

**Design-Build
Construction Management At-Risk**

Project Alternative Delivery Methods

Guidance

**Drinking Water State Revolving Fund
Clean Water State Revolving Fund
Water Quality Division – Construction Permitting Section**

**Oklahoma Department of Environmental Quality
Oklahoma Water Resources Board**

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Design-Build Construction Management at Risk Guidance

I. Background

The design-bid-build (“DBB”) method for project delivery has been the traditional delivery method for the construction of public water and wastewater infrastructure projects required by the State of Oklahoma. There are instances where an alternative delivery method might bring value to a project. Alternative delivery methods for drinking water projects are allowed by state law as of 2012 and for wastewater projects in 2017. The State of Oklahoma allows two alternative delivery methods: 1) design-build (“DB”), and 2) construction management at risk (“CMAR”) (61 O.S. § 202.1). The Oklahoma Department of Environmental Quality (“DEQ”) and the Oklahoma Water Resources Board (“OWRB”) realize that certain types of projects will benefit by using alternative delivery methods and prepared this guidance document for applicants to better understand alternative delivery methods. DEQ and OWRB consulted with engineering firms that are experts in alternative delivery methods and researched other states' guidance documents that allow DB and CMAR projects.

Not every project is appropriate for DB or CMAR and the burden is on the owner to demonstrate that an alternative method of project delivery is in the best interest of the public, taxpayers and other stakeholders. Projects that are an emergency, time-sensitive, complex, or technically challenging may be appropriate for DB or CMAR. DEQ and OWRB suggest that an owner carefully consider the benefits, limitations and other attributes of alternative delivery methods before a decision is made. DEQ and OWRB also suggest that an owner choosing to utilize an alternative delivery method organize an "implementation team" to guide the project procurement, contracting and implementation due to the unique aspects of the process.

It is important that a State Revolving Fund (“SRF”) applicant understands and complies with SRF loan program requirements and provides associated documentation during the design, construction and post-construction phases of a project. The following information describes how and when an applicant using an alternative delivery method must comply with SRF loan program requirements.

DEQ and OWRB recommend that an owner pursuing an alternative delivery method be knowledgeable about this process. This document, Design-Build and Construction Management at Risk, Project Alternative Delivery Methods Guidance, provides important information regarding these two alternative delivery methods. DEQ and OWRB websites provide additional information and details on the various SRF loan program requirements.

II. Legal Considerations

1. Oklahoma Law

Oklahoma law provides that municipalities, counties, public trusts, or any other political subdivision may use DB or CMAR as a project delivery method. However, municipalities, counties, public trusts, and any other political subdivision shall be subject to all other provisions of the Public Building Construction and Planning Act, 61 O.S. § 202.1(B) (the “Building Act”).

DB and CMAR project delivery methods shall not be used for any project unless the project meets the criteria established by the administrative rules promulgated as required by this Act. Such methods shall not be used unless there is a need for a compressed construction schedule due to natural disasters or other emergency situations affecting public health and safety, or all of the following criteria for designation are met pursuant to 61 O.S. § 202.1(C):

1. The project benefits the public;
2. There is a need for cost control; and
3. The need exists for specialized or complex construction methods due to the unique nature of the project.

The use of design-build and construction management project delivery methods shall not interfere or inhibit the opportunity for subcontractors to openly and freely compete for subcontracts pursuant to the Public Competitive Bidding Act of 1974 (the “Bidding Act”) with respect to public notices (O.S 61 § 202.1(D)).

2. Federal Law

DEQ and OWRB are not aware of any federal laws regarding DB or CMAR, however, all federally funded projects must follow 2 C.F.R. Pt. 200.320 for procurement and other applicable laws.

III. Definitions

“Clean Water State Revolving Fund (CWSRF) or Clean Water SRF” means the fund or program created by 82 O.S. § 1085.51.

“Construction management” means a project delivery method based on an agreement whereby the owner acquires from a construction entity a series of services that include, but are not necessarily limited to, design review, scheduling, cost control, value engineering, constructability evaluation, preparation and coordination of bid packages, and construction administration; construction management includes:

“Agency Construction Management” whereby the construction entity provides services to the owner without taking on financial risk for the execution of the actual construction.

“Construction Management at Risk” (“CMAR”) whereby the construction entity, after providing agency services during the pre-construction period, takes on the financial obligation to carry out construction under a specified cost agreement.

“Consultant” means an individual or legal entity possessing the qualifications to provide licensed architectural, registered engineering, registered land surveying, certified appraisal, land title, or abstract services or possessing specialized credentials and qualifications as may be needed to evaluate, plan or design for any construction or public work improvement project, or to lease, acquire or dispose of state-owned real property.

“Design-build” or “DB” means a project delivery method whereby the owner acquires both design and construction services in the same contract from a single legal entity, referred to as the design-builder, without the bid component of the traditional design-bid-build process.

“Design-Build Institute of America” or “DBIA” is an organization that defines, teaches and promotes best practices in design-build.

“Drinking Water State Revolving Fund (DWSRF)” means the fund or program created by 82 O.S. § 1085.71 and defines the following:

“Drinking Water Treatment Project” means:

- (A) any engineering undertaking or work to control or develop drinking water treatment facilities of eligible entities for all useful and lawful purposes,
- (B) any system necessary to improve or develop drinking water supply, treatment or distribution capabilities, or
- (C) any implementation of water source protection programs as authorized by the federal Safe Drinking Water Act.

“Eligible entity” or “owner” means any city, town, county or the State of Oklahoma, and any rural water district, public trust, master conservancy district, any other political subdivision or any combination thereof.

“State Revolving Fund” or “SRF” means a fund or program to be used for loans to eligible entities for qualified projects in accordance with Federal law, rules and guidelines administered by the U.S. Environmental Protection Agency and state law and rules in the applicable chapter administered by the OWRB. SRF is a federal term referring to a state revolving fund. There are two separate SRF programs administered in Oklahoma: 1) for the purpose of controlling water pollution (the CWSRF) and 2) for the purpose of providing safe drinking water (the DWSRF).

IV. Alternative Project Delivery Methods

The following are the only alternative project delivery methods provided by the Building Act:

1. Design-Build (“DB”)

a. Progressive Design Build (“PDB”)

PDB is an alternative delivery method in which the owner designates a design-builder under one contract with a single point of accountability for the design and construction of the project. Designing, scheduling, cost-estimating, and final pricing will lead to the development of a guaranteed maximum price (“GMP”). The GMP is presented to the owner at an agreed to milestone, usually in the range of 60% to 90% design complete. The design-builder and owner discuss and negotiate the GMP. If the owner and design-builder reach an agreement on final pricing and schedule, then the final design,

construction, and commissioning will be completed. If an agreement cannot be reached, the contract is terminated. The owner may exercise various “off ramps” that would be available within the contract. PDB is frequently preferred when a project lacks definition, when an owner prefers to remain directly involved in the design process while leveraging the schedule and collaboration advantages provided by PDB, or when the owner is looking to minimize the time and cost of the design-build procurement. This delivery method is most valuable when owners believe they can lower cost or otherwise improve the outcome by participating directly in design decisions.

b. Design-Build Fixed-Price (“DBFP”)

DBFP is an alternative delivery method in which the owner designates a design-builder under one contract for the design and construction of the project. A stipulated dollar amount for design and construction of the project is established when the design-build contract is signed. The contract is based on a defined scope, requirements, and schedule. DBFP is often used when the owner has defined the project requirements and scope of work sufficiently for the design-build team to establish project cost early in the procurement process. The DBFP method requires clear and specific information in the procurement documents by the owner. If the owner is concerned with providing this amount of design details during the conceptual state, the owner may choose to utilize the PDB method instead.

2. Construction Management at Risk (“CMAR”)

CMAR is an alternative delivery method in which the owner designates a design engineer and a CMAR firm under separate and discrete design and construction contracts. The CMAR firm provides construction-related advice during design development, and if the owner and CMAR firm agree on a GMP to construct the project, the CMAR firm acts as the general contractor during construction. CMAR is most often used when an owner wants to maintain direct contractual control over project definition and design. The CMAR firm works in tandem with the owner's design engineer and performs pre-construction services that traditionally include constructability review, value-engineering, estimating, and scheduling. Typically, as the project reaches 60% to 90% design complete, pre-construction services conclude with the preparation of an open-book GMP to construct the project. If the CMAR firm and owner cannot reach an agreement on an acceptable price, the owner may either negotiate with another qualified CMAR firm or have the design completed and proceed with a traditional DBB procurement.

The owner must ensure compliance with the following Oklahoma statutes when preparing the DB and CMAR prime contract:

- 61 O.S. § 202,
- 61 O.S. §220,
- 61 O.S. § 102, and
- Any other applicable laws.

The owner should consult with legal counsel to ensure compliance with the above statutes. Examples of DB and CMAR contracts can be found at www.dbia.org and/or www.aiacontracts.org.

V. Alternative Delivery Method Recommended Procedures:

1. Project - Owner identifies a project and considers a delivery method from the following:

- Design-bid-build
- Design-build
 - Progressive
 - Fixed-price
- CMAR

2. Owner Meets with DEQ/OWRB to Discuss Alternative Delivery

Owner requests a meeting with DEQ and OWRB to discuss proposed project and the delivery method(s) considered. For a CWSRF funded project, DEQ's Construction Permitting Section plan review engineer shall be included early in the planning process as this Section will be reviewing engineering reports and plans and specifications, as well as issuing permit(s).

3. Documentation of Eligibility

Before OWRB and/or DEQ are able to fund a project using a DB or CMAR alternative delivery method, the owner must provide assurance to the OWRB and/or DEQ that they are eligible for an alternative delivery method under the Building Act.

In order to demonstrate eligibility, an owner must provide: a) a signed resolution by its governing body approving the exception to competitively bidding a project and b) a legal justification showing compliance and eligibility under the Building Act and the Bidding Act. The resolution will need to include the statement that the use of design-build and construction management project delivery methods shall not interfere or inhibit the opportunity for subcontractors to openly and freely compete for subcontracts pursuant to the Public Competitive Bidding Act of 1974 with respect to public notices.

4. Owner Creates Implementation Team

DEQ and OWRB suggest that an owner choosing to utilize an alternative delivery method organize an "implementation team" to guide the project delivery due to the complexity of the process. Issues to be considered include roles and responsibilities of team members, procurement, risk management, cost estimating and scheduling, price and schedule negotiation, and quality control issues. In selecting an implementation team, it is recommended that the owner choose representatives from different departments such as engineering, procurement, operations, finance, and legal. Team members should have sufficient knowledge and experience to offer constructive input to the implementation team. The implementation team may all be in-house staff. If the required functional skills are not available in-house, the owner may need to hire an outside consultant(s) to support the implementation team.

In particular, with the DB alternative delivery method, the owner will be required to designate an independent engineer ("IE") to act as contract manager. This IE may be an in-house engineer or outside consultant.

5. Selecting a Design-Build or Construction Management at Risk Firm

When soliciting a DB or CMAR firm, it is recommended that the owner make a request for qualifications ("RFQ") followed by a request for proposal ("RFP") from pre-qualified DB firms or CMAR firms. The owner often conducts interviews prior to awarding a contract. The solicitation process is the owner's responsibility. DEQ and OWRB are not involved in qualifying or selecting the DB or CMAR firm. The owner is responsible for ensuring all public contracting requirements are followed and addressed when hiring a DB or CMAR firm.

The two step method, which is an RFQ followed by an RFP, to select a DB or CMAR for SRF funded projects shall satisfy federal procurement requirements pursuant to 2 C.F.R. Pt. 200.320.

The terms of the project construction contract must comply with all SRF requirements. DEQ/OWRB will reimburse the owner's payment requests for eligible costs associated with the DB or CMAR firm as long as these requirements are met.

6. Contract Requirements

DEQ and OWRB recommend the owner refer to the Design-Build Institute of America's Design-Build Agreement templates and include a release provision ("off-ramp") within the contract.

VI. State Revolving Fund Requirements

SRF loan recipients must comply with a variety of requirements to receive funding for a project through the SRF loan program. When using an alternative delivery method, the timing and implementation of some of these requirements are different from a traditional design-bid-build method. For example, permitting procedures will follow a different timeline and require multiple submittals when using DB and CMAR rather than traditional design-bid-build, which requires only one submittal. SRF loan program requirements are the same for all projects, regardless of the contracting method, including engineering and design, environmental, and financial. See OAC 252:633 and OAC 785:50.

DEQ and OWRB co-manage the DWSRF Program. The DEQ Water Quality Division's Construction Permitting Section is responsible for reviewing and approving engineering reports and plans and specifications, and issuing "Permits to Construct" for both drinking water and wastewater projects for the State of Oklahoma. See OAC 252:626 and OAC 252:656.

1. DEQ Role

DEQ is responsible for reviewing and approving engineering reports, plans and specifications, and Applications for Permit to Construct, as well as for issuing "Permits to Construct" for SRF projects. For DWSRF projects, DEQ is responsible for determining eligibility, environmental review, and for reviewing construction documents, bid documents, and contracts; for attending pre-bid meetings, pre-work meetings, monthly project meetings with the contractor, consulting engineer, owner, and inspector; and for reviewing and approving the contractors' payment requests, and change orders.

2. OWRB Role

OWRB is responsible for reviewing the financial application, board approval of loan, loan closing, disbursement of funds, and receiving loan re-payments for the life of loan for SRF projects. For CWSRF projects, OWRB is responsible for determining eligibility, environmental review, and for reviewing construction documents, bid documents, and contracts; for attending pre-bid meetings, pre-work meetings, monthly project meetings with the contractor, consulting engineer, owner, and inspector; and for reviewing and approving the contractors' payment requests and change orders. Please note that final approval of the engineering report and plans and specifications are granted by the DEQ Water Quality Division's Construction Permitting Section.

VII. Pre-construction Phase

1. Engineering Report

A detailed engineering report shall be completed and approved in writing by DEQ before plans and specifications can be submitted in full or in part to DEQ for review. It shall follow the Funding Agency Coordinating Team ("FACT") guidelines and checklists which are available on the OWRB and DEQ websites and include the documentation of eligibility (as outlined above), as well as economic justification of using an alternative delivery method different from the traditional design-bid-build method. Further, the selected alternative delivery and estimated timeline shall be included.

For a CWSRF project, the owner shall submit two copies of a detailed and complete FACT engineering report to the DEQ Water Quality Division's Construction Permitting Section and one copy to the OWRB CWSRF Engineer. The engineering report shall be reviewed by OWRB to ensure proposed project meets CWSRF requirements and by DEQ to ensure the proposed project addresses key issues, enforcement actions, and meet DEQ's construction standards (OAC 252:656).

For a DWSRF project, the owner shall submit three copies of a detailed and complete FACT engineering report to the DEQ DWSRF Engineer for review and approval. The engineering report shall be reviewed by DEQ to ensure the proposed project addresses key issues, enforcement actions, DWSRF requirements, and meets DEQ's construction standards (OAC 252:626).

The engineering report shall include the entire scope of the project (at 100% completion). The report shall also include a schedule of delivery and the milestones (including significant construction items) at each phase. For example:

- Site Foundation (30% completion)
- Structural (60% completion)
- Process Equipment (90% completion)
- Complete Project (100% completion)

Construction permits shall be issued for each phase of the project. If a Tier II public notice is required for this project, the first construction permit issued for the first phase shall also include the DEQ-approved Engineering Report as a document for public review.

2. Environmental Review

SRF Environmental Review process for alternative delivery method project is no different than that for a traditional project delivery method. An owner applying for funding under the SRF should contact the representative agency as soon as possible to discuss projects with environmental staff to assure environmental documentation is submitted in a timely manner. In some cases, environmental approval may take months and could lead to project delays or the infeasibility of SRF funding. In addition both SRF programs utilize the FACT checklist for submitted Environmental Information Documents ("EIDs"). The checklist can be found on both the DEQ and OWRB websites.

Proposed projects which are solely directed toward minor rehabilitation of existing facilities, functional replacement of equipment, or towards the construction of new ancillary facilities adjacent or appurtenant to existing facilities or other categories as approved by the funding agency may seek a Categorical Exclusion ("CATEX") from the requirement to prepare an EID. Documentation required in these procedures shall be submitted to the funding agency for formal review and decisions.

3. Financial Application

Alternative delivery method projects use the standard loan application document, which can be found on OWRB's website at www.owrb.ok.gov/financing/faforms.php.

4. Plans and Specification Review

Plans and specifications shall be submitted to both DEQ and OWRB. Each phase shall require a submittal of plans and specifications. A different permit number will be assigned for each phase of the project. If a Tier II public notice is required for this project, the first construction permit issued for the first phase shall also include the DEQ-approved Engineering Report as a document for public review. When submitting plans and specifications, be sure to label the project appropriately, i.e., "design build." A permit shall be sent to the applicant within the review time frame established through the current permitting process for each phase submitted. The DEQ construction permitting review engineer shall perform site inspections and be included in meetings throughout the life of the project.

Fees shall be submitted for each phase of the project. The review fee for the first submittal will be the most expensive of the project, unless the scope of the project changes from the approved ER. The fee for each phase shall be determined by the type of modification being made to the facility. DEQ fees are adjusted yearly according to the CPI index. See examples below, which are based on the July 1, 2017 fee schedule. The fee schedule is located on DEQ's website.

Example One:

Construction of a new 10 MGD water treatment plant: The fee submittal with the first phase will be the price for a new water treatment plant. The fee for the remaining phases will be a minor modification fee per phase.

Phase One: \$6,212.85

Phase Two: \$1,551.88

Phase Three: \$1,551.88

Phase Four: \$1,551.88

Example Two:

Construction of a new clear well and clarifier: The fee submittal for the first phase will be the price of a major modification. The remaining phases will be the price for minor modifications per phase.

Phase One: \$3,103.76

Phase Two: \$1,551.88

Phase Three: \$1,551.88

Phase Four: \$1,551.88

5. Pre-work Conference

The purpose of the pre-work conference is to gather contact information for all involved parties and team members, define roles and responsibilities of all parties, and clarify loan requirements.

The role of the SRF staff is to assure that the project is meeting objectives of loan agreement; advise and assist borrower with respect to meeting loan conditions and preparing loan paperwork; assure that borrower/and or its agent(s) is providing adequate project management and construction supervision; assure that borrower maintains appropriate file and accounting systems; perform monthly inspections; and review documents to be submitted including contract documents, addenda, change orders, pay requests, Davis-Bacon requirements, American Iron and Steel requirements, etc.

VIII. Construction Phase

For both SRFs, inspections will be conducted to assure only permitted work is being constructed and that the work meets SRF requirements and agrees with the DEQ-approved plans and specifications. Construction beyond the scope of approved plans and specifications shall not be reimbursed until revised plans and specifications for the additional work are submitted and approved by DEQ.

If the owner decides to change to the DBB delivery method during construction, DEQ and OWRB should be immediately notified to assure proper payments and documentation are recorded. As with all DBB projects, DEQ-approved 100% plans and specifications shall be required before any work not previously permitted is conducted or reimbursed.