxP notes any deficiencies discovered and reports them on the Issues List. The CxP submits the Construction Verification checklists within the Commissioning Report or with the Record Documents. Contractors are responsible for the costs of subsequent re-verification at DFDM's discretion.

2.E.3.g Functional Performance Testing

All contractors are responsible for preparing commissioned systems for Functional Performance Testing, including coordination and preliminary testing with other contractors prior to the formal test witnessed by the CxP and A/E. The contractor preliminary testing should follow the final Functional Performance Test forms. Submittal of the preliminary Functional Performance Test forms by the contractor demonstrates that systems are installed and function according to the contract documents and informs DFDM, A/E, CxP, and the Agency that the system is ready for their witnessing of the functional performance testing.

All contractors, personnel, equipment, tools, and resources necessary for demonstrating successful operation are to be present during testing.

The A/E and CxP witness Functional Performance Testing for all commissioned systems. Agencies are encouraged to participate as well. The CxP establishes a sampling protocol at the time of testing and selects sample test locations for identical pieces of equipment. The CxP is responsible for recording the results on the final Functional Performance Test reports, recording the deficiencies in the Issues List, and including the Functional Performance Tests in the final Commissioning Report. Deficiencies may be design- or construction-related and are subject to retesting until no deficiencies remain. The cost of retesting may be the responsibility of the A/E if design-related, or the Contractor if construction-related, and is subject to deductive Change Order at DFDM's discretion.

2.E.3.h Testing, Adjusting, and Balancing (TAB) Verification

As part of the Functional Performance Testing, the A/E and CxP are responsible for review of the completed testing and balancing. This includes verification of key operating test data from the test and balance report for primary equipment and a representative sample selected by the CxP for secondary equipment, inlets, outlets, etc. The CxP is responsible for recording the results in the Functional Performance Test reports and recording the deficiencies in the Issues List. The final Testing and Balancing Report with AE and CxP review comments is to be submitted to DFDM through the DFDM File Transfer Site.

2.E.3.i Review Operations and Maintenance Manuals

Operations and Maintenance Manuals (O&M) are assembled by the contractor and reviewed by the A/E for all projects. For Level 2 Commissioning, review of O&M manuals is primarily the A/E's responsibility and in addition, the CxP is to provide a secondary review for completeness and adequacy, forwarding comments to the A/E for incorporation into their review. Reference Division 01 General Requirements Article 32 for O&M manual format and content requirements. The O & M Manual review comments by the AE and CxP are to be submitted to DFDM through the DFDM File Transfer Site.

For LEED projects, the CxP is to review and provide a summary on the O&M documentation.

2.E.3.j Prepare Systems Manual

For LEED enhanced projects, the CxP shall prepare a systems manual that focuses on operating rather than maintaining the installed project equipment and systems. Reference LEED for requirements.

2.E.3.k Agency Training

For Level 1 Commissioning, the Contractor coordinates training with DFDM and the Agency.

For Level 2 Commissioning, the CxP is to attend Agency training sessions, provide and collect attendee training evaluation forms, review the training and the evaluations to determine the adequacy of training,

identify if any sessions were deemed insufficient, and report to DFDM. If training is deemed insufficient, the contractor is responsible for scheduling and costs associated with repeating the training.

Contractor-directed training sessions are to include classroom and site presentations as appropriate, demonstration of systems and equipment, along with review of set-points, and operating parameters. Preventive and routine maintenance procedures and common repairs are to be reviewed. Sessions are to be videotaped by the contractor and a DVD labeled with the training session provided to the Agency along with a sign off sheet demonstrating receipt by the Agency.

2.E.4 POST-CONSTRUCTION PHASE

2.E.4.a Commissioning Report

For Level 2 Commissioning, the CxP is responsible for developing and distributing a Commissioning Report. A draft of the report is submitted upon Substantial Completion and a final report upon completion of the Substantial Completion review meeting. The final Commissioning Report is submitted to DFDM (through the DFDM File Transfer Site) and to the Agency, A/E and contractors.

The content of the Commissioning Report should be clearly defined in the Commissioning Plan. Include contact information for key members of the Commissioning team, a narrative of the Commissioning process, Owner's Project Requirements, basis of design/design concept, Design Report, design review comments and resolution, and a statement indicating that all issues are resolved and closed, Functional Performance Testing results, completed owner training reviews, tests and inspection reports for all commissioned systems, equipment, assemblies and building features are required. In addition, include key findings, lessons learned, recommendations, and best practices from the Substantial Completion Review Meeting in the final report.

2.E.4.b Substantial Completion Review Meeting

Within 10 months of Substantial Completion of a Level 2 commissioned project and prior to completion of the warranty period, the CxP shall coordinate and facilitate a Substantial Completion Review Meeting. The Substantial Completion Review Meeting, being part of the A/E and contractor's services, is to be included in their cost breakdown with payment retained until completion.

The draft of the Commissioning Report shall be reviewed at this meeting. The intent of the meeting will be to review project design, construction, turnover, operation, and warranty issues. The meeting will also review project safety, schedule, and budget. Project results will be compared with project goals for successes and disappointments to determine what process changes are needed for future improvements, making recommendations, identifying best practices, and documenting findings for the final Commissioning Report. All parties, including contractors, A/E, DFDM, and Agency personnel, are required to have key project personnel in attendance and are to provide all project-related feedback for this meeting. The CxP includes the Substantial Completion meeting minutes and a summary of the findings in the Commissioning Report.

2.E.4.c Seasonal Testing

Seasonal Testing is Functional Performance Testing that verifies system capacity and operation at outdoor conditions not present during prior Functional Performance Testing. Seasonal Testing needs to be scheduled and completed when the system/equipment performance matches the seasonal design criteria and the performance can be demonstrated and verified. The A/E for Level 1 and the A/E and CxP for Level 2 witness the Seasonal Testing and document the results as they would Functional Performance Testing.

2.E.4.d Optional Commissioning Activities / Services

These are additional Commissioning activities that are not required but may be requested by the Project Manager. Examples of these services include:

- Energy Modeling Review
- M & V One-Year Report

SECTION THREE • PRE-DESIGN PHASE

3.A Facilities Planning Process

3.A.1 GENERAL

The State Building Program operates on a biennial basis within the framework of a long-range public Building Program, as prescribed under Wis. Stats. 13.48(1) and 13.48(6). This long-range planning policy is intended to assure that each Agency's facility plans are consistent with its mission and programs and that the impact of program trends on existing space and future facilities needs is fully considered. This process enables the Division of Facilities Development and Management (DFDM) and the State Building Commission (SBC) to better understand Agency needs and to make better informed decisions on proposed capital improvement projects.

3.A.2 AGENCY PLANNING

The facility planning process begins with the Agency, where a program need and the resulting effect on the physical plant is first identified. The Agency evaluates its existing facilities and studies both program and physical space alternatives in order to assess its ability to meet those program needs. DFDM may hire a private consultant to aid the Agency in these evaluation and planning efforts. Alternatives are evaluated with respect to: 1) efficient and economic space utilization, 2) availability and capacity of utilities and services (including central plant), 3) transportation, 4) regulatory requirements, 5) energy usage, 6) environmental impacts, 7) life-cycle cost, 8) operating budget impacts, 9) effects on other existing spaces and facilities, and 10) total cost of operation. When the scope and budget of a potential project are defined, it is classified as "Major" or "Minor" for purposes of including in the Facilities Investment Plan (Six-Year Facilities Plan).

The Agency prepares a project request and a Program Statement. The Program Statement includes a description of the proposed project, design goals and criteria, a proposed budget, and a schedule. DFDM may assist with the Program Statement and possibly contract for professional services for completion of the Program Statement. (See Section 3.C) The DFDM 'Manual for Preparation of Capital Budget Requests' describes the procedures for developing project requests. In conjunction with this, the DFDM 'Capital Budget Cost Estimating Guidelines' provides useful information for estimating costs and schedules. These documents, distributed biennially in January of even-numbered years, are written specifically for Agency Capital Budget planners. They are intended to complement this Policy and Procedure Manual for A/E's.

3.A.2.a Facilities Evaluations

If the Agency is unable or needs assistance in evaluating an existing facility for a particular use, DFDM may be able to assist in one of two ways:

- 1) DFDM staff – DFDM in-house expertise is available to State Agencies in areas such as: architecture; civil, structural, mechanical, plumbing, HVAC, and electrical engineering; telecommunications; historic preservation; exterior envelope; accessibility; asbestos abatement; energy use; cost estimating; and specifications. Agencies may consult directly with DFDM staff.
- 2) Private consultant – If DFDM staff are unavailable or unable to conduct an evaluation, then DFDM may hire a private consultant for a special study. The purpose of feasibility studies, site evaluations, structural investigations, historic structure studies, and other reports is essentially to: define the "problem", clarify the scope of proposed work, determine feasibility, evaluate alternatives, and provide estimated costs.

3.A.3 FACILITIES INVESTMENT PLAN (SIX-YEAR FACILITIES PLAN)

Each State Agency is required by statute to report its proposed Capital Budget priorities to the SBC for a period covering three biennia. The Facilities Investment Plan defines the Agency's mission and programs, identifies long-term program directions, and describes the impact of those programs on facilities' needs. The plan proposes specific projects in response to those program needs and assigns

them to a general timeline over a six-year period. The projects proposed for the first two years of the Facilities Investment Plan become the basis for the Agency's Biennial Budget request.

3.B Funding Approval and Authorization

The approval of funding by the State Legislature is a process separate from the State Building Commission (SBC)'s authorization to initiate the project. The Legislature approves funding for all projects in the Biennial Capital Budget Bill. After that, each Major and Minor project must be specifically presented to the SBC for individual authorization to proceed with design.

Major Projects are specifically identified, or "enumerated", by the Legislature (See Section 1.C.1.a). Minor and Small Projects receive general funding allocated to all agencies through the "All Agency Program". Funds for studies, planning, pre-design or preliminary design of a project may be included in the Capital Budget for one biennium, with construction funding intended for a future biennium. There is no assurance that projects that are planned in one biennium will be constructed in the next biennium.

3.B.1 FUNDING APPROVAL

The development of the Capital Budget is a cyclical process that begins every two years. The sequence of events is as follows: in July of even-numbered years, Agencies submit an updated Six-Year Facilities Plan to DFDM for review. Based on the priorities set forth in the Facilities Investment Plan (Six-Year Plan), the Agencies submit their Capital Budget Requests to DFDM for review and analysis. Typically by the following January or February, DFDM finalizes its Capital Budget Recommendations for review by the Secretary of the Department of Administration and the Governor. Over the course of the next several months, the proposed Capital Budget recommendations are reviewed by SBC Subcommittees, the full SBC, the Legislature's Joint Finance Committee, and then acted upon by the full Legislature. The passage of the Budget Bill by the Legislature and signing by the Governor result in the funding of each enumerated project and establish the funding levels for the special category (All-Agency) projects. July 1 of odd-numbered years marks the beginning of the state fiscal year and the budget biennium.

3.B.2 PROJECT AUTHORIZATION BY THE STATE BUILDING COMMISSION

The SBC's authorization for release of funds varies depending on the type of project. The vote of the members of the SBC determines whether a proposed project is deferred, modified, or is granted approval to one of several stages of further development: Design Report (Preliminary Design-Basis of Design), bid documents, bidding and/or construction.

3.B.2.a Major Projects

For Major Projects, the SBC must approve the use of Building Trust Funds to fund preliminary design before construction funding is available. When Preliminary Design is completed, the Agency must then submit the Design Report (See Section 4.K) to the SBC for approval, requesting authorization to proceed with further development.

3.B.2.b Minor Projects

All-Agency Program funds are approved within the Biennial Capital Budget Bill. The All-Agency Program comprises of aggregate categories that fund multiple projects. The level of review and approval required by the SBC (Preliminary Design/Bidding/Construction) varies depending on the type of work.

3.B.2.c Small Projects

Small projects do not require individual approval by the SBC per Wis. Stats. 13.48(10).

3.C The Program Statement

3.C.1 GENERAL

The Program Statement is the document that sets forth the need and purpose of the project, the goals that the project hopes to achieve, and the design criteria and standards upon which the design is to be based upon. The programming document is used for the Capital Budget enumeration process. The Program Statement has multiple uses besides the Capital Budget process:

- 1) For the Agency, it communicates to the Division of Facilities Development and Management (DFDM) and the State Building Commission (SBC), in conjunction with the project request documents, the purpose, justification, and estimated cost of the proposed project in order to obtain funding.
- 2) For both DFDM and the Agency, it communicates to the A/E the background, scope, and information necessary to begin design work; and serves as a basis for defining a scope of professional services.

The Program Statement will serve as a guide and decision-making tool throughout the entire project. The goals and standards stated in the Program drive the design, and as such are the single greatest influence on the overall lifetime cost of the facility. The importance of a comprehensive, clearly written Program Statement to the overall success of the project cannot be overstated.

A Program Statement is required for most Major and Minor Projects. A "formal" Program Statement may not be required for repair/renovation/maintenance, energy improvement, accessibility, or health/safety/environmental projects where a special evaluation or study provides the necessary program information.

3.C.1.a Agency's Responsibility

It is the Agency's responsibility to define the project via the Program Statement, conform to the format and content outlined in Section 3.C.2. Where the project is particularly complex or the Agency does not have the capability, DFDM will consider an Agency request to hire a consultant to prepare the Program Statement and/or other Pre-Design elements.

Because of the time involved in the funding and approval process, changes may sometimes occur between the time of the writing of the Program Statement and the start of design. It is the Agency's responsibility to update the Program Statement to reflect revisions due to changes in policy, staffing, decision-makers or inflation; to assess budget impact of any changes; and to submit those changes to DFDM for review and approval.

3.C.1.b A/E's / Project Designer's Responsibility

DFDM expects consultants to exercise their full professional judgment to: 1) critically review the completeness and clarity of the Program Statement and 2) to determine whether or not it is sufficiently complete to fully perform the services. Use the following section "Program Statement Content" as a checklist to gauge the completeness of the Program Statement in order to identify Owner's Project Requirements (OPR).

The Agency's program requirements should identify any sustainable features or focuses that are important to their operations and the A/E should incorporate the 'Sustainable Facilities Standards' as applicable to the project. The program and design should also consider the future facility's attributes that would lead to a low total cost of occupancy (TCO) and future maintenance and operation of the facilities following Executive Order 63 in regards to operating at a level equal to LEED EB. TCO encompasses the costs of operating, maintaining, and financing a building through energy efficiency, building system longevity, ease of maintenance, and the flexibility of spaces.

3.C.2 PROGRAM STATEMENT CONTENT

The following guide, although written for a major new building or remodeling project, is to be used for all projects. Some topics may not apply to non-building-type construction projects. DFDM expects the Program Statement writer to use discretion and address all applicable topics.

3.C.2.a Title Page

Include: Name of proposed project, location of project (building, institution and city), name of Agency and Agency representatives, date of Program Statement issue, and space for a dated Agency signature indicating approval of the Program Statement.

3.C.2.b Table of Contents

The format and organization of the Program Statement is to follow that shown herein:

- Title Page
- Table of Contents
- Project Goals and Objectives
- Purpose and Scope
- Physical Planning Issues
- Occupants/Users and Activities
- Space Tabulation
- Room Data Sheets
- Special Planning Issues
- Sustainable Facilities Checklist
- Budget
- Schedule
- Equipment

3.C.2.c Project Description

Provide a brief description of the scope and intent of the project. One or two paragraphs will usually suffice—preferably, the same "Project Description" which will appear on the project request document prepared for the SBC.

3.C.2.d Project Goals and Objectives

Describe what the project hopes to accomplish in terms of its broadest goals and objectives, and what the desired physical and functional outcomes are that will be the measure of its success. What are the existing or potential problems that this project is intended to remedy or improve? Describe the essential components and major features of the project and their relationship to each other, to the institution, and to the programs they intend to serve.

3.C.2.e Physical Planning Issues

The Program Statement will address each of the following items, *as applicable*:

- 1) Site / Existing Conditions
 - a) Existing Land Use (including issues that may affect erosion control requirements)
 - b) Landholdings / Ownership / Boundaries
 - c) Zoning (See Section 3.D.2) / Floodplain Restrictions
 - d) Easements
 - e) Future Acquisitions
 - f) Topography / Drainage
 - g) Vegetation / Landscaping
 - h) Subsurface Conditions
 - j) Remediation of Hazardous Materials
 - k) Construction Staging / Occupancy of Site During Construction
- 2) Utilities / Infrastructure
 - a) Existing – capacity and condition of existing lines and equipment (including central plants)
 - b) Proposed – gas, water, electric, steam, chilled water, sanitary and storm sewers, communications
 - c) Maintaining utility services and infrastructure during construction
- 3) Transportation/Circulation
 - a) Vehicular/Bicycle/Pedestrian
 - b) Parking
 - c) Service/Loading/Unloading
 - d) Access to Site (including during construction)
- 4) Existing Building Conditions
 - a) Concealed Conditions
 - b) Condition of Existing Infrastructure and Equipment
 - c) Hazardous Materials: Asbestos / Lead-based Paint / Soil Contamination

- d) Current Occupancy and Occupancy During Construction
- e) Possible Opportunities for Energy Conservation and Sustainable Design

3.C.2.f Occupants/Users and Activities

For DOA-owned and managed facilities, coordinate the occupancy and space tabulations with the DFDM Bureau of Real Estate Management. For other Agencies, describe the users/occupants that will normally use, occupy, or interact with the facility as well as any other constituents or staff who will manage and operate or whose activities will affect or be affected by the facility. Include significant characteristics of the above user-groups: numbers, age range, sex, physical disabilities, etc., as well as frequency and duration of use.

Describe the functional requirements/goals in terms of programs, usage, activities or user-groups described above. Describe relationship between activities and physical facilities. Describe inter-relationship between activities and user-groups—spatially and functionally, particularly identifying critical adjacencies and circulation requirements. Describe any special design features in general terms.

3.C.2.g Space Tabulation

Provide a complete tabulation of all assignable (usable) spaces, listing square footage and number of occupants for each. Include all non-assignable (common) areas which perform a critical function (unusually large lobbies, toilets and/or locker rooms, main storage rooms, main custodial rooms, main telecommunications and electrical closets, etc.) A sample Room Tabulation Sheet is available.

Efficiency: State the total Gross Square Feet (GSF), total Assignable Square Feet (ASF) and calculate the Efficiency Ratio two ways:

- 1) Agency Method:
Efficiency = Assignable Square Feet divided by Gross Square Feet. This is the efficiency ratio used in the 'Capital Budget Cost Estimating Guidelines' and is useful for cost estimating. This method excludes common space and generally results in a lower efficiency than the BOMA method.
- 2) Building Officials Management Association (BOMA) Method:
Efficiency = "Rentable Square Feet" (usable + common area) divided by "Gross Square Feet"

3.C.2.h Room Data Sheets (also referred to as Functional Component Data Sheets)

This section is intended to provide a comprehensive description of the specific design requirements of all usable interior spaces and exterior activity areas, including areas such as parking lots, athletic fields, or campus malls. Provide a completed Room Data Sheet for each assignable room or each type of room. Include technical details and specific requirements for all systems:

- Architectural
- Plumbing
- HVAC
- Environmental control
- Electrical/lighting
- Security
- Fire protection
- Telecommunications
- Audio/video systems
- Waste handling

Elaborate on size, number of users/occupants for each individual space, and time and duration of use. Identify any additional special design features: special room sizes/configurations, special ceiling height(s), floor loading(s), special finishes, fixtures, accessories, signage, casework, and fixed or movable equipment. Note any deviations from university or DFDM Design Guidelines, if applicable. Suggested Room Data Sheets for Offices, Classrooms and Laboratories are available.

3.C.2.i Special Planning Issues

These are issues with a potentially broad impact on the program of a proposed project. The Program Statement must address each as it applies and, by law, incorporate the full spirit and intent into the project. The goals and requirements that these policies generate may be integrated into other parts of the Program Statement and do not necessarily have to be listed as separate topics (See Section 3.D).

- Environmental Impact
- Zoning
- Historic Preservation
- Accessibility
- Sustainable Facilities and Energy Conservation (including the Sustainable Facilities Standards Checklist indicating items applicable to the project.)
- Desired DFDM Commissioning Level
- Hazardous Substances
- Information Technology
- Daycare
- Fixed Equipment
- Movable Equipment

3.C.2.j Budget

- 1) Cost estimate – Provide an all-inclusive estimate of total project costs. Due to the possible time lapse from when the program is written and the time of construction, note the month and year that was used to establish the dollar value. Identify the basic components of project cost as follows:
 - Construction
 - Design and Other Fees
 - Commissioning
 - DFDM Management
 - Contingency
 - Equipment
 - Land

Identify any assumptions or special conditions inherent in the estimate.

- 2) Source of Funds – Identify the proposed source(s) of funds.

3.C.2.k Schedule

- 1) Discuss any special scheduling concerns that could affect either budget or occupancy, for example:
 - other work that must be completed before this project may proceed;
 - any requirements for phasing construction or relocating occupants during construction;
 - any fixed deadlines, such as court or code-mandated completion dates;
 - academic/athletic schedules or deadlines.
- 2) Proposed Schedule (for each phase of multi-phase projects) — provide a schedule listing realistic, estimated target dates (month/year) for:
 - SBC Approval for Planning
 - A/E, Specialty or Commissioning Consultant Selection
 - Completion of Design Report
 - Bid Opening
 - Start of Construction
 - Substantial Completion / Occupancy

3.C.2.l Fixed Equipment

For each space, list all equipment and furnishings needed to make the space fully functional for the Agency following the Fixed Equipment guidelines (See Section 3.D.10).

- Whether equipment is new or existing and associated sustainable decisions;
- Type of equipment and required electrical, technology or cooling needs and level of reduced energy conservation;
- Whether installation by contractor is required;
- Estimate of cost.

3.C.2.m Movable Equipment

Systems Furniture, Special Equipment, and Communications Equipment are to be categorized and listed separately. See Equipment Schedule. Movable Equipment (See Section 3.D.11) will be specified and purchased by the institution unless otherwise noted by the Project Manager.

3.D Special Planning Issues

3.D.1 ENVIRONMENTAL IMPACT

The Wisconsin Environmental Policy Act (WEPA), Wis. Stats. 1.11, created in 1972, was patterned after the National Environmental Policy Act of 1970 (NEPA). WEPA requires that State Agencies prepare an Environmental Impact Statement for every recommendation or proposal for major actions "significantly affecting the quality of the human environment." Determining the need for an Environmental Impact Statement is the responsibility of the Agency.

WEPA requires that Agencies incorporate ecological information in the planning and development of resource-oriented projects at the earliest possible time to ensure that planning and decisions reflect environmental values, laws, and regulations. The implementation of WEPA will include a description of the environmental effects of the proposed action; the study, development and description of alternatives where proposed actions "involve unresolved conflicts in the use of available resources"; and the preparation and review of an Environmental Impact Statement, during which opportunities for public input are provided.

Compliance with WEPA is the responsibility of the state Agency, in accordance with its own administrative rules or policy guidelines. If a project involves federal funds or requires a federal permit, it may be subject to review under the National Environmental Policy Act of 1970 (NEPA). The Agency is responsible for determining the applicability of NEPA, for obtaining clarification of NEPA requirements and for compliance with them.

The Division of Facilities Development and Management's (DFDM) policy is to encourage careful consideration of the environmental effects of all projects proposed by Agencies, to assist Agencies in considering alternative program or design solutions which are more environmentally appropriate, and to ensure that the full spirit and intent of WEPA are satisfied. The following is intended as a general outline of WEPA requirements.

3.D.1.a Categories of Action

When an Agency first proposes a project ("an action"), it will categorize it as follows:

- Type 1 Actions that always require an Environmental Impact Study;
- Type 2 Actions that may **or** may not require an Environmental Impact Statement (EIS), depending on the significance of the action and on whether or not there are unresolved conflicts in the use of available resources; Type 2 actions must be further evaluated by preparing an Environmental Assessment (EA);
- Type 3 Actions that normally require neither an EA nor an EIS.

3.D.1.b The Environmental Assessment

For projects that appear unlikely to significantly affect the quality of the human environment, or for the purpose of determining whether a Type 2 action requires an EIS, the Agency will prepare an Environmental Assessment (EA). An *Environmental Assessment* is a brief, but comprehensive, statement of a proposed Agency action intended to determine whether or not the proposal is a "major action significantly affecting the quality of the human environment". The Agency will distribute and publicize the EA, according to its administrative rules, allowing a period for public comment. After public comments are received, it makes modifications it judges necessary and issues:

- 1) A "finding of no significant impact", allowing the project to proceed, or
- 2) A statement indicating the need for an EIS.

3.D.1.c The Environmental Impact Statement

An *Environmental Impact Statement (EIS)* is a detailed written statement, prepared according to Wis. Stats.1.11, which describes the anticipated environmental effects of a proposed Agency action. Its purpose is to inform decision-makers and the public of 1) the consequences and adverse effects on the human environment and 2) reasonable alternatives to the proposed action, in a way that will guide and assist in decision-making.

Upon determining that an EIS is required, the Agency begins a two-stage process as prescribed under administrative rules to prepare a Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS), outlined as follows:

- 1) Scoping: This is the process during which the views of government Agencies and affected members of the public are solicited in order to determine the scope of the EIS and the significant issues that it must address.
- 2) Preparation of the DEIS -- This document will include:
 - Description of proposed action;
 - Identification of the probable impact on the environment including primary and secondary effects. It may include archaeological, historic, aesthetic, noise, and energy-use considerations;
 - Alternatives to the action;
 - Probable adverse effects that cannot be avoided;
 - The relationship between short term uses of the environment and maintaining and enhancing long term productivity;
 - The extent to which the proposed action irreversibly curtails potential uses of the environment.
- 3) Distribution and Review: The Agency distributes copies of the DEIS to government agencies, public libraries and interested members of the public and sends notices of availability to regional and local news media, as appropriate, to provide adequate notice of DEIS release. A review period of 45 days is normally allowed, during which a public hearing will be held.
- 4) Converting DEIS to FEIS: The FEIS will include responsible comments offered during the public comment period as well as the Agency's response to the issues raised. Distribution, notices and periods for public comment for the FEIS are essentially the same as for the DEIS.
- 5) Record of Decision: After reviewing the FEIS, the Agency will enter a final decision in writing on the proposed action.

3.D.1.d PROCEDURAL RESPONSIBILITIES

- 1) State Agency: Each State Agency will determine the need for an EIS or EA by categorizing a proposed project as Type 1, 2 or 3. Agencies with the appropriate expertise available on staff will prepare their own EA or EIS. Usually a private consultant contracted by DFDM will prepare an EIS. The scope of consultant services required for each EA or EIS will be individually determined and negotiated, but in general, the Agency rather than the consultant will be responsible for:
 - All public notices;
 - Arranging public hearings/meetings in conjunction with the Agency;
 - Maintaining a record of public comment;
 - Distribution of both DEIS and FEIS.
- 2) DFDM: DFDM will select, hire, and monitor the work of the EIS consultant. The DFDM Project Manager is responsible for determining that prior to completion of the Design Report, any environmental issues have been identified and resolved. This means that, ideally, the Agency will have issued a Record of Decision prior to finalizing the Design Report. At minimum, DFDM expects that the public review

period and public hearing will have been completed. *No project will be released for bidding or construction until the requirements of WEPA are fully satisfied.*

3.D.2 ZONING

State facilities must comply with local land use zoning, per Wis. Stat. 13.48(13). It is the Agency's responsibility to determine local zoning requirements and to plan and locate facilities in conformance with those requirements whenever possible. The Program Statement must address zoning requirements and whether or not the proposed project is in conformance with existing zoning regulations. If any zoning approval, "conditional-use" permit or variance is required, it is the Agency's responsibility to obtain such approval. **Note:** State facilities are not subject to other local zoning or building ordinances (See Section 4.D.1).

3.D.3 HISTORIC PRESERVATION

Under Wis. Stats 13.48(1m) and 44.30, it is the State's policy "to engage in a comprehensive program of historic preservation". It is the responsibility of the Wisconsin Historical Society (WHS) to "coordinate the activities of all State Agencies in connection with historic properties". DFDM, in compliance with these statutes and State Building Commission (SBC) policy, cooperates with the WHS and the Agencies to see that these public policies are implemented and incorporated into the State's long-range Building Program. The primary responsibility for compliance with historic preservation laws lies with the Agency, coordinated by the Agency Historic Preservation Officer.

Each State Agency that owns "listed" property is required under Wis. Stats. 44.41 to develop a long-range plan for the management, preservation, and improvement of that property. This plan is intended, to the greatest extent possible, to result in the preservation of that property. Before constructing a building, the Agency must consider using any building that is listed. If a State Agency sells or transfers a listed property, it must establish a conservation easement to be held by the WHS allowing for continued preservation of the property.

If a property has characteristics of historical concern (whether listed or not), the A/E may be hired by DFDM to perform a facility condition assessment, Historic Structure Report, and Preservation Plan for the property.

Wisconsin State statute 13.48(1m)(c) requires a biennial review of each historic property under the control of a State Agency to determine: the current and future uses of the property; what is being done to preserve, restore, or maintain the property; the effect of any proposed actions on a historic property; and Agency compliance with the requirements of historic preservation. See Section 4.D.6 for a definition of *historic property*.

3.D.4 ACCESSIBILITY

The State's policy is to promote barrier-free access to persons of all physical abilities in all State facilities. The primary responsibility for providing program accessibility lies with the State Agency. For all new or altered facilities, the primary responsibility for providing physical accessibility, as required by federal and State law, lies with the Division of Facilities Development and Management. The Americans with Disabilities Act (ADA) and the Department of Justice rules that administer it (28 CFR Part 35) require Agencies to:

- 1) Perform a Facility Self-Evaluation of their programs and facilities and have a plan on file for achieving accessibility;
- 2) Remove architectural barriers where such removal is "readily achievable";
- 3) Operate and manage their facilities such that their programs and services are accessible.

3.D.4.a Applicable Codes

The accessibility of State facilities is governed by the Wisconsin Commercial Building Code, American National Standards Institute, the Revised Americans with Disabilities Act Accessibility Standards (ADAAG) and DFDM Accessibility Guidelines, whichever is more stringent.

3.D.4.b Path-of-Travel Improvements

Upgrading the accessibility of an existing building to meet code, especially related to path of travel, can have a significant effect on the planning and cost of a proposed project. Alterations or renovations to existing facilities shall take into consideration all requirements for compliance with applicable codes and standards for accessibility.

3.D.5 SUSTAINABLE FACILITIES AND ENERGY CONSERVATION

During the development stage of a project, DFDM stresses the importance of sustainable design to improve the overall quality and performance of State facilities and to minimize the total cost of occupancy. All State projects are to incorporate 'Sustainable Facilities Standards' as adopted by the SBC.

The 'Sustainable Facilities Standards' provide minimum standards for incorporating environmental responsibilities and sustainable concepts and practices. The Program Statement should:

- Indicate the Agency's sustainable goals and their focus/vision statement on sustainability.
- Incorporate a completed 'Sustainable Facilities Standards' Checklist.
- Describe in writing why or how items are applicable or non-applicable to the project.
- Indicate if an Agency wishes to pursue additional energy or sustainable certifications, budgeted appropriately.

In the development of every State facility, energy conservation is a fundamental goal and should be considered at the earliest possible stage. In order to optimize energy efficiency, the program must consider the effect of human activities and the building functional requirements, siting and orientation on the demand for energy. These decisions are normally finalized during the Design Phase; the Program Statement, however, must promote these goals and allow for the flexibility necessary to achieve them. Refer to the Master Specifications and Guidelines (for additional information related to reducing energy usage), DFDM Energy Design Guidelines, and DFDM Daylighting Standards for requirements to reduce energy consumption.

3.D.6 COMMISSIONING-OWNER'S PROJECT REQUIREMENTS

A subset of sustainable facilities is Commissioning; it ensures the facilities operate as designed and support the occupants' needs that are identified. Summarize the performance and functional requirements of the building with a description of the project goals and the criteria required to ensure that the facility can support the Agency's operations. These Owner's Project Requirements will be used to develop the basis of design/design concepts for the project and provide guidance to the project Commissioning efforts (See Section Two - Commissioning).

3.D.7 HAZARDOUS SUBSTANCES

The programming shall include an overview of possible hazardous material including asbestos, lead, and polychlorinated biphenyls (PCB) that may be within the identified project area. A budgetary cost should be estimated for their removal. The State of Wisconsin will be responsible for testing and for determining any abatement procedures. As the project advances through approvals, DFDM will decide if this work will be budgeted within the programming project or completed as a separate project.

3.D.8 INFORMATION TECHNOLOGY

State Agencies are required by Wisconsin Statute 22.03(2)(L) to submit Information Technology (IT) Plans to the Department of Administration. It is the Agency's responsibility to coordinate the telecommunications requirements for a specific proposed project with its overall IT Plan and budget.

Information technology includes telecommunications and computer (voice/data) systems; it does not include energy management ("DDC"), security, or fire alarm systems that are to be included in building infrastructure portion of the programming. The Agency is to confirm if the Program Statement for any proposed capital budget project includes information technology not included in the Agency's Information Technology Plan and their reason why their Informational Technology programming varies from their Information Technology Plan must be documented within the programming. The Agency is responsible for re-submitting its IT plan to DOA.

3.D.9 DAYCARE

Under Wis. Stats. 13.48(2)(j), the need for daycare is to be considered in the planning of State office buildings. The Program Statement is to reflect the needs of the employee-occupants of a proposed building as well as State employees in the surrounding area. Other demands for daycare, such as students or the general public, are to be considered separately.

3.D.10 FIXED EQUIPMENT

Fixed (built-in/ "architectural") equipment is that which is specified by the A/E, usually under specification divisions 10 through 13, and provided under the construction contract(s). In some cases, with appropriate justification, it may be purchased by the Agency for installation by a contractor. The Project Manager must approve Agency purchase of fixed equipment.

Fixed equipment may involve permanent electrical or mechanical connections. It includes casework and built-in equipment for food service, laboratories, gymnasiums, libraries, theaters, prisons, hospitals, vehicle maintenance, parking, waste handling, and other special-function spaces.

The A/E is to select and specify reduced energy consuming equipment to maximize energy efficiency while balancing the life-cycle cost effectiveness and technical feasibility. This applies to all divisions of mechanical, electrical, plumbing, and architectural, especially food service equipment. This includes energy efficient and sustainable selections of equipment that will be purchased by the Agency.

3.D.11 MOVABLE EQUIPMENT

Movable equipment consists of equipment and furnishings such as tables, chairs, desks, wastebaskets, etc. and may be purchased directly by the Agency or institution. It may be considered a capital expenditure and may or may not be included in the total project budget, separate from construction. The Project Manager will be responsible for coordinating with the Agency, State purchasing, and Badger State Industries so the A/E's design reflects the proper installation of the movable equipment.

NOTE: The following types of equipment: Special, Communications, and Systems Furniture may be purchased by the Agency **or** may be provided under separate prime contract(s) or purchase order when they are a significant or primary component of the project. Equipment which is furnished by the Agency (Owner) may be Owner-Installed (OFOI) or it may be Contractor-Installed (OFCI).

It is the Agency's responsibility to:

- a) Identify *all* equipment – Fixed, Movable, Special, Communications – on the Room Data Sheets in the Program Statement (See Section 3.C) and indicate whether: 1) it is new or existing; 2) mechanical or electrical connections are required; and, 3) installation by contractor is required.
- b) Indicate equipment selections that are based upon sustainable decisions and support future maintenance and operations equal to LEED EB as required by Executive Order 63.
- c) Review and update its proposed list of movable and special equipment during the Preliminary Design Phase so that the equipment budgets shown in the Design Report are accurate.
- d) Update the DFDM Project Manager and A/E with any changes during Bidding Phase.
- e) Complete a list of intended equipment purchases with estimated costs prior to purchasing.
- f) Coordinate with the Construction Representative the purchase and delivery of the equipment for the installation during construction.

3.D.11.a Special Equipment

This is equipment – fixed or movable – which is uniquely specialized for a particular program or functional need. The Agency is to identify specific environmental, operational or mechanical, electrical or plumbing requirements that are required to support the equipment. Examples of special equipment are:

- For laboratories: autoclaves, centrifuges, electron microscopes, animal cages, etc;
- For athletic facilities: hurdles, wrestling mats, batting cages, etc.

3.D.11.b Telecommunications Equipment

Private Branch Exchanges (PBXs) and key systems are included as capital budget telecommunications equipment. Fax machines, telephone sets, ISDN sets, VOIP sets/systems, and video conferencing

equipment are not considered Capital Budget expenditures (except in unusual circumstances with specific DFDM approval).

3.D.11.c Network Electronic Equipment

These are computers consisting of networking hardware and software needed to create a first-time network node. **Note:** Network electronics that support the intra-building LAN [local-area network], e.g. hubs, switches, routers, servers, hardware and software, personal computers, etc., are *not* considered Capital Budget expenditures. The Agency will fund this equipment under its operating budget (except in unusual circumstances, with specific DFDM approval).

3.D.11.d Special Electronic Equipment

This includes radio and television systems, two-way/one-way radio systems, satellite systems, towers, antennas, and other support infrastructure.

3.D.10.e Audio/Visual Equipment

A/V equipment generally consists of video/data projection systems, video/audio playback, speech reinforcement, hearing assistance systems, video conferencing/distance learning systems, and controls. When A/V equipment is a minor, incidental part of the project it is usually purchased by the Agency with general communications equipment, as above. When A/V equipment is a major component of a project it will be provided under a construction project.

NOTE re: infrastructure and wiring:

- Manholes, conduit, boxes, and cabling will be specified by the A/E under Divisions 26-28 and installed by electrical contractor.
- Cabling/ network connectivity (formerly under “structured cabling”) includes intra- and inter-building LAN connectivity (copper, fiber, microwave, laser, infra-red, radio, satellite, etc.). This will usually be included under electrical work but, in some cases, may be bid and installed as a separate prime contract.

3.D.11.f Systems Furniture

Systems furniture will generally be provided to the State by the prison industries referred to as Badger State Industries (BSI). Wisconsin statute sec. 16.72 (2)(d) requires that State Agencies, to the extent possible, purchase equipment from BSI when such equipment meets the requirements and specifications of the project. Complete information on their products, equipment and services is available from Badger State Industries (BSI).

Agencies must identify scope of interior design work in the Program Statement so the A/E includes or does not include design/space planning in its scope of services. If system furniture design and planning and specification of the furniture is done by the Agency, the Project Manager then must coordinate with the A/E so that responsibility for final electrical and voice/data connections can be clearly defined.



END OF SECTION THREE



SECTION FOUR • PRELIMINARY DESIGN PHASE

4.A Project Kick-Off Meeting

4.A.1 GENERAL

The Division of Facilities Development and Management (DFDM) Project Manager arranges the Kick-Off Meeting after the A/E is selected, but before the A/E contract is finalized. The Kick-Off Meeting will normally include the A/E and its subconsultants as well as representatives of the Agency. Members of the DFDM project team disciplines might also attend.

Kick-Off meetings are held for most substantial projects, except when the scopes of the project and A/E services are routine or limited, as determined by the Project Manager.

4.A.2 PURPOSE

The purpose of the Design Kick-Off Meeting is four-fold:

- To allow the participants in the project to meet each other;
- To discuss DFDM mission, policies and procedures;
- To review and clarify the Program Statement, providing the A/E team with a clear understanding of basic project goals and constraints. If practical, the meeting will be held at or near the project site in order to observe existing site conditions. This gives the A/E a clear understanding of the anticipated scope of professional services in order to develop a proposal for services and contract negotiations with DFDM.
- Review the Commissioning level service requirements for the A/E involvement or a Commissioning agent's involvement.

4.A.3 AGENDA

The following topics will usually be addressed.

4.A.3.a Administrative

- 1) Roles, responsibilities and authority of participants
- 2) Communications
 - a) A/E responsible for taking and distributing notes for all meetings they attend (including this one)
 - b) Routing of correspondence / e-mail
- 3) DFDM Policy & Procedure Manual for Architects/Engineers and Consultants
 - a) Access via the DFDM website
- 4) Scope and Project Goal Review
 - a) Prior to meeting, A/E is to Review Program and Existing Conditions (See Section 4.B)
- 5) DFDM Design Standards
 - a) DFDM standards and guideline, master specifications and drawing details as detailed on DFDM's current website posting and A/E consultation with in-house staff specialists.

4.A.3.b Professional and/or Consultant Services

Reminders:

- 1) A/E must read contract
- 2) A/E responsible for evaluating program vs. budget
- 3) A/E responsible for knowledge of existing site conditions
- 4) Peer Review process (See Section 4.I)
- 5) DFDM preliminary review process (See Section 4.L) & DFDM final review process (See Section 5.E) for the importance of response to review comments
- 6) Importance of cost estimates / No surprises
- 7) Bidding documents are expected to be comprehensive and well-coordinated to provide full details, especially exterior building envelope
- 8) Construction Administration/ Construction Observation Site Visits
- 9) Use of DFDM CAD standards (and BIM standards when applicable)
- 10) A/E Performance Evaluation (See Section 1.D.4)

- 11) Post Project Evaluation (See Section 8.C)
- 12) Additional services require prior written DFDM approval
- 13) Contract is with DFDM—not the Agency
- 14) Commission of structure, infrastructure and equipment by A/E or Commissioning Consultant
- 15) Record Documents (See Section 7.F.3) & Project Closeout procedures

4.A.3.c Program

- 1) Program Release Memo/State Building Commission (SBC) modifications
- 2) Budget
- 3) Schedule/Critical dates/Phased occupancy/Occupancy during construction
- 4) Key issues or concerns
- 5) A/E questions
- 6) Agency concerns
- 7) Commissioning or other Consultant concerns

4.A.3.d Issues that may not be fully addressed by Program Statement

- 1) Zoning
- 2) Environmental
- 3) Historic Preservation
- 4) Code or Regulation Compliance
- 5) Hazardous materials: Asbestos/Lead-containing paint, PCB, Freon, Mercury, Hazardous Chemicals, including storage tanks and soil remediation
- 6) Interruption of Utilities, Required Utilities
- 7) Community/Neighborhood concerns
- 8) Sustainable Facilities and Energy conservation, Integrated design approach, and other DFDM guidelines.

4.A.3.e Information Needed

- 1) Existing record drawings
- 2) Site Survey—Topographical/Boundary
- 3) Soils investigation
- 4) Testing/verification of existing air flows, system operation or utility capacities

4.A.3.f Work "By State" or "By Others"

- 1) Commissioning by independent consultant
- 2) Other independent consultant services
- 3) Asbestos, lead paint and PCB testing or abatement/removal
- 4) Building Automation System for facilities or institutions where a system already exists
- 5) Telecommunications equipment purchase (**Note:** Cabling infrastructure part of Electrical Contract)
- 6) Equipment purchase including system furniture design by Agency or by A/E
- 7) Coordination with other, concurrent work, or future projects

4.A.3.g Miscellaneous

- 1) Agency contact person for access to site
- 2) Site tours (A/E, A/E's subconsultants, independent consultants)
- 3) Proposal due date
- 4) Next meeting date

4.A.3.h Follow-up Responsibilities

- 1) A/E: Submit proposal for services, fee, design schedule, with names of design team and A/E Project Manager
- 2) Agency: Provide additional program details as requested
- 3) DFDM: Respond to questions re: policy/procedure/scope of services; provide existing record drawings and other available information requested by A/E

4.B Review of Program and Existing Conditions

4.B.1 PROGRAM REVIEW

The Division of Facilities Development and Management (DFDM) will provide the A/E with a Program Statement or project scope that contains the programming prior to A/E Kick-off Meeting. It is the A/E's responsibility to verify prior to beginning design, whether he/she has sufficient information and understanding of design goals and criteria to create a design that is functional, appropriate, economical, and responsive to the needs of the Agency and DFDM. DFDM expects the A/E to:

- Review the available Program and site information;
- Challenge assumptions;
- Inform the DFDM Project Manager of any inadequacies or inconsistencies that would affect the A/E's ability to complete design work and fully accomplish the work for which the A/E has been hired.

The DFDM Project Manager will typically conduct a Kick-Off Meeting, one of the main reasons for which is to discuss and provide a clear understanding of Program requirements. It is the A/E's responsibility for verification on Program issues and design goals. DFDM recommends that the A/E always verify that it has:

- The most current version of the Program Statement, as indicated by cover date and signature. For some projects there is a Part I and Part II Program Statement.
- A copy of the Program Release Memo issued by DFDM that represents DFDM's approval of the Agency-submitted Program Statement. The Program Release Memo will identify any revisions or Addenda issued by DFDM or the Agency and any modifications or conditions imposed by the SBC.

The Program Statement is the foundation upon which a good integrated design is built. DFDM expects the A/E to exercise his/her professional judgment to critically review the completeness and clarity of the Program Statement. The DFDM Project Manager can provide the Program Statement – Owner's Projects Requirements checklist to gauge the completeness of the Program.

4.B.2 BUDGET REVIEW

When the A/E enters into a contract with DFDM, it is agreeing to create a design that can be constructed within the available budget. Before beginning design work, it is the A/E's responsibility under the contract to:

- Review and become familiar with the Program and existing site conditions;
- To compare the Program with the budget and render an opinion on the adequacy of the budget.

DFDM expects the A/E to notify the Project Manager immediately, at this time or at any subsequent time, if the proposed scope of work appears to exceed the budget. Since the budget is fixed, only the scope of work may vary. The Project Manager will direct the A/E on how to proceed if the budget appears to be inadequate, and must approve any proposed change(s) in scope of work or alternate bid(s). It is to everyone's advantage to identify as early as possible any mismatch between Program and budget. The A/E shall document the decisions of a scope change or reasoning behind alternate bid(s). The Project Manager will be responsible for obtaining the consent of the Agency.

Because of the time involved in the funding and approval process, changes may sometimes occur between the time of the writing of the Program Statement and the start of design. It is the Agency's responsibility to update the Program to reflect revisions due to inflation or changes in policy, staffing, decision-makers and to submit those changes with budget implications to DFDM for review and approval.

4.B.3 A/E REVIEW OF EXISTING CONDITIONS

To fully understand the Program and the scope of services required for the proposed design work, DFDM expects the A/E to inspect and be familiar with the project site. The term "project site" may refer to undeveloped land, an existing structure, or a combination of both.

DFDM will provide the A/E with all known available information about the site. It remains the A/E's responsibility to evaluate this information, to determine its usefulness and to notify the DFDM Project Manager if additional information is needed for purposes of design.

4.B.3.a Existing Record Drawings

Each State institution is responsible for maintaining its own facilities records. Record, or "As-built", drawings are generally available for the A/E's use. For some State institutions, aerial photographs are available. The Agency and Project Manager will assist the A/E in obtaining these records.

Neither DFDM nor the State institutions make any warranty as to the accuracy of drawings or information that is provided. The A/E is responsible for field-verifying the accuracy of the record drawings and any existing conditions which are observable.

4.B.3.b Testing and Surveys

The A/E is responsible for notifying the Project Manager if it believes any of the following are necessary:

- 1) Utility Location—The A/E bears responsibility under State statutes to "learn the location of transmission lines in and near the area where excavation will take place". At State facilities where there is insufficient information regarding the presence of and/or locations of underground utilities, it may be necessary for the A/E to contact the "one-call" system (Diggers Hotline) or a private locator service to determine locations of buried utilities. This is considered a reimbursable expense when approved in advance by the Project Manager.
- 2) Site survey (See Section 4.E)
- 3) Geotechnical investigation (See Section 4.F)
- 4) Testing of existing equipment for air flows, performance, etc.—The A/E must submit a written request describing the information needed; the Project Manager will make arrangements to procure the testing services needed.
- 5) Testing for hazardous materials—DFDM or the Agency will collect samples and obtain testing services from the State Lab of Hygiene. See DFDM's Guidelines for Asbestos Affected by Building Renovation and Demolition and Guidelines for Lead Bearing Surfaces in State Buildings.
- 6) Subsurface investigation/destructive testing—Limited demolition of existing finishes for behind-the-wall or above-the-ceiling exploration, where practical.

4.B.3.c Assessment of Existing Facilities

DFDM expects the A/E to inform the Project Manager if an existing facility does not appear to be suitable for its intended use or re-use. DFDM's priorities for maintenance and capital investment in its buildings are as follows: building structure, building envelope (roof, walls, doors and windows) and mechanical/electrical systems, in that order. In addition to these, compliance with building code, including accessibility requirements, must be achievable. DFDM expects the A/E to observe existing conditions with an awareness of these priorities and the budget and to inform the Project Manager of conditions incompatible with program or budget.

The A/E is to compare estimated utility loads with the available existing capacities and immediately bring any deficiencies to the DFDM Project Manager's attention. If there is an apparent deficiency, the Project Manager will direct the A/E on how to proceed.

4.C Design Guidelines

The purpose of the Division of Facilities Development and Management (DFDM) Design Guidelines is to assure that minimum design and construction standards are followed which will promote longevity, minimize maintenance, and protect the State's investment in its physical plant. It remains the A/E's responsibility to adapt these standards to the specific requirements of each individual project, to determine all loads, capacities and sizes, and to determine and satisfy all code and regulatory requirements.

DFDM expects the A/E to be thoroughly familiar with these guidelines. DFDM Design Guidelines are not recommendations or preferences--they are requirements that DFDM expects the A/E to incorporate into

the design of every project. In some cases, these standards exceed code requirements. If, in the A/E's opinion, compliance with any of these standards or guidelines appears to be impossible, impractical or to have an adverse effect on the project, the A/E is to notify the Project Manager. Any questions or requests for interpretation or applicability of these standards are to be addressed directly to the Project Manager or to the DFDM Staff Reviewer. DFDM encourages such communications early within the design process.

The following guidelines represent DFDM's minimum expectations for the design of State facilities. DFDM encourages the A/E to find creative ways to exceed these standards and guidelines.

1. Guideline for Developing Program Statements
2. Accessibility Guidelines
3. Energy Design Guideline
4. Sustainability Facilities Standards
5. Daylighting Standards for State Facilities
6. Lighting Design Guidelines
7. Guideline for Lead Bearing Surfaces in State Buildings
8. Guideline for Asbestos Affected by Building Renovation and Demolition
9. Minimum Requirements and Guidelines for the Exterior Building Envelope;
10. Minimum Requirements and Guidelines for Fenestration in the Exterior Building Envelope
11. Minimum Design Standards for Roofing Systems;
12. Building Envelope-Masonry
13. Guideline for Exterior Stair Handrail or Retaining Wall Guardrail Post Anchorage
14. Fixed Equipment Design Standards
15. Fire Protection Guidelines
16. Plumbing and Fire Protection Design Guidelines
17. Heating, Ventilation and Air Conditioning Design Guidelines
18. Electrical Design Guidelines
19. Arc Flash Study Requirements
20. Telecom Guidelines
21. Fire Alarm System Design Guidelines
22. Civil and Sitework Guidelines
23. Deaerator Heater & Storage Tank Inspection Policy
24. CAD Standards Manual
25. DFDM BIM Guidelines & Standards
26. Construction Waste Management Guideline (CWM)
27. Life-Cycle Costing on State Projects

DFDM Design Guidelines apply to every project and, in some cases, exceed the minimum requirements of code.

New guidelines will be added as they are developed. Current Sustainable Facilities Standards provides the design policy relating to energy conservation and sustainable design and the 'Master Specifications, Design Guidelines and Details' include specific DFDM construction requirements. **Note:** Design Guidelines are distinct from DFDM specifications but for organization purposes, they are linked to the respective construction specification section. Consult with DFDM Project Manager on questions regarding the specifications, guidelines or design directives.

Building Information Modeling: The Division of Facilities Development and Management established criteria for implementing the use of Building Information Modeling (BIM) on larger projects. Project size, complexity and value determine which projects will require BIM design services. DFDM expectations and implementation of design services are within the 'Building Information Modeling (BIM) Guidelines and Standards for Architects and Engineers'. These guidelines cover the A/E services in a design-bid-construction project delivery format from initial planning concepts up to bidding documents, then project close out.

This BIM Guideline and Standard applies to A/E selections advertised on or after July 1, 2009 for the following projects:

- Required on all construction (new and addition/alteration) with total project funding of \$5M or greater;
- Required on all new construction with total project funding of \$2.5M or greater;
- Required on all addition/alteration construction with total project funding of \$2.5M or greater that includes new addition costs of 50% or more of total;
- Encouraged but not required on all other projects.

4.D Codes and Regulations

4.D.1 GENERAL

All State facilities must be constructed in compliance with all applicable State and federal laws, rules, codes, and regulations. State facilities are exempted from local codes and regulations, including county and municipal codes, with 2 exceptions:

- County and municipal land-use zoning regulations apply to State facilities.
- County or municipal officials are the State's enforcement agents: example – county land and water agents enforce the Department of Agriculture, Trade and Consumer Protection animal waste regulations.

The codes and regulations described in the following paragraphs are commonly encountered on many Division of Facilities Development and Management (DFDM) projects. This listing is not necessarily all-inclusive or up-to-date. The A/E is responsible under its contract with DFDM for determining which codes and regulations apply to the project, for designing all work in compliance with those applicable codes and regulations, and for submittal of plans and project manual to governing authorities according to those requirements. The Department of Natural Resources Interactive Web Mapping Applications can assist in identifying environmental concerns as related to the proximity of the project sites.

4.D.2 ZONING

State facilities must comply with local land-use zoning regulations (See Section 3.D.2). The A/E is responsible for confirming the status of zoning compliance and so stating in the Design Report.

4.D.3. THE WISCONSIN COMMERCIAL BUILDING CODE

All Agencies and the facilities that are owned and operated by the State of Wisconsin are subject to following the currently adopted Wisconsin Commercial Building Code. More information about the codes can be found at Department of Safety and Professional Services webpage.

4.D.3.a. Plan Review

The Department of Safety and Professional Services, Division of Industry Services is responsible for the administration of the Wisconsin Commercial Building Code. Administration and applicability of the code is detailed under Chapter SPS 61. All commercial buildings must comply with all applicable administrative codes, whether or not plan review is specifically required. The code requires submission of building, HVAC and some fire protection plans. Authority for approval is as follows:

- 1) For all commercial buildings, except nursing homes and hospitals, the Department of Safety and Professional Services, Division of Industry Services is responsible for reviewing plans.
- 2) For nursing homes and hospitals, the Department of Health Services, Division of Quality Assurance, Office of Plan Review and Inspections is responsible for plan review.

4.D.3.b Submittal Procedures

Chapter SPS 61 describes procedures for submittal and plan examination. Division of Industry Services Internet Plan Review Scheduling is via the internet. Submittal for plan review and erosion control is the A/E's responsibility and needs to be completed during the DFDM 100% review period in order for the comments to be included in the bid documents.

4.D.3.c Variances

When determined to be appropriate for the project, the Project Manager may authorize the A/E to submit a petition for variance as an additional service. The A/E will prepare the variance application with

supporting materials and submit on behalf of the agency. If the variance depends on the future operation of the building, the Agency will provide a statement of justification, as required.

4.D.4 DEPARTMENT OF HEALTH SERVICES (DHS)

The DHS, under its statutory authority to protect public health, safety and welfare, has promulgated administrative codes related to conditions and activities in some types of buildings. These requirements are in addition to and separate from the Wisconsin Commercial Building Code and fall into four areas.

4.D.4.a Health Care Facilities

The DHS has the responsibility for reviewing plans for hospitals, nursing homes, ambulatory surgical centers, community-based residential facilities, residential care apartment complexes, and hospices for compliance with the Wisconsin Commercial Building Code. Portions of the DHS regulated facilities may also require the Department of Safety and Professional Services review of the plans for the building administrative codes related to the building (IBC) mechanical, energy conservation, electrical, elevator, boiler and plumbing codes.

The DHS is responsible for the following administrative codes that are involved in plan review and construction activities.

- DHS 83 Community-Based Residential Care Facilities (CBRF)
- DHS 88 Licensed Adult Family Homes (AFH)
- DHS 89 Residential Care Apartment Complexes (RCAC)
- DHS 124 Hospitals
- DHS 131 Hospices
- DHS 132 Nursing Homes
- DHS 134 Facilities Serving People with Development Disabilities (FDD)
- DHS 152.08 Renal Dialysis Facilities

4.D.4.c X-Ray Protection

Wisconsin X-ray Device/Facility Statute s. 254.35 and Administrative Code ch. DHS 157 regulate the physical conditions under which any x-ray equipment is used. The DHS Radiation Protection Section, also under the Environmental and Occupational Health Bureau located at Rm. 131, 1 West Wilson Street, Madison, 53703, administers these regulations. The A/E must submit plans for review as prescribed in Chapter DHS 157, Wis. Adm. Code.

4.D.5 DEPARTMENT OF AGRICULTURE, TRADE, AND CONSUMER PROTECTION (DATCP)

4.D.5.a Food Service Facilities

Wisconsin Administrative Code contains requirements related to finish materials. DATCP, Division of Food and Recreational Safety administers these regulations.

4.D.5.b Campground

Wisconsin Administrative Code Chapter ATCP 79 regulates the maintenance and operation of campgrounds in order to protect the health and safety of the public. The A/E must submit plans for review of new, expansion, or improvements in campgrounds as prescribed in Chapter ATCP 79.

4.D.6 ENVIRONMENTAL CONCERNS

The Department of Natural Resources Interactive Web Mapping Applications can assist in identifying environmental concerns as related to the proximity of the project sites. Early in the design, check your site using the DNR Interactive Web Mapping Applications to determine if the project site includes or is in close proximity to wetlands, navigable streams, endangered/threatened species, and other environmental concerns.

4.D.6.a Storm Water Management and Erosion Control

Construction sites for public buildings and places of employment were regulated by the Department of Safety and Professional Services. However, the 2009 Wisconsin Budget Act transferred the Commercial Building Construction Site Soil Erosion Program to the Department of Natural Resources; Effective January 1, 2010, all construction sites are covered by the DNR except for highway right of ways.

Wisconsin Administrative codes NR 216, NR 151 and SPS 60 establish standards regulating soil erosion and protecting the quality of Wisconsin's ground and surface water. SPS 60 directly references the standards established in NR 216 and NR 151. The DSPS website for the Division of Industry Services Soil Erosion Program and DNR Construction Site Erosion Control and Storm Water Management can provide detailed information. Contact the appropriate DNR regional storm water staff early in design to determine if the project will come in contact with wetlands, historical/archaeological sites, and/ or endangered/threatened species.

Construction Site Erosion Control: DFDM has adopted sustainable design practices and expects every project with land disturbance to have a construction site erosion control plan. Construction sites disturbing one or more acres must file Resources Application for Project Permits (WRAPP) with DNR as noted below. General erosion control measures in accordance with accepted Technical Standards should be shown on the plans, described in the specifications and address project location, existing and proposed grades, and soil types. The project manual and drawing notes should also make it clear that the lead contractor is responsible for supplementing the erosion control plan to account for phases of work and means and methods of construction.

Construction disturbing one or more acres of land must be covered by a WPDES Construction Site Storm Water Runoff General Permit. The Department of Natural Resources (DNR) has enacted general permits for Construction Site Erosion Control and Storm Water Management. Most DFDM projects will be conferred coverage under this general permit through the NOI submitted to DNR or the Department of Safety and Professional Services. Both DNR and SPS regulations recognize and refer to this permit. However, some construction projects will require a permit specific to that project site. DFDM expects the A/E to identify the need for a project specific permit to discharge construction site storm water and to notify the Project Manager of any changes to schedule or to the nature of the work due to this permit prior to Final Design.

Post-Construction Storm Water Management: Sustainable design practices also apply to permanent storm water management measures. Permanent storm water management measures must be incorporated into final site and plumbing design in accordance with SPS 60 and NR 151, as well as the institution's WPDES permit to discharge stormwater, on all construction sites disturbing one or more acres. DFDM expects the A/E's site design, including site plumbing for storm water, for every project, will meet the requirements of these regulations and permits. The design should incorporate maintainable permanent storm water management measures specifically designed to stabilize the site and control erosion, sediment and runoff.

Storm Water Discharge Rate and Volume (Quantity): The storm water features that manage storm water quality typically provide some storm water discharge quantity control. DFDM expects A/E's to design storm water handling systems such that quality control measures will not be damaged by large storms. This may require designing by-pass features or energy attenuation devices at pipe discharges. The A/E's design will also account for the capacity and stability of the downstream storm water system and control discharge to minimize or eliminate downstream flooding or damage. Discuss any needs to protect property outside the project scope with the Project Manager.

Water Resources Application for Project Permits (WRAPP): Every project with land disturbance must have a construction site erosion control plan and as applicable post-construction storm water management features. Construction sites disturbing one or more acres must file for a permit.

The Water Resources Application for Project Permits (WRAPP) was formally known as DNR NOI. It is a two-part permit process for Construction Erosion and Sediment Control and Post-Construction Storm Water Management. DNR permit coverage is often needed during early site preparation for construction of a building.

The A/E is responsible for verifying that the construction site erosion control plan and the post-construction storm water management plan are complete and then filing the appropriate permits for the project. The Project Manager will sign as the Owner.

Submittal of the permits is considered a basic service, while the DNR fee is a reimbursable expense under section 4.C of the “*A/E Contract for Professional Services*”. The Department of Safety and Professional Services Division of Industry Services generally waives its fee for State projects.

4.D.6.b Air Pollution Control

Wisconsin Administrative Code Chapter NR 406 prescribes permits that are required for the construction, reconstruction, replacement or modification of any stationary source of air pollution, as governed by s.285.60, Wis. Stats. If a permit is required, it must be obtained prior to starting construction. The most common air contaminant sources in State facilities that require an air pollution construction permit are boilers and emergency generators. Permit requirements and exemptions are stated in the chapter NR 406.

The A/E is responsible for determining whether or not a permit is required by code and, if required, for preparing the permit application and transmitting the completed application to the DFDM Project Manager for submittal to DNR. Application forms and additional information may be obtained from: Wisconsin Department of Natural Resources, Environmental Management Division, Air Management Program.

4.D.6.c Water and Sewer Systems

Potable water systems include:

- water supplies such as wells or surface water intakes;
- storage such as reservoirs or towers;
- distribution system mains connected to building service lines and other appurtenances like water fountains.

DNR publishes a flowchart to help determine which regulations apply to a property or a potable water system.

Potable Water Distribution Systems: The DNR reviews plans for all water main extensions and major modifications serving community water systems that are to be installed in street right-of-way or in dedicated public easements. A/E should verify that the water distribution lines at a non-secure site do belong to the institution. The Department of Safety and Professional Services (DSPS) reviews all private water mains including those owned by State Agencies.

Potable Water Supply (Source): DNR regulates all wells and surface water intakes and the associated treatment and pumping equipment. The A/E should verify the number of residents housed at or visiting the facility if this information is not stated in the project request. Potable water wells have regulated separation distances from potential sources of groundwater contamination including fuel tanks, wastewater treatment works, septic systems, cemeteries and landfills. If a project includes or identifies any of these sources of contamination at a State property served by potable water wells, contact the Project Manager.

Sanitary sewer systems include:

- collection system mains connected to building service lines carrying wash water, process water;
- waste water and pumping stations with forcemains delivering sewage to a higher elevation;
- waste water treatment plants and systems.

Collection System: The Department of Safety and Professional Services has administrative rules for building plumbing and non-municipal sewer lines. Plans for new construction or modification of a municipal sewerage system must be submitted to the DNR for review and approval prior to construction. A/E should verify that the sanitary sewer collection lines at a non-secure site do belong to the institution.

Private Onsite Wastewater Treatment Systems (POWTS): A POWTS is a system that receives domestic wastewater and either retains it in a holding tank, or treats it and discharges into the soil beneath the ground surface. POWTS include: Septic Systems, Mound Systems, Aerobic Treatment Units, Holding Tanks, Vaults, Pit Toilets and other systems for wastewater treatment or retention. The Department of

Safety and Professional Services has administrative rules for Private Onsite Wastewater Treatment Systems and will review the design.

POWTS on state-owned properties are subject to approval by DSPS regardless of size or type. Designers must submit the POWTS Application for Review to DSPS with plans, calculations and equipment information, and obtain approval from DSPS. Permits are to be obtained by the plumbing contractor from DSPS-Green Bay using the Sanitary Permit Application. Pit toilets and vault toilets on state-owned property use the Application for Registration of Privies Serving State-Owned Facilities. POWTS with flows of 12,000 gpd or greater are subject to joint DSPS/DNR plan review (for state-owned properties) Any system with a final discharge exposing treated wastewater upon the ground surface, or discharging directly into surface waters of the State, is subject to DNR regulation.

4.D.7 WISCONSIN HISTORICAL SOCIETY (WHS) - HISTORIC PRESERVATION

The WHS is responsible for coordinating the activities of all State Agencies in connection with historic properties. See Section 3.D.3 for the State's policy on management and preservation of historic properties.

4.D.7.a WHS Review of Agency Actions

Each Agency must, as required under Wis. Stats. 44.40, consider whether any action that it proposes to take will affect any historic property. The procedure for WHS review and negotiation is summarized as follows:

- 1) If an action, which a State Agency proposes, will affect any historic property, it must notify the State Historic Preservation Officer, at the Wisconsin Historical Society, Division of Historic Preservation, 816 State Street, Madison 53706, telephone 608-264-6500.
- 2) Within thirty days WHS will determine whether the proposed action will have an adverse effect on the property or it will notify the Agency that an additional thirty days is necessary to make the determination.
- 3) If WHS determines that there will be an adverse effect, the Agency will negotiate with WHS to mitigate the adverse effects. Agreements reached through negotiation shall be binding on the Agency.
- 4) WHS will report to the Governor and to each house of the legislature on the results of all negotiations.

A historic property is a district, site, building, or structure that is listed, nominated, or eligible to be listed on the State or National Register of Historic Places, on a locally-designated list of historic places, or is listed on the Wisconsin Inventory of Historic Places, maintained by the WHS. Any building over 50 years old may qualify as a historic property.

The Design Report for all projects involving older buildings must indicate the status of the Agency's compliance with the review process described above, if applicable. The Project Manager will ensure that any required negotiations are concluded before presenting the Design Report to the SBC and before proceeding into the Final Design Phase. *The Design Report for a project will not be presented to the State Building Commission until all required negotiations with the WHS are concluded.*

4.D.7.b Federal Review of Agency Actions

If a proposed project affects a property listed on the National Register of Historic Places and is supported by federal funding, or requires a federal permit or license, then it is subject to review by the Advisory Council on Historic Preservation under Section 106 of the National Historic Preservation Act of 1966. The Agency is responsible for obtaining federal approval in cooperation with the WHS State Historic Preservation Officer.

4.D.7.c Cleaning of Historic Buildings

Wisconsin Statute s.101.1215 prohibits the use of abrasive cleaning methods on the exterior of qualified historic buildings, except as authorized by the Wisconsin Department of Safety and Professional Services. Administrative Rules regarding this have not yet been developed. Note: DFDM prohibits the use of harsh chemicals for the cleaning of exterior building walls.

4.D.7.d Burial Sites Preservation Program

Wisconsin State law (s.157, Wis. Stats.) provides protection for all human burial sites and requires that the WHS catalog all historic and prehistoric burial sites in the State. The law prohibits disturbance of any cataloged burial site. If any activity inadvertently exposes a burial site that has not been cataloged, the Agency must notify the WHS before the activity proceeds. WHS may engage a qualified archaeologist to excavate the site beginning within 30 days of when ground conditions permit.

Note: This has the potential to halt construction work. For project sites where this might be anticipated, bidding documents should inform bidders of the possibility.

4.D.8 FEDERAL REGULATIONS

All State facilities shall comply with applicable federal laws and regulations. Projects funded in whole or in part with federal grant funds shall comply with the requirements of the federal agency responsible for administering such grants. Verify with the Project Manager if there is any direct federal funding in the project. The A/E is responsible for including the Federal Wage Rates and the application for obtaining the rates.

4.E Topographic and Boundary Surveys

4.E.1 GENERAL

The Architect/Engineer will discuss the availability of existing topographic and boundary survey data with the Project Manager. If the project is not adjacent to the property boundary, a boundary survey is typically not necessary. If the project will change the ground surface profile (excavate or fill), a topographic survey showing all private, municipal, and state-owned utilities horizontal and vertical locations, as well as any at-ground or above ground features and any easements that will be required.

Most existing site information, including state-owned utility information, is kept at the Agency's central facilities management office or at the facility itself. The existing site and utility information must be verified in the field through a topographic survey if site work or utility work is included in the project. A private utility locating service may be required to mark state-owned utilities prior to completing the topographic survey. The Project Manager may authorize the A/E to engage the services of a qualified land surveyor who will serve as a subconsultant to the A/E. It is the A/E's responsibility to request and coordinate the survey so that it will be available when needed and will contain all necessary information required for design and construction.

4.E.2 REQUEST FOR SURVEY PROPOSAL

If a survey is required, the A/E will consult with the Project Manager regarding: 1) survey requirements/information needed; 2) survey budget and schedule and 3) potential registered land surveyor candidates. The A/E will then, with the consent of the Project Manager, prepare a Request for Proposal for Site Survey, which will include:

- a) A list of needed information, edited from the Division of Facilities Development and Management's (DFDM) Site Survey Requirements
- b) Proposed schedule
- c) Stipulation that survey drawing(s) conform to DFDM CAD Standards
- d) Number of copies of boundary survey required (topographic surveys should be digital)

4.E.3 PROCUREMENT OF SERVICES

The A/E will ensure that the proposal specifies: 1) the scope of services, 2) the time of start and completion, 3) the name of the individual responsible for the work, 4) any exceptions to the RFP and 5) a fixed lump sum fee, with hourly rates for additional services. The A/E will then submit the proposal to the Project Manager. With the Project Manager's approval, the A/E will contract with the surveyor as a subconsultant. DFDM will compensate the A/E for the survey as a reimbursable expense under section 4.C of the "A/E Contract for Professional Services."

4.E.4 USE AND DISTRIBUTION

The A/E is responsible for coordinating and interpreting project information for the surveyor and for distributing final copies of the survey, as needed. Unless specified otherwise, the A/E shall provide the original reproducible drawing, signed and sealed by the surveyor, an electronic file, and one print to DFDM; and one print each to the Agency's central office and to the facility.

4.F Soils Investigation

4.F.1 GENERAL

The procedure for obtaining geotechnical investigation services is essentially the same as for obtaining a Site Survey. The Architect/Engineer requests existing soils information from the Project Manager. If existing information is unavailable or inadequate, the Project Manager may authorize the Architect/Engineer to engage the services of a geotechnical engineer who will serve as a subconsultant.

It is the A/E's responsibility to request and obtain the Soils Investigation so that the report will be available when needed.

4.F.2 REQUEST FOR PROPOSAL

If a soil investigation is required, the A/E will consult with the Project Manager regarding basic requirements, budget, schedule, and potential consultants. When the design has progressed to a point that defines the general configuration and location of the structure and the site survey has been completed, the A/E will, with the consent of the Project Manager, prepare a Request for Proposal for Soils Investigation Services, which will include:

- a) A print of the Site Survey that shows the general configuration and location of the proposed structure, dimensioned to a reference point on the site of proposed borings. This site drawing will identify the known underground utilities and will note constraints/recommendations for opportunities for access by drilling equipment.

Note 1: The Division of Facilities Development and Management (DFDM) recommends a minimum of one boring at each building corner and one at the floor plan center/centric.

Note 2: The RFP shall state that the driller is responsible for determining the final location of all sub-surface utilities at each boring location.

- b) The proposed basement floor elevation, number of stories above basement, type of construction and design loading for the proposed structure.
- c) Proposed schedule.
- d) The stipulation that the soils report is to bear the geotechnical engineer's seal and is to include the following information, as applicable:
 - Drawing showing locations of borings/soundings, dimensioned horizontally and vertically to a reference point on the site;
 - General description of site geology;
 - Description of exploratory techniques used;
 - Complete logs of field and laboratory work correlated to Site Survey datum;
 - Discussion and interpretation of subsurface conditions and findings;
 - Recommendations for types of foundations to be used, allowable soil bearing values, likely problems during construction, foundation capacity and probable settlements and settlement differentials;
 - A summary of soil conditions and foundation recommendations with representative soil boring logs keyed to a site drawing, suitable for use in A/E's bidding documents.
- e) Requirements for text and graphic format, requiring that any drawings conform to DFDM CAD Standards.

4.F.3 PROCUREMENT OF SERVICES

The A/E will ensure that the proposal specifies:

- a) necessary scope of services, including the information identified above;
- b) time of start and completion of investigation;

- c) name of the individual responsible for the work;
- d) any exceptions to the RFP; and
- e) a fee – either fixed, lump sum or a not-to-exceed maximum based on time-and-materials (hourly rates for additional services are to be provided in either case).

The A/E then submits the recommended proposal to the Project Manager for approval. Once the Project Manager approves, the A/E contracts with the geotechnical engineer as a subconsultant. DFDM will compensate the A/E for the cost of the Soils Investigation as a reimbursable expense under Section 4.C of the “*A/E Contract for Professional Services*”.

Note: In some cases, DFDM may contract directly with the geotechnical engineer. In either case the A/E is responsible for preparing the RFP and obtaining the proposal.

4.F.4 USE AND DISTRIBUTION OF REPORT

The A/E is responsible for coordinating and interpreting project information for the geotechnical engineer and for distributing final copies of the report, as needed. Unless specified otherwise, the A/E shall provide the original plus one copy to DFDM, one copy to the Agency central office and one copy to the institution.

It is not necessary, nor does DFDM recommend, including the full soils report in the bid documents. DFDM prefers to include, under Division 2, a summary of soil conditions and foundation recommendations, including all soil boring logs keyed to a site drawing. Work with the Project Manager to determine the best way of providing the report. Depending upon the size and complexity of the report, it may be incorporated into the bidding documents, provided electronically or as a separately published document.

4.G Sustainable Design and Energy Conservation

4.G.1 GENERAL

The Division of Facilities Development and Management (DFDM) is committed to energy conservation and durable buildings. The Sustainable Facilities Standards and Energy Design Guidelines promote the environmental and economic benefits in planning, design, construction and operation of State facilities. It is the intent of this policy to reduce energy consumption in State facilities without adversely affecting Program operations.

Recognizing that the greatest cost of owning State facilities over their lifetime is the cost of energy to heat, cool, light and operate them, DFDM expects the design of every project to:

- a) Achieve the highest energy efficiency and lowest energy consumption that life-cycle costing will justify
- b) Incorporate the most energy-efficient materials, products, equipment and systems consistent with Program and budget
- c) Incorporate renewable energy technologies at the earliest possible stages of design whenever they are technically and economically feasible
- d) Consider the impact on the utility infrastructure of the existing facility
- e) Select environmentally responsible materials and products with reduced maintenance required

4.G.2 INTEGRATED DESIGN PROCESS

DFDM expects the A/E to follow an “integrated design approach” on every project. This means architectural, mechanical and electrical systems are designed as parts of a whole building/energy system. The Architect will consider HVAC and electrical loads in making fundamental decisions about the basic building concept and architectural form: e.g. orientation, massing and treatment of façade, fenestration, interior surfaces and lighting. All architectural decisions are evaluated for how they affect the heating, cooling and electrical lighting loads of the building. This process requires greater involvement of mechanical, civil, plumbing and electrical engineers at the earliest stages of design, Building Energy Modeling during conceptual and working design phases and it requires strong energy conservation advocacy and commitment from the prime A/E. This applies equally to new structures, new additions and remodeling of existing facilities.

4.G.3 BUILDING ENERGY MODELING

Report the modeled energy consumption and code comparison results in the Energy Performance Report portion of the Design Report.

For all new buildings, structures, additions and major remodeling projects, use life cycle cost analysis to evaluate all relevant costs for each building alternative. See “Guidelines for Life-Cycle Costing on State Building Projects” and “Life Cycle Cost Analysis”.

4.G.4 RENEWABLE ENERGY SOURCES

DFDM expects all projects to make maximum practical and economic use of passive solar energy and daylighting. The design of all State facilities will, to the fullest extent possible, incorporate natural lighting to replace the need for electric lighting during daytime hours. Use geothermal technologies for space and water heating systems where technically feasible and cost effective.

Projects with a total budget exceeding \$500,000 are expected to make maximum practical use of active solar heating and renewable electric generation from solar thermal or photovoltaic systems, wind power, geothermal technology, biomass, fuel cells using renewable fuel or tidal or wave action and small hydro, *when technically and economically feasible*. In the Design Report, the A/E shall state what consideration was given to these renewable energy systems.

4.G.5 EQUIPMENT SELECTION

Select and specify energy consuming equipment to maximize energy efficiency. This applies to all divisions of work: mechanical (divisions 21 through 23), electrical (divisions 25 through 28), as well as architectural (divisions 10 through 14), especially food service equipment. It applies to Owner-purchased as well as A/E-specified equipment. Equipment efficiencies shall meet or exceed the following standards when life-cycle cost effective and technically feasible:

- 1) U.S. E.P.A. Energy Star
- 2) U.S. D.O.E. Federal Energy Management Program (FEMP)
- 3) ASHRAE

See Fixed Equipment (Section 3.D.10) and Movable Equipment (Section 3.D.11) for additional discussion of architectural and communications equipment.

4.G.6 PERFORMANCE VERIFICATION

Achieving the energy performance goals for which a facility is designed depends on proper post-construction operation of all building systems. See Section Two Commissioning for further requirements. DFDM considers the A/E to be responsible for:

- a) Verifying that all building systems, which the A/E has designed, are installed and functioning according to design intent.
- b) Specifying appropriate metering, submetering and data collection systems for utilities and building systems to provide comprehensive building energy and water use reporting in a format compatible with user requirements.
- c) Specifying appropriate training for Agency operation and maintenance staff
- d) Specifying and verifying that operation and maintenance manuals give appropriate attention to energy-efficiency features. The A/E is to include in project specifications any special requirements for post-construction calibration, testing or adjusting of building systems.

4.G.7 CONSTRUCTION WASTE MANAGEMENT

To minimize the impact of construction waste on landfills and to reduce the financial and energy cost of producing new materials, DFDM requires responsible waste management practices. The intent of these practices is to encourage technically and economically feasible salvage, reuse and recycling of construction waste materials and existing structures without increasing project time or cost.

To pursue this goal, all projects must include and edit master specification Section 01 74 19 Construction Waste Management to identify and track waste management activities and results appropriate to the project.

Projects with total budgets exceeding \$5 million and all demolition-only projects require the lead contractor to utilize WasteCapTRACE to document construction waste management results. This online documentation tool was developed for DFDM by WasteCap Resource Solutions, a non-profit organization specializing in waste-reduction assistance and education.

Smaller projects may also utilize WasteCapTRACE to track waste and recycling results at the project manager's discretion and initiation. DFDM project staff is responsible for monitoring waste management practices & recording results or ensuring consultant resources are provided to do so.

4.G.8 USE OF RECYCLED, RENEWABLE AND REGIONAL MATERIALS IN CONSTRUCTION

Material specifications are to include use of materials containing recycled content, as well as regionally produced products. Use of renewable materials, while not required, is encouraged. Consult the Sustainable Facilities Standards for required percentage of recycled content and regionally produced materials and products developed from renewable resource.

4.H Life Cycle Cost Analysis

Wisconsin statutes require the use of life-cycle costing for evaluating capital construction projects according to procedures established by the State Building Commission (SBC). These procedures are detailed in "Guidelines for Life Cycle Costing on State Building Projects". These guidelines include an overview of the LCC concepts and process, analysis methodology, examples and excel computational worksheets, which can be used to perform the calculations. Life-cycle cost analysis is a useful tool for making informed choices between alternatives and DFDM expects A/E's to be familiar with and make maximum use of it.

Use life-cycle costing for evaluating the location, design alternatives, materials and equipment in capital construction projects. Follow DFDM's "Guidelines for Life Cycle Costing on State Building Projects" for:

- 1) Any project with a total budget exceeding \$500,000;
- 2) Minor Projects with total budgets up to \$500,000 where the work involves installation or alterations to building systems that significantly affect future operating costs;
- 3) Projects of any size that are specifically designated as "energy improvements" or funded by Energy Conservation Funds.

Discuss the scope of Life Cycle Cost Analysis with the DFDM Project Manager at the beginning of the project and submit a Life Cycle Cost Plan to the DFDM Project Manager for review and approval by completing the plan portion of the Life Cycle Cost Plan and Report Form. Edit the "Design Approach, Systems and Components" column in the form to reflect the project requirements.

Use Life Cycle Costing for analysis of general building concepts, building envelope, structural systems, interiors, mechanical and electrical systems. As part of the Integrated Design Process, interdependent systems or components can be combined to demonstrate the net effect of the analyzed alternatives.

Summarize the life cycle cost and discounted energy payback analysis performed by completing the Life Cycle Cost Plan and Report Form and including it along with the life cycle cost and discounted energy payback spreadsheet analyses in the Design Report Appendix.

There are two types of analysis:

- 1) Total LCC (TLCC) is recommended for comparison of real estate alternatives, building locations, materials, building systems and maintenance projects. It converts all relevant costs and benefits to an equivalent present value allowing comparison of alternatives over the study life of the project, usually 25 years;
- 2) Discounted Energy Payback (DEP) is recommended for energy conservation investments and improvements. This is a simplified version of TLCC, which measures the time required for the value of future savings to equal the initial cost, all based on present value.

4.I Peer Review

4.I.1 GENERAL

The Peer Review is a Division of Facilities Development and Management (DFDM) review that takes place midway through the Preliminary Design Phase, after the schematic design concept has been developed. It is intended to give DFDM staff the opportunity to review and comment on the general direction of architectural design and planning before the formal submittal of Preliminary Drawings and Design Report. The reviewers focus primarily on the functional and aesthetic aspects of the project: siting and relationship to environment, overall context, appearance, massing and materials and general response to Program. Potential detailing, budgetary, schedule and sustainability concerns will also be discussed.

Architectural and Engineering Peer Reviews are generally held only for projects with total budgets exceeding \$5 million. A Peer Review is always required for new building projects and projects with significant building addition. Beyond that, Peer Review will be at the discretion of the Project Manager. If DFDM does not select a project for Peer Review, it is the A/E's option to request a review. Otherwise, it will be up to the A/E to review the project design with DFDM technical staff. The A/E should do this in a timely manner, prior to extensive commitment to developing building systems. The Project Manager will inform the A/E at the Kick-Off Meeting if a Peer Review is anticipated, so time and costs can be reflected in the proposal for services.

4.I.2 PROCEDURE

The Project Manager, working with the DFDM Peer Review Coordinator, will schedule the review at DFDM's main office, allowing one and one-half hours. The review panel will consist of the Deputy Director of the Bureau of Architecture and Engineering, the Architectural Section Chief, the Peer Review Coordinator (usually another DFDM Architect), and the Engineering Section Chief. The DFDM Project Manager will participate by presenting the project background and Program, but is not considered a reviewer. The Agency may have a representative present to observe. The Engineering Section Chief will sit-in on the architectural review offering consultation and will make recommendations with regards to either a formal engineering Peer Review or an informal review with MEP Technical staff.

The presentation material and medium will depend on the project and the A/E. Usually a site drawing, schematic floor drawings, elevations and building sections will suffice. The A/E is expected to call attention to any special or unique features and sustainable design issues as well as any special concerns. The A/E is expected to submit the DFDM Daylighting Criteria Form demonstrating compliance with DFDM Daylighting Standards, the Sustainable Facilities Checklist with applicable items indicated, and energy modeling results.

After the Project Manager has presented the "problem" and the A/E has presented the "solution", the review panel will discuss and critique the design, first in closed session and then in a general discussion with the A/E. The A/E shall record the Peer Review by documenting within a report the project introduction (briefly), presentation (outline) and DFDM's Recommendation Summary. The Peer Review report shall be submitted to the Project Manager prior to continuing work to ensure a clear understanding of the direction of the project. The architectural reviewer will refer to the Peer Review recommendations during their review of preliminary and final documents.

4.J. Preliminary Design Documents

4.J.1 GENERAL

The culmination of the Preliminary Design Phase is the completion by the A/E and approval by Division of Facilities Development and Management (DFDM) of the Preliminary Design Documents. The Preliminary Design Documents consist of:

- Preliminary Drawings
- Preliminary Specifications

The Design Report

DFDM places significant importance on the Preliminary Design Documents and expects them to show that:

- 1) All Program requirements are incorporated into the design solution, which is achievable within budget and schedule;
- 2) The design has been developed in accordance with a design concept previously agreed upon by DFDM and the Agency;
- 3) The design of all systems has, in fact, been developed to the Preliminary Design level, as required herein, showing that all systems are being integrated and coordinated as part of the "whole";
- 4) The design has been developed in accordance with DFDM Design Guidelines. All issues/factors that *have* or *could have* a bearing on the cost of the project have been addressed.

4.J.2 PRELIMINARY DRAWINGS

The specific drawing requirements will depend on the nature, size, and scope of the project. The requirements listed below are typical for a new or remodeled building. These requirements are minimums and may be exceeded. Some construction projects do not involve a building and/or typical mechanical and electrical systems; for these, the Project Manager may determine specific submittal requirements at the Kick-Off Meeting.

Preliminary drawings need not be rendered for presentation purposes and may be used for further development as working drawings. The style is not as important as being complete, comprehensive, consistent, and coordinated.

4.J.2.a Drawing Format

DFDM requires that preliminary review drawings be CAD-produced. Manually drafted documents will be permitted only in rare cases and only with the explicit prior approval of the Project Manager. A set of CAD-produced drawings must be entirely CAD-produced and may not include any manually drafted drawings.

Use of 8 ½" x 11" drawings and schedules:

- For mechanical and electrical work, all drawings, details and schedules must be included on the full-size drawing sheets, bound separately from the Project Manual. If all drawings are 8 1/12" x 11", the drawings are to be part of the Project Manual.
- For architectural and other disciplines, the above is recommended, but not required.

The project-identifying information contained in the title block must appear on the Title Sheet if one is used, and on the cover of the Project Manual—this information *must be* identical and consistent in each place. See DFDM CAD Standards for drawing format, drafting standards and links to title-block template drawings.

A/E may submit half-size drawings for review, provided that: 1) all work is fully legible; and 2) it is *clearly noted* that drawings are not to scale.

4.J.2.b Drawing Content

1) **Basic Principles** (some pertain primarily to construction drawings):

- Orient all plan view drawings same way (preferably w/ north at top of sheet), including partial drawings and details as much as practicable;
- Avoid match lines if possible; if unavoidable, be sure that match lines occur in the same place on the drawings of all disciplines. Provide a key drawing that shows relationship between drawing "segments";
- Use the same "base" floor elevation (whether "0'-0" or 100'-0") on the site drawing as is used on architectural first floor drawing;
- Show wall sections on the same sheet at relative elevations to each other;
- Use consistent terminology between drawings and project manual;
- Show the appropriate information the least number of times, preferably only once;

- Avoid vague, non-specific reference notes, such as “See Architectural” or “See Mech Dwgs”; if there is relevant information shown elsewhere in the drawings or project manual, provide a *specific* reference to the related information;
- Avoid vague, non-specific construction notes, such as “Attach Securely”; the A/E is responsible for specific details of construction;
- Avoid the word “new” – make clear what is existing; all else is then new;
- Show all information in black and white or grayscale, including any imbedded photographs – do not use color to highlight or distinguish information. Not all project stakeholders will have access to color-generating presentation or reproduction methods;
- Drawing sets shall be stamped by a registered professional with a reproducible stamp. Where content within the drawing set is prepared by different registered professionals, it shall be clearly distinguished as to who is the preparer.

2) Basic Information All drawing sets are to include:

- Key to *all* symbols, poché and abbreviations;
- Index of drawings;
- North arrow for *all plan view* drawings ;
- Reproducible graphic drawing scales for *every* drawing; (**Note:** minimum scale for all floor drawings is 1/8"=1'-0");
- Table of Contents identifying all drawings, which will comprise the complete set, whether they are all included for Preliminary Submittal or not;
- Statement indicating Occupancy and Class of Construction per Wisconsin Commercial Building Code;
- Statement indicating exit distance compliance per Wisconsin Commercial Building Code.

3) Architectural

Title Sheet

- Provide a separate Title Sheet for each Drawing Volume.

Site / Grading / Utility / Landscape Drawing(s) (Scale: min. 1" = 30'-0")

- The A/E to determine, depending on complexity of the site work, whether separate drawings are needed to show all information clearly;
- Location / vicinity map, if needed to find or understand the project site. For existing sites, include US Post Office Address;
- All new construction and site improvements, showing relationship to existing structures;
- Finish floor elevations of new construction;
- Erosion Control;
- Existing and new contours (max. 2' interval);
- Bench marks / reference grades;
- Drainage;
- Existing utilities, with sizes and elevations, as applicable;
- New utilities, with sizes, elevations, manholes, poles, conductors, substations and hydrants, as applicable;
- All paved surfaces, extent and type;
- Landscaping, extent and type;
- Location of soil boring holes.

Demolition Drawing(s) (Scale: same as floor drawings)

- Use dashed lines to indicate all construction that is to be removed;
- Indicate material and/or type of construction to be removed, including details on cutting and patching

Floor Drawing(s) (Scale: min. 1/8" = 1'-0")

- All exterior and interior walls appropriately drawn to reflect thickness and type of construction;
- All door swings;

- All room names and numbers;
- Elevations of all floors and levels;
- Basic interior and exterior dimensions;
- Typical partition types;
- Fire and smoke-rated partitions: clearly identify rating, with references to construction details and door and frame ratings;
- Typical door types;
- Fixed equipment / casework / furnishings;
- Requirements of significant features related to mechanical/electrical systems;
- Appropriate references to all sections and detail drawings.

Elevation(s) (Scale: min. 1/8" = 1'-0")

- Total full-height facades, showing roof structures, foundation and below-grade levels;
- Designation of finish materials;
- All fenestration, doors, louvers and wall penetrations;
- Control and expansion joints;
- Relationship to abutting grades;
- Attachments to or penetrations of the exterior walls.

Building Cross Section(s) (Scale: 1/16" or 1/8" = 1'-0")

- Include longitudinal and/or transverse building cross section(s), as appropriate to the configuration and complexity of the building;
- Floor elevations;
- Room identification;
- Configuration and depth of structural system(s), showing relationship to ceilings;
- For more complex facilities, such as high-tech educational/laboratory buildings, include sections through primary corridors and circulation spaces to show ceiling space allocated for cable trays, major conduit runs, ductwork and piping.

Wall Section(s) (Scale: min. 1/2" = 1'-0")

- Represent each major type of exterior wall construction. Key all sections to building elevations, as well as floor drawings;
- Foundation, intermediate floors and structural members that bear on walls;
- Roof juncture, parapet and wall cap;
- Designation of materials, construction and finishes including patching details where abutting existing;
- Insulation, flashings, masonry coursing, shelf angles;
- Vertical dimensions/floor elevations.

Roof Drawing(s) (Scale: 1/16" or 1/8" = 1'-0")

- All roof-mounted and/or roof-penetrating features;
- Drainage direction and percent of slope;
- Expansion joints;
- Roof access (to all levels) and walkways, if appropriate.

Reflected Ceiling Drawing(s) (Scale: same as floor drawings)

- Ceiling material and height (unless shown in schedule); changes in ceiling elevation;
- Soffits, coves, skylights;
- Access panels;
- Exposed structure;
- All ceiling-mounted and ceiling-penetrating features, including but not limited to: HVAC grilles, light fixtures, speakers, smoke detectors, fire alarm strobes, exit signs, sprinkler heads and architectural specialties;
- Relationship to partitions and windows;
- Special grid locations, if required, for lay-in ceilings.

Enlarged Floor Drawing(s) and Interior Elevation(s) (Scale: min. 1/4" = 1'-0")

- For typical rooms such as classrooms, offices, patient/resident rooms; special-use rooms such as toilets and stairs; and for unique spaces such as lobbies;
- Treatment of all surfaces: floors, walls and ceilings;
- Special requirements or features of architectural, mechanical and/or electrical systems;
- Equipment and furnishings.

Finish Schedule

- List all rooms shown on drawing(s) indicating typical finishes of floor, base, walls, ceiling;
- Special finishes;
- Ceiling heights, if not indicated on ceiling drawings;
- All abbreviations included in a legend of abbreviations.

Exterior Envelope Details

Provide adequate detailing (including control layers) to depict typical exterior wall and roof conditions around the entire building, such as:

- Typical roof edge, parapet and curb details;
- Masonry details;
- Flashing/counterflashing details;
- Control/movement joints;
- Typical window head and sill;
- Typical exterior door.

4) Structural Drawing(s)

- Assumed live load, soil bearing values and allowable member stresses;
- Foundation and floor framing drawings at same scale as architectural;
- Sizes of typical and major members;
- Slab thickness, openings and depressions;
- Identification and location of all columns;
- Preliminary details of unique conditions.

5) Mechanical Drawing(s)

General

- Apply Basic Principles and include Basic Information, as applicable;
- Site utility drawing showing plumbing, fire protection and HVAC utility services, pipe sizes, valves, manholes, pits, utility specialties and connections to existing utilities;
- Separate drawings for plumbing/fire protection and for HVAC work;
- Separate demolition drawings for projects with significant demolition work. Use dashed lines to indicate all construction to be removed; indicate material / type of construction to be removed;
- Floor drawings, same scale as architectural, with the following: lighter or screened line weight for architectural/structural, column/grid and room identification, key drawings when appropriate;
- Enlarged drawings, 1/4"=1'-0" minimum, of mechanical rooms, special rooms (laboratories, etc.) and utility intensive rooms;
- Pipe and duct layouts showing routing, risers and sizes establishing space requirements and clearances;
- Cross sections of mechanical rooms, areas of utility congestion and critical clearance points showing structure, architectural components, equipment, piping, ductwork, conduit, lighting, etc. - demonstrating adequate clearance and coordination;
- Roof drawing showing all roof-mounted equipment, roof penetrations and drains;
- Details and schedules incorporating DFDM master details and schedules as available, schedules to contain basic sizing information and equipment type;
- Space required for service and maintenance of all equipment, such as tube and coil removal.

HVAC Drawing(s)

- Equipment, control panels, control air compressor, etc., located and labeled on drawings;
- Sections or elevations of air handling units showing air handler components, equipment pads, vibration isolation, fan motor locations, cooling coil condensate and steam condensate drainage;
- Details of site steam, hot water and chilled water distribution showing anchor points, expansion joints/loops, box conduits, pits, pipe supports, etc.;
- Preliminary system schematics for large HVAC systems.

Plumbing / Fire Protection Drawing(s)

- Critical invert elevations for site and main building sanitary and storm sewers;
- Equipment, fixtures, drains, fire protection specialties, etc. located and labeled on drawings;
- Preliminary water supply, drain, waste and vent isometrics;
- Water calculation work sheet;
- Sprinkler riser details;
- Calculations to determine whether or not a fire pump is needed.

Electrical Drawing(s) (*Note:* DFDM bids Divisions 26, 27 & 28 Electrical, Communications and Electronic Safety and Security as one prime contractor)

- Do not duplicate communications and electronics' electrical components on to the electrical drawings - place only on the technology drawings. For example, cable trays should not be shown on the electrical drawings;
- Apply Basic Principles and include Basic Information, as applicable;
- Site drawing(s) showing ductbanks, manholes and typical lighting layouts - include typical ductbank cross-section detail;
- Separate demolition drawings for projects with significant demolition work. Use dashed lines to indicate all construction to be removed. Indicate material / type of construction to be removed;
- Complete floor drawings drawn with a lighter or screened line weight (so that engineering work stands out) with configuration and structural column/grid identification accurately matching architectural drawings;
- Complete room identification on drawings or in a schedule, accurately matching architectural drawings. Include key drawings, when appropriate, on every drawing sheet;
- All panelboards, cable trays, mechanical, electrical and communication rooms/closets on floor drawings;
- Complete layouts for all switchboard, switchgear and generator rooms and vaults;
- Complete one line diagrams for normal and emergency power systems. (*Note:* DFDM may have an electronic record drawing of the existing medium voltage power distribution system. It is the A/E's responsibility to request this information. If available, it shall be used as the basis for the one-line power diagram.);
- Typical riser diagrams for other special systems such as tele/data, fire alarm, security, grounding, etc.;
- Complete typical room layouts with all receptacles, switches, lighting, speakers, alarms, communication devices, other equipment, etc. in the room. Each different room type shall have a layout. Examples of room types are classroom-small, classroom-large, auditorium, toilet, janitor closet, kitchen, each laboratory type, corridor, stairwell, patient/resident room, cell, etc. Where there are no typical types, show the room layout for unique rooms, such as lobby, kitchen, control center, etc.;
- Complete fixture schedule;
- Motor and special outlet schedules, listing typical equipment with sizes and voltages as a minimum;
- Typical cross-section detail of cable tray showing clearance dimensions to other systems and walls (See Electrical System Standards & Design Guidelines for minimum clearances.);

- Typical detail of voice/data conduit runs from jack/furniture to cable tray showing conduit termination and grounding method to cable tray;
 - Space required for equipment service and maintenance.
- 7) **Fire Alarm System Drawing(s)** (**Note:** DFDM bids Divisions 26, 27 & 28 Electrical, Communications and Electronic Safety and Security as one prime contractor)
- Do not duplicate fire alarm electrical components on to the electrical drawings place only on the technology drawings. For example, electrical conduit for the fire alarm system should not be shown on the electrical drawings.);
 - Apply Basic Principles and include Basic Information, as applicable;
 - Use DFDM fire alarm symbols, with list of all symbols on first electrical sheet;
 - Location of fire alarm control panel;
 - Location of fire alarm annunciator panel;
 - All code- and DFDM-required fire alarm devices;
 - Mounting and installation details of devices;
 - Interfaces to suppression systems;
 - Elevator recall devices;
 - Riser diagrams;
 - Readable room numbers and indicate their use;
 - Model and manufacturer name for existing systems being expanded or altered;
 - Manufacturer name and part number for devices being added to an existing system.
- 8) **Technology System Drawing(s)** (**Note:** DFDM bids Divisions 26, 27 & 28 Electrical, Communications and Electronic Safety and Security as one prime contractor)
- Do not duplicate technology components on to the electrical drawings - place only on the technology drawings. For example, electrical conduit for voice/data cabling should not be shown on the electrical drawings.);
 - Show all audio distribution and video/data projection equipment;
 - Show all a/v casework, schedules, mounting heights, and riser details;
 - Show all security system devices. Coordinate closely with architectural door/frame and hardware;
 - Technology pathways, including cable trays, in-floor distribution systems, etc.;
 - Telecommunications voice and data risers;
 - Security access control risers, panels and controller equipment;
 - Sound masking and intercom/paging risers, panels and controller equipment;
 - Details including terminations, equipment elevations and typicals;
 - Show all racks, patch panels and layouts;
 - Location of all devices and outlets (voice, data, fax, modem);
 - Intermediate Distribution Frames, Main Distribution Frames.

4.J.3 PRELIMINARY SPECIFICATIONS - PROJECT MANUAL

The specifications serve an important role in documenting the design solution at the completion of the Preliminary Design Phase. The preliminary specifications must complement the drawings and must address all work intended to be a part of the Final Design. All work by all disciplines shown or referenced on the drawings must be covered by and coordinated with the specifications.

See Section 5.B Construction Specifications – Project Manual for a more complete discussion of DFDM policies and requirements for construction specifications.

4.J.3.a Division One—Bidding and Contract Requirements

For preliminary review, only the project-specific information need be submitted using an edited version of the Division 01 Front End following the 'Manual for Preparation of Specifications for Project that has a Construction Budget Greater than \$50,000' bound into the Preliminary Project Manual. The A/E is *not* required to submit the entire Division One document with the downloadable DFDM print ready forms. Submittal of full Division One with print ready forms is required *only* for Final Review.

Within the preliminary specifications, include the Construction Waste Management Disposal and Commissioning Process specifications. For the Preliminary Design Documents, non-applicable items are crossed out on the Division 01 Table of Contents and items to be added are highlighted. The actual Construction Verification checklists and functional performance test forms do not need to be included in the preliminary design review documents, but the Table of Contents is edited to show future inclusions.

4.J.3.b Divisions 02 through 33—Technical Specifications

The Preliminary Specifications must convey the following information: 1) Project specific Scope of Work; 2) Basic defining characteristics, either prescriptive or performance, for all products, materials, and equipment; and 3) Sufficient information to support preliminary cost estimate (per Design Report).

For any work that is covered by DFDM master specifications, the A/E must use the DFDM Master Specifications for divisions of work covered by the specifications. For work not covered by DFDM master specifications the A/E may submit an outline CSI specification or an edited version of its own CSI based master specification.

1) DFDM Master Specification

The preliminary submittal of DFDM master specs is to be in “strike-out” format. This means that the full text of the master specification is submitted with non-applicable portions electronically crossed out, by font format strike through. Information *added* by the A/E must be clearly highlighted by bold face or other formatting. The A/E must date the first page of each specification section with the date on which it was downloaded from the DFDM Main Page. (For Divisions 21 and 28, the Table of Contents is to include all DFDM master specification sections, including those not being used.)

2) Outline Specifications

This type of abbreviated specification, if used, must define basic characteristics and quality of all work. The details, references and formal language of a contract document are not required as long as scope and characteristics are adequately described. The exact format is up to the A/E.

Note 1: DFDM Design Guidelines are not to be confused with DFDM Master Specifications. Design Guidelines describe criteria and minimum standards upon which the design is to be based. DFDM Design Guidelines cover some work for which there are no master specifications. DFDM expects the A/E to be familiar with DFDM Design Guidelines prior to beginning design work. DFDM Design Guidelines are not advisory; DFDM expects that they *will* be incorporated into the design.

Note 2: Proprietary, or “sole-source”, specifications are strictly limited. (See Section 5.C.2)

Note 3: Preliminary Review Submittal to DFDM will be in the form of hard copy, unless requested by Project Manager in electronic form. (See Section 4.L)

4.K The Design Report

4.K.1 GENERAL

The Design Report serves as a summary of the design at the completion of the Preliminary Design Phase and encompasses the scope of work outlined in the Program Statement (if applicable). It is an important milestone that confirms for the Division of Facilities Development and Management (DFDM) and for the State Building Commission (SBC) that the scope of work can be accomplished with the proposed project budget and schedule.

The Design Report consists of a Summary and an Appendix containing detailed supporting information. The Design Report review documents shall be uploaded to the DFDM File Transfer Site using the following file naming requirements:

(NOTE: Colors used in the file naming standards below are for clarification/illustration purposes only. Actual file names shall NOT use the colors.)

01A1B-00-SD-DRSummary.pdf **AND**
01A1B-00-SD-DRAppendix.pdf

Where:

- The first 5 alpha-numeric characters represent the [parent DFDM Project Number](#)
- The -00- represents the [project phase](#) portion of the Project Number (See Section 1.C.4.a)
- SD = Supplemental Document
- DRSummary = Design Report Summary
- DRAppendix = Design Report Appendix (if applicable)
- The .pdf represents the document format (.pdf = Portable Document Format)

The Design Report Summary shall be submitted in both a PDF and Word format. All other documents associated with the Design Report shall be submitted in a format as directed by the PM.

DFDM review comments will be posted on WisBuild for review. After incorporating the comments, the A/E is to submit the final Design Report with the preliminary drawings and preliminary specification (the project manual). These three preliminary documents must be coordinated and consistent with each other in every detail in terms of content and scope of work. The Project Manager must have the final Design Report before the last day of any given month in order to submit to the SBC for the following month's agenda. **Note:** University of Wisconsin projects generally require review and approval by the University Board of Regents a month before submittal to the SBC.

4.K.1.a When Required

The Design Report is required for projects as follows:

- **Major Projects** (See Section 1.C.1.a); the full Design Report is required (Design Report Summary and the Design Report Appendix).
- **Minor Projects** (See Section 1.C.1.b); the Design Report Summary is required, and the Design Report Appendix may be omitted in whole or in part, with the approval of the PM.
- **Small Projects** (See Section 1.C.1.c); the Design Report Summary may be required at the discretion of the PM. The PM must ensure the project remains within the 'Small Project' funding threshold and will determine the risk in proceeding with the project without a developed Preliminary Design.

If a Design Report is not required, the AE must submit a statement of budget and schedule as a minimum.

4.K.1.b Budgetary Concerns

DFDM expects the Design Report and Preliminary Design documents to represent a design solution that can be accomplished within the SBC approved scope (see Section 4.B.2 "Budget Review"). The A/E should, throughout the design process, continuously explore options for containing costs.

If the programmed scope of work cannot be accomplished within the budget, the A/E must discuss with the Project Manager how this is to be presented in the Design Report. *The Design Report will always include an option for accomplishing the project within the budget*, identifying any proposed reductions in scope of work. See "5. Budget Summary" and "6. Additional Comments" below.

4.K.2 DESIGN REPORT SUMMARY

The Design Report consists of two documents, the Design Report Summary and the Design Report Appendix. The Design Report Summary is the first part of the Design Report and presents a succinct summary of project scope, budget and schedule. The Design Report Summary is a stand-alone document. The Design Report Summary shall be prepared following the 'Design Report Summary – Template Instructions' for document outline and format.

The following components shall be included as part of the Design Report Summary:

1. Project Description – Briefly describe the project’s general features. Include type of construction, materials, and number of stories. Comments about any sustainable design and energy conserving features are appropriate. Do not provide a history of the institution, site, or building/asset. Do not explain the reason for the project or justify the project. This description is to be clear, concise, and must describe the project requested in the Agency Request.

2. Authorized Budget and Funding Source – Include the total authorized project budget(s) and the name (words) of the funding source as provided by the Project Manager.

For projects enumerated in the Biennial Capital Budget, the amount shown in the Capital Budget is an Authorized Budget. State the amount, the biennial years of the Budget in which the project was enumerated, and the Act that implemented the Budget.

If the project is not enumerated, but has a State of Wisconsin Building Commission action authorizing release of funds, the budget shown in that action is an Authorized Budget. State the amount, the date of the State of Wisconsin Building Commission action, and the purpose (through pre-design, design, or construction) for which the funds were authorized.

If the project has not been to the State of Wisconsin Building Commission, the Total Project Budget (as shown on Capital Accounting) is an Authorized Budget. State the amount and the purpose (through pre-design, design, or construction) for which the funds were provided.

Show all of the above Authorized Budgets that exist for the Project.

3. Space Summary – For projects that involve construction or remodeling of floor space, Space Summary information must be included. Indicate Gross Area (GSF), Assignable Area (ASF) and calculate Efficiency as defined below. Show the space summary for the requested budget in the Agency Request. Verify that the Design Report and the Agency Request have the same space summary.

Gross Area (GSF) is the sum of all areas included within the outside faces of the exterior walls for all stories.

Assignable Area (ASF) is the sum of all floor areas that are assigned to and are functionally usable by the building occupant.

Building Efficiency is a percentage calculated as $ASF \div GSF$.

4. Schedule – Work closely with the Project Manager and the Agency to determine the project schedule. Show the proposed schedule for the requested budget in the Agency Request. The Design Report Summary and the Agency Request to the State of Wisconsin Building Commission schedule must match. Do not add milestones to the schedule.

5. Budget Summary – For design Reports that have an Appendix, a detailed budget breakdown is included in the Appendix (Budget Detail). The budget lines shown on the Design Report Summary are then a summary of the Appendix Budget Detail. A detailed budget breakdown (Budget Detail) must be prepared and provided for each scenario presented. For Design Reports which do not include an Appendix, this Budget Summary shall be inclusive of the project budget detail.

Column 1 – As Enumerated

This is a budget as enumerated in the State of Wisconsin Capital Budget. If the project was not enumerated, this column can be deleted.

Column 2 - Per Design

This is a budget presented in the Preliminary Design phase of the project (Design Report) that includes elements of the project scope as presented in the Pre-Design phase of the project. This

is the only budget option presented when there has been no budget previously presented to the State of Wisconsin Building Commission.

Verify that the Design Report Budget and the Agency Budget are the same.

Include appropriate clarification and comments on Columns 3 and 5. List program reductions and/or additions with a brief explanation of their functional implications.

If 'Other Fees' is used, list what other fees are included.

6. Additional Comments – Comment on any special or noteworthy features of the design or schedule. Identify any significant unresolved design or cost-related issues.

Historic Preservation – Indicate whether the project affects an “historic property”. If so, indicate the results of the review by the State Historic Preservation Office.

Environmental Impact – Include the following information:

- State WEPA Type Classification (1, 2, 3)
- For WEPA Type 2 and Type 3 provide the following –
 - Date of publication for public comment
 - Public comment period closing date

4.K.3 DESIGN REPORT APPENDIX

The Design Report Appendix is a separate document from the Design Report Summary and is directed at a different audience. The Design Report Appendix explains how the design addresses project constraints and how the design details, performance information for building space, structure and systems, and site conditions, utilities and features meet the requirements of this project.

The Design Report Appendix provides the design intent and performance for all disciplines in this project including systems and components that are not yet developed in the preliminary plans and specifications. The information provided supplements the preliminary plans and specifications, and project cost estimate. It is used by the DFDM project manager, discipline specialists and technical reviewers to determine whether the proposed design:

- 1) Is ready for Preliminary Review by DFDM staff and the agency – all topics in this section must be addressed;
- 2) Meets the space and performance needs of the user agency and identifies and explains deviations from the program;
- 3) Follows DFDM standards and design guidelines;
- 4) Accounts for all phases and components of work in the detailed project cost estimate.

The Design Report Appendix should explain the proposed/intended design performance and provide calculations and /or sketches as needed. The DR Appendix should contain the following sections:

4.K.3.a Table of Contents

The title “Design Report Appendix”, date and project name and number appear on this page. List the sections below and number of pages in each section, including drawings.

4.K.3.b Peer Review – DFDM Recommendations

See section 4.I. for general DFDM Peer Review information and procedure. Indicate if and when a DFDM Peer Review was completed and provide the following documentation (or indicate “Not Applicable”, if appropriate):

- 1) DFDM recommendations
- 2) AE responses
- 3) Other follow up

4.K.3.c Project Conditions, Permits and Legal Issues

Address each of the following. Indicate "Not Applicable", if appropriate.

- 1) Site Conditions –
 - Describe regulatory, unusual or adverse site conditions affecting the design of the project such as wetlands, poor sub-surface (soil or groundwater) conditions, steep slopes, limited site access, traffic control requirements, etc.
 - Provide a site map identifying restrictions to development on the site including private or municipal utility easements, drainage easements and navigable streams, wetlands and other sensitive or restricted areas, historic districts or archaeological sites.
- 2) Zoning – Provide the following:
 - Existing Zoning on the project site.
 - State whether the new use is within the existing zoning, conditional use, or requires rezoning.
 - State the date when zoning approvals were / will be obtained.
 - Note any special requirements or conditions of approval.
- 3) Floodplain – Obtain floodplain information from WDNR Surface Water Data Viewer (SWDV), municipality, and county. Floodplains are enforced as a zoning district or overlay by the municipality or county.
 - State whether any portion of the site is within the regulatory floodplain and provide a map showing the regulatory floodplain on the site.
 - Explain how the site and structures will be arranged to avoid impact to the floodplain or how the flood plain on the site will be amended to exclude structures, including utility structures, within this project. Provide a map or drawing.
- 4) Private / Municipal Utilities and Service – Utility service may be provided to state institutions by state-owned utilities, private utilities, or municipal utilities. Information for state-owned utilities is included in section 4.K.3.f.7). Provide the following information for private and municipal utilities impacted by this project.
 - Service to the Building or Site: Note any constraints, requirements, schedule impacts or costs related to providing private or municipal utility service to the existing building or site. Explain how these issues have been resolved in this design.
 - Private / Municipal Utilities located within the project site: Note any private or municipal utilities located within the project site that are not service lines specifically servicing the institution. Explain any costs associated with relocation or protection of these utilities.
- 5) Historic / Archaeological Status See 4.D.6. – Indicate whether this project includes work impacting an historic property. "Historic property" means any building, structure, object, district, area or site, whether on or beneath the surface of land or water, that is significant in the history, prehistory, architecture, archaeology or culture of this state, its rural and urban communities, or the nation. New buildings and site work within historic districts or within close proximity to an historic structure may be considered as an impact on the historic property. Note all of the following that apply to this project:
 - Age of building (This applies to all projects);
 - Historic District;
 - Historic Structure, including the site around the structure;
 - Archaeological Site;
 - Listed Property or Property eligible for Listing. "Listed property" means property which is listed on the national register of historic places in Wisconsin, the state register of historic places, or both.

If this project impacts an historic property, provide the following information:

- Name of the agency's Historic Preservation Officer.
- Date of the letter to State Historic Preservation Officer regarding this project. Note this is a hard copy letter from the agency's Historic Preservation Officer to the State Historic Preservation Officer.
- Date of the response from the State Historic Preservation Officer.

- If the project has not been reviewed by the State Historic Preservation Officer, include a statement to that effect.
 - Any adverse effect. "Adverse effect" means any of the following:
 - (a) Physical destruction, damage or alteration of any part of a property which would adversely affect the historic significance of that property.
 - (b) Isolation of a property from or alteration of the character of the property's setting when that character contributes to the property's qualification as a listed property.
 - (c) Introduction of visual, audible or atmospheric elements that are out of character with a property or alter its setting.
 - (d) Neglect of a property resulting in its deterioration or destruction.
 - Explain how this design addresses adverse impacts to the historic property.
- 6) WALMS Asbestos/Lead Survey – Provide the following information:
- State whether a Wisconsin Asbestos and Lead Management System (WALMS) survey has been completed for ALL buildings, including building systems, and exterior utility systems that will be impacted by the project.
 - If the WALMS survey is not complete, provide the date that the survey was requested and the name of the DFDM staff contacted.
- 7) Wisconsin Environmental Protection Act (WEPA) & Environmental Issues – Provide the following information:
- Name of the Agency
 - WEPA Type Classification (1, 2, 3)
 - For WEPA Type 1 and Type 2 –
 - Date of publication for public comment
 - Public comment period closing date
 - State whether any significant issues were raised, and how those issues are addressed in the design, budget and schedule
 - For WEPA Type 3 –
 - list any environmental issues
 - describe how those issues are addressed in the design, budget and schedule
- 8) Regulatory Reviews and Permits – List regulatory reviews and permits by state and federal agencies required for this project as well as reviews or permits by municipal or county agencies that have delegated authority on behalf of state agencies. Provide the following information:
- Reviewing agency or governmental unit having jurisdiction
 - Name of permit or review
 - Length of review period and (estimated) submission date
 - Explain resolution of approval or permit conditions noting schedule or budget impacts
- 9) Legal – Describe any outstanding legal issues that may impact the schedule or cost of the project, including boundary or property ownership, temporary construction easements, and special conditions attached to federal funding etc.

4.K.3.d Commissioning

Commissioning is required for all DFDM projects. The level of Commissioning is described in Section 2. Provide the following information for the commissioning of this project.

- 1) State the level of commissioning that DFDM PM and A/E have agreed is appropriate for the project. Refer to A/E Policy & Procedure Manual Section 2.B and indicate one of the following:
 - DFDM Level 1
 - DFDM Level 2
 - LEED Fundamental
 - LEED Enhanced (State name of third party CxP and whether under contract or not).
- 2) List the systems to be commissioned, and note any exclusions in those systems

4.K.3.e Demolition

This section provides information about buildings, building systems, utility systems and site features that will be demolished fully or partially by this project. Address each of the following subjects that apply to this project, including those that are not yet developed in the preliminary design documents.

- 1) Identification – Identify building areas, building systems, site utilities, and site features (such as pavement, trees and fences) to be fully or partially demolished, removed or abandoned by this project. This includes work that may be performed in a Demolition or Site Preparation contract.
- 2) Protection – Describe measures used to protect remaining building areas, building systems, site utilities, and site features (such as pavement, trees and fences) during the demolition. These measures may include temporary structure, or utility service, tree protection and erosion control. Impacts on building occupants, utilities and building systems must be coordinated with information in Schedule and Sequencing 4.K.3.h.
- 3) Restoration and Security — describe how remaining building areas, building systems, site utilities, and the site surface including vegetation and trees will be restored or secured after demolition.

4.K.3.f Design Intent

This section of the Design Report Appendix is intended to provide detail explaining the design. Address each subject associated with this project including those that are not yet developed in the preliminary design documents. Provide an equipment list for each division of work in the following sections.

- 1) **Architectural Design Concept** – Briefly discuss, as applicable:
 - Explain fundamental assumptions upon which the design is based
 - Building form generating or organizing concepts/principles
 - How the design responds to the program
 - How Program requirements or challenges were resolved
 - Interpretation or revisions to the Program that influenced the design
 - Sustainable priority/emphasis for the project
 - Sustainable Facility Standards: Summarize the sustainable facility standards incorporated into this project; attach the Sustainable Facilities Standards Checklist.
 - Daylighting: Summarize daylighting features incorporated into the project; attach the completed Daylighting Criteria Form to verify compliance with DFDM Daylighting Standards for State Facilities.
 - Energy Conservation: Summarize energy conservation features proposed or considered in the design; attach the completed Energy Conservation Measures (ECMs) Form.
 - Building Energy Modeling: Summarize projected peak and annual building energy performance and provide a code comparison demonstrating 30% less energy cost than a code designed base building; attach the completed Building Energy Modeling Form.
 - Renewable Energy: Summarize renewable energy sources proposed or considered in the design; attach the completed Renewable Energy Resources Form.
 - Construction Waste Management –
 - State the Construction Waste Management goals for this project.
 - List existing building components to be recycled.
 - State whether WasteCAP will be used to track performance during construction.
 - Codes and Standards: list codes and standards applicable to this design; explain deviations from applicable codes and standards.
 - Provide Life Safety Plan – may refer to Life Safety Plan Drawing if provided in preliminary drawings. The Life Safety Plan is used for technical review of building systems.
 - ADA access and egress through the building and the site.
 - General building fixtures, furnishings and equipment selected and incorporated into the design.
 - Fixed equipment
 - Movable equipment
 - Special equipment

- Security and detention
- Food service
- Educational and scientific
- Laboratory
- Entertainment
- Athletic
- Healthcare
- Below grade structure description and use
 - List the total number of below grade levels, and the number of levels below groundwater; state the groundwater elevation, describe the dewatering system and the drainage system.
 - List below-grade spaces and uses by building level including:
 - building system spaces such as mechanical, electrical, security, communications
 - utility system spaces
 - storage, unfinished and unoccupied spaces
 - parking, and loading facilities

2) Space Tabulation

- Present the Space Tabulation in a format that can be readily compared with the Program Statement. Discuss special constraints, opportunities or assumptions. Explain deviation from the Program Statement Space Tabulation.
- Provide a simplified (one page) tabulation of: area of all assignable (usable) spaces listing and number of occupants for each; and area of all non-assignable (common) areas which serve an important function (unusually large lobbies, locker rooms, main storage and custodial rooms, main telecommunications and electrical closets, etc.)
- Summarize building area by providing total gross area (GSF), total net assignable area (ASF) and building efficiency calculated two ways:
 - Agency Method:
Efficiency = Assignable Square Feet divided by Gross Square Feet. This is the efficiency ratio used in the DFDM “Capital Budget Cost Estimating Guidelines” and which appears on page DR 2 of the Design Report Two-Page Summary. This method excludes common space and generally results in a lower efficiency than the BOMA method.
 - Building Officials Management Association (BOMA) Method:
Efficiency = “Rentable Square Feet” (usable + common area) divided by “Gross Square Feet”.

3) Building Structure – Provide the following:

- Overall:
 - Provide cost comparison analysis for exterior enclosure systems (building envelope) and structural systems (structural steel, cast-in-place concrete, pre-cast concrete, load bearing masonry).
 - Review analysis with DFDM PM & technical reviewers prior to final system selection.
- Structural: substructure, superstructure – systems and materials
 - Description of Framing Systems
 - Foundations
 - On Grade and Supported Level Framing Systems
 - Lateral Systems
 - Exterior Cladding Support Systems
 - Existing Building / Future Expansion Provisions
 - Fire Ratings
 - Performance Criteria (deflection, vibration, thermal expansion, etc)
 - Design Loads (Dead, Live, Wind, Seismic, Soil, Vehicle)
 - If Live Load reduction is to be used:

- Specify loading type reduction is allowed (office, etc)
 - Members allowed (Floor Framing / Columns / Foundations)
 - Maximum reduction (code max or other)
 - Existing Building Information (Code, Loads, Modifications to Existing Structure, etc)
 - Geotechnical Design Information
 - General Material Strengths (Steel, Concrete, Concrete Masonry, Cold Formed Steel Framing Gage, Etc.)
 - List all items which will be performance-designed by contractor, examples include:
 - Pre-engineered Building Systems
 - Pre-engineered Bridge Systems
 - Pre-engineered telecommunication towers
 - Precast Concrete systems and components
 - Exterior Framing Systems (Curtainwall / Storefront / Etc)
 - Natural Stone Cladding systems
 - Cold Formed Steel Framing
 - Structural Steel
 - Geotechnical / Foundation Systems
 - Miscellaneous Structures, Enclosures, Etc.
 - Exterior Enclosure Systems (Building Envelope): roofing, cladding and fenestration systems:
 - Describe rain control strategy from the perspective of “Deflection, Drainage/Storage/Exclusion and Drying”
 - Describe air / vapor barrier and control layer placement strategies for the following:
 - Above-grade Wall Assemblies
 - Below-grade Wall Assemblies
 - Below-grade Floor Assemblies
 - Roof Assemblies (including Wall to Roof Interface)
 - Describe fundamental strategy to minimize thermal bridging, water and air leaks.
 - Describe how the enclosure assemblies will address continuity of control layers at common transition areas such as walls to roofs, walls to grade and detailing of penetrations such as windows, canopies and balconies.
 - Roof Top System
 - Interior construction: finishes, specialties, fixed equipment
 - Partition wall types
 - Ceiling systems
 - Elevators/lifts/conveying equipment
 - For modernization projects, reference any existing elevator condition survey.
 - For new construction, provide a determination of number of cars based on occupancy passenger waiting time and round-trip time.
 - Provide a preliminary system selection as a basis of design. Describe type of machine, capacity, car size and speed. Identify space requirements for shaft size, machine and control spaces.
 - Describe life safety requirements (i.e. Fire Fighters Emergency Operation, stretcher access requirements, impact on emergency power systems, etc.)
- 4) Plumbing and Fire Protection** Provide the following information at a minimum:
- a) Existing systems description, evaluation and analysis of:
 - Water supply type, capacity, location
 - Fire pump type capacity, location (when required)
 - Domestic pressure booster type capacity, location
 - b) Plumbing systems information:
 - Interior and exterior plumbing, sanitary, storm and domestic water system descriptions
 - Areas and equipment served by systems
 - Utility connection points
 - Capacity requirements and how design addresses inadequate capacity
 - System equipment types
 - c) Fire protection system description:

- System type
 - Areas served
 - Occupancy hazard classification requirements
 - System design criteria
 - Utility connection points
 - Capacity/pressure requirements and how design addresses inadequacies
 - System devices and equipment and location
 - Fire pump analysis
- d) Specialty system descriptions:
- Fuel: natural gas, LP gas, oil
 - Compressed air
 - Lab/medical gas/vacuum
 - Pure water
 - Acid waste
 - Domestic water wells
 - Private onsite wastewater treatment
 - Other system equipment descriptions
- e) Emergency power requirements
- f) Construction phasing requirements, occupant disruptions and utility interruptions
- 5) Heating, Ventilating and Air Conditioning:** Provide the following information at a minimum:
- a) Building Operation
- Hours during a normal workweek that the building will be occupied
 - Special hours of occupancy
 - Hours during the week that the HVAC systems will operate
- b) System Descriptions
- Heating and cooling system description including, but not limited to, equipment type, heating and cooling sources, temperature control zoning and basic control sequences
 - Condition of existing air-handling or other equipment, if re-used. State whether existing equipment was tested or if test and balancing data existed from the original installation. Discuss results of any testing that was done. (DFDM supports testing of existing equipment, when A/E determines that it is needed as a basis for design. See Section 4.B.3.b.)
 - Existing ductwork condition. Discuss each system, indicate ductwork construction type, whether system is lined and/or insulated, excess duct leakage, ductwork reinforcement issues, need for cleaning and any other relevant information.
 - Emergency power requirements
 - Special ventilation system description, such as an engineering smoke control system, fume hood exhaust and specialty exhaust system
 - Steam pressures used and where, if at all, it will be reduced to low pressure steam if applicable
 - Impact of this remodeling or new addition on existing building HVAC system(s), if applicable
 - Impact of this new addition or building on existing campus or institution utilities, if applicable
 - Project Phasing description, including how each phase will be constructed, if applicable
- c) Geothermal Option Analysis
- Life cycle cost comparison of HVAC system options including geothermal system
- d) Engineering Criteria and Calculations
- Outside design dry bulb temperature and wet bulb temperature used for determining cooling load and selecting equipment
 - Outside design dry bulb temperature used for determining heating load
 - Outdoor air: Per person, per square foot or air changes per hour, as appropriate, for each occupancy
 - Inside design dry bulb temperature range for each occupancy and special room

- Relative humidity range (summer and winter) for each occupancy and special room
 - Internal heat gain load criteria, including, but not limited to, people occupancy per system, light loads (watts per square foot) and equipment loads (watts per square foot)
 - Diversity factors used for people, lighting, equipment/appliance loads, infiltration and outdoor air requirements by system
 - Provisions for future expansion or change in the use of the facility, if applicable
 - Note: Provide ventilation, heat loss and/or heat gain calculations only upon specific request
- e) Sound Criteria
- Design sound criteria for all space types and for outside the building where applicable

6) Electrical: Provide the following information at a minimum:

- a) Existing Building Information
- Existing peak demand readings for the past two years for the existing facility (if any) from agency or local utility. Existing watts/gross square foot maximum demand
- b) System Descriptions and Design Assumptions
- Facility services—include size of new service, future capacity provisions and description of new utility extensions with type, location and source
 - Normal power distribution system—including choice of voltage(s) and distribution system type. If harmonic-rated equipment is proposed, justify need.
 - Emergency system/generation—including fuel type, automatic transfer switch types; briefly discuss alternatives and reason for choosing proposed design.
 - Lighting systems, include:
 - Lighting power density (total watts/ft²) for facility; compare with other similar facilities; identify any areas not in compliance with the DFDM Electrical System Standards & Design Guidelines.
 - Description of how lighting system accommodates or allows for the use of natural lighting during daytime hours; description of dimming controls, if any, and how they are intended to function.
 - Description of other controls or energy conservation features.
 - Description of special lighting systems or requirements. Identify and justify where incandescent lighting is proposed.
 - Description of exterior and site lighting.
 - Special systems or accommodations, e.g. isolated grounds, lightning protection, etc.

Electronic Safety & Security

- Each type of security system
 - Fire alarm requirements and features
 - Any existing wholesale system replacement and describe reasons for replacing system(s)
- c) Calculations
- Estimated connected load (watts/ft²) for lighting, receptacles, appliances and mechanical equipment without diversity factors
 - Estimated maximum electrical demand (kW) using code-required demand and diversity factors.

7) Site & Infrastructure: Provide the following information at a minimum:

- a) Site layout showing how site features are accommodated on the site. Include general planning for current project and future projects near or on this site.
- b) Grading including major earthwork quantities, soil type(s) and groundwater depth
- Earthwork calculations - is site balanced? If soil will be imported or exported, provide estimated raw quantities in a table.
 - Groundwater depth at the time of soil borings and any other evidence of seasonal fluctuation in the project area. State whether dewatering is anticipated for underground utilities or foundations on this project.
- c) Landscaping features/structures and plants
- List of proposed plantings and seed mixes.

- Describe special care and maintenance recommended for the proposed planting or seeded areas.
- Special materials being used for landscape features.
- d) Fencing & Site Security
 - Design requirements including structural design for fences and gates
 - Fence materials; if different materials are being considered, provide cost and maintenance information on materials
 - Electronic security systems including cameras and motion detection
 - Site-wide communication systems
- e) Pavement structure design
 - Describe condition of existing pavement and soil conditions
 - Design vehicles – heaviest vehicle and show path of travel
 - Pavement structure(s) and description of soil stabilization materials or techniques due to soils with inadequate load-bearing capacity.
- f) Vehicle paths of travel
 - State design vehicles—largest vehicle (use AASHTO vehicle classifications) that will use the site.
 - Show the vehicle routes with turning movements of largest vehicle.
- g) Parking
 - number and size of stalls including handicap stalls;
 - explain whether the number of stalls provided meets program requirements and regulatory requirements;
 - show vehicle and pedestrian travel paths including handicapped path-of-travel through the parking area;
 - show snow storage area(s) and anticipated snow removal pattern.
- h) Pedestrian paths and handicapped path-of-travel through the site
- i) Stormwater quantity system performance
 - Stormwater conveyance routes and storage areas for intense storms producing high amounts of rainfall. Provide hydraulic and hydrologic data summaries for all existing and proposed pipes, channels, grade stabilization structures and other runoff conveyance systems in service at the completion of the project.
 - Show overflow routes from ponding areas, basins and localized low points on the site. If an area is served by a storm drain, assume that storm drain is blocked or inundated and show the overland flow route and the depth of the water.
 - Provide calculations for the maximum depth of water in swales, ditches and ponding areas, and overflow routes for the 100-year, 24-hour storm in the project area. If runoff is routed through storm sewer pipes, provide calculations for the amount of water entering the pipe at drains, grates and other inlet structures.
- j) Stormwater quality management system
 - Description of the proposed storm water management features, including locations.
 - Geotechnical report with a map showing soil boring locations and soil strata at stormwater management locations.
 - Pre-development and post-development hydrology and pollutant loading (if applicable) data for the project, such as peak flows and runoff volumes, as needed to meet the requirements of WDNR and applicable local ordinance. All major assumptions used in developing the input parameters shall be clearly stated and cross referenced to drawings.
 - BMP design data and calculations for each proposed BMP showing how it complies with applicable technical standards and the requirements for WDNR and applicable local ordinance.
- k) Site emergency vehicle access and fire hydrant location
 - Show emergency vehicle route from the main entrance or the main road.
 - Show emergency vehicle route through the project site.
 - Show existing and proposed fire hydrants. If existing hydrants are to be kept in service, provide verification that hydrant is in working order and provide flow data.

8) Site Utilities & Building Utility Services

State institutions often own and operate the utility systems providing service to the buildings. Any utility systems modifications, including those required to serve new or remodeled buildings or features, must be addressed in this section.

a) Domestic Water and Sanitary Sewer: Provide the following information at a minimum:

Domestic Water

- Existing water distribution and service pipes, storage and pumps -- include age, material, size and condition.
- Existing water source / supply facilities – include municipal wells, municipal meter pits, institution-owned wells and on-site storage tanks or reservoirs. Provide age, material, size and condition, fire flows for hydrants near project, and actual pump capacity for existing state-owned wells serving the institution.
- New water facility description, area map, and project requirements. If a new well is included in project, provide information (drilling logs and DNR reports) for wells in the vicinity of the project.
- Electrical requirements for wells, chemical treatment, and booster pump stations. Identify electrical supply location, available capacity and voltage phase.
- Supervisory control or SCADA: List systems being controlled and monitoring location(s). If SCADA will be tied into an institution or building specific control or monitoring system, describe connection or integration.

Sanitary Sewer:

- Existing sewage collection pipes, pump stations, grinders, comminutors, screens, and service pipes and grease traps – include age, material, size, condition, and remaining capacity.
- Sanitary service sizing and condition of existing service pipe if new pipe is not in the project. Provide televising report for pipes remaining in service.
- Anticipated wastewater flows to wastewater treatment plant receiving waste.
- If wastewater treatment system is included in project, provide full description of proposed system, including typical maintenance needs, minimum and maximum flows handled by the system and any limitations of the system.
- Electrical requirements for pump stations and wastewater treatment systems. Identify electrical supply location, available capacity and voltage phase.
- Supervisory control or SCADA: List systems being controlled and monitoring location(s); if SCADA will be tied into an institution or building specific control or monitoring system, describe connection or integration.

b) Central Plant Utilities: Provide the following information at a minimum:

Building Load Information

- Peak Heating Load
- Peak Cooling Load

System Descriptions

- High Pressure Steam and Condensate description including but not limited to: existing campus capacity and available capacity for this project, pressure(s), temperature(s), distribution type (box conduit or direct bury), insulation type, approximate length of route to connect to nearest existing distribution and number of new manholes required (if any)
- Chilled Water description including but not limited to: existing campus capacity and available capacity for this project, pressure, temperatures, pipe material type, insulation type (if required), approximate length of route to connect to nearest existing distribution and number of new manholes required (if any)
- Project phasing description, including how and when each phase will be constructed

Engineering Criteria and Calculations

- High Pressure Steam and Condensate: Approximate length of route to connect to nearest existing distribution, base load of steam (PPH), pipe size and velocity at peak load
- Chilled Water: Approximate length of route to connect to nearest existing distribution, base load of chilled water, pipe size and velocity at peak load

c) Electrical & Communication Utilities: (See Section 4.K.3.f.6)

4.K.3.g Equipment

Provide information about fixtures, furnishings and equipment (generally described as Equipment) which will be obtained outside the construction contract(s) in this section. The AE's contract may include making Equipment selections or recommendations. This Equipment may be furnished and delivered by the following methods:

- Agency purchase through the project
- Agency purchase outside the project
- "Equipment Only" bid through the project

The Project Manager is responsible for obtaining Equipment information from the Agency. This Equipment will be installed by the Contractor. All other fixtures, furnishings and equipment will be furnished, delivered, and installed by the construction contract(s).

NOTE: Agency installation of Equipment, including installation by vendor procured by the Agency, is not eligible for project funds.

- 1) Provide a listing and description of fixed, movable and special Equipment. Refer to section 3.D.10 and 3.D.11 for information about types of equipment. Specifically, state whether the Agency or Contractor will install each piece of equipment.
- 2) Include any special design requirements for the equipment such as the following:
 - a) Structural loading or anchoring
 - b) Building or site access route
 - c) Electrical load or connection
 - d) LAN connection/communications
 - e) Building controls interface
 - f) HVAC heat dissipation
 - g) Plumbing supply or waste connection
 - h) Fire suppression or alarm
 - i) Long lead-time

If the specific loading or utility demands are not known at Design Report, indicate buildings systems that will be affected by the Equipment.

- 3) Systems furniture and cubicle furniture may be generally described and listed by the number of offices or cubicles of each size or type.

4.K.3.h Construction Sequencing & Schedule Coordination

This section identifies project specific schedule requirements and construction sequence information and coordination specific to this design. Discuss how the following issues are being addressed in this design schedule and budget.

- 1) Provide project specific deadlines for bidding, construction contract execution, or occupancy, noting that the Agency may have to provide this information.
- 2) Construction Sequencing

- a) List phases/stages (may be individual construction contracts) of the project with a brief description of each phase/stage.
 - b) If the design is dependent on construction sequencing, list the construction sequence for the proposed design and highlight items that are on the critical path to meet the overall project schedule.
- 3) Impacts on occupants during construction
 - a) Access, noise, odor and dust control
 - b) Occupant relocation within the building
 - c) Occupant safety and building code compliance
 - d) Phased occupancy of completed areas
 - 4) Utility service to the building or structure
 - a) Utility shutdowns for service pipe or utility main work; list affected utilities.
 - b) Temporary utility service.
 - 5) Impacts on building systems
 - a) Interruption of building systems; list affected systems.
 - b) Temporary systems to maintain security or occupancy; list affected systems.
 - 6) Identify long lead-time equipment, systems and components that may impact construction schedule.
 - 7) Identify review approvals and permits with schedule restrictions and explain how those restrictions will be met.
 - 8) Identify other work outside of this project, which must be completed in conjunction with or in advance of this project.
 - a) Name of the responsible party
 - b) Description of the work
 - c) Projected completion date

4.K.3.i Budget Detail

Provide a breakdown of the total project budget for the Design Report using the Design Report Budget Detail spreadsheet. Do not submit multiple cost breakdowns; the A/E's may provide more detail in the construction breakdown following the format of the Design Report Budget Detail spreadsheet. The Project Manager has the option to include the more detailed budget breakdown in the Design Report Appendix. Omit any categories that are not pertinent to the project. Round estimates to the nearest one thousand dollars and known costs may be rounded to the nearest hundred dollars. Budget line explanations follow.

Construction:

Provide a breakdown of the following major components of work. The project manager may require additional breakdown.

- Demolition of Existing Facilities – includes removal of existing structures, site features, pavement and landscaping. Underground or overhead utility removal and/or abandonment and stabilization of the remaining utility components that is being completed prior to construction of new work should also be included in this cost.
- Hazardous Material Abatement – includes the abatement and/or removal and proper disposal of asbestos-containing material (ACM), lead-based paint (LBP), PCB-containing lamp ballasts (PCB) or other hazardous materials.
- Contaminated Soil Abatement: includes the removal of above ground or underground fuel storage tanks, removal or remediation/monitoring of underground hazardous materials, and removal or remediation/monitoring of contaminated soil and any associated environmental cleanup. Monitoring beyond the end of the project should be noted and explained in the Design Intent (4.K.3.f)

- Building and Building Systems – Includes the structure of the building and all building systems. Each building system cost will include the equipment for that system. General Building Construction will include the equipment and furnishings in specification Divisions 11 and 12. The project manager may require an equipment list with costs for the building and any building systems.
- Site and Infrastructure – Includes all work on the project site outside the building, including construction in remote areas. Include costs for equipment in the respective Site and Infrastructure line. The project manager may require an equipment list with costs for each respective line.
- State-Owned Utility Upgrades/Extensions – Includes all state-owned underground and overhead utilities that must be extended, relocated, replaced or constructed to serve the facility. These utilities may include domestic water, sanitary sewer, steam or hot water heat, chilled water, primary electric, communications, and stormwater drainage and quality facilities.
- Work By Agency – Construction – Describe construction being done by the agency and include all project costs associated with that construction such as materials, shipping, rental equipment, non-state labor and utility locating by a third party.
- Allowances/Other – Allowances stated in the bid documents such as preparation of special mock-ups or material samples.
- Construction Testing – 3rd party testing hired by DFDM such as medium voltage line and equipment installation testing.
- Private/Municipal Utility Costs – Includes fees and expenses for utility extensions, relocations, removal or connections for private or municipal utilities. Obtain an estimate of costs from the private or municipal utility for work done by the utility or fees paid to the utility. Include the estimate in the Design Report attachments.

Construction Contingency:

This is intended to cover unforeseen conditions during bidding and construction. The Project Manager will approve the contingency allowance (typically 8-10% of estimated construction cost).

DFDM Management:

The DFDM Management fee will be calculated as 4% of Construction Total plus Construction Contingency.

AE Fees:

A/E Fee: Includes prime AE and subconsultant fees for basic services for design, bidding and construction.

Equipment:

Provide budget estimate for fixtures, furnishings and equipment (generally described as Equipment) which will be obtained outside the construction contract(s) in this section (see 4.K.3.f). An Equipment list with budget estimates is provided by the Agency for some Equipment. The Project Manager will provide the Agency Equipment information to the AE. See Section 3.D.10 Fixed Equipment and 3.D.11 Movable Equipment and coordinate with 4.K.3.g.

The Equipment section of the budget includes the following:

- Furnish and delivery cost for Equipment purchased by the Agency with project funds.
- Contractor installation cost for Equipment furnished and delivered by the agency outside the project funding.
- Furnish and delivery cost, and contractor installation cost for Equipment bid under a separate “Equipment Only” contract.

Budget estimates for Building and Building System, and site fixtures, furnishings and equipment that will be furnished, delivered and installed through the construction contract(s) will be included in the respective section/division of work under the “Construction” portion of the DR Detailed Budget.

Other Fees:

Itemize the following, if not included in the Prime AE Team Contract as basic services, additional services or reimbursables:

- Pre-design Consultant Services including investigations (from DFDM PM): If a separate contract for pre-design services and investigation was prepared, include that amount in this line. Note the DFDM project number for this pre-design effort.
- Hydronic or Air Flow Testing (HVAC): Includes fees for consultant services such as investigation, testing and report preparation.
- Geothermal Wellfield Conductivity Test: Includes fees for consultant services such as investigation, installation and testing and report preparation
- Commissioning Agent 3rd Party (from DFDM PM): Includes fees for level 1 or 2 commissioning by a 3rd party agent.
- EA / EIS Consultant Fees (from DFDM PM): Includes fees for preparation of environmental assessment or environmental impact statement.
- Asbestos Abatement Design (from DFDM PM): Includes fees for asbestos testing, abatement design, or air monitoring during abatement or construction.
- Contaminated Soils Abatement: includes costs for determination of extent of contamination, soil removal or mitigation plan and approval by WDNR.
- Facility Condition Assessments: Includes investigation of existing conditions and may include evaluation for future use.
- Historic Structures Report
- Historic Structures Preservation Plan
- Archaeological Investigation: Includes fees for investigation and preparation of an Archaeological Site Investigation Report and submittal thereof to the Wisconsin State Archaeologist and State Historic Preservation Officer. Also includes fees for Archaeological observation during earthwork phase of construction.
- Geotechnical Investigation
- Topographic Survey
- Utility Testing or Condition Inspection
- Plan Review Fees
- LEED Registration and Certification Fee
- Other: Other consultant fees not included in the Prime AE Team basic services, or in the above sections. List the service provided and the fee for each consultant.

Explanatory Notes (following the Design Report Budget Detail spreadsheet):

- State any assumptions or special conditions inherent in the estimates;
- Identify any “multipliers” factored into the estimate to account for inflation, accelerated construction schedule, secure site (correctional facilities), partial occupancy during construction, or any other special conditions.

4.L Preliminary Review

4.L.1 GENERAL

The Division of Facilities Development and Management (DFDM) will review completed Preliminary Design Documents before approving the design for further development. The intent of the Preliminary Review is to determine that the project, as presented in the submittal documents, meets the Program scope and the goals stated in Section 4.J.1. The Preliminary Review submittal consists of the Preliminary Drawings, Preliminary Project Manual and the “draft” Design Report, if one is required.

4.L.2 PROCEDURE

The review procedure typically follows these steps:

- 1) A/E will submit review documents to the Project Manager, providing up to 15 sets (by contract), verifying exact quantity with the Project Manager. Provide an electronic copy and a hard copy of the Design Report submittal.

- 2) Project Manager will distribute documents to DFDM reviewers. Typically 3 to 4 weeks will be allowed for review, depending on project size and complexity; longer review periods may be necessary due to workload.
- 3) DFDM reviewers evaluate the A/E firm and post review comments in WisBuild, which automatically notifies the A/E WisBuild and Prime contacts plus pertinent subconsultants. Other reviewers will submit review comments to Project Manager, who will then forward to A/E. See the WisBuild On-line Help Manual and search for Consultant Evaluations/Reviews.
- 4) Phased project reviews are entered with the two-digit phase number so the appropriate A/E's are notified and scored.
- 5) Project Manager will review comments from Agency in order to clarify any inconsistencies with DFDM comments. In case of disagreement between Agency and DFDM comments, the DFDM comment/policy will take precedence. It is the A/E's responsibility to seek clarification from the DFDM Project Manager and/or technical reviewer.
- 6) A/E will respond via WisBuild to each DFDM review comment. For any other review comments, A/E will respond to each comment via email. *DFDM expects that review comments will be followed and incorporated into the design.*
- 7) For large or complex projects, a review meeting will be held to discuss comments.
- 8) A/E is to finalize the draft Design Report after incorporating the preliminary review comments into the project drawings and specifications and any Design Report changes associated with the cost or noted design comments. Submit one electronic copy of the finalized Design Report and check with the Project Manager on the number of hard copies required.

4.L.3 FINAL DESIGN DOCUMENTS

It is essential that all Program, budget and legal issues (zoning, environmental impact or historical review) be resolved before moving ahead with detailed design.

For most projects, after the Project Manager accepts the A/E's response to review comments, the A/E may commence with preparation of the Final Design Documents with the Project Manager's verbal directive.

For projects where the A/E contract is funded only through Preliminary Design, the A/E may not proceed with Final Design Documents until the project is approved through construction by the State Building Commission. Upon such approval, the project is funded for the balance of the services and written authorization to proceed will be provided by the Project Manager.

END OF SECTION FOUR

SECTION FIVE • FINAL DESIGN DOCUMENT PHASE

5.A Final Review Documents

5.A.1 GENERAL

The project manual plus any drawings bound separately comprise the *bidding documents*. The working drawings and specification documents should communicate:

- to bidders - the information necessary for knowledgeable, accurate and competitive bidding;
- to the building trades - the information necessary for practical, cost-effective and technically appropriate construction.

Achieving these goals depends not only on sound design and technical decisions, but also on skillful graphic and verbal communication. The Division of Facilities Development and Management (DFDM) expects A/E firms to have a formal quality control system for checking and coordinating project documents that addresses DFDM's priorities. DFDM strongly recommends that A/E's use a checklist during preparation of the working drawings and specification documents and for final quality assurance at the end of production.

DFDM's preliminary A/E consultant reviews are to be incorporated into the final documents and all coordination issues are to be addressed. Do not submit incomplete drawings for the Final Review or print-ready documents. The quality of the documents are evaluated at the end of the Final Document and Construction Phases. See DFDM Consultant Performance Evaluation Process.

5.B Construction Specifications – Project Manual

5.B.1 GENERAL

The Division of Facilities Development and Management (DFDM) uses the Construction Specifications Institute (CSI) 33-division spec format. The DFDM Division 01 must be used for the bidding requirements, contract conditions, and general project requirements. There is no separation of bidding requirements from contract requirements, as there is with CSI. DFDM has no Division "0"; this means that all bidding requirements are part of the construction contract.

The Specifications are comprised of: Front End (Division One) including Title page, Table of Contents, Invitation to Bid, Instruction to Bidders, Bid Forms, Supplementary General Conditions, and General Requirements; the Technical Specifications are Divisions Two through Thirty-Three. The A/E must edit these specifications to uniquely fit each project.

For ease of reference, the DFDM Master Specifications and guidelines are incorporated into one link and can be accessed directly from the DFDM Home Page, under "Master Specifications/Design Guidelines". DFDM Master Specifications include text instructions to the specification writer that are screen-viewable in bold red font; these instructions must be edited from the finished specifications. The A/E is expected to carefully edit the specifications for accuracy.

Division 01 specifications - Front End, Major Projects - Manual for Preparation of Specifications – is a template for the development of the bidding requirements including general conditions and supplemental requirements. These documents must be adhered to and edited specifically for the conditions of the project. Division 2 through 33 are edited as DFDM master specifications. Additional specifications can be added; format the specifications following the CSI layout. The design should also follow the DFDM Design Guidelines.

Specifications must be produced using Microsoft Word or other software that is fully convertible to MS Word file format without loss of content or formatting. For the final documents, the A/E is to provide

Section 5.G Electronic Print-Ready copies. Reference these requirements to assure any edits or new specifications sections follow DFDM requirements.

Section / Division	DFDM Master Specifications	Title
01 -Front End		Front End
02 -Existing Conditions		Existing Conditions
03 -Concrete		Concrete
04 -Masonry		Masonry
05 -Metals		Metals
06 -Wood, Plastics and Composites		Wood, Plastics and Composites
07 -Thermal and Moisture Protection		Thermal and Moisture Protection
08 -Openings		Openings
09 -Finishes		Finishes
10 -Specialties		Specialties
11 -Equipment		Equipment
14 -Conveying Systems		Conveying Systems
21 -Fire Suppression		Fire Suppression
22 -Plumbing		Plumbing
23 -HVAC		HVAC
26 -Electrical		Electrical
27 -Communications		Communications
28 -Electronic Safety and Security		Electronic Safety and Security
30 -Common Work Results for all Exterior Work		Common Work Results for all Exterior Work
31 -Earthwork		Earthwork
32 -Exterior Improvements		Exterior Improvements
33 -Utilities		Utilities

5.B.1.a Bidding and Contracting Requirements

Major and Minor projects are required to follow the formal Division 01 format and its attachments. For bidding procedures for Small Projects, see the DFDM website and the Guidelines for the Small Project Program.

Note: Asbestos Abatement: DFDM may select to oversee the asbestos abatement as work by Owner up to \$300,000 or bid the work with the construction project. Work with the Project Manager and the DFDM Asbestos Specialist to determine how the abatement will be completed. If abatement is part of the A/E services, coordinate the requirements with the Project Manager and DFDM Asbestos Specialist to assure Division 01 is appropriately edited for the work.

5.B.2. DIVISION ONE – BIDDING REQUIREMENTS

Reference the Major Projects – Manual for Preparation of Specifications (Front End) for Division 01 specification requirements, required edits and appropriate document attachments. Include the standard DFDM documents within the final print-ready set of the project manual. The DFDM Division 01 Bidding Requirements reflect bidding procedures that are required by statute and are intended to promote competition and fairness among all bidders. The following information will assist with the editing of the Division 01 template. Note that DFDM has protected the Division One front end, and consultants **should not** attempt to change or modify the template language.

5.B.3 INVITATION TO BID

A copy of the Invitation to Bid is posted on the DFDM website under Project Bidding Information. This document should provide enough information that a contractor can determine if they are interested in obtaining the documents to review for possibly submitting a bid.

Bid Date: As soon as the A/E can confidently schedule submittal of final bid documents to DFDM, the A/E and Project Manager will determine a bid date and a project posting date for availability of the bidding

documents. The Project Manager will reserve the bid date on the DFDM bid calendar. The length of the project bidding period for projects with total budgets exceeding \$300,000 is a minimum of 30 days and for Small Projects may be less than 30 days but shall be no less than 10 days. In very rare instances, if there is a unique circumstance requiring less than a 30 day bid period, and the project is not defined as a 'Small Project' nor a postponement, the Project Manager shall notify the Project Delivery Section Chief and copy the Bureau Director of Architecture and Engineering. The notification shall include budget, SBC approval date and reasoning behind a less than 30 day bid period. Contractor organizations are notified of less than 30 day bid periods through the project advertisement (Invitation to Bid) posting on the DFDM Projects Bidding Website.

Place of Bid Opening: Projects at Eau Claire, Menomonie, River Falls or directly north to Lake Superior (all Agencies) are to have bids received and opened in Eau Claire. All other projects are to be bid at the Madison location. The DFDM address referencing the post office box should never be listed for receipt of bids. Edits to the Division 01 document may be required to the correct bidding locations.

Pre-Bid Meetings/Tours: Pre-Bid Meetings or Site Tours may be optional or mandatory. If there is a scheduled pre-bid meeting or site tour, it must be so indicated in the Invitation to Bid or added via addendum. Briefly indicate time, place and name and telephone number of contact person. Additional information may be provided in the Instructions to Bidders Article 1, "General". Any Pre-Bid Tour should be scheduled to take place at least ten days before Bid Opening; this allows time for issuing an addendum seven days prior to Bid Opening. Mandatory pre-bid tours are discouraged. If the A/E and Project Manager decide that it is appropriate, then it must be so indicated in the Invitation to Bid.

5.B.4 INSTRUCTIONS TO BIDDERS

General: Provide detailed information regarding bidders' access to the site, expanding on the information given in the Invitation to Bid, as appropriate: hours of access, point of entry, parking, name and telephone number of person to contact, security clearance, time and place of pre-bid tour or conference, if any. Provide special notice where Pre-Bid Tour is mandatory.

Method of Award, Base Bid, and Contractor Certification: The 2013-15 Wisconsin State Budget (2013 Wisconsin Act 20) significantly altered the bidding contracting processes for state construction projects. In summary, it created a mandatory pre-bid contractor certification program and required that all projects over \$300,000 are let through single prime bidding and contracting. Under the new laws, all potential bidders must become certified by the Wisconsin Department of Administration (DOA) **prior** to submitting bids. All bids received from contractors who are not certified will be rejected.

The single prime bidding and contracting process will involve bidding the Mechanical, Electrical, Plumbing, and Fire Protection (MEP) divisions of work before the General Prime Contractor bid date. DFDM will identify the lowest, qualified, responsible, certified bidders in each MEP division of work for the General Prime Contractors to include in their bid. **General Prime Contractor bids that do not include the successful MEP bids identified by DFDM will be rejected.** The lowest, qualified, responsible, certified General Prime Contractor will enter into a contract with the State and into subcontracts with the identified MEP bidders. The subcontracts between the General Prime Contractor and an MEP Subcontractor must contain exact language detailed in Wis. Stat. s. 16.855 (14m) (a) and (19) (b) regarding prompt payment, insurance and bonds, indemnification, and retainage. The subcontracts must also include identical scope of work clauses.

Informational Bids: On rare occasions, informational bids may be required for purposes of accounting or tracking funds, such as costs that the occupying Agency funds will support. Informational bids are not used to: 1) add or delete designated work from the project; 2) determine the lowest, qualified responsible bidder. Informational bids will be included only at the direction of the Project Manager.

Unit Prices: The Project Manager may request inclusion of unit prices to add or delete work from the contract by Change Order. Unit prices may be obtained for lineal footages such as tuckpointing additions or credits, additional telecommunications drops, or electrical outlet additions where the Agency has not fully determined usage of the space. The A/E must provide a brief description of the work or material,

intended application, unit of measure and an estimate of the anticipated quantity. Unit prices may require additional detailed supporting information in the applicable Technical Sections.

Stated Allowances: The Project Manager is to indicate if stated allowances should be included in the Instructions to Bidders. These allowances may be only for one contractor, all contractors, or just the general contractor. If work crosses several trades, work with the Project Manager on the amount that each prime should include as an allowance.

Commencement and Completion: The A/E, in conjunction with the Project Manager, is to determine the estimated completion time for the project or specific dates that the equipment, systems or Agency must occupy the facility. If specific dates drive the completion date, the completion date will be adhered to within the Notice to Proceed. If the amount of days required to complete the work establishes the completion date, the Notice to Proceed will reflect the count of consecutive calendar days. The contractor Notice to Proceed will be issued at the time the contracts are signed and in effect. The A/E is required to develop a high-level milestone project schedule that shall be included in the Instruction to Bidders for both MEP bidders and General Prime Contractor bidders. The schedules must be identical and must be realistic schedule milestones for all contractors to base their bids upon. These milestones will be incorporated into the master project schedule after the Notice to Proceed is issued.

Work by the State: Any work related to the project, taking place within the contract limits, but not included in the scope of work of the contract(s), must be listed here. This usually includes work such as asbestos abatement, installation of systems furniture or other Owner-furnished equipment, direct digital controls/energy management system and/or other testing. The Project Manager will work with the Agency and DFDM to distinguish between work/material, which is simply “furnished” vs. “furnished and installed” (i.e. “provided”) by the State.

5.B.5 BID FORM

When editing the bid documents, ensure consistency in the Invitation to Bid and all Bid Forms, verifying dates, project numbers and that the Bid Forms base, informational and unit prices are consistent with the Instruction for Bidders.

In determining the low bidder, DFDM can consider *only* the information submitted on the Bid Form. It is therefore very important, in the interest of fairness and legality, that this form be clear and complete. The GPC bid form must also include any MEP bid form unit prices, allowances, and informational bids since the GPC is required to include all work in their bid.

5.B.6 READ-ONLY DIVISION 01 FORMS

DFDM provides Read-Only Forms that the A/E must incorporate into the print-ready document set. Always download the documents from the DFDM website to ensure the latest revision is included within the project. The Division 01 Table of Contents template indicates the order that the documents are to be assembled.

Bidding Requirement Forms

- **Bid Bonds:** Both MEP and GPC bidders must guarantee their bids by submitting this completed form or a certified check;
- **Request for Subcontractors Approval:** The apparent low bidder must submit this form to DFDM within seven calendar days of the Bid Opening. DFDM uses this form to approve subcontractors, as required by Statute 16.855(13)(b);
- **Form A, Affidavit of Compliance – Minority Business Enterprise (MBE) and Disabled Veteran Owned Business Provisions:** The apparent low bidder must submit this form to DFDM within seven calendar days of the Bid Opening. DFDM uses this form to monitor the bidders’ participation in the MBE Program;
- **Value Enhancement Proposals:** DFDM requires contractors to submit this form in order to identify potential additional cost savings (this form is only to be used on Small Projects);
- **Designation of Confidential and Proprietary Information:** Bids submitted to the State become public records. This form may be submitted if a bidder wishes to protect confidential or proprietary information submitted as part of a bid.

Contract Forms

- A sample Construction Contract Form and separate Performance and Payment Bonds are included for the bidder's reference.

5.B.7 CONDITIONS OF THE CONTRACT - GENERAL REQUIREMENTS

The General Requirements specify the administrative and procedural requirements that govern the execution of the technical sections; they include any special conditions or requirements that affect the Contractors' work but may not be shown or stated in the drawings or technical specifications. This includes items such as temporary facilities, construction and utilities not part of the finished construction. The General Requirements require extensive editing by the A/E in order to be as project-specific as possible.

The General Requirements Table of Contents must include all headings, whether used or not, so that articles are always numbered the same from project to project. Include all headings within the text, too. For articles that do not apply to the project, simply state: "Not Applicable to This Project" after the heading.

5.B.8 SUPPLEMENTARY GENERAL CONDITIONS

Two Supplementary General Conditions are provided within the Division One template. The standard Supplementary General Conditions is used for projects that have only State funding. Projects that have Federal Funding may require the Federal Supplementary General Conditions (noted by the request for Federal Project No. in the heading.)

5.B.8.a Time for Completion of the Project - Liquidated Damages

For projects with critical occupancy dates, DFDM will determine if it is appropriate to establish cost penalties for not completing the project on time. The specific dollar amount of damages must be justified against what the State will suffer by the actual damages. In the Supplementary Conditions, Time for Completion of the Project, the A/E is to document the completion date and the amount of liquidated damages including how the costs will be incurred, such as daily costs, weekly, etc.

5.B.9 PREVAILING WAGE RATES

The 2017-2019 Wisconsin State Budget (2017 Wisconsin Act 59) repealed Wisconsin's prevailing wage laws. Effective September 23, 2017, state prevailing wage requirements on state building projects no longer apply. This change does not affect the Federal Davis Bacon requirements.

Under the federal Davis-Bacon and related Acts, any construction contract over \$2,000 that is federally funded or assisted requires a federal wage rate determination. Confirm with the Project Manager and the Agency if there are federal funds supporting the project that are subject to the Davis-Bacon wage rates.

5.B.9.a Federal Wage Rates:

The Architect/Engineer is responsible for obtaining the federal (Davis-Bacon) Wage rates and including the Federal Supplementary General Conditions within Division 01. The Davis-Bacon Wage Determinations are wage determinations issued by the U.S. Department of Labor under the *Davis-Bacon and related Acts*. The Wage and Hour Division of the U.S. Department of Labor determines Prevailing Wage Rates to be paid on federally funded or assisted construction projects. It is the responsibility of the State to ensure that the federal agency funds or financially assisted projects adhere to the Davis-Bacon wage determinations as applied to construction projects.

The federal wage rate decision generally takes about 30 days, so DFDM recommends initiating the application approximately six weeks prior to submitting bid documents to DFDM.

5.B.9.b Inserting Wage Rates into Bid Documents

If federal wage rates are required, these should be included in the Supplementary General Conditions of the bidding documents.

5.B.10 SUBMITTAL LISTING

The bidding documents shall include a Submittal Listing compiling the submittal requirements listed throughout the technical specifications. Indicate the pertinent technical specification, shop drawing requirements, samples, cuts, catalogs, models, mockups, quantities, and other requirements. This Submittal Listing can be included in a submittal log format for use during the Construction Phase for submittal review, comments and approval tracking.

5.C TECHNICAL SPECIFICATIONS (Divisions 2 through 33)

5.C.1 GENERAL

For any work not covered by a Division of Facilities Development and Management (DFDM) master specification, the A/E is responsible for preparing a specification, following the CSI format. The level of detail and complexity of the specification must be appropriate to the scale, conditions, and type of work involved. It is important that the specification is clear and concise in language, comprehensive in scope, and precisely coordinated with the drawings. All work shown on the drawings must be covered under the appropriate technical section. The statement “as shown on drawings” must be specifically coordinated with drawings in every instance. The terminology used on the drawings must be the same as that used by the specification writer. Avoid redundancy. Say it once and say it right.

It may be necessary to subdivide work in a way that observes State licensing laws; work that is separately licensed (for example, plumbing and fire protection) needs to be specified in separate sections.

5.C.1.a Page Format

Identify each page with the Section number, page number, technical section title, and DFDM project number at the bottom center of the page. Do not include A/E’s project number. Do not date individual technical sections. Number each line and follow the DFDM/CSI format including noting the end of each Section. All Sections, including those written by sub-consultants, are to be printed with the same page formatting, numbering system and font style. A uniform and professional appearance lends credibility to the document.

5.C.2 PROPRIETARY SPECIFICATIONS

Proprietary, or “sole source”, specifications are generally prohibited by Wisconsin Statute 16.855(10). This means that the A/E may not specify or reference a particular trade name, model number, manufacturer, or supplier – in specifications, schedules or drawings – unless at least one (preferably two) other sources, equals or manufacturers are also listed. Open bidding competition is important and during specification development, the A/E is responsible for checking the current availability and compliance to the specification when indicating equals. The specifications are the only place where proprietary names may be used. The drawings must use generic names only.

In unusual situations, the A/E may be able to justify to the Project Manager that a unique product or material must be used in order to satisfy Program or design requirements. In these cases, the Project Manager will coordinate the publishing of a Proprietary Acquisition on the DFDM Projects Bidding Website. Common usage of proprietary acquisition is an extension of an existing service such as a computerized mechanical control or security system or matching of existing equipment where a change in product would require additional infrastructure or complete replacement of an existing system.

5.C.3 DEDICATION PLAQUE

Dedication Plaques are required for most building construction projects with total project budgets greater than \$2,500,000. This includes significant building additions and renovations that are comprehensive in scope. Plaques are not required for remedial, utilitarian, maintenance projects or for facilities that are not normally open to the public.

The plaque is to be installed prior to Substantial Completion or dedication of the facility. Plaque shall be installed in the lobby or main public space of the building, as approved by the DFDM Project Manager. The plaque will be specified by the A/E and will normally be provided by the general contractor.

The design of the plaque will follow the DFDM master Specification Section 10 14 16 - Building Dedication Plaque that contains the DFDM "Dedication Plaque Standard Detail". The standard detail specifies the material (bronze) and letter style, but the A/E may propose an alternative material and/or letter style for consideration by DFDM, if deemed appropriate for the design of the building.

The DFDM Project Manager will provide the A/E with the names of individuals who will be identified on the plaque. The names of the governor and State Building Commission (SBC) members will be those who held those positions when the project was approved for construction. Naming of DOA personnel is optional. The Architect or Engineer named will be the prime A/E. The contractors to be named are only those with significant prime contracts, including the MEP subcontractors identified by the State. The date will be month and year of Substantial Completion or dedication. The A/E is responsible for submitting the Dedication Plaque shop drawing to the Project Manager for final approval prior to releasing for construction.

5.D Final Review Drawings

It is expected that working drawings will:

- Be comprehensive and coordinated between the various disciplines and within the specifications;
- Appropriately distinguish work between separate contractors;
- Incorporate applicable Division of Facilities Development and Management (DFDM) Design Guidelines;
- Incorporate DFDM preliminary review comments;
- Reflect the high priority the DFDM places on the exterior envelope of facilities;
- Incorporate detailing which emphasizes constructability, maintainability, sustainability, low life-cycle cost and reliability;
- Minimize DFDM and A/E exposure to Addenda and construction Change Orders.

5.D.1 DRAWING FORMAT

DFDM requires that construction drawings be CAD-produced. Manually drafted documents will be permitted only in rare cases and only with the explicit prior approval of the Project Manager. A set of CAD-produced drawings must be entirely CAD-produced and may not include manually drafted drawings. All details and schedules are to be on the drawing sheets unless approved otherwise by the Project Manager.

The project-identifying information contained in the title block must appear on the Title Sheet (if used) and on the cover of the Project Manual—this information *must be* identical and consistent in each place. See DFDM CAD Standards for detailed drawing format, drafting standards and links to title block template drawings. For Final Review, the Project Manager may elect to receive ½ sized prints.

5.D.2 DRAWING CONTENT

The exact content of final drawings depends on the nature and scope of work. Since the basis for the final documents lies in the preliminary drawings, DFDM's expectations and requirements for the bidding drawings are described under Preliminary Drawings (See Section 4.J.2). Importance is placed on the principles stated in Section 4.J.2.b.

Prior to final submittal to DFDM, the A/E shall check that:

- The project title and identifying information that appears on the Title Sheet is identical to that on the cover of the Project Manual. The title may be different from what is listed in WisBuild. Provide a clear concise title that represents the project. The Agency name or abbreviations do not need to be repeated within the title. Verify the project title with the Project Manager.
- The date of the A/E's professional seal is the same or later than the date appearing on the drawings and Project Manual;
- That the working drawings and specifications are 100% complete and are ready for review;

- The drawings do not contain a copyright symbol; see “*A/E Contract for Professional Services*”, Article 7.A.

5.E Final Review

5.E.1 GENERAL

The A/E is to submit 100% complete and print-ready final design documents and cost estimate to DFDM for review. The final review comments from DFDM, the Department of Safety and Professional Services or the reviewing agent are to be incorporated into these documents in preparation for the final review documents. The ultimate goal is to have no addenda during bidding or change orders during construction. DFDM's intent is to review for conformance with the goals stated in Section 5.A.1. The final review submittal consists of:

- a) Final review specification – Project Manual and drawing documents including a complete Division 01
- b) Final review drawings
- c) Final cost estimate

5.E.2 DRAWINGS AND PROJECT MANUAL

Prior to submitting the final review electronic documents, the A/E should check the prints for accuracy. Ensure that DFDM, CxP and the Department of Safety and Professional Services comments are incorporated. Ensure that titles are consistent, drawings meet DFDM CAD standards, and Division 01 accurately reflects the project requirements. The A/E is responsible for the quality and accuracy of the documents and making any necessary revisions – even if the documents have been sent to DFDM. Returning and resubmitting documents for unexpected revisions or corrections may result in missed deadlines, addenda or bid postponements.

Submittal Reminders:

- No copyright symbols
- Table of Contents (drawings and project manual) must correspond to *actual* contents
- Date of Drawings = Date of Project Manual = Date on Bid Form = Date of professional seal
- Review File Naming Requirements in following section
- Review ‘CAD Standards Checklist’

5.E.2.a Drawing Requirements

Final electronic review drawings shall be submitted to DFDM in PDF format. A separate PDF shall be created for each drawing larger than 8 ½”x 11” in size. All PDF files shall be created with a minimum resolution of 150 dpi and be a ‘flat’ image with no layering or other AutoCAD attributes.

Refer to 5.E.2.d for pdf labeling requirements.

5.E.2.b Project Manual Requirements

The specifications shall be submitted to DFDM in PDF format. A single PDF file shall be created for each specification volume (approximately 300 pages). Photographs, cut sheets, or 8 ½” x 11” drawings within the specification volume must be included as part of the single PDF.

Prepare a PDF image of any original documents containing manually generated registration stamps, signatures, etc. Blank pages shall be indicated as intentionally left blank.

Provide page numbering and a margin of one inch on all edges to facilitate printing and binding of the specification volume, should the recipient of the electronic files choose to print the documents.

Compile the specification document files in the same order as the specification volume Table of Contents.

Provide electronic bookmarks for each PDF specification volume (approximately 300 pages). Bookmarks shall be created to reference the first sheet of each division of the specification volume, and for each individual form and/or segment listed under the Bidding Requirements of the specification volume Table

of Contents. Also create individual bookmarks for photos, cut sheets, or drawings (e.g. Division 22, Division 23, Bid Form, Bid Bond Form, A101, A102, etc.) in the specification volume.

5.E.2.c Document Submittal Process

The final review documents shall be submitted to the DFDM Project Manager as hardcopy sets of final review drawings and project manuals (quantities to be determined by the DFDM Project Manager) as well as a complete set of electronic final review documents uploaded to the DFDM File Transfer Site. The final review documents must be compiled and formatted as to facilitate review and printing by recipients of the electronic document files in a way that matches the hardcopy printed bidding documents (including the use of pages left intentionally blank so as to result in proper document facing). Instructions for the A/E's use of the DFDM File Transfer Site can be found at the following location on the DFDM website.

All drawing files shall then be compiled into zip files by volume and the zip files labeled as indicated below. Drawing files (pdf) and specification pdf files shall then be uploaded by the A/E to the DFDM SharePoint site. See Section 5.E.2.d for File Naming Requirements for Submittals.

Hard copy sets of drawings and specifications, representing the printed version of the electronic files, shall be bound in an acceptable manner (no three ring binders) and submitted at the same time that electronic documents are uploaded to the DFDM File Transfer Site.

Assemble the hard copy sets of the project manual and drawings in the order of the Table of Contents, binding in approximately 300 page volumes and 125 sheet drawing sets.

Note: A/E may submit half-size drawings, with the permission of the Project Manager, for final review, provided that: 1) all work is fully legible; 2) it is *clearly noted* that drawings are not to scale and 3) at least one full-size set is also made available upon request of the Project Manager for review.

The A/E is to check to make sure the hard copy sets of the project manual and drawings accurately represent the printed electronic final review submittal. DFDM expects A/E's to review their electronic final review document files prior to final submittal and correct any errors prior to uploading to the DFDM SharePoint file transfer site. Any errors or omissions found by the DFDM Project Manager will be corrected by the A/E at the A/E's expense.

5.E.2.d File Naming Requirements for Submittals

The following file naming standard shall be used for submittals to the DFDM File Transfer Site. The AE is reminded to properly include all required metadata on the File Transfer Site for all uploaded files. Uploaded files which are not in the proper site folder, properly named or inclusive of all required metadata may be returned by the Project Manager for correction.

(NOTE: Colors used in the file naming standards below are for clarification/illustration purposes only. Actual file names shall NOT use the colors.)

EXAMPLE file name for **PLAN SHEET** files:

01A1BRebid#.1-00-FR-A001.pdf

The first 5 alpha-numeric characters represent the **parent DFDM Project Number**

The **Rebid#** represents a **modification** of the **Project Number**, and where the # represents the version of the rebid (to be used ONLY if there is more than 1 rebid for the project) - See Section 6.C.5.

The **.1** represents the number of the **separate bid package** (See Section 1.C.4.b). Packages).

The **-00-** represents the **project phase** portion of the Project Number (See Section 1.C.4.a).

The **FR** represents the **document type**, where:

FR = Final Review Document,

BD = Bidding Document

SD = Supplemental Document (e.g. Addendum, Design Report)

CD = Construction Document

RD = Record Document

The A001 represents the Plan Sheet Number, and

The .pdf represents the document format (.pdf = Portable Document Format, dwg = AutoCad drawing file, xdoc = WORD document, xls.= EXCEL document etc...)

EXAMPLE file name for **SPECIFICATION** and **COST ESTIMATE** files:

01A1BRebid#.1-00-FR-Specification-Vol1.pdf

The first 5 alpha-numeric characters represent the **parent DFDM Project Number**

The **Rebid#** represents a **modification** of the **Project Number**, and where the # represents the version of the rebid (to be used ONLY if there is more than 1 rebid for the project) - See Section 6.C.5.

The **.1** represents the number of the **separate bid package** (See Section 1.C.4.b). Packages).

The **-00-** represents the **project phase** portion of the Project Number (See Section 1.C.4.a).

The **FR** represents the **document type**, where:

FR = Final Review Document,

BD = Bidding Document

SD = Supplemental Document (e.g. Addendum, Design Report)

CD = Construction Document

RD = Record Document

The Specification = Specification (Project Manual), Cost Estimate = Cost Estimate

The **-Vol1** represents the number of the specification volume (to be used ONLY if there are more than one specification volumes), and

The .pdf represents the document format (.pdf = Portable Document Format, dwg = AutoCad drawing file, xdoc = WORD document, xls.= EXCEL document, etc...)

EXAMPLE file name for **other required** AE Consultant Design Contract Submittals:

01A1B-00-OM-Vol1.pdf

Where:

The first 5 alpha-numeric characters represent the **parent DFDM Project Number**

The **-00-** represents the **project phase** portion of the Project Number (see [1.C.4.a](#) for more information on Project Phasing)

The **OM** represents the **document type**, where:

TB = Testing and Balancing Report

OM = Operation and Maintenance Manual

CR = Commissioning Report

BCDR = Building Cost Data Report

The **-Vol1** represents the number of the submittal volume (to be used ONLY if there are more than one submittal volumes), and

The .pdf represents the document format (.pdf = Portable Document Format, dwg = AutoCad drawing file, xdoc = WORD document, xls.= EXCEL document, etc...)

See Section 4.K.1 for Design Report for naming and submittal requirements.

See Section 7.F.3 for Record Document for naming and submittal requirements.

5.E.3 REVIEW PROCEDURE

The review procedure for 100% final design documents generally follows the same procedure as that used for review of preliminary documents (see section 4.L.2). In addition, during the 100% final review period, the A/E is expected to complete the building code plan review with the appropriate authorities.

Prior to submittal, the A/E should contact the Project Manager to: 1) schedule the submittal and the amount of time necessary for the review, 2) discuss any outstanding issues, 3) discuss code review scheduling and concerns and 4) confirm dates for bid document submittals, advertising and bid opening.

5.E.4 COST ESTIMATE

When submitting the 100% review set, the A/E is to provide an updated cost estimate. The estimate shall provide a breakdown, at minimum, the Mechanical, Electrical, Plumbing, Fire Protection, and General Prime Contractor bid estimates, in a format consistent with previous cost estimates prepared by the A/E.

If there are bidding documents changes due to the 100% review or the Code review subsequent to the 100% review Cost Estimate, the A/E shall provide the Project Manager with a written update that addresses the cost impact of any changes that are included in the bidding document set. The cost estimate is a management tool for keeping the project within the approved, fixed budget. It is essential that all cost-related issues be raised and dealt with *before* bidding.

5.F Building Code Plan Review

5.F.1 GENERAL

It is the A/E's responsibility to understand and comply with the review and submittal requirements of all applicable codes. Drawings are reviewed by the Department of Safety and Professional Services, Division of Industry Services, Commercial Building Plan Reviewer.

Reviewing agents expect 100% drawings to be submitted so changes can be incorporated into the bid set. At this stage, all code requirements shall be incorporated into the drawings. The Department of Safety and Professional Services approved drawings with the associated correspondence attached are to be provided to the winning contractor and maintained on site. The second set of reviewed prints is to be given to the Division of Facilities Development and Management (DFDM) Project Manager.

For all Submittals, the A/E is to complete the required plan review forms noting the Owner as DFDM. DFDM will reimburse the A/E for required application or plan examination fees. DFDM expects the A/E to schedule the plan review so that any required changes, comments, reservations or directions may be discussed with the Project Manager. The A/E shall immediately respond to the code authority in writing with specific details addressing the code concerns, copying DFDM on the correspondence.

Building code plan review, DFDM and Agency requested changes shall be incorporated into the project manual and drawings before submitting the bid documents to the DFDM Project Manager. Care should be taken when incorporating the final changes into the bid documents to prevent revisions and multiple Submittals or Addenda. The A/E is responsible for all changes in the project documents.

5.G Bid Document Submittals

5.G.1 GENERAL

DFDM has transitioned from providing paper copies of the bidding documents to providing electronic distribution of the project manual and drawings. DFDM objectives are to support advances in electronic technology, better manage the bidding documents, enhance security and eliminate repetitive handling of drawing sets. The PDF file format was chosen for the bidding documents due to ease of duplication, distribution, accessibility and availability as an open source application. Although files are to be submitted and distributed in an electronic format, the overall intent is to provide the bidding document files in a readily printable format.

The bidders remain responsible for all work within the bidding documents, but due to the ability of interested parties to print only the documents that are traditionally bid under their respective work, it is more important than ever to clearly identify whose responsibility the work is and clearly identify the work in the correct specifications and drawings.

Bidding Document Drawings and the Project Manual shall be stamped and signed.

5.G.2 SUBMITTAL REQUIREMENTS

Bid Documents shall be submitted to the DFDM Project Manager in at “print ready” electronic format following the same process as outlined in Section 5.E. with a complete set of documents uploaded to the DFDM File Transfer Site. The “print ready” electronic bidding documents must be compiled and formatted as to facilitate review and printing by recipients of the electronic document files in a way that matches the hardcopy printed bidding documents (including the use of pages left intentionally blank which result in proper document facing). Bidding Documents (drawings and specifications) shall be stamped, signed, and dated.

Submittals are to include a **revised cost estimate** including cost implications from the 100% review and code plan review requested changes.

DFDM expects A/E’s to review their electronic bid drawing files and specification volume prior to final submittal and correct any errors prior to uploading. Any errors or omissions found shall be corrected by the A/E at the A/E’s expense. Any revisions required of the bid documents shall be uploaded to the DFDM File Transfer Site using the exact same filename. The A/E must notify the DFDM Project Manager who must acknowledge any revisions to the Bid Documents immediately after they are uploaded. Availability of the DFDM Project Manager may adversely impact the acknowledgement and availability of the revised documents. Receipt and acknowledgement by the DFDM Project Manager later than the two days prior may require the availability and possibly the bid date to be revised.

↻ E N D O F S E C T I O N F I V E ↻

SECTION SIX • BIDDING PHASE

6.A Advertising and Plan Distribution

All projects with budgets exceeding \$50,000 must be competitively bid per Wis. Stat. 16.855(1). The Division of Facilities Development and Management (DFDM) handles advertising and bidding document distribution. The Bidding Phase starts with the publication of the Invitation to Bid and concludes with the award of the construction contract. During this period, the A/E is to work as a technical advisor and consultant to DFDM. In rare instances, DFDM may make arrangements with the A/E to provide additional bidding services.

Small Projects may follow simplified policies and procedures per Wis. Statute 13.48(29). See the Guidelines for the Small Project Program for additional information.

6.A.1 ADVERTISING

DFDM advertises projects by publishing the Invitation to Bid and the Project Manual Table of Contents under "Project Bidding" on the DFDM web site. DFDM encourages A/E's and Agencies to promote competitive bidding by informing potential bidders of projects that are being advertised.

6.A.2 PLAN DISTRIBUTION

Since the cost associated with the electronic distribution is minimal, the contractors are not charged for obtaining the bidding documents, but must be registered with DFDM to do so. This fosters maximum interest in competitive bidding, allows bidding document access on a 24/7 basis, maximizes the transfer of pertinent project information and reduces the environmental impact.

Interested bidding parties will be able to obtain the electronic bidding documents by following the directions provided on the bidding web pages. DFDM will reserve the right to issue bidding documents only on CD/DVD due to file size or other circumstances.

DFDM does not send copies of bidding documents to its consultants when the project goes out for bid. A/E's are responsible for providing their own bidding/construction document sets, including obtaining copies of Addenda as posted on the DFDM bidding website. DFDM will distribute the construction document sets to the Contractors, Project Representatives and Agencies.

6.B Communication with Bidders

As stated in the Instructions to Bidders, Article 4, "No verbal explanation or instructions will be given regarding the meaning of the drawings or project manual during the bid period." A/E's must exercise caution and fairness in responding to calls from bidders. Any appropriate clarification or information must be provided by addendum to all planholders-of-record.

6.B.1 PRE-BID TOUR/MEETING

If a Pre-Bid Tour/Meeting is scheduled, it is so indicated in the Invitation to Bid. DFDM expects the A/E to conduct the Pre-Bid Tour or Meeting, keep a written record and prepare an addendum, if necessary, to address questions and issues raised. The DFDM Project Manager and A/E are to review the Commissioning activities and expectations of the Commissioning process. If an extreme circumstance requires a mandatory Pre-Bid Tour, record attendance for posting by Addenda.

6.B.2 ADDENDA

Administrative Code Adm 21.04 allows DOA to issue Addenda during the bidding period to correct, alter or to provide clarification of the bid documents. If deficiencies, changes or clarification needs are pointed out by the Division of Facilities Development and Management (DFDM), the bidders or the A/E during the bid period, an addendum may be required. The Project Manager will determine with the A/E the necessity of issuing an addendum. It is then the A/E's responsibility to write an addendum for issuance by DFDM.

Minutes of Pre-Bid Tours/Meetings or lists of attendees are not to be issued in Addenda except for mandatory Pre-Bid Tours that require that attendance must be posted by Addenda to the project. Wisconsin Administrative Code Chap Adm 21.04 requires that Addenda be issued at least 7 days prior to the date of Bid Opening (the MEP bid opening, or the GPC-Only project bid opening). Addenda may not be issued after that unless it extends the bid period for at least seven calendar days. The Project Manager will coordinate the new bid date and addendum date.

Within five days of the MEP bid opening, DFDM will issue a separate addendum to identify the lowest, qualified, responsible, certified MEP Subcontractors in each applicable MEP division of work. DFDM will issue another addendum if a successful MEP bid is withdrawn or rejected after the MEP Subcontractors have been identified but before the General Prime Contractor bid opening. This addendum will include a revised list of successful MEP bids that must be included in the General Prime Contractor bids and will move the General Prime Contractor bid opening five days later to allow bidders sufficient time to update their bids based on the revised MEP list.

6.B.2.a Addendum Format

The addendum is to follow the DFDM standard Addenda format, organized under the following headings, as applicable: Changes to Bidding Requirements, Changes to Conditions of Contract, Changes to Project Manual and Changes to Drawings. Include only those headings that apply.

- References to the technical specifications must identify section number and title, page number and line number;
- References to the drawings must identify drawing number and specific component—drawing, detail or schedule;
- A change to the Bid Form requires that the changes be described not only verbally under “Changes to Bidding Requirements”, but also that a new complete package of Bid Forms be issued with the heading: "REVISED BID FORM".

The Addenda shall be electronic print ready. The preferred format for the addendum is 8½” x 11”, but may include large-format drawings, as determined by the Project Manager. If the addendum includes drawings larger than 8½” x 11”, they **shall** be the same size as the bid set. Addendum drawings of 11” x 17” size are only permitted when the original bid set is that size. The addendum shall be provided as one PDF electronic document including all drawings, even if they are large sheet drawings.

6.B.2.b Procedure for Issuing Electronic Print-Ready Addenda

The A/E must upload each addendum to the DFDM File Transfer Site following the same procedures as for print ready bid document submittals – electronic PDF format (See Section 5.G), except that the addendum must be in a single electronic PDF formatted file (including the addendum document, any revised drawings, and any revised specification manual pages).

For all Addenda, the A/E must upload the PDF file, and the Project Manager must acknowledge receipt of the file before 10:00 a.m. of the day before the date of issuance. The date of issuance must be a minimum of 7 days before the Bid Opening date (including the date of issuance). Once approved, DFDM will transmit the Addenda and/or notification of the Addenda to the plan holders and post notification on the List of Projects Out for Bid.

Note: If the Addenda have an impact on the cost of the project, the A/E shall so state by submitting a written update to the final construction cost estimate.

6.C Receipt of Bids

6.C.1 BID OPENING

At the closing of the bid period, the Division of Facilities Development and Management (DFDM) holds a public Bid Opening and tabulates bids. It is often helpful, though not necessary, for the A/E to attend the Bid Opening.

DFDM will not open any bid received after the designated bid date and time, nor will DFDM read any bid that is not signed or does not include bid security. DFDM posts the bid results so the Agency and interested parties can review the bids on the DFDM Projects Out for Bid – Bid Results.

If DFDM notes any discrepancies with the bid or bid guarantee paperwork, they will notify the Project Manager of the errors and/or irregularities and provide written notification to the bidder(s). The Project Manager is responsible for initiation of the construction contract based on the submitted bids. Administrative Services will notify Bidders of minor errors if they are not the low bidder.

6.C.2 DFDM SINGLE PRIME BIDDING AND CONTRACTING INFORMATION

Effective January 1, 2014, all state construction projects with budgets over \$300,000 will be let through single prime bidding and contracting. The single prime bidding and contracting process will involve bidding the Mechanical, Electrical, Plumbing, and Fire Protection (MEP) divisions of work before the General Prime Contractor bid date. DFDM will identify the lowest, qualified, responsible, certified bidders in each MEP division of work for the General Prime Contractors to include in their bid. General Prime Contractor bids that do not include the successful MEP bids identified by DFDM will be rejected. The lowest, qualified, responsible, certified General Prime Contractor will enter into a contract with the State and into subcontracts with the identified MEP bidders. The subcontracts between the General Prime Contractor and an MEP Subcontractor must contain exact language detailed in Wis. Stat. s. 16.855 (14m) (a) and (19) (b) regarding prompt payment, insurance and bonds, indemnification, and retainage. The subcontracts must also include identical scope of work clauses. Please note, the State can no longer request or accept alternate bids.

Effective July 1, 2018, 2017 Wisconsin Act 237 creates an exception to single prime contracting for certain construction projects. Under the new law, if 85% or more of the estimated construction cost of a project could be completed by a single trade MEP (mechanical, electrical, plumbing, or fire protection) contractor, the Department may bid and contract all work for that construction project directly to a single trade MEP contractor. The changes for single trade contracting take effect for projects advertised for bid after July 1, 2018. If single trade bidding and contracting is proposed, the A/E will be required to complete a breakdown of costs certifying the percent of estimated construction cost for all trades of work on the project (including general).

Evaluation of Bids with Minority Business Enterprise and Disabled Veteran-Owned Business Preference: DFDM intends to utilize this statutory preference for construction and procurement when applicable for awards to businesses owned by minorities and disabled veterans. DFDM preference awards will be done on a case-by-case basis and managed by the Bureau of Capital Budget and Construction Administration. The goal is to adopt a non-arbitrary, fair, and consistent policy that meets the intent and purpose of the statute and is consistent with the desire to encourage the development and growth of small businesses enterprises in Wisconsin.

6.C.3 SUBCONTRACTOR APPROVALS

DFDM must review all subcontractors. Instructions to Bidders require that the apparent low Bidders submit, within seven calendar days of Bid Opening, a Request for Subcontractor Approval Form DOA-4225. The submittal of this form is considered an element of responsiveness. Failure to submit within seven days could disqualify an apparent low Bidder. The Project Manager may provide a copy of the subcontractor lists for the A/E to review and comment.

6.C.4 VALUE ENHANCEMENT

DFDM invites Bidders to make suggestions for changes to the design, which they believe, would save construction cost and provide Value Enhancement to the project only on projects bid through the Small Projects Program. Proposals are to be submitted using the Value Enhancement Proposal form DOA-4521 with the submittal of the Request for Subcontractors Approval form, but no later than with return of the contract.

The Project Manager will lead the A/E, Bidders and Agency in the evaluation of the worthiness of the Value Enhancement Proposals. The A/E is to develop a Value Enhancement log documenting the discussions, savings and DFDM's decisions to accept or not accept the Value Enhancement proposals.

The A/E will be paid for providing the professional services for the Value Enhancement evaluation if the project is within budget, but will not be paid for services if the proposal considerations are to revise a bid to fit within the budget.

If the overall project cost is within the budget, the Value Enhancement and any associated cost reduction can be documented once the contracts are finalized. Since the costs are firmly known at the time of the acceptance of the proposal, the documentation, the Bidder's detailed cost estimate, detailed specification or drawing changes and supplemental drawings are to be entered into WisBuild as either a Proposed Cost (PC) by the Construction Representative or as Construction Bulletin (CB) by the A/E.

6.C.5 BIDS OVER BUDGET

If the lowest certified GPC bid exceeds the available construction budget, DFDM and the Agency may consider increasing project funding to accept the low GPC bid. This may take some time, so the Project Manager will ask the low Bidder if their bid will be honored past the estimated amount of time necessary to obtain an increase in the budget.

Please note, the State can no longer request or accept alternate bids. If a funding increase is not feasible, and DFDM decides to rebid the project with a reduced or changed scope, the A/E is to revise the bidding documents to include the design of the reduced or changed scope and incorporate any Addenda that were issued during the previous bid period. A/E's are not compensated for these changes per the A/E professional services contract. The project number for all plan sheets and specifications for the rebid documents shall be revised to include "Rebid1" following the base project number (example – if rebidding project 18A2B, project number shall be 18A2BRebid1).

If the scope is reduced and the project rebid and this results in bids which total less than the construction budget, the Project Manager may request the A/E to prepare a construction bulletin to obtain a price for adding some or all of the Program work back into the project. DFDM will not incur any additional costs for these A/E services as outlined in the Professional Services Contract.

6.C.6 REVISION OF BID DOCUMENTS FOR CONSTRUCTION

In accordance with the A/E Contract for Professional Services Article 2.C.9, construction documents shall be prepared by the A/E for DFDM issue to ensure construction incorporates changes that occurred in the bidding documents through addenda, value enhancements and negotiations.

Even if no changes have occurred, the bid documents shall be updated into construction documents. Bid documents are to be edited with all addenda, value enhancements proposals, and negotiated contract changes (Small Projects only). All changes are to be identified by clouding or by other means and the source of the change noted in the revision section of the title block. No other changes are allowed.

The construction document submittals are due so there is sufficient time for distribution prior to the Notice to Proceed. The due date can be considered 14 days from the bidding date or 14 days from the final negotiated date of any value enhancements or contract negotiations. A/E firms are to upload the electronic documents to the DFDM File transfer website following the same procedures as for the uploading of Final Review documents outlined in Section 5.E.2.

Construction document drawings should be identified by the designation "CD" (no quotes) in the title block's set type. The specification/Project Manual cover/title page shall be clearly labeled Construction Documents. Immediately below the original date in bold and in all capitals insert "**CONSTRUCTION DOCUMENTS (REVISION MONTH DATE, YEAR)**". Electronic file naming shall reflect that it is the construction document set by having the third set of two characters be "CD".

6.D Award of Contracts

6.D.1 CONTRACT OFFER

After the low GPC bidder provides the required documentation as instructed within the bidding documents and the project is within the approved budget, the Project Manager will initiate the contract requests.

6.D.2 CONTRACT PROCESSING AND NOTICE TO PROCEED

Division of Facilities Development and Management (DFDM) Administrative Staff prepares and electronically sends via WisBuild the Contract Offer to the winning Bidders. The date of the electronic offering of the contract initiates a 10-day period for the Bidder to sign and send the contract back. To keep the process timely, the Bidder is told to immediately sign and return the contract and follow with the submittal of bonds and insurance certificates.

While the Bidder completes their contractual requirements, the contracts are signed by the appropriate state officials. Once all signatures are obtained and the Bidder's Submittals are received, the contracts are considered fully executed. Copies of the contracts are electronically sent to the Contractors along with the Notice to Proceed date. This action ends the Bidding Phase and begins the Construction Phase.

The Project Manager can monitor the contract & submittal progress log in WisBuild on the project Overview page – Construction Contracts, at the link “Contract Tracking Log”. This is maintained by DFDM Administrative Staff. The Project Manager will be automatically notified if submittal dates are not being met by the Bidders. The Project Manager shall take follow up action to the Bidder if the following is not completed within the time limits as specified in the bidding requirements.

✎ E N D O F S E C T I O N S I X ✎

SECTION SEVEN • CONSTRUCTION PHASE

7.A General Administration

7.A.1 ROLES OF THE PARTIES

During the Construction Phase, the A/E will interact with the Construction Representative as well as the Project Manager. Overall the construction team is comprised of the Contractors, the A/E, Project Representatives, Construction Representative, Construction Coordinator, Commissioning provider, Project Manager, Division of Facilities Development and Management (DFDM) staff specialists and Agency representatives.

The Construction Representative has the single point responsibility normally performed by the person identified in WisBuild as Field Staff or as indicated in the Pre-Construction Meeting Report. The Construction Representative is the individual who represents DFDM to the Contractors. This single-point designation is not intended to exclude the Project Manager, who is ultimately responsible for the success of the entire project, budget, adherence to design intent, scope, schedule and the receipt of all required deliverables. The Project Manager and Construction Representative have the primary authority to act on behalf of DFDM in contractual matters.

For further clarification, the term Project Representative may mean DFDM specialists, inspectors, technical staff, contracted service providers, project managers or other parties as designated to represent DFDM. The A/E is the interpreter of the drawings and project manual and is responsible for project design. During the construction phase, the A/E functions in an advisory capacity and is not an agent for the State of Wisconsin. The Construction Coordinator manages the Construction Representative and acts as their primary back-up.

The project Agency Representative is the project team's primary contact for communicating with the Agency and the end-users. Depending upon circumstances and project needs, DFDM may assign an Agency Representative to the role of DFDM Construction Representative.

7.A.2 NOTICE TO PROCEED

After the contracts are fully executed, DFDM sends them to the Contractor(s) with a Notice to Proceed. The Notice to Proceed letter indicates the date for commencing work and the calendar date for Substantial Completion. The Notice to Proceed also:

- Identifies the Construction Representative who will schedule the Pre-Construction Meeting;
- Reminds the Contractor to submit within 14 days a construction schedule covering the beginning stages of the Work, per Article 12.G of the General Conditions;
- Requests that the Contractor starts submitting product data.

Note: DFDM does not issue Notice to Proceed nor permit any contractor to start work without a fully executed contract.

7.A.3 PRE-CONSTRUCTION PLANNING

7.A.3.a Pre-Construction Planning Meeting

On some projects, DFDM may conduct a planning meeting immediately prior to the Pre-Construction Meeting. The purpose is to discuss the agenda for the Pre-Construction Meeting, to clarify DFDM's construction administration procedures and DFDM's expectations for A/E construction administration services. This meeting will include the A/E and possibly the Agency representatives, but does not include the Contractors.

7.A.3.b Pre-Construction Meeting

The purpose of the Pre-Construction Meeting is to:

- Allow participants in the construction process to meet each other;
- Define roles and responsibilities of participants and channels of communication;
- Discuss General Conditions of the Contract, General Requirements of the project and related DFDM procedures;
- Discuss schedule: Critical dates/Issues, Lead Contractor's submittal of full project schedule, Mobilization;
- Selectively address the partnering issues identified in Article 1.D of the General Conditions.

After the Construction Representative coordinates with the intended participants and schedules the Pre-Construction Meeting, the DFDM Project Manager sends out a meeting notice, DFDM administrative details and the Pre-Construction Meeting Report. The meeting usually includes the Prime Contractors' project managers and construction superintendents, A/E representative(s), DFDM project representatives (Construction Coordinator, Construction Representative, Project Manager and sometimes Staff Specialists) and Agency representative. Other parties providing work or services to the State, such as hazardous materials abatement Contractor(s) or testing consultant(s), may attend the Pre-Construction Meeting. The A/E is responsible for writing and distributing meeting minutes.

7.A.4 CONSTRUCTION PROGRESS MEETINGS

Construction Progress Meetings, per Article 7 of the General Requirements, are held throughout the duration of construction at intervals agreed upon by the Construction Representative, the Contractors and the A/E, generally every two weeks. The Construction Representative will conduct the progress meetings and the A/E will write and distribute meeting minutes. The A/E's attendance at a construction progress meeting does not, in itself, constitute a construction observation site visit.

7.A.5 WISBUILD DATA MANAGEMENT SYSTEM

The WisBuild System is the primary method for recording, routing, processing and retrieving information related to construction changes and payments. The following are all handled electronically via WisBuild, without paper:

- Questions
- Requests for Information
- Construction Bulletins
- Construction Contract Change Requests
- Contractors' Schedules of Values
- Contractors' Proposals
- Construction Contract Payment Requests
- A/E Contract Payment Requests
- Issues List
- A/E Performance Evaluation

The parties that have access to WisBuild are: the Prime A/E, A/E Design Contract Contact, the Prime Contractors, Construction Representative, Construction Coordinator, Project Manager, Commissioning Provider, DFDM Specialists, Ad Hoc (DFDM assigned representatives) and Agency contact. Various contacts have different levels of WisBuild access and capabilities. Projects that are phased restrict access between phases and WisBuild directs communication to only the pertinent parties.

WisBuild does not handle meeting minutes.

7.A.6 QUESTIONS AND REQUESTS FOR INFORMATION

Any party with access to WisBuild may initiate a question or request for information regarding the work involved in the Project. These issues are submitted, routed, tracked and responded to entirely via WisBuild.

A "Question" is a request for clarification, interpretation or additional information regarding the Work described by the Contract Documents or the conditions relating to performance of the Work. When a Question is entered in WisBuild, it is directed to the Construction Representative. If the Construction Representative can answer the Question without input from the A/E, he/she will do so in WisBuild. If the Question or request requires a response from the A/E, the Construction Representative will forward it to him/her. A Question that is forwarded to the A/E is called a "Request for Information" (RFI). The A/E will then respond to the RFI in WisBuild, which directs it back to the Construction Representative for forwarding to the Contractor. Questions, RFIs and responses are displayed in WisBuild, accessible to all parties.

The A/E's response to an RFI *shall not* direct any Change in the Work, nor shall the A/E's response be a request for a cost proposal. Changes in the Work are handled strictly per Article 18 of the General Conditions and as described below in Section 7.E. If DFDM, in consultation with the A/E, believes that a Change in the Work may be necessary, then DFDM will authorize the A/E to issue a Construction Bulletin.

7.A.7 PAYMENTS TO CONTRACTORS

Contractors' Requests and Certification for Payment are processed via WisBuild and require the approval of the Construction Representative and the Project Manager. DFDM does not require the A/E to approve or certify Contractors' Cost Item Breakdown (Schedule of Values) or Requests for Payment, but may ask for the A/E's commentary.

7.A.8 CLAIMS/DISPUTES

Construction Representatives, as the Construction Contractors' primary contact, may receive claims, disputes, or legal notices in regards to General Conditions. Consult with the A/E and Project Manager as appropriate to resolve these issues. The DFDM Construction Representatives will involve the Project Manager in any issue that involves a change in design, function, quality, schedule and/or cost.

7.A.9 MONITORING OF BUDGET, SCOPE, SCHEDULE

Prior to the award of contracts, the Project Manager allocates projects funds and records the project budget with the State Controller's Office using the Budget Form. This project budget includes a construction contingency allowance to cover changes required during construction.

Throughout the Construction Phase, DFDM expects the A/E to work with the Contractors and the DFDM Project Representatives to proactively avoid and resolve potential cost "extras" and to keep the Project Manager informed of any potential cost and/or schedule impacts on the Project. The Construction Representative has limited authority, as agreed by the Project Manager, to approve some changes. Only the Project Manager has authority to increase or decrease the programmed scope of work and to approve corresponding added costs.

Neither the A/E nor the DFDM Project Representatives have authority to respond to an Agency request for a change in design or Program. Any such requests *shall be directed to the Project Manager* and shall not be entered into WisBuild as RFI or CB without approval of the Project Manager.

State construction work (except for Small Projects) is performed by a General Prime Contractor. The General Prime Contractor has broad responsibilities for scheduling and coordination of the Work of other Contractors. The A/E must be familiar with General Prime Contractor responsibilities under Articles 12 and 13 of the General Conditions, must keep abreast of the status of all Contractors' work, be responsive, communicative and facilitate decisions that promote the smooth progress of the Work.

7.B Quality Control

Quality control is entirely the responsibility of the Contractors, as stipulated under Article 15.A of the General Conditions. The Contractors are responsible, under Article 15.B, for submitting at the Pre-Construction Meeting a description of their system for inspecting work and controlling quality. The A/E has primary responsibility, per its contract with the Division of Facilities Development and Management (DFDM), for monitoring the quality, progress and timely performance of the work and for evaluating the Contractor(s) compliance with the contract documents.

The DFDM Project Representatives will consult with the A/E on specific interpretation of the project documents and on issues relating to design or aesthetics, or any issues for which the A/E may bear professional liability, such as code compliance, structural design, accessibility, exiting and/or life safety. See Section Two for Commissioning Policy and Procedures for A/E and CxP Commissioning responsibilities.

7.B.1 CONSTRUCTION OBSERVATION SITE VISITS

The A/E will visit the site for the purpose of observing construction at intervals appropriate to the stage of construction, in accordance with Article 2.D of the *A/E Contract for Professional Services*. The minimum number of Construction Observation Site Visits by the A/E and its consultants are identified on Attachment A of the contract. Those visits shall be conducted by the A/E during the Contractors' regular working hours at the part(s) of the site where Work is in progress. See Section Two for Commissioning Policy and Procedures for Construction Verification and functional performance testing responsibilities.

The A/E shall provide written reports on all Construction Observation Site Visits, either hard copy or electronically, in a format approved by DFDM. A/E visits to the site for other purposes do not constitute Construction Observation Site Visits per Attachment A to the Contract.

7.B.2 PRE-INSTALLATION MEETINGS

Pre-Installation Meetings may be required prior to commencing any specified work on site. The Contractor's superintendent, Subcontractor's foreman, DFDM's Project Representatives, the Commissioning Agent and the A/E (when necessary) will attend. The purpose of the meeting is to review and discuss contract requirements, review and confirm quality control procedures, and answer any questions prior to the start of work for particular specification sections. The A/E and/or CxP will attend when interpretation, clarification or emphasis of quality control requirements is appropriate for successful completion of the Work. The purpose of the Pre-Installation Meeting is to discuss DFDM's and the A/E's expectations, the level of quality acceptable, any special requirements for the particular division of work and any questions the Contractor or Subcontractor may have. Pre-Installation Meetings are in addition to regularly-scheduled construction progress or Commissioning meetings. See Section Two for Commissioning Policy and Procedures.

7.B.3 TESTING DURING CONSTRUCTION

7.B.3.a General

Testing services required for quality control are generally specified in the relevant technical specifications and may be discussed at the Pre-Construction Meeting. See Section Two for Commissioning Policy and Procedures for the latest information on Construction Verification and Functional Performance Testing.

7.B.3.b Brick Testing

The DFDM Project Representative will make arrangements with the General Contractor and brick vendor to obtain brick samples after the brick are fired, but before delivery to the site. Typically, DFDM works with the DOT of the state where the brick is produced to obtain samples, which are then tested by the Wisconsin DOT materials testing lab. The test lab will send results to the DFDM Project Representative who will distribute as appropriate. See Section Two for Commissioning Policy and Procedures.

When specified, the DFDM Project Representative will coordinate the erection of a brick sample panel with the General Contractor and arrange with the A/E for inspection. Further information about brick standards and testing may be found in Section 04 20 00 - Unit Masonry.

7.B.3.c HVAC Testing, Adjusting and Balancing

Work performed under the DFDM Specification Section 23 05 93 - Testing, Adjusting and Balancing for HVAC will no longer be let under separate contract by the State of Wisconsin and will become the responsibility of the HVAC Contractor for all projects bid on or after July 1, 2008.

In addition, Testing, Adjusting and Balancing Functional Performance Testing requirements have been added to the Commissioning process. See Section Two for Commissioning Policy and Procedures. Testing and Balancing Reports will continue to be routed electronically with modification, using the RFI process within WisBuild for Report review. DFDM master specification Sections 23 05 93 - Testing, Adjusting and Balancing for HVAC, 01 91 01 - Commissioning Process – Level One and 01 91 02 - Commissioning Process – Level Two, have been modified to reflect these changes. The final Testing

and Balancing Report with AE and CxP review comments is to be submitted to DFDM through the DFDM File Transfer Site.

7.C Hazardous Materials

The presence of hazardous materials known prior to bidding is stated in Article 5 of the General Requirements.

This section of this *Policy and Procedure Manual for Architects/Engineers* is not directed toward hazardous materials abatement projects, since A/E's providing standard building design services (under Division of Facilities Development and Management [DFDM] Contract 4519P) are not responsible for hazardous materials abatement. The policies and procedures discussed herein deal with abatement incidental to other remodeling or demolition work. DFDM will contract directly for design and construction services for abatement work.

7.C.1 ASBESTOS-CONTAINING MATERIAL

There is no statutory or code requirement, nor is it DFDM's policy, to remove all Asbestos-Containing Material (ACM) from State-owned facilities. DFDM's policy is to identify and manage ACM and to abate (remove, enclose or encapsulate) only ACM that will be disturbed by the Project. See Existing Conditions Guidelines for Asbestos Affected by Building Renovation and Demolition.

When ACM is discovered as an unforeseen condition during construction, the party discovering or suspecting ACM shall contact the Construction Representative who will work with the DFDM asbestos abatement specialist to:

- Determine whether or not regulated ACM is present and, if needed,
- Make arrangements with DFDM's asbestos abatement Contractor for prompt abatement.

For this type of minor abatement work, DFDM maintains annual Statewide contracts with asbestos abatement firms who are generally able to respond on relatively short notice to abatement needs around the State. DFDM will arrange for the necessary monitoring and air clearance by a professional testing consultant. The DFDM Project Representative is responsible for scheduling and coordinating these testing services. Test results will be supplied to the Agency representative and posted at the job site.

Note 1: The cost of abatement and air testing is included in the specific project budget.

Note 2: Disposal of asbestos waste from the site is the asbestos abatement Contractor's responsibility.

7.C.2 LEAD-BASED PAINT

For projects involving removal or demolition of materials containing lead-based paint (LBP), the Contractor is responsible for conformance with applicable codes and regulations and as specified in the contract documents. Renovation and demolition projects involving lead-bearing surfaces do not typically require special handling of the waste if lead-bearing surfaces are not separated from the substrate. Building components coated with LBP can be disposed of as construction debris in a DNR-approved landfill. If lead-bearing surfaces are separated from the substrate, the work is likely to generate a hazardous waste and will be considered lead abatement. For further details, see Existing Conditions - Guidelines for Lead (Pb) Bearing Surfaces in State Building.

7.C.3 PCB IN ELECTRICAL EQUIPMENT

7.C.3.a Lamp Ballasts

Generally, all high-power-factor fluorescent lamp ballasts manufactured before 1978 and some HID lamp ballasts contain polychlorobiphenyl (PCB) compounds in their capacitors. The State has replaced ballasts in most existing State-owned buildings, however many still remain. DFDM master specification "*Electrical Demolition for Remodeling*," Section 26 05 02, prescribes detailed procedures for handling and containerizing lamps and PCB-containing lamp ballasts. The DFDM Project Representative will make arrangements with the DFDM Electrical Section for pick-up and disposal of the containers.

7.C.3.b Medium Voltage Power Equipment

PCB in transformers and switchgear have become increasingly rare in State facilities and are known to exist at only a few State institutions. Any party who suspects the presence of PCB should immediately contact the DFDM Project Representative who will make arrangements with the DFDM Electrical Section for testing and removal.

7.C.4 HAZARDOUS WASTE

Article 32 of the General Requirements, "*Cleaning And Waste Disposal*", identifies the Contractor's waste disposal responsibilities and identifies requirements for handling of materials meeting the definition of hazardous waste. DFDM is responsible for transportation and disposal of hazardous waste from the construction site and maintains a contract with a hazardous waste disposal service for this purpose. Examples of hazardous wastes that may be generated at DFDM construction sites include laboratory wastes (e.g. mercury [sink drain traps] or perchloric acid [fume hoods]), lead-based paint and contaminated soils.

Hazardous waste discovered as an unforeseen condition during construction is to be brought to the attention of the DFDM Project Representative.

7.D Submittals

Within the project documents, the A/E prepared a list of all Submittals required by the technical specifications, including shop drawings, manufacturers' literature or product data, samples, test reports, mock-ups and color selections. The listing includes Submittals required for Substantial and Final Completion. The Division of Facilities Development and Management (DFDM) expects the A/E to continuously monitor the status of all Submittals and to take action that will promote the progress of the work.

The Construction Representative will define procedures and requirements for handling Submittals (routing and required number of copies) at the Pre-Construction Meeting. Generally, Contractors will submit shop drawings directly to the A/E, sending a copy of the letter of transmittal to the Construction Representative. The A/E will review and return the Submittals directly to the Contractor(s) with one copy of the marked up Submittals and a copy of the letter of transmittal to the Construction Representative. If the project has an independent Commissioning provider, one copy of the marked up Submittals and a letter of transmittal goes to them. See Section 2.E.3 for detailed information on DFDM's Commissioning requirements.

At the Pre-Construction Meeting the Contractors designate which Submittals are to have "priority status" (as defined in Article 2.D.3 of the A/E Contract). DFDM expects the A/E to complete its review of Submittals within the time limits of Article 2.D.3.a (five days for Submittals having "priority status" and ten days for all others) or to notify both the Construction Representative and Project Manager, if it cannot.

The Contractors are required, per Article 16 of the General Conditions, to include the "Request for Submittal Approval" (DOA Form 4523) with each submittal. This form is intended to clearly identify non-conforming features of any submittal. A/E may reject any Submittals not properly submitted. Under no circumstances will the A/E approve any submittal that does not conform to the contract documents without specific approval of DFDM. If the A/E, during its review of any submittal, determines that a Change in the Work is necessary, it shall follow the standard procedure for issuing a construction bulletin, described below.

The A/E shall note that General Conditions Article 17 "Equals and Substitutions" allows the use of cost-effective alternatives or substitutions to materials, products and equipment that provide performance equal to that specified.

7.E Changes in the Work

The A/E must be familiar with Article 18 of the General Conditions, which governs changes in the Work. The Construction Representative is the only party authorized to direct a Contractor to make a Change in the Work. Such directive will always be in writing, with a known (or not-to-exceed) cost.

Changes in the Work fall into two categories:

- 1) Changes requiring description, design and/or coordination by the A/E. These are handled by Construction Bulletin. The Construction Bulletin is the *preferred method* of initiating and tracking a proposed Change in the Work.
- 2) Simple, straightforward changes that require little or no design work/input from the A/E, usually of an urgent nature, requiring prompt action to avoid a delay in the progress of the Work. These are handled by Field Order.

7.E.1 CONSTRUCTION BULLETINS

A Construction Bulletin is a clarification of, or a notice of a proposed change in, the Contract Documents, which is prepared by the A/E with the approval of the Project Manager. It is issued to and requires a response from the Prime Contractor in order to assess the total cost impact of the work being proposed. It *does not* authorize a Change in the Work.

Construction Bulletins are handled entirely via WisBuild—written by A/E, distributed to and responded to by Contractors and approved by the Division of Facilities Development and Management (DFDM). Supplementary drawings/attachments, if required, are electronically attached to the construction bulletin. See WisBuild On-line Help Manual for specific procedures.

DFDM expects the A/E to review all construction bulletin responses to see that the Contractor's proposal provides appropriate detail on unit costs for labor and materials and to provide the Construction Representative with an evaluation and recommendation regarding the Contractor's proposal. With the Notice to Proceed, specific guidelines are provided on the detailed requirements governing Contractor's proposals, including format, method of breakdown and allowable overhead costs with which the A/E must be familiar.

7.E.2 FIELD ORDERS

A Field Order, per Article 18 of the General Conditions, is a written directive by which the Construction Representative may authorize a Change in the Work, generally of a limited nature, which is deemed necessary to avoid a delay in the Work or Project. When there is added cost and/or time for the work authorized by the Field Order, the increase must be stated. The contract will then be adjusted by Change Order. The Construction Representative will issue a Field Order only when professional design input (to specify or define the work) is not required.

7.E.3 PROPOSED COSTS

Proposed Costs are used when price negotiations and changes are already determined. Examples may be Value Enhancements that were non-budget related that were accepted prior to the construction contracts being finished or on small projects where prices are negotiated without A/E design details. Final acceptance and directive to change the contract documents will be through a Change Order.

7.E.4 CHANGE ORDERS

After the Construction Representative and Project Manager review and approve the Construction Bulletins, Field Orders and Proposed Costs, the Project Manager via WisBuild requests that the A/E initiate a Change Order. Construction Contract Change Orders are the written instruments that modify the construction contract, per Article 18 of the General Conditions, in order to adjust the Contract Amount and/or Contract Completion Time because of a Change in the Work agreed upon by DFDM and the Contractor. Completed Change Orders are directed to the Construction Contractors to initiate the work identified in the proposals.

The A/E writes the Change Order in WisBuild in response to a Change Order Directive from DFDM. See WisBuild On-line Help Manual for specific procedures. For each "change item" the A/E is responsible for reviewing and/or entering the following information:

- 1) "Number of Days"—Change in Contract Completion Time per Contractor's proposal;
- 2) "Item Description"—A clear, succinct description of work which is to be added to or deleted from the contract, specifically referencing RFI, FO, CB, PC, supplementary drawing or other supporting document. Do not simply refer to a CB or field order *without* some specific description of the work;
- 3) "Amount" of Change—A/E must always verify that the amount of the change agrees with Contractor's proposal;
- 4) "Reason"—A/E must indicate why a Change in the Work is needed;
- 5) "Reason Category"—Entered by the Construction Representative; DFDM uses this information for tracking overall Change Order trends and for monitoring design oversight by the A/E;
- 6) "Requested By"—DFDM will indicate who requested the change--Contractor, Agency (Maintenance Staff, Faculty, etc.) A/E or DFDM. Be specific, though it is not necessary to name the individual.

Change Orders up to \$60,000 are approved by the Project Manager. From \$60,000 to \$300,000 Change Orders require prior approval of the DFDM Division Administrator, and over \$300,000 requires the prior approval of the governor or his designee following DFDM Administrator's approval. DFDM does not permit any Contractor to proceed with Changes in the Work without a fully executed Change Order, field order or other specific authorization to proceed.

7.F Project Completion

7.F.1 SUBSTANTIAL COMPLETION

Substantial Completion is defined, per the General Conditions, as the stage in the progress of the work at which the Division of Facilities Development and Management (DFDM) determines that it is sufficiently complete to be occupied or used for its intended purpose. Substantial Completion also signifies the commencement of guarantees and warranties and the State's assuming responsibility for insurance, utilities, heating, maintenance and damages.

Substantial Completion is a small part of a project, but it may be the most difficult for the project team to finish. A/E's diligence in keeping an accurate and up to date issue tracking log throughout the project can significantly help make the project successful and easy to complete. Contractors, occupants, A/E's and DFDM find it difficult to determine if an issue is construction, design, coordination or an operational problem without proper record keeping throughout the project. Lack of determining responsibility and resolution can drag a project out and create dissatisfaction within the project team.

It is advantageous to the A/E to support a successful and timely Substantial Completion; issues dragging on without resolution will affect the A/E grading and will keep project status points higher, affecting that A/E's firm in consideration for additional State work.

7.F.1.a Inspection and Certification

After the Construction Representative receives the Contractors' written "Notice and Request for Inspection", per the General Requirements, indicating that the Contractor believes the Work is substantially complete, the Construction Representative will schedule an inspection with the A/E and Agency representative. DFDM expects the Contractors' Notice and Request for Inspection to include a list of all known incomplete and non-conforming work along with a schedule for completing each item, as appropriate.

The A/E will then inspect the Work and make a list of all work which is incomplete or non-conforming (punch list) and distribute it to the Construction Representative, Contractors and Project Manager as soon as possible after the inspection. The Construction Representative will have the Certificate of Substantial Completion issued.

When weather or other conditions do not permit the completion, testing or inspection of portions of the Work (e.g. air conditioning system, paving, or landscaping) the Certificate of Substantial Completion will so state and will indicate the scheduled date for Substantial Completion of that work.

7.F.1.b Requirements for Substantial Completion

Prior to inspection for Substantial Completion, DFDM expects the following to be complete. Any of these items not complete at that time shall be included on the Punch List.

- 1) All Work, in accordance with contract documents, except as noted by Contractor;
- 2) Submittal of operating and maintenance manuals to the A/E, per General Requirements Article 33, "*Operating and Maintenance Manuals and Instructions*";
- 3) Submittal of loose and detachable parts to the Construction Representative, per General Requirements Article 35, "*Loose and Detachable Parts*";
- 4) Submittal of guarantees to the Construction Representative, per General Requirements Article 39, "*Guarantee Documents*";
- 5) Submittal of Contractors' marked-up record drawings to the A/E, per General Requirements Article 40, "*Record Documents*";
- 6) Tests and adjustments, per General Requirements Article 34, "*Tests and Adjustments*".
- 7) Training for operation and maintenance personnel, if specified;

In conjunction with Substantial Completion, DFDM expects the A/E and/or the Commissioning agent (as outlined by the Commissioning services, see Section Two for Commissioning Policy and Procedures) to:

- Review and approve the HVAC Testing, Adjusting & Balancing Report submitted by TAB Subcontractor. The final Testing and Balancing Report with AE and CxP review comments is to be submitted to DFDM through the DFDM File Transfer Site;
- Review and approve Operations and Maintenance Manuals submitted by the Contractors to ensure that they satisfy the requirements of the technical specifications, the General Requirements and Article 2.D.11 of the A/E Contract. For the final O&M Manual, AE and CxP review comments are to be submitted to DFDM through the DFDM File Transfer Site. Perform or witness Construction Verification checklists and Functional Performance Tests as specified by the Division 01 Commissioning specifications. See Section Two for Commissioning Policy and Procedures and verify that installation and operation meets design intent, per Article 2.D.11 of the A/E Contract;
- File a Compliance Statement as required by SPS 361.40(4) with the Department of Safety and Professional Services and provide a copy to the DFDM Project Manager.

7.F.2 FINAL COMPLETION

DFDM expects the A/E to actively follow up on all punch list work until all systems are functioning per the original design intent and final requirements. When the Contractors confirm in writing that all work identified on the Punch Lists is completed, the A/E and DFDM's Construction Representative shall conduct a final inspection.

When DFDM is satisfied that all work is complete and in conformance with the contract documents, the Contractor can provide the closeout documentation per Article 24 of the General Conditions. Once these items are recorded on the Contractor's submittal log in WisBuild, the final payment can be requested. Once DFDM's approval of the Contractors' Request for Final Payment and the actual payment is processed, the construction contract is closed.

7.F.3 RECORD DOCUMENTS - DRAWINGS AND PROJECT MANUAL

Prior to final payment, the Contractor will submit to the A/E marked-up as built drawings that tracked the changes that occurred during the construction. The record drawings shall include all changes to the construction documents made by addenda or change orders, as well as any field adjustments made by the Contractor. To ensure record drawings are accurate, DFDM expects the A/E to check the status of the Contractors' marked-up as built drawings on a monthly basis throughout the course of construction, per the project specification's General Requirements Article 40, Record Documents.

The record drawings are to accurately reflect the physical conditions. The record set shall include all drawings in the original drawing set (whether changed or not), supplementary drawings (if issued during construction), and changes to schedules that are attached to the project manual. Record specifications shall reflect changes that occur up to final completion.

The A/E incorporates the changes into the construction documents, produces the official record documents, and submits them to the Project Manager.

7.F.3.a Drawing Requirements

All unnecessary and unrelated information should be eliminated from the drawings.

All named objects no longer needed by the drawing should be purged to minimize the file size.

Final electronic record drawings shall be submitted to DFDM in both “.pdf” format and in “.dwg” format using AutoCAD.

A separate .pdf shall be created for each drawing larger than 8 ½”x 11” in size. All .pdf files shall be created with a minimum resolution of 150 dpi and be a ‘flat’ image with no layering or other AutoCAD attributes.

Separate .dwg files and/or single .dwg files shall be submitted along with .pdf files. If single .dwg files are utilized, they must be created using model space and paper space (as indicated in the DFDM Cad Standards) and be discipline specific. Paper space tabs representative of each individual drawing shall be created and labeled utilizing the fourth set of characters only. The single .dwg file shall follow the naming convention listed in 5.E.2.d except the fourth set of characters must list all tabs/drawing numbers included in the single .dwg file. The Rebid and Bid Package labeling requirements have been excluded from the Record Document naming convention. DFDM expects all Bid Package documents to be compiled into a single set of Record Documents. Refer to the examples below.

EXAMPLE: Separate discipline specific .dwg files with multiple drawings included in each .dwg file.

01A1B-00-RD-A100-A103.dwg
01A1B-00-RD-C100-C103.dwg
01A1B-00-RD-H100-H103.dwg

EXAMPLE: Combination of separate discipline specific .dwg files with multiple drawings included in each .dwg file and separate .dwg files representative of each drawing.

01A1B-00-RD-A100-A103.dwg
01A1B-00-RD-C100-C103.dwg
01A1B-00-RD-H100.dwg
01A1B-00-RD-H101.dwg
01A1B-00-RD-H102.dwg
01A1B-00-RD-H103.dwg

EXAMPLE: Separate .dwg files representative of each drawing.

01A1B-00-RD-A100.dwg
01A1B-00-RD-A101.dwg
01A1B-00-RD-A102.dwg
01A1B-00-RD-A103.dwg

01A1B-00-RD-C100.dwg
01A1B-00-RD-C101.dwg
01A1B-00-RD-C102.dwg
01A1B-00-RD-C103.dwg

01A1B-00-RD-H100.dwg
01A1B-00-RD-H101.dwg
01A1B-00-RD-H102.dwg
01A1B-00-RD-H103.dwg

Assemble the hard copy of the drawings in the order of the Table of Contents, bound in approximately 125-page drawing sets.

See Section 5.E.2.d for file naming and submittal requirements.

7.F.3.b Project Manual Requirements

Provide page numbering and a margin of one inch on all edges to facilitate printing and binding of the specification volume, should the recipient of the electronic files choose to print the documents.

Compile the specification document files in the same order as the specification volume Table of Contents.

A single PDF file shall be created for each specification volume (approximately 300 pages). Photographs, cut sheets, or 8 ½" x 11" drawings within the specification volume must be included as part of the single PDF file.

Prepare a PDF image of any original documents containing manually generated registration stamps, signatures, etc. Blank pages shall be indicated as intentionally left blank.

Provide electronic bookmarks for each PDF specification volume. Bookmarks shall be created to reference the first sheet of each division of the specification volume, and for each individual form and/or segment listed under the Bidding Requirements of the specification volume Table of Contents. Also create individual bookmarks for photos, cut sheets, or drawings (e.g. Division 22, Division 23, Bid Form, Bid Bond Form, A101, A102, etc.) in the specification volume.

Project Manual cover/title page shall be clearly labeled Record Documents. Immediately below the original date in bold and in all capitals insert "**RECORD DOCUMENTS (REVISION MONTH DATE, YEAR)**".

See Section 5.E.2.d for file naming and submittal requirements.

7.F.3.c Document Submittal Process

The record documents shall be submitted to the DFDM Project Manager as one (1) hardcopy set of drawings, with a complete set of documents uploaded to the DFDM File Transfer Site. The record documents must be compiled and formatted to facilitate review and printing by recipients of the electronic document files in a way that matches the hardcopy printed bidding documents (including the use of pages left intentionally blank so as to result in proper document facing). Instructions for the A/E's use of the DFDM File Transfer Site can be found on the DFDM website.

See Section 5.E.2.d for file naming and submittal requirements.

The A/E is to check to make sure the hard copy sets of the record documents accurately represent the printed electronic submittal. DFDM expects A/E's to review their electronic files prior to submittal and correct any errors prior to uploading to the DFDM SharePoint file transfer site. Any errors or omissions found by the DFDM Project Manager will be corrected by the A/E at the A/E's expense.

7.F.4 BUILDING COST / DATA REPORT

The Building Data/Cost Report (DOA-4265) is a summary of building information and costs that the A/E is responsible for completing at the end of all building construction, building addition and remodeling/renovation projects. Each building in a multiple building project requires a separate form. The

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Building Data/Cost Report—Instructions for Completion Form (DOA-4265I) explains how to complete the form. The A/E must electronically complete and submit the Building Data/Cost Report and Record Documents to through the DFDM File Transfer Site prior to the A/E requesting Final Payment.

See Section 5.E.2.d for file naming and submittal requirements.

↩ END OF SECTION SEVEN ↪

SECTION EIGHT • POST-CONSTRUCTION PHASE

8.A A/E Contract Closeout

The Division of Facilities Development and Management (DFDM) expects the A/E to follow up on all final requirements and resolve any outstanding claims or issues in order to close construction contracts as soon as possible after Substantial Completion. See Section Two for additional Commissioning Responsibilities.

The A/E's contract will not be closed until all Design Contract Submittals have been received, and:

- All prime construction contracts (for which A/E is responsible) are closed;
- Record Documents are submitted by A/E and accepted by Project Manager;
- Building Data/Cost Report is submitted by A/E and accepted by Project Manager.

When all of the above are complete, the A/E may submit its Final Request for Payment

After final payment is approved, DFDM will close the A/E contract. The Project Representatives, in consultation with the Project Manager, will then complete the Consultant Performance Evaluation for the Construction Phase. See Section 1.D.4.

8.B Warranty Follow-Up

There are generally three levels of guarantee that protect the State after Substantial Completion of the Work:

- 1) The Prime Contractors' one-year guarantees of their work as required under Article 25 of the General Conditions, "*Warranties*";
- 2) Subcontractors, suppliers and manufacturers' guarantees of specific materials, products or equipment;
- 3) The Performance/Payment Bond provided by the Prime Contractors (on all Division of Facilities Development and Management [DFDM] projects except for "Small Projects"). The bond is generally invoked only when a Contractor is unresponsive in providing a remedy to a failure, defect or damage.

Defects or deficiencies in the Work are generally first discovered by the Agency. DFDM expects the Agency to maintain a record of discovery and/or occurrence of malfunctions, defects and deficiencies. For issues involving straightforward claims against a warranty, the Agency is responsible for follow-up action.

For issues involving a Contractor's performance of work under a construction contract with DFDM, the Agency shall notify the Construction Representative and PM as soon as the defect is discovered. The Construction Representative will take follow up action with the Contractor.

If an issue involves a question of design or performance of A/E services, the DFDM Project Representative will confer with the Project Manager who will then notify the A/E. DFDM expects the prime A/E to be responsive and proactive in settling issues related to its own work and that of its subconsultants.

8.C Post-Project Evaluation

8.C.1 POST-CONSTRUCTION EVALUATION

The Post-Construction Phase has changed with the Division of Facilities Development and Management (DFDM) implementing Commissioning on all projects. Review Section 2.E.4 of this manual for the post-construction responsibilities of the A/E and Commissioning agent.