

State Revolving Fund and Drinking Water Revolving Fund

# Project Delivery Methods Guidance

**Michigan Department Environmental Quality**



<http://www.michigan.gov/deq>

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# Project Delivery Methods Guidance

This document is intended to be used by applicants of the State Revolving Fund (SRF) and Drinking Water Revolving Fund (DWRF) programs who wish to pursue delivery methods other than the traditional Design-Bid-Build (DBB). As well as reviewing the information in this document, we recommend that applicants consult the following sources for further information:

- The Municipal Water and Wastewater Design-Build Handbook (Handbook) published by the Water Design-Build Council (WDBC)
- The WDBC website <http://www.waterdesignbuild.com/>
- The Department of Environmental Quality's (DEQ) Revolving Loan Section website <http://www.michigan.gov/cleanwaterrevolvingfund>

In addition to DBB, as of May 1, 2015, SRF and DWRF applicants will be allowed to choose from three additional project delivery methods: Construction Management At-Risk (CMAR), Progressive Design-Build (PDB), and Fixed-Price Design-Build (FPDB). Please note that it is the responsibility of the applicant to examine if any local procurement limitations would preclude it from utilizing these methods. As each method has different advantages and constraints, it is important for the applicant to evaluate the project drivers to determine which method would be best suited for the project. It is also important to note that each method requires the applicant to designate an "Owner's Advisor" early on in the planning stage whose role is to advise the applicant and ensure that its interests are properly represented in the process. This can be someone on staff or an outside consultant. Applicants are in the best position to decide whether they should utilize in-house staff or will need the advice of an outside consultant, as well as what specific types of advice may be required. The applicant needs to feel comfortable with evaluating and monitoring the delivery method selected for the design and construction of the proposed project.

Because the CMAR, PDB, and FPDB delivery methods include additional requirements from that of the traditional DBB delivery method, the applicant needs to schedule a meeting with a Revolving Loan Section (RLS) project manager early in the planning stage to discuss project delivery requirements and eligibility. It is also important to note that the CMAR, PDB, and FPDB delivery methods provide flexibility so that trade packages can be bid prior to 100-percent completion of plans and specifications. Therefore, the applicant is responsible for ensuring that detailed discussions are held early on between the project designer and DEQ RLS and District staff to ensure an eligible, approvable project is being bid.

The following is a brief description of each delivery method. All state and federal requirements of the SRF and DWRF programs remain in effect regardless of the delivery method chosen.

**Construction Management At-Risk** - a delivery method in which the applicant 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 applicant and CMAR firm agree on a Guaranteed Maximum Price (GMP) to construct the project, the CMAR firm acts as the general contractor during construction. CMAR is most often used when an applicant wants to capture many of the benefits of design-build while maintaining direct contractual control over project definition and design. The CMAR firm may either subcontract all construction work or self-perform portions of it. The CMAR firm works in

tandem with the applicant's design engineer and performs preconstruction services that traditionally include constructability review, value-engineering, estimating, and scheduling. As the design reaches 60 percent to 90 percent of completion, preconstruction services conclude with the preparation of an open-book fixed price or GMP to construct the project. If the CMAR firm and applicant cannot reach an agreement on an acceptable price, the applicant can either negotiate with another qualified CMAR firm or have the design completed and proceed with a traditional DBB procurement.

The applicant must ensure compliance with the following Michigan statutes when preparing the CMAR prime contract:

- Public Act 213 of 1963, Contractor's Bond for Public Buildings or Works
- Public Act 57 of 1998, Contracts for Improvement to Real Property (commonly referenced as differing site conditions)
- Public Act 524 of 1980, Construction Contracts with Certain Public Agencies (commonly referenced as retainage act)

The applicant should consult with legal counsel to incorporate the above statutes. Examples of supplementary conditions that could be included in the prime contract are attached.

**Progressive Design-Build** – a delivery method in which the applicant designates a design-builder under one contract for the design and construction of the project. The design, cost-estimating, and final pricing of the project progresses during the first step with the development of a GMP for the project. The selected PDB firm completes design from 60 percent to 90-percent complete and submits a fixed-price or GMP proposal for the total project to the applicant for approval. If an agreement cannot be reached, the applicant can either take the partially completed design and use it as the basis for completing the design and proceeding with a DBB procurement or can negotiate with another qualified Design-Build (DB) firm. If the applicant and design-builder reach agreement on the final pricing and schedule, the final design, construction, and commissioning are completed during the second step of the project. PDB is frequently preferred when a project lacks definition, when an applicant prefers to remain directly involved in the design process while leveraging the schedule and collaboration advantages provided by DB, or when the applicant 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.

**Fixed-Price Design-Build** - a delivery method in which the applicant 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. FPDB is often used when the applicant 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 FPDB method requires clear and specific information in the procurement documents by the applicant. If the applicant is concerned with providing this amount of design details during the conceptual stage, the applicant may choose to utilize the PDB or CMAR method instead.

## **SUPPLEMENTARY CONDITIONS GENERAL BOND REQUIREMENTS**

The following Supplementary Conditions modify the General Conditions of the Contract for Construction. Any provision of the General Conditions of the Contract that differ with these supplementary conditions is null and void. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

**GENERAL BOND REQUIREMENTS:** The Construction Manager shall provide performance and payment bond(s) to the Owner, as provided in Section 1 of P.A. 213 of 1963. The penal sum of each bond shall be the greater of (i.) the total estimated cost of the work, (ii) guaranteed maximum price, or (iii) the actual aggregate dollar value of all subcontract agreements entered into by the Construction Manager and its subcontractor(s) for the complete construction of the project, as adjusted by any change order(s). Each bond shall:

- (i) be in a form approved by the Owner;
- (ii) incorporate by reference the terms of the Contract For Construction;
- (iii) be executed by a company certified by the Secretary of the United States Department of Treasury under the Act of July 30, 1947 (61 Stat. 646, as amended; 6 U.S.C. 6-13);
- (iv) be executed by a company licensed and authorized to do business in Michigan;
- (v) be accompanied by a power of attorney certifying the person(s) executing the bond have the authority to do so; and
- (vii) comport with, and be subject to, the requirements of Sections 2, 3, 4 and 5 of P.A. 213 of 1963.

**DELIVERY OF BONDS:** The Construction Manager shall deliver any required bond(s) and power(s) of attorney to the Owner prior to commencement of the Work.

**RIGHTS OR REMEDIES:** This Supplementary Condition does not limit the rights or remedies otherwise available to a Contractor or the governmental entity or construction manager under any other law or statute.

## **SUPPLEMENTARY CONDITIONS RETAINAGE REQUIREMENTS**

The following Supplementary Conditions modify the General Conditions of the Contract for Construction. Any provision of the General Conditions of the Contract that differ with these supplementary conditions is null and void. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

**GENERAL REQUIREMENTS:** The Owner shall withhold retainage from the Construction Manager's request for progress payments in the manner and subject to the requirements of P.A. 524 of 1980. The Owner shall release retainage to the Construction Manager as provided in the General Conditions.

**RETAINAGE AMOUNT:** The retainage shall be limited to the following:

- (a) Not more than 10 percent of the dollar value of all work in place until work is 50 percent in place.
- (b) After the work is 50 percent in place, additional retainage shall not be withheld unless the Owner determines the Construction Manager is not making satisfactory progress, or for other specific cause relating to the Construction Manager's performance under the contract. If the Owner so determines, the Owner may retain not more than 10 percent of the dollar value of work more than 50 percent in place.

**SUBCONTRACT RETAINAGE:** Retainage withheld by the Construction Manager from its Subcontractor(s) shall not exceed the retainage withheld by the Owner. The 10 percent maximum retainage may not be increased, either directly or, indirectly through subcontract provisions or procedures which defer payment for work in place beyond the time for payment in Section (2) of P.A. 524 of 1980, or by requiring the subcontractor to furnish additional security for completion of the work beyond the security provided by the retainage or the subcontractor's performance bond, if any.

**RIGHTS OR REMEDIES:** This Supplementary Condition does not limit the rights or remedies otherwise available to a Contractor or the governmental entity or construction manager under any other law or statute.

## SUPPLEMENTARY CONDITIONS DIFFERING SITE CONDITIONS

The following Supplementary Conditions modify the General Conditions of the Contract for Construction. Any provision of the General Conditions of the Contract that differ with these supplementary conditions is null and void. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

**Section 1. Definitions.** As used in this Supplementary Conditions:

- (a) **“Construction Manager”** means an individual, sole proprietorship, partnership, corporation, limited liability company or joint venture which, pursuant to an engagement by a governmental entity and acting primarily in an administrative or managerial capacity, procures and enters into one or more contracts for the construction, alteration, demolition or repair of an improvement.
- (b) **“Contractor”** means a person who contracts with a governmental entity or construction manager to improve real property. Contractor does not include a person licensed under article 20 of the occupational code, 1980 PA 299, MCL 339.2001 to 339.2014.
- (c) **“Governmental entity”** means the state, a county, city, township, village, public educational institution, or any political subdivision thereof.
- (d) **“Improve”** means to build, alter, repair, or demolish an improvement upon, connected with, or beneath the surface of any real property, to excavate, clear, grade, fill, or landscape any real property, to construct driveways and roadways, or to perform labor upon improvements.
- (e) **“Improvement”** includes, but is not limited to, all or any part of any building, structure, erection, alteration, demolition, excavation, clearing, grading, filling, landscaping, trees, shrubbery, driveways, and roadways on real property that is paid by public funds or special assessment.
- (f) **“Person”** means an individual, corporation, partnership, association, governmental entity, or any other legal entity.
- (g) **“Real property”** means the real estate that is improved, including, but not limited to, lands, leaseholds, tenements, hereditaments, and improvements placed on the real property.

### **Section 2. Notice of Differing Site Conditions**

If a Contractor discovers one or both of the following physical conditions of the surface or subsurface at the improvement site, before disturbing the physical condition or performing any Work in connection therewith (except in an emergency as required by the General Conditions), the Contractor shall promptly notify the governmental entity or construction manager of the physical condition in writing:

- (i) A subsurface or a latent physical condition at the site is differing materially from those indicated in the improvement contract, or
- (ii) An unknown physical condition at the site is of an unusual nature differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the improvement contract.

Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

### **Section 3. Possible Price and Time Adjustments**

- (a.) If the governmental entity or construction manager receives a notice under section 2, the governmental entity shall promptly investigate the physical condition.
- (b.) If the governmental entity determines that the physical conditions do materially differ and will cause an increase or decrease in costs or additional time needed to perform the contract, the governmental entity's determination shall be made in writing and an equitable adjustment shall be made to the Contractor's price and time for the improvement and its contract modified in writing accordingly.
- (c.) The Contractor cannot make a claim for additional costs or time because of a physical condition unless the Contractor has complied with the notice requirements of Section 2. The governmental entity or construction manager may extend the time required for notice under Section 2.

### **Section 4. Contract Documents**

The improvement contract shall be deemed to include information representing, depicting, describing or concerning physical conditions present on, in or under the site of the proposed improvement, or information from which such conditions can be reasonably derived, which the governmental entity, construction manager, or its representative provided or offered for inspection to the bidders prior to the submission of bids, notwithstanding any disclaimer or disavowal of such information elsewhere in the improvement contract.

### **Section 5. Claims**

- (a.) If governmental entity, Construction Manager, and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in the General Conditions.
- (b.) The Contractor cannot make a claim for an adjustment under the contract after the Contractor has received the final payment under the contract.

### **Section 6. Rights or remedies.**

This Supplementary Condition does not limit the rights or remedies otherwise available to a Contractor or the governmental entity or construction manager under any other law or statute.

## Frequently Asked Questions

**Q: What types of projects are best suited for the CMAR/DB delivery methods?**

**A:** Alternate delivery methods are generally used for projects that are complex, involve multiple construction trades, or have a tight construction schedule. Single trade projects such as sewer line or water main projects are not typically delivered with CMAR/DB methods. The applicant should carefully review the benefits and disadvantages of each delivery method before deciding which method is most appropriate for the project.

**Q: Will outside support, assistance, consultancy, or project management resources be needed for CMAR, PDB, or FPDB?**

**A:** All three delivery methods require applicant designation of an “Owner’s Advisor” early in the planning process. The applicant typically engages the engineer of record for assistance, but may rely on the expertise of in-house engineering, procurement, and construction staff. If the applicant is considering retaining outside consulting support to serve in the capacity as an “Owner’s Advisor,” applicants should consider firms or individuals with experience in the design-build or CMAR process, as well as previous experience in being an “Owner’s Advisor.” Similarly, if utilizing in-house staff, applicants should consider the workload, availability, project management, and technical experience of their staff.

**Q: What is the role of the Owner’s Advisor?**

**A:** The role of the “Owner’s Advisor” is to ensure the applicant’s interests are properly represented during the planning, design, and construction of the project. It is necessary for the “Owner’s Advisor” to collaborate with all parties involved in the project. This includes interacting with the design-build or CMAR firm, monitoring the firm’s performance, approving invoices, and objectively facilitating the resolution of issues that occur during the course of the project.

**Q: Can the CMAR be the Owner’s Advisor or the design engineer of the project?**

**A:** No. In order to avoid conflict of interest, the CMAR Owner’s Advisor and the design engineer must be separate entities. They must be separate companies (legal partition) or have a non-collusion affidavit in place.

**Q: Can the CMAR hold a contract with the project designer?**

**A:** No. The CMAR contract shall be directly with the applicant. The CMAR does not hold any contracts with the designer-of-record or the Owner’s Advisor.

**Q: How do I know which delivery method is best for my project?**

**A:** There are several factors that need to be considered when choosing the most appropriate method for your project. These include, but are not limited to, how involved the applicant would like to be during the design and construction phases and the priorities, project goals, and objectives of the applicant. It is recommended that applicants seek the advice of other applicants who have conducted design-build or CMAR projects, as well as review the materials and websites referenced in this document.

**Q: What is the difference between CMAR and PDB?**

**A:** With CMAR, the applicant holds two separate contracts: one with the project designer, and one with the CMAR. This method subjects the applicant to more risk than with the PDB method since the applicant is the project intermediary between the designer and CMAR. With PDB, the design-builder is responsible for both the project design and its construction. Therefore, only one contract with the applicant is required.

**Q: Should the CMAR/design-builder be a general contractor or a consulting engineer?**

**A:** Both are acceptable as long as they meet the appropriate licensing and bonding requirements and have the proper qualifications to perform the necessary work. In deciding whether to procure a general contractor or consulting engineer, the applicant should determine whether, and to what extent, the design-build or CMAR firm will be allowed to self-perform work. This should be considered carefully as there may be some value to requiring a minimum level of work to be self-performed. Trade packages that are to be self-performed by the design-build or CMAR firm must still be competitively bid to ensure an open-book, transparent cost process.

**Q: In DB and CMAR delivery, what kind of entity is allowed to lead the project?**

**A:** The DB or CMAR can be a single entity or a team that carries the bonding capacity, licensing, insurance, and other regulatory and legislative requirements to construct public facilities and/or utility infrastructure in the State of Michigan. In addition, local agencies may have other procurement requirements that need to be followed.

**Q: Does the CMAR/design-build firm need to be procured before or after the project has been determined to be fundable?**

**A:** The applicant can procure the CMAR or design-build firm before, or after, the project has been determined to be fundable at the applicant's discretion. If the applicant procures the CMAR or design-build firm before the project is determined to be fundable, the applicant must ensure that all procedures have been followed in accordance with the SRF/DWRF program and provide documentation to that effect. Alternatively, the applicant does not need to procure the CMAR or design-build firm until the applicant receives notification that the project is in the SRF/DWRF fundable range. However, unless the applicant is proceeding with the DBB delivery method, the project plan will need to evaluate the various delivery methods, identify which method is the best fit for the project, and provide an estimate of costs for the CMAR/design-build delivery method. Once the project is deemed fundable, an RLS project manager will negotiate a milestone schedule with the applicant based on the delivery method chosen in the project plan and the applicant will submit a copy of the executed CMAR/design-build contract as part of the application process.

**Q: Are there specific procurement requirements for CMAR or PDB?**

**A:** Yes. As of October 1, 2014, any engineering or architectural services obtained as part of an SRF project receiving assistance must be procured using a Qualifications-Based Selection (QBS) process. This process is also required for any applicant using a CMAR or PDB. The applicant, as part of its proposal process, must consider at least three firms or document its efforts (including national solicitation of bids, if necessary). The applicant will be required to certify it has used the QBS process to procure the CMAR/PDB firm. Please note that the selection of the CMAR or PDB is based on qualifications with negotiated fees. The true competitive selection process occurs at the trade level when the trade packages go out to bid. Further information on the requirements of this process is detailed in the *State Revolving Fund (SRF) Procurement of Architectural and Engineering Services Memo to Applicants and Consultants* dated September 16, 2014.

**Q: How is the Fixed-Price Design-Builder procured?**

**A:** For the FPDB delivery method, the design-builder is responsible for progression of the design during the proposal phase of the project in order to develop and submit its fixed price of the project for the purposes of the proposal review and selection. The applicant, as part of its proposal process, must have a minimum of three cost proposals or document its efforts (including national solicitation of bids, if necessary) for the project from prospective design-builders who are then selected using a QBS process. The applicant will be required to certify they have used the QBS process to procure the CMAR/PDB firm. Further information

on the requirements of this process is detailed in the *State Revolving Fund (SRF) Procurement of Architectural and Engineering Services Memo to Applicants and Consultants* dated September 16, 2014.

**Q: When should a meeting be scheduled with RLS and District staff to discuss the project?**

**A:** Ideally, a meeting should be scheduled early in the planning process, before the project plan is submitted. At the very least, the applicant is strongly encouraged to schedule a meeting as soon as the CMAR/DB firm is procured to discuss the requirements of an agreed upon Preliminary Engineering Report (overview of project concept normally submitted as part of the project plan) and to negotiate a Permitting Plan (schedule and description of required deliverables for construction permitting and submittal of an overall schematic of the project). Failure to do so may result in a delay of the project or design of a project that does not receive DEQ approval. We also recommend monthly progress meetings with District staff to review contract documents, design plans, and to discuss the project's progress and any ongoing issues. Communication and collaboration between the applicant, the CMAR/DB firm, and DEQ staff is essential for the success of the project.

**Q: What do 30-percent complete plans look like?**

**A:** At this stage of development, the project's plans are a bridging document whose purpose could be to show the concept of the project. It is up to the applicant, and the project's drivers, as to whether the plans are more performance or prescriptive based.

**Q: What fees are associated with the CMAR, PDB, and FPDB delivery methods?**

**A:** The CMAR and PDB delivery methods require an executed contract for both the Step 1 (Preliminary Design and Preconstruction) and Step 2 (Design Completion and Construction) phases of the project, which include negotiated fees. With the FPDB delivery method, the applicant and design-builder agree on a fixed-price for the project early in the procurement process, based either on the applicant's description of the project requirements or on a conceptual design provided in the procurement documents. Change orders issued as part of these delivery methods will not include any additional charges over those included with the traditional DBB delivery method. Please refer to the Handbook for more information on fees and the procurement process.

**Q: What documentation is required for costs related to the CMAR, PDB, and FPDB methods?**

**A:** Applicants may refer to existing program guidance regarding required cost documentation or contact their RLS project manager with questions. No additional cost documentation is required for these delivery methods.

**Q: For the PDB and FPDB delivery methods, when are draft plans and specifications submitted to the DEQ for its review?**

**A:** Because of the aggressive schedule for these delivery methods, draft plans and specifications are not required to be submitted to the DEQ until after the project goes out to bid. Since RLS and District staff may not have an opportunity to review these documents prior to bidding, it is essential that the applicant and his consultant/design engineer work closely with DEQ staff early on to ensure an approvable and eligible project is being constructed and that the appropriate documentation is included in the bidding documents. A 4<sup>th</sup> quarter financing schedule may allow additional time for DEQ staff to review draft plans and specifications prior to bidding. The benefits and disadvantages of proceeding 4<sup>th</sup> Quarter should be discussed with the RLS project manager.

**Q: Can construction start before design is complete?**

**A:** If an aggressive schedule is required and approved for the project, it may be possible to fast-track certain parts of the project, with multiple construction permits issued for each subsequent phase of the project. A Permitting Plan will be negotiated between the applicant, the CMAR/Design-Build firm, and DEQ District staff once the CMAR/Design-Build firm has been procured. It is important to note that Section 4105 of Part 41, Sewage Disposal and Waterworks Systems, of the Natural Resources and Environmental Protection Act, 451 of the Public Acts of 1994 states that pipe and equipment cannot be ordered by the applicant before the construction permit is issued.

**Q: For the PDB and FPDB delivery methods, when are plans and specifications approved by the DEQ?**

**A:** The RLS project manager will issue a plans and specifications approval letter once the DEQ district engineer approves the plans and specifications and issues a Part 41 or Act 399 construction permit for all phases of the project. This approval letter needs to be issued prior to the loan closing. Since construction begins before design is complete, it is essential that the applicant and his design engineer work closely with RLS and District staff to ensure an eligible, approvable project is being constructed. The design plans **must** include enough detail to allow the district engineer to issue a permit.

**Q: How is the GMP for the CMAR and PDB delivery methods developed?**

**A:** The GMP is developed and submitted for review and acceptance at approximately 60 percent to 90-percent design completion, contingent upon the applicant's schedule and budgetary constraints. The CMAR/design-builder and the applicant must work towards development of a mutually acceptable GMP, which shall include the following:

- a. During development of the GMP, the CMAR/design-builder shall provide a minimum of three cost quotes for each scope of work or document its efforts (including national solicitation of bids if necessary).
- b. The GMP must be based on the combination of the cost proposals that provides the best value for the project.
- c. The cost evaluation process and the negotiation of the GMP shall be based on a full open-book basis. The cost of the work, and all other preconstruction deliverables provided by the CMAR/design-builder shall be evaluated by the applicant, the Owner's Advisor or the designer-of-record.
- d. The GMP must be mutually acceptable by both the applicant and the CMAR/design-builder, and the contract for preconstruction services must contain an exit clause in the event the applicant and CMAR/design-builder are unable to agree to an acceptable GMP.
- e. The GMP must be accepted, and the Step 2 contract executed prior to starting construction.
- f. Other than General Conditions, any construction work self-performed by the CMAR/design-builder must be competitively bid.

## GLOSSARY

**Construction Management At-Risk** – a delivery method in which the applicant retains 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 applicant and CMAR firm agree on a price to construct the project, the CMAR firm acts as the general contractor during construction.

**Progressive Design-Build** – a delivery method in which the design, cost-estimating, and final pricing of the project progresses during the first step of the project. If the applicant and design-builder reach agreement on the final pricing and schedule, the final design, construction, and commissioning are completed during the second step of the project. Final pricing with this method is also based on a Guaranteed Maximum Price (GMP).

**Fixed-Price Design-Build** – a delivery method in which 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.

**Guaranteed Maximum Price** – a pricing method found in PDB and CMAR projects in which an applicant pays the design-builder or CMAR firm a maximum amount for the project, above which the applicant is not obligated to pay for services included within the original scope.

**Owner Advisor** – The role of the “Owner’s Advisor” is to ensure the applicant’s interests are properly represented during the planning, design, and construction of the project.

**Performance Requirements** – In a Performance Based approach, the focus of all decisions is on the objective of the building asset rather than specific design details. Measurable plant performance criteria or objectives for operations are the focus rather than specific design approaches to achieve those objectives. Performance-based procurements are frequently used when an applicant has a clear vision for how a facility must perform and is open as to the specific method for achieving the required performance. The request for proposal (RFP) may or may not include limited design drawings.

**Prescriptive Requirements** – A Prescriptive Based approach describes the way a building asset has to be constructed instead of focusing on its desired objective. In a prescriptive delivery procurement, the RFP typically requires that a mandatory design be submitted that is approximately 10 percent to 30-percent complete, and includes preliminary design drawings in the procurement package. Prescriptive procurements are often preferred with applicants that are very clear on their design preferences and want to use a specific delivery method to allow selection of firms based on a combination of qualifications, schedule and cost.

**Project Drivers** – the priorities, project goals, and objectives driving the decision-making process of the project. This could include such things as project budget, scheduling deadlines, and project quality expectations.

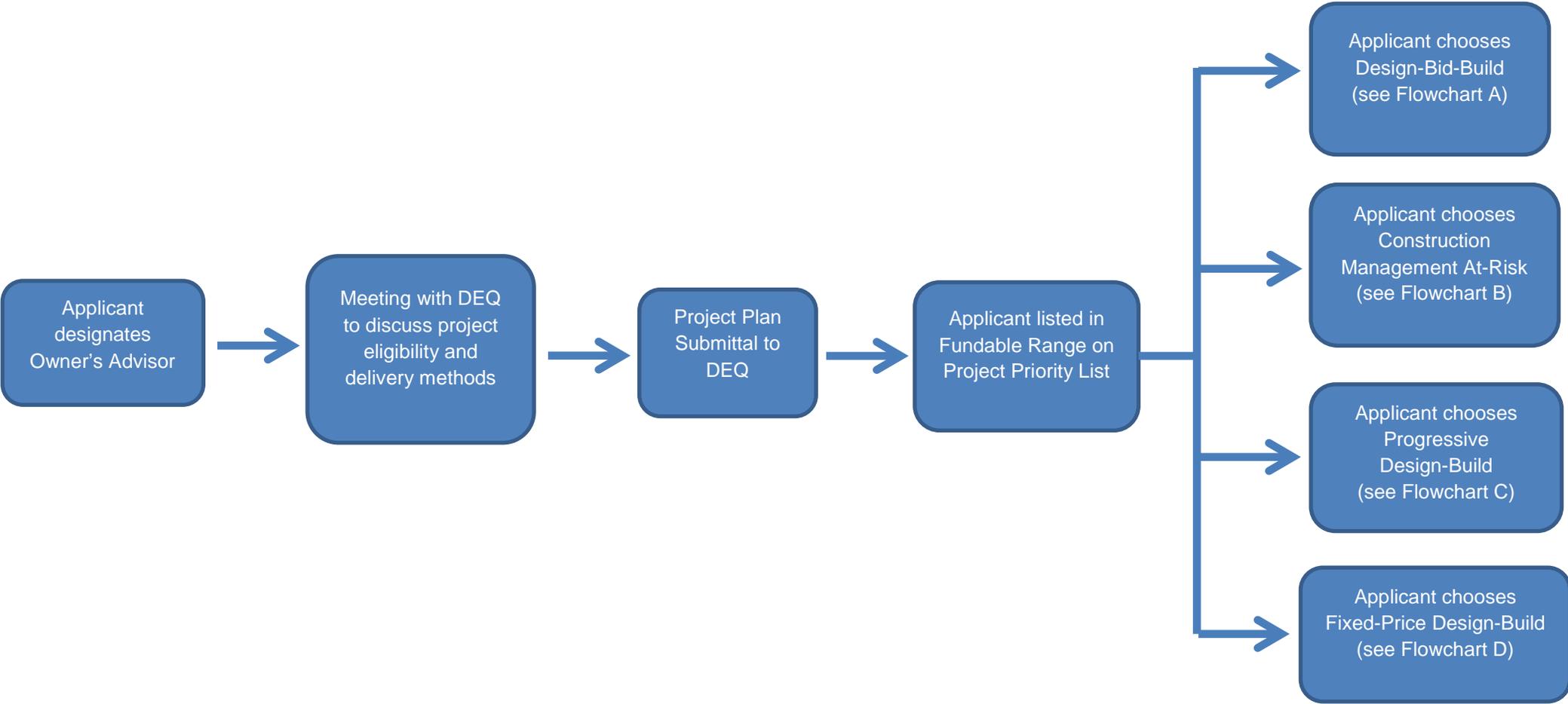
**Qualifications-Based Selection Process** – a procurement process that is based on obtaining the best qualified entity for completing the scope of work.

**Request for Proposal** – a solicitation made often through a competitive process, by an agency or company interested in procurement of a commodity, service, or valuable asset, to potential suppliers to submit business proposals. It provides both technical (project scope, design and performance criteria, and construction quality requirements) and project criteria, and also identifies the evaluation criteria and selection method.

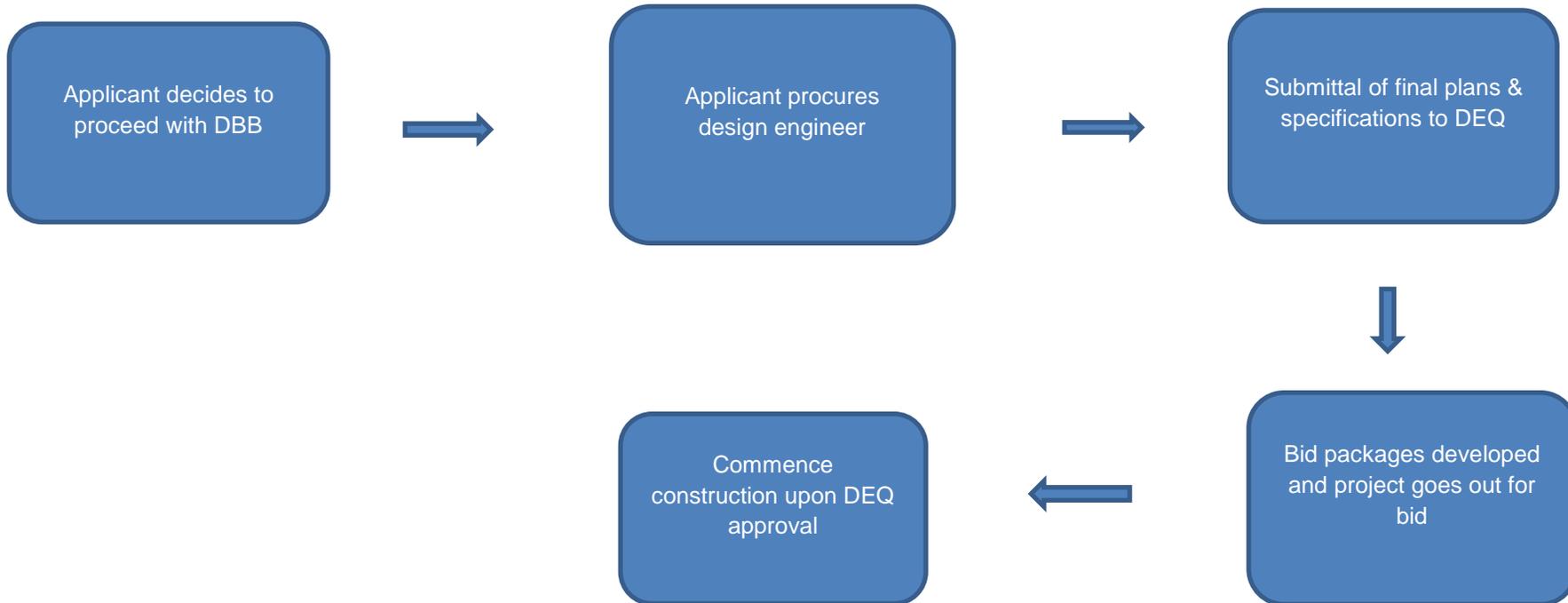
**Step 1** – the Preliminary Design and Preconstruction Phase of the CMAR and PDB delivery methods that leads up to the development of a GMP. This includes developing the project scope, design, initial permits, schedule, and price for the applicant's approval.

**Step 2** – the Design Completion and Construction Phase of the CMAR and PDB delivery methods that is executed after the GMP is accepted by both the applicant and the CMAR/design-builder. This includes completing design, obtaining permits, and performing construction, testing, and acceptance, commissioning, and close-out of the project.

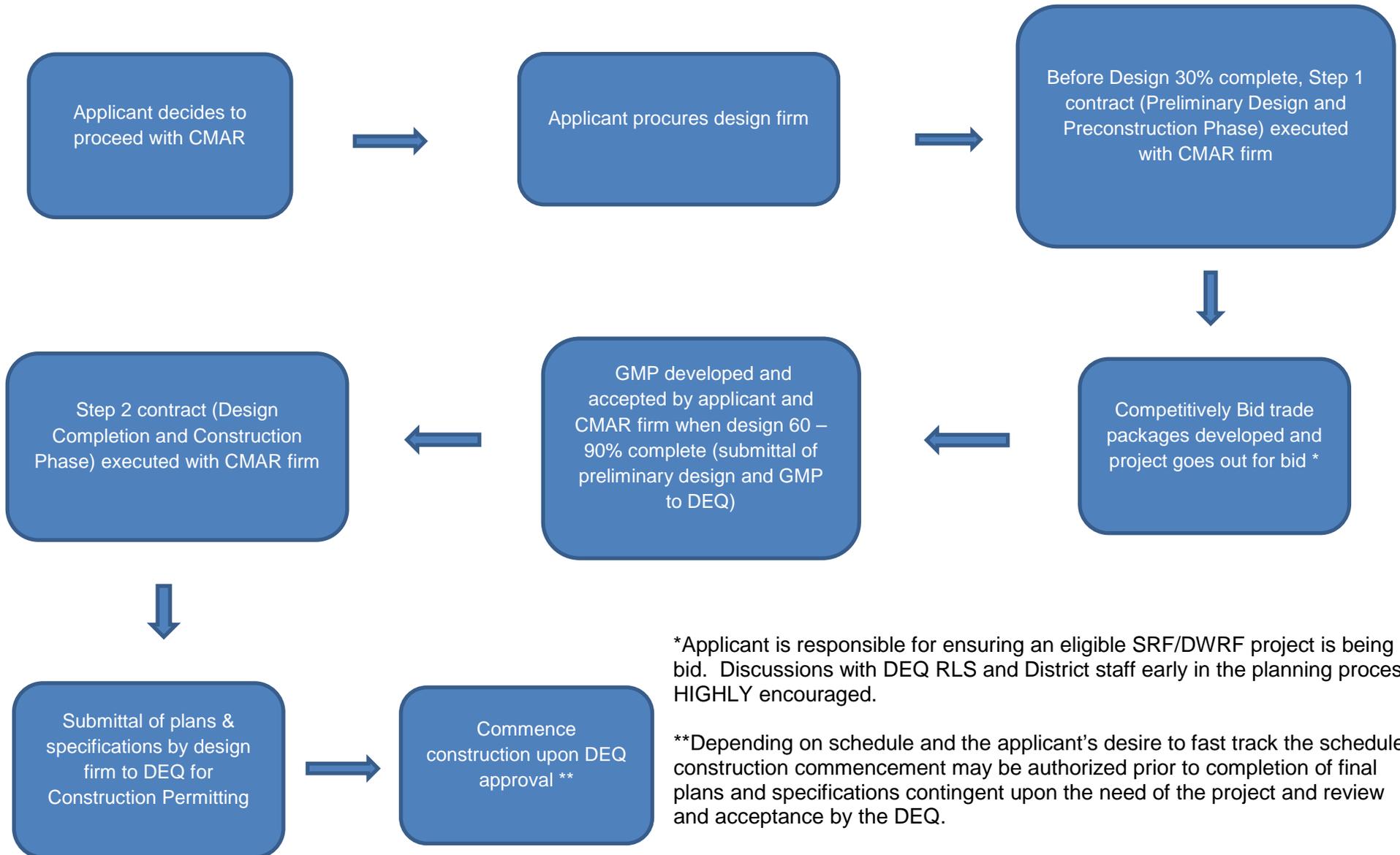
# SRF/DWRF Project Delivery Method Flowcharts



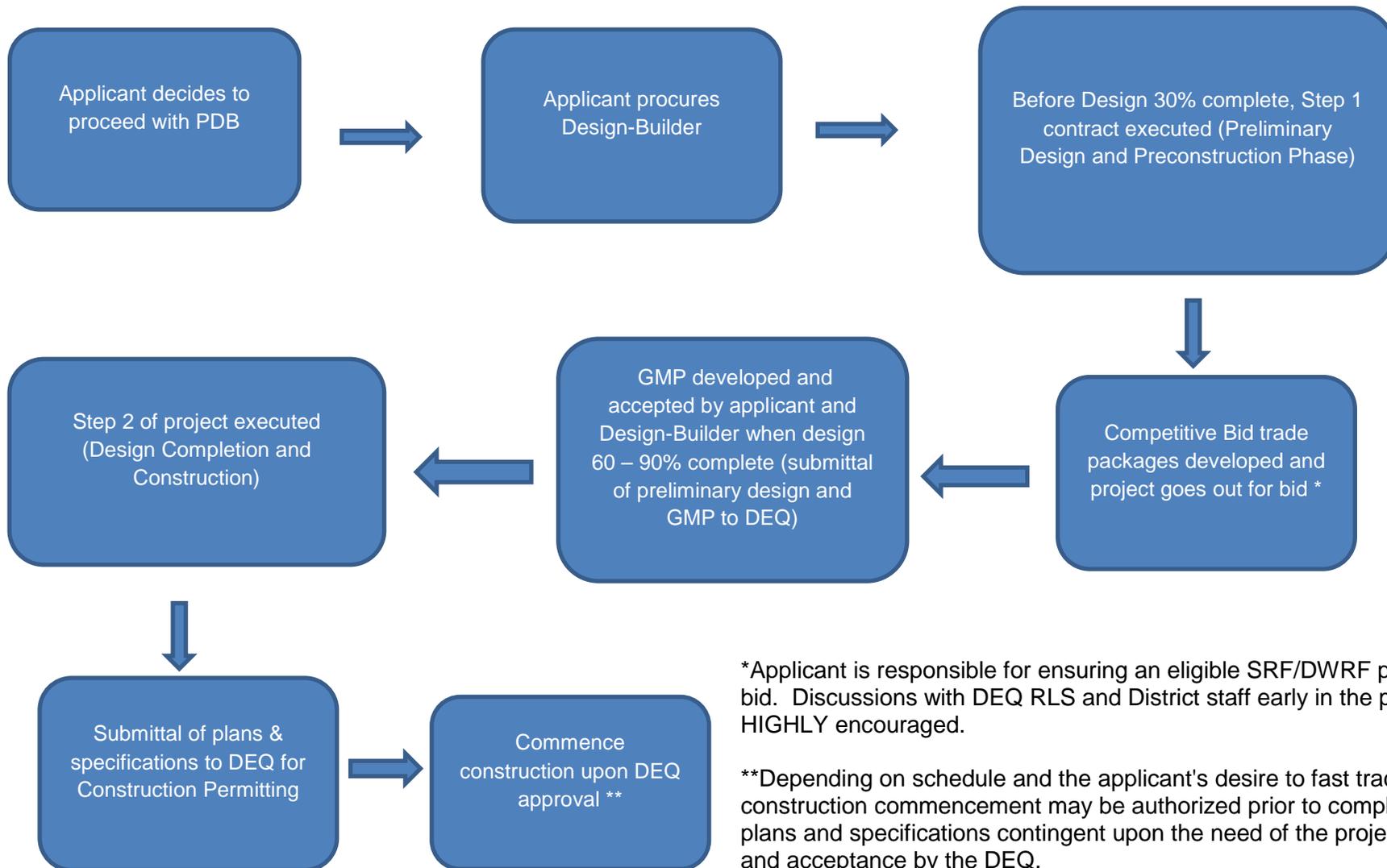
# Design-Bid-Build (DBB) Flowchart A



## Construction Management At-Risk (CMAR) Flowchart B



## Progressive Design-Build (PDB) Flowchart C



\*Applicant is responsible for ensuring an eligible SRF/DWRF project is being bid. Discussions with DEQ RLS and District staff early in the planning process is **HIGHLY** encouraged.

\*\*Depending on schedule and the applicant's desire to fast track the schedule, construction commencement may be authorized prior to completion of final plans and specifications contingent upon the need of the project and review and acceptance by the DEQ.

**Michigan Finance Authority (MFA)/Department of Environmental Quality (DEQ)**

**FY 2015 FINANCING SCHEDULE**  
for the State Revolving Fund (SRF), the  
Drinking Water Revolving Fund (DWRF) and the  
Strategic Water Quality Initiatives Fund (SWQIF)

**Construction Management At-Risk and  
Progressive Design-Build Delivery Methods**

	<b>QUARTER 1</b>	<b>QUARTER 2</b>	<b>QUARTER 3</b>	<b>QUARTER 4</b>
Part I of Application Due	<b>08/29/2014</b>	<b>11/26/2014</b>	<b>02/13/2015</b>	<b>05/12/2015</b>
EAs Published No Later Than	<b>08/19/2014</b>	<b>12/04/2014</b>	<b>02/20/2015</b>	<b>05/14/2015</b>
Part II Application Due FNSI Clearance User Charge System Approved	<b>09/18/2014</b>	<b>01/05/2015</b>	<b>03/23/2015</b>	<b>06/15/2015</b>
Submittal of Step 1 Contract (Preliminary Design & Preconstruction Services)	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>
Submittal of Bridging Documents (Preliminary Plans & Specs) and GMP Submittal of Step 2 Contract (Design Completion & Construction) RLS Approval of Plans & Specs (PDB)	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>
Plans & Specs Approved (CMAR only) Part III of Application Due Bid Data Submittal (With Tentative Contract Award)	<b>11/03/2014</b>	<b>02/13/2015</b>	<b>05/04/2015</b>	<b>07/24/2015</b>
DEQ Order of Approval Issued*	<b>11/19/2014</b>	<b>03/13/2015</b>	<b>06/03/2015</b>	<b>08/26/2015</b>
Borrower's Pre-Closing with the MFA	<b>12/03/2014</b>	<b>03/30/2015</b>	<b>06/12/2015</b>	<b>09/04/2015</b>
<b>MFA CLOSING</b>	<b>12/12/2014</b>	<b>04/09/2015</b>	<b>06/25/2015</b>	<b>09/17/2015</b>
Notice to Proceed Issued No Later Than	02/10/2015	06/08/2015	08/24/2015	11/16/2015

\*In addition to MFA requirements, all municipal bond sales must be reviewed and approved by the Local Audit and Finance Division of the Michigan Department of Treasury before an Order of Approval can be issued.

**AN APPROVABLE APPLICATION FOR A REVOLVING FUND LOAN MUST INCLUDE:**

1. A completed revolving fund application (Parts I, II, and III) including all required application information and assurances.
2. A detailed project description, cost breakdown, and project schedule.
3. Financial documentation to demonstrate ability for timely repayment of the loan and other assurances required by the application. (Part I)
4. If applicable, all executed intermunicipal service agreements. (Part II)
5. An approved User Charge System. (Part II)
6. An approved Project Plan. (Part II)

7. A set of plans and specifications suitable for bidding, including DEQ construction permit. (Part II)
8. A certified resolution from the applicant designating an authorized representative. (Part II)
9. Verification that the project has been advertised for bids or other appropriate procurement action. (Part II)

## Fixed-Price Design-Build (FPDB) Flowchart D



\*Applicant is responsible for ensuring an eligible SRF/DWRF project is being bid. Discussions with DEQ RLS and District staff early in the planning process is HIGHLY encouraged.

\*\*Depending on schedule and the applicant's desire to fast track the schedule, construction commencement may be authorized prior to completion of final plans and specifications contingent upon the need of the project and review and acceptance by the DEQ.

**Michigan Finance Authority (MFA)/Department of Environmental Quality (DEQ)**

**FY 2015 FINANCING SCHEDULE**  
for the State Revolving Fund (SRF), the  
Drinking Water Revolving Fund (DWRP) and the  
Strategic Water Quality Initiatives Fund (SWQIF)

**Fixed-Price Design-Build Delivery Method**

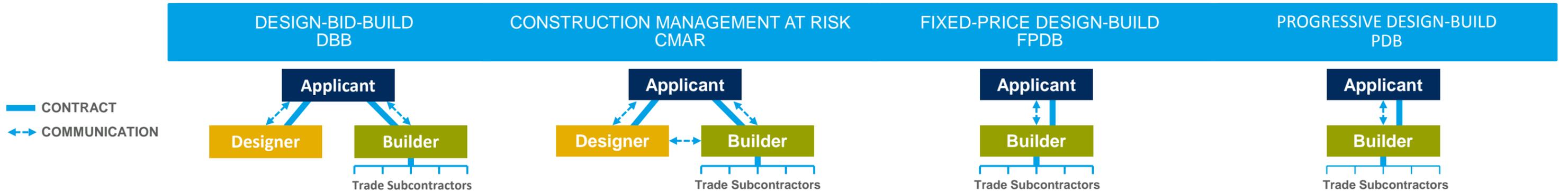
	<b>QUARTER 1</b>	<b>QUARTER 2</b>	<b>QUARTER 3</b>	<b>QUARTER 4</b>
Part I of Application Due	<b>08/29/2014</b>	<b>11/26/2014</b>	<b>02/13/2015</b>	<b>05/12/2015</b>
EAs Published No Later Than	<b>08/19/2014</b>	<b>12/04/2014</b>	<b>02/20/2015</b>	<b>05/14/2015</b>
Part II Application Due FNSI Clearance User Charge System Approved	<b>09/18/2014</b>	<b>01/05/2015</b>	<b>03/23/2015</b>	<b>06/15/2015</b>
Submittal of FPDB Proposal, Selection Criteria and Scoring Submittal of Bridging Documents (Preliminary Plans & Specs) RLS Approval of Plans & Specs	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>	<b>To Be Negotiated</b>
Part III of Application Due Bid Data Submittal (With Tentative Contract Award)	<b>11/03/2014</b>	<b>02/13/2015</b>	<b>05/04/2015</b>	<b>07/24/2015</b>
DEQ Order of Approval Issued*	<b>11/19/2014</b>	<b>03/13/2015</b>	<b>06/03/2015</b>	<b>08/26/2015</b>
Borrower's Pre-Closing with the MFA	<b>12/03/2014</b>	<b>03/30/2015</b>	<b>06/12/2015</b>	<b>09/04/2015</b>
<b>MFA CLOSING</b>	<b>12/12/2014</b>	<b>04/09/2015</b>	<b>06/25/2015</b>	<b>09/17/2015</b>
Notice to Proceed Issued No Later Than	02/10/2015	06/08/2015	08/24/2015	11/16/2015

\*In addition to MFA requirements, all municipal bond sales must be reviewed and approved by the Local Audit and Finance Division of the Michigan Department of Treasury before an Order of Approval can be issued.

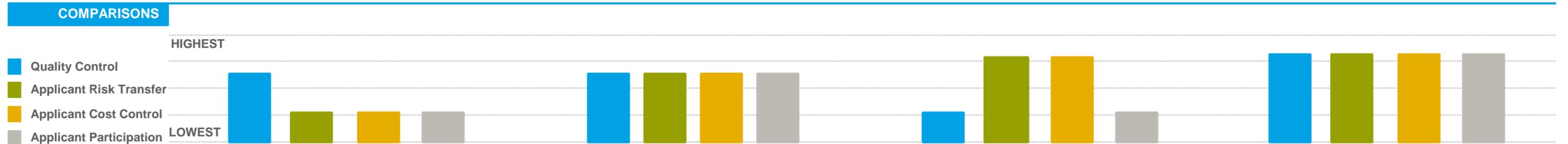
**AN APPROVABLE APPLICATION FOR A REVOLVING FUND LOAN MUST INCLUDE:**

1. A completed revolving fund application (Parts I, II, and III) including all required application information and assurances.
2. A detailed project description, cost breakdown, and project schedule.
3. Financial documentation to demonstrate ability for timely repayment of the loan and other assurances required by the application. (Part I)
4. If applicable, all executed intermunicipal service agreements. (Part II)
5. An approved User Charge System. (Part II)
6. An approved Project Plan. (Part II)
7. A set of plans and specifications suitable for bidding, including DEQ construction permit. (Part II)
8. A certified resolution from the applicant designating an authorized representative. (Part II)
9. Verification that the project has been advertised for bids or other appropriate procurement action. (Part II)

# PROJECT DELIVERY METHOD CONCEPTS & CHARACTERISTICS



	DESIGN-BID-BUILD DBB	CONSTRUCTION MANAGEMENT AT RISK CMAR	FIXED-PRICE DESIGN-BUILD FPDB	PROGRESSIVE DESIGN-BUILD PDB
<b>ADVANTAGES</b>	<ul style="list-style-type: none"> <li>Well understood and accepted</li> <li>Independent oversight of Builder</li> <li>Open to Applicant involvement during design</li> </ul>	<ul style="list-style-type: none"> <li>Open to Applicant involvement during design</li> <li>Early integration of Builder</li> <li>Provides early and continuous constructability review</li> <li>Provides earlier certainty of costs</li> <li>Pricing and design may be conducted in parallel</li> <li>Reduced likelihood of claims vs. DBB</li> </ul>	<ul style="list-style-type: none"> <li>Single point of responsibility</li> <li>Provides earliest possible fixed price</li> <li>Performance warranty from Design/Builder</li> <li>May promote design innovation</li> <li>Applicant can transfer risk to Design/Builder</li> <li>Collaboration between Designer and Builder</li> <li>Can reduce up-front design costs</li> </ul>	<ul style="list-style-type: none"> <li>Single point of responsibility</li> <li>Promotes design innovation with Applicant</li> <li>Performance warranty from Design/Builder</li> <li>Applicant can transfer risk to Design/Builder</li> <li>Collaboration between Designer and Builder</li> <li>Negotiated price during design</li> <li>Applicant may specify equipment</li> <li>Applicant has privilege to all cost data</li> <li>Open to Applicant involvement during entire project</li> </ul>
<b>DISADVANTAGES</b>	<ul style="list-style-type: none"> <li>Multiple points of responsibilities</li> <li>Applicant warranties design documents</li> <li>Applicant bears majority of risk</li> <li>Low-bid contractor selection increases risk of performance problems, change orders, disputes and claims</li> <li>Reduced collaboration between Designer and Builder</li> <li>Linear phasing increases overall project duration</li> <li>Applicant transfers contract for pre-purchase</li> </ul>	<ul style="list-style-type: none"> <li>Multiple points of responsibilities</li> <li>Applicant warranties design documents</li> <li>No legal obligation linking Designer to Builder</li> <li>Potential for disputes, claims and change orders may delay project completion</li> </ul>	<ul style="list-style-type: none"> <li>Costs beyond lump sum unknown to applicant</li> <li>Applicant involvement becomes very limited once price is established (usually 30 percent or less design level)</li> <li>Design drawings are likely less detailed</li> <li>Greater potential than Open Book for change orders, disputes and claims; may delay project completion and increase cost</li> </ul>	<ul style="list-style-type: none"> <li>More up-front design effort than FPDB</li> <li>Open book bidding occurs later than under FPDB</li> </ul>
<b>BEST APPLICATION</b>	<ul style="list-style-type: none"> <li>Applicant desires high degree of involvement</li> <li>High degree of public oversight and involvement desired</li> <li>Schedule is not a priority</li> <li>Project is complex or scope is uncertain</li> </ul>	<ul style="list-style-type: none"> <li>Applicant desires a high degree of involvement</li> <li>Applicant desires construction input into design</li> <li>Schedule is not a priority</li> <li>Project is complex or scope is uncertain</li> </ul>	<ul style="list-style-type: none"> <li>Time is critical, and existing conditions and desired outcomes are well understood</li> <li>Applicant does not want direct involvement in design and construction</li> <li>Project is not complex and scope is well-defined</li> <li>Operational and aesthetic issues are well-defined</li> <li>Conventional, well-understood technology</li> </ul>	<ul style="list-style-type: none"> <li>Time is critical</li> <li>Applicant desires high degree of involvement</li> <li>Project is more complex or scope is uncertain</li> </ul>



Comparison chart courtesy of Black & Veatch