Project Delivery Selection Matrix (PDSM) Workshop

US160 Piedra River Bridge – ER Permanent Work

Workshop Date: 11/9/2026

Facilitator: Casey Valentinelli

Delivery Method Selected: CM/GC

Table 1, List of Workshop Participants:

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Project Overview

Emergency permanent replacement of the Piedra River Bridge on US160 damaged by flooding.

Project Name: US160 Piedra River Bridge - ER Permanent Work

Location: US160 Piedra River Bridge

Estimated Construction Budget: $13.5M

Estimated Project Delivery Period: Dec 2026-Dec 2027

Source(s) of Project Funding: FHWA ER Funding, State Funding

Project Goals

- Construct Permanent In-stream Bridge Elements Ahead of Seasonal Weather (spring run-off, summer monsoons) with a construction completed NLT December 2027.
- Maximize Safety and Preserve US 160 Operations.
- Accelerate Emergency Delivery Through Collaborative Risk Allocation.

Project Risks

- Adverse Weather, Severe Storms, Future Flood Events, Long Lead Items

Project Delivery Selection Matrix
Primary Factor Assessment

1) Project Complexity and Innovation

The degree to which a project involves complex technical challenges and the potential for applying innovative design approaches or construction methods to address them.

DESIGN-BID-BUILD

Opportunities
• Familiar standardized process
• Full design development, solution decision prior to bids
• Potential to add emergency contractor pre-qualification process
Obstacles
• No constructability input from contractors during design, log lead item delay
• High change order potential if conditions are undiscovered or change (scour, riverbed)
Rating
++

CM/GC

Opportunities
• Enables immediate collaboration among designer, owner, and contractor to address complex challenges early
• Contractor constructability input to balance accelerated solutions with long term durability, ability to get long lead items ordered early
• Contractor experience to assist with staging and equipment needs and placement in an active flood channel.
Obstacles
• Requires strong owner to minimize friction between a designer and a contractor that see things differently
Rating
+++

DESIGN-BUILD

Opportunities
• Allows unified team to optimize design and construction methods via ATCs
Obstacles
• Emergency nature creates several technical unknowns that are hard to propose on with no time to develop the required technical criteria, there is no time to develop bidable package.
Rating
+

2) Delivery Schedule

The total project timeline from scoping through design, construction, and opening to the public. Consider both timing constraints for starting the project (or securing funding) and the importance of meeting overall completion deadlines.

DESIGN-BID-BUILD

Opportunities
• Construction phase is conventional and predictable once design is 100% complete
• Accelerated bidding available, as short as 7 days potentially
Obstacles
• Strict linear schedule
• Prequalification process could add time to procurement
• Long lead time items are in critical path, such as girders.
• Limited ability to switch to a different bridge component system based on availability.
Rating
++

CM/GC

Opportunities
• Procurement can be streamlined under emergency procedures, approximately 23 days
• Contractor mobilization during design
• Ability to order long lead time materials
• Ability to execute early work packages before 100% design
Obstacles
• CAP negotiations can stall the schedule if an agreement can't be reached
Rating
+++

DESIGN-BUILD

Opportunities
• Combines design and construction phases to compress construction completion timelines
Obstacles
• Significant time and effort to develop the technical criteria for procurement which won't meet Owner's timeframe goals
• Best-value (vs qualifications) based selection takes several months to complete effectively
Rating
+

3) Project Cost Considerations

Includes estimating, controlling, and managing project costs within budget constraints. Consider the accuracy of early cost estimates, flexibility to adjust scope to meet budget, and the potential for cost risk throughout design and construction.

DESIGN-BID-BUILD

Opportunities
• Hard-Bid competitive pricing
Obstacles
• The nature of the scope (emergency, changing site conditions) introduces significant risk of errors and omissions in design that lead to cost and schedule impacts during construction.
• Risk of change orders due to developing situation.
Rating
+

CM/GC

Opportunities
• Open-book pricing
• Participation of an Independent Cost Estimator
• Ability to lock in material pricing early
• Contractor in preconstruction to retire risks early
Obstacles
• Non-competitive price negotiation
• Percentage of Estimate Construction Budget to contractor
• Unmitigated risks accrue costs
Rating
++

DESIGN-BUILD

Opportunities
• Early lump-sum price certainty
Obstacles
• Contractors carry high risk contingencies, especially given recent market volatility
• Emergency work moves fast and pricing is developed early so contingencies are high and hidden
Rating
+

4) Level of Design

The extent of design completion at the time of project delivery procurement, desired risk allocation, and the ability to incorporate contractor input.

DESIGN-BID-BUILD

Opportunities
• CDOT retains complete control over the final design details, ensuring standard structural specs are met.
Obstacles
• Requires significant design prior to advertisement preventing early construction or mobilization
• May not fully vet all options available.
Rating
+

CM/GC

Opportunities
• Brings contractor on immediately to shape design details and construction sequencing.
• Can efficiently vet all options to meet project goals best.
Obstacles
• Iterative, non-linear plan reviews to accommodate all team members feedback
Rating
+++

DESIGN-BUILD

Opportunities
• Transfers design risk to design-builder
Obstacles
• Establishing performance criteria with little to no design risks the owner missing something critical or forcing the acceptance of something we don't want
Rating
++

5) Risk Assessment

The selected delivery method should align with the project's risk profile and support effective identification, management, and allocation of risk.

DESIGN-BID-BUILD

Opportunities
• Risks theoretically mitigated through design prior to advertisement
Obstacles
• Owner retains 100% of design, geotechnical, and permitting risks
• Potential for unknown subsurface conditions to result in contractor claims
Rating
+

CM/GC

Opportunities
• Enables shared risk allocation
• Detailed risk register developed early
• Contractor can perform exploratory investigations during preconstruction potentially retiring geotechnical risks prior to pricing
Obstacles
• CDOT staff must actively manage risk to ensure high risk pricing does not automatically get rolled into contractor allowances
Rating
+++

DESIGN-BUILD

Opportunities
• Transfers substantial design and site coordination risk to the design-builder
Obstacles
• Shifting poorly defined risks to the contractor leads to inflated proposal costs
Rating
+

Project Delivery Selection Matrix Secondary Factors

6) Staff Experience and Availability

Consider whether sufficient staff resources and experience are available to effectively procure, administer, and oversee the project.

DESIGN-BID-BUILD requires staff experienced with traditional delivery to oversee design and construction phases available throughout the project.

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

CM/GC requires staff with strong project management and collaborative process experience. Active Owner involvement is needed to coordinate between designer and contractor, effectively manage risk, and facilitate CAP negotiations.

Opportunities
• Streamlined emergency procurement can leverage agency strengths
• Good alternative delivery experience within the region
Obstacles
• Requires dedicated staff resources that can manage the team and make decisions quickly
• Region 5 does not have direct CM/GC experience but does have the full support of HQ to ensure success
Rating
Pass

DESIGN-BUILD requires Owner resources for procurement and oversight during design and construction. Staff should have experience developing RFQs/RFPs and managing performance-based contracts or retain an owner's rep with these skills.

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

7) Level of Owner Oversight and Control

The degree to which the Owner retains control over design decisions, construction activities, and overall project execution. Consider how much control is desired versus how much responsibility can be delegated.

DESIGN-BID-BUILD The Owner manages separate contracts and retains decision-making authority throughout.

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

CM/GC maintains a high level of Owner control over both design and construction while incorporating contractor input.

Opportunities
• Direct management of design, final aesthetics, materials, and bridge type.
• Ability to review contractor pricing and constructability.
Obstacles
• Requires continuous hands-on decision making that cannot be delegated to an outside entity.
Rating
Pass

DESIGN-BUILD transfers significant responsibility for design and construction to the design-builder. Clearly defined requirements are necessary to ensure desired outcomes.

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

8) Competition and Contractor Experience

Consider the availability, qualifications, competitiveness, and capacity of the contractor market, as well as experience with the delivery method.

DESIGN-BID-BUILD is widely understood, with broad contractor participation and experience. Typically results in a high

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

CM/GC uses a qualifications-based selection process to identify a contractor early. Pricing is negotiated through the CAP, which may reduce competitive pricing pressure.

Opportunities
• Streamlined procurement to attract capable contractors and select based on qualifications and capacity.
Obstacles
• Emergency work might limit the contractor pool.
Rating
Pass

DESIGN-BUILD Uses a best-value selection process that balances price and non-price factors. Requires a market with sufficient experience in design-build delivery and the ability to develop responsive proposals.

> Not evaluated. CM/GC selected as most appropriate for Primary Factors. Secondary factors will be assessed as Pass/Fail for CM/GC only.

Project Delivery Selection Summary

The factors are qualitatively rated using the key below. Review all factor ratings across all delivery methods and use the collective results to identify which Delivery Method best positions the project to achieve its goals.

Rating Key: +++: Most appropriate delivery method; ++: Appropriate Delivery Method; +: Least appropriate delivery method; NA: Factor not applicable or not relevant to the selection

Primary Factors

	DBB	CM/GC	DB
1. Project Complexity & Innovation	++	+++	+
2. Project Delivery Schedule	++	+++	+
3. Project Cost Considerations	+	++	+
4. Level of Design	+	+++	++
5. Risk Assessment	+	+++	+

Secondary Factors

	DBB	CM/GC	DB
6. Staff Experience/Availability (Owner)	NA	Pass	NA
7.Level of Oversight and Control	NA	Pass	NA
8. Competition and Contractor Experience	NA	Pass	NA

Project Delivery Selection Summary Conclusions and Comments

Selected Method: CM/GC

- **Schedule Acceleration:** Under an emergency procurement declaration, CM/GC eliminates the delays associated with significant design completion and DBB prequalification, allowing immediate contractor procurement. Early work packages can proceed while design is finalized.
- **Risk & Complexity Management:** The site carries unpredictable geotechnical and riverbed conditions. CM/GC allows collaborative, open-book risk mitigation, constructability reviews, and joint field exploration before committing to a final Construction Agreed-upon Price (CAP).
- **Overall:** Traditional Design-Build presents excessive procurement latency and contingency padding, CM/GC delivers early contractor collaboration and fast-tracking while preserving owner design control and manageable staffing administration.