

Part 1 of 2:

Progressive Design Build for a 5 MG Water Tank?

Tualatin Valley Water District's Unique Approach for Replacing a 5 MG Water Tank

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Today's Agenda

- District Overview
- Project Overview
- Delivery Alternatives Considered
- Delivery Decision Process
- Contractor Selection Process
- Project Progress – Part 1
- Summary / Lessons Learned
- Questions and Discussion

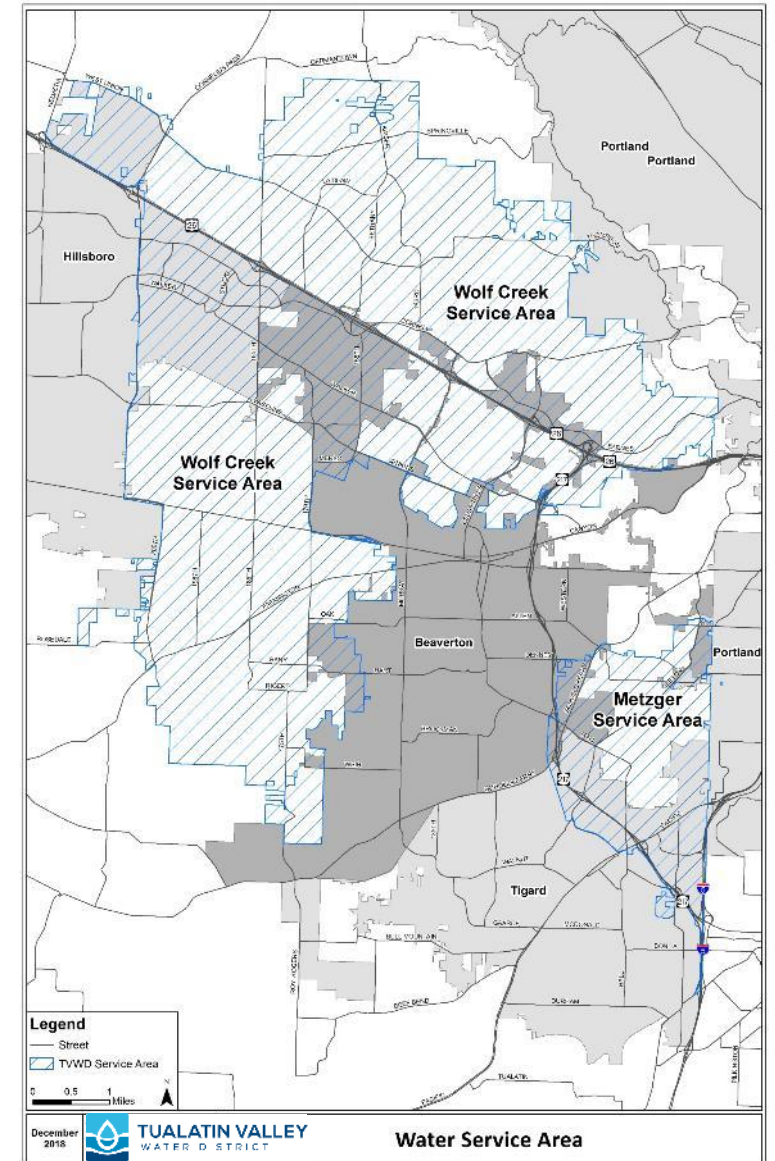


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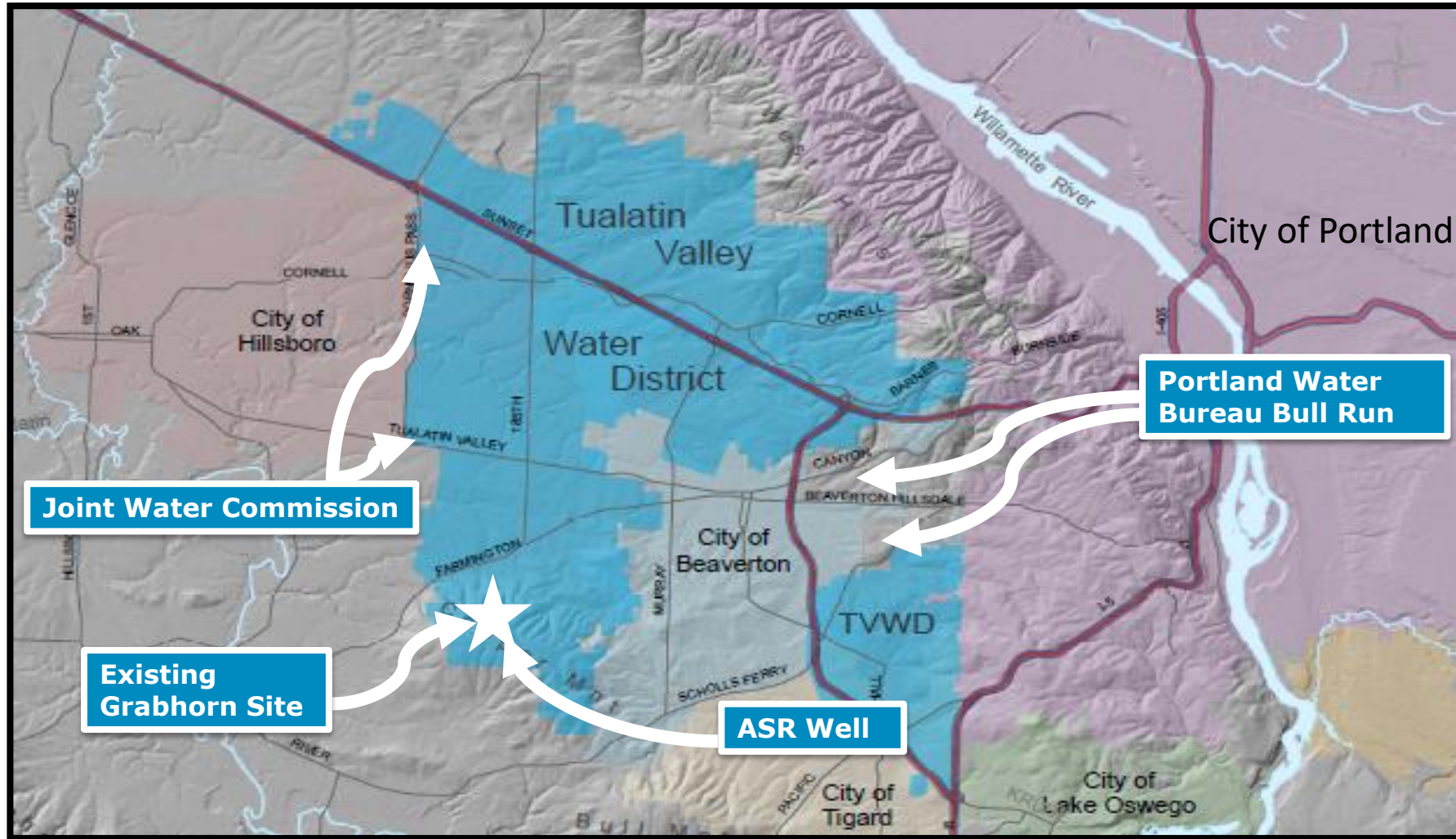
District Overview

Tualatin Valley Water District (TVWD) Overview

- 2nd Largest Water Provider in Oregon
- Population served: ~228,000
- Average Daily Demand ~22 MG
- 752 Miles of pipe
- 67 MG Total Storage



Tualatin Valley Water District (TVWD) Overview





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Project Overview

Project Overview



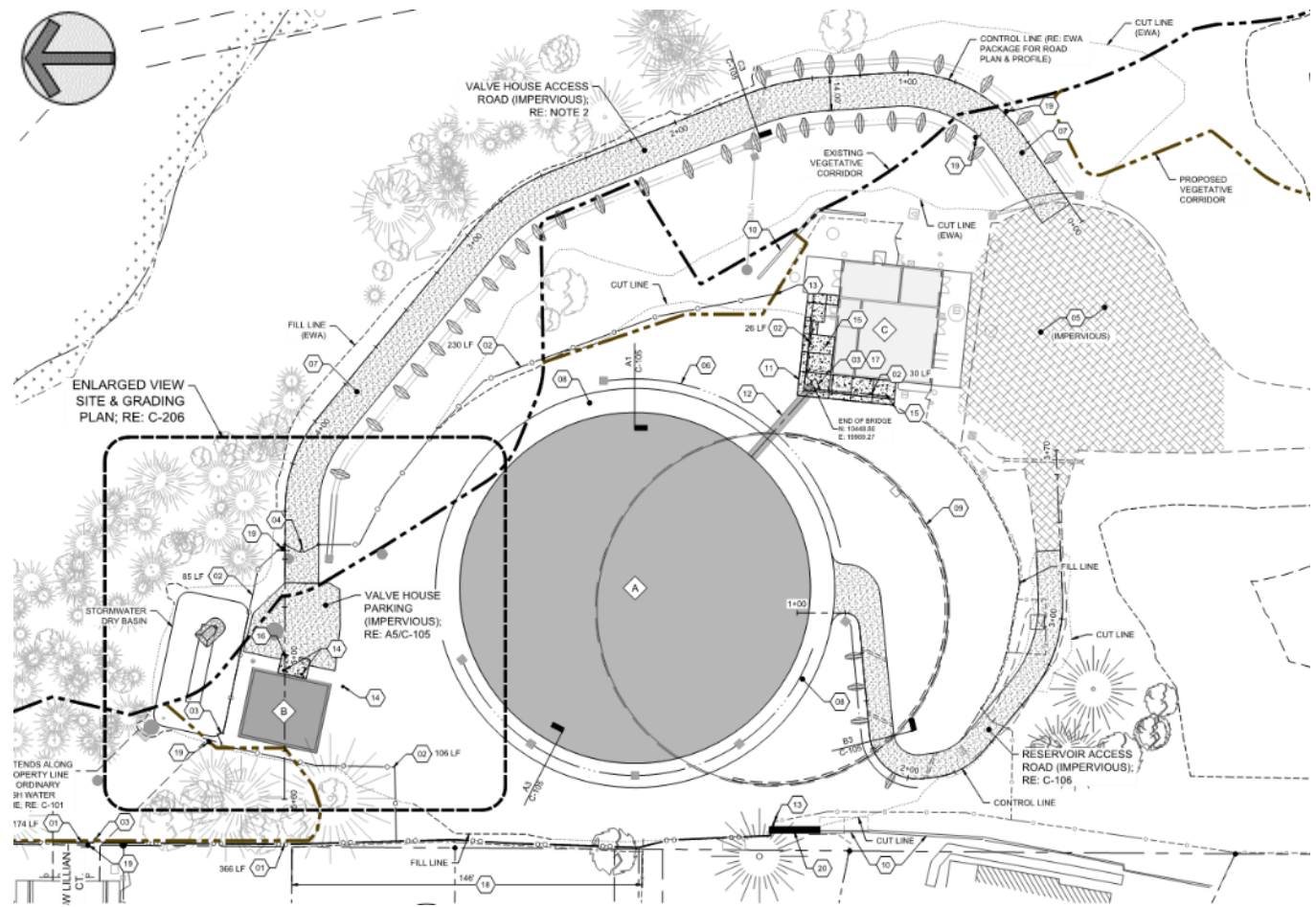
Project Drivers

- Condition of Existing Water Tank
 - Partially buried, constructed in 1971
 - Structure is failing
- Schedule Driven by Operations
 - Only reservoir in 385 PZ
 - Location away from PRVs



Project Overview

- New 5 MG D-110 Concrete Reservoir
- Piping connections off-site and to ASR facility
- At-grade valve house
- Access road
- Site restoration





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Delivery Alternatives Considered

Project Delivery in Oregon

- 4 types of delivery considered

Design-Bid-Build (DBB)	Construction Manager/General Contractor (CM/GC)
Design-Build (DB)	Progressive Design-Build (PDB)

Why Alternative Delivery?

- Collaborative approach to delivery
- Qualified contractors
- Working around critical assets (ASR Well)
- Contractor feedback up front
- Schedule and cost certainty earlier in process
- Constructability of reservoir and placement on site

Alternative Delivery in Oregon

- Governed by 273C.335 – Competitive bidding exemptions
 - As required by 335.2, findings determined:
 - Exemption unlikely to encourage favoritism or substantially diminish competition
 - Awarding under the exemption will likely result in substantial cost savings and other substantial benefits
 - Findings addressed items under 335.2.b
- Public Interest / Hearing
- 14 points to meet

14 Points – Local Contract Board to consider:

1. # of available bidders
2. Construction budget and operating costs
3. **Public benefits**
4. **Value engineering techniques**
5. **Specialized expertise**
6. **Public safety**
7. **Risk reduction**
8. Funding source changes
9. Impact of market conditions and project control
10. **Size and technical complexity**
11. New or remodel of existing structure
12. **Occupied versus unoccupied during construction**
13. **Single or multi-phase construction**
14. Necessary expertise to manage alternative contracting method

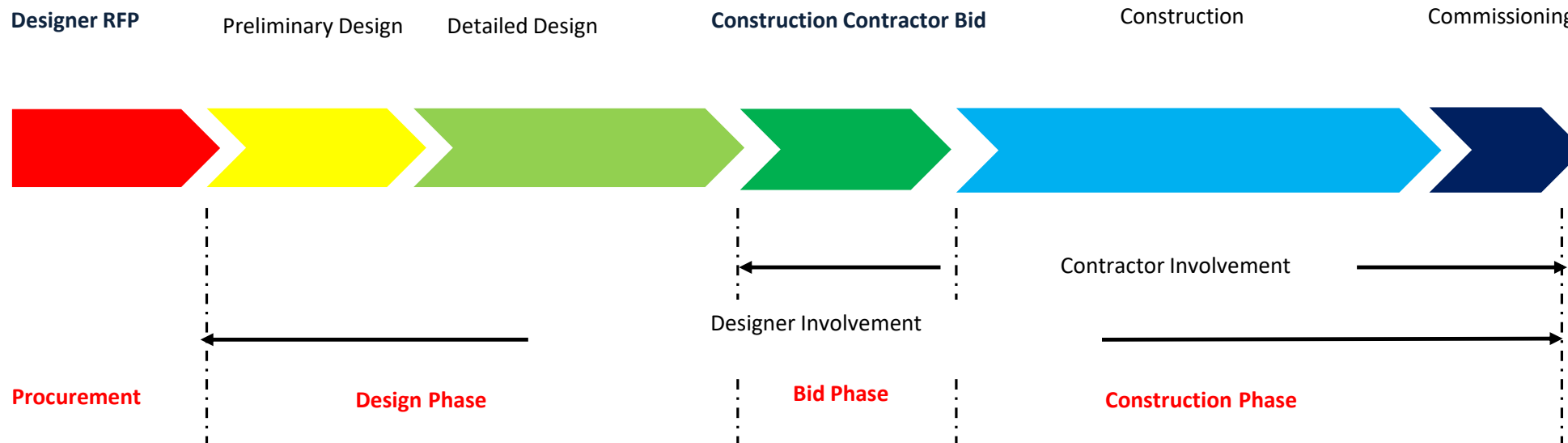
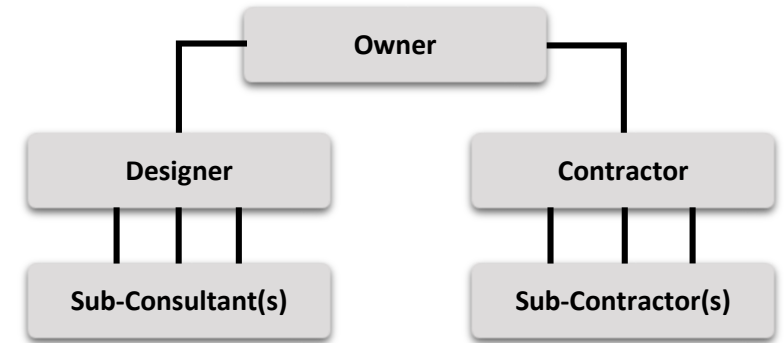
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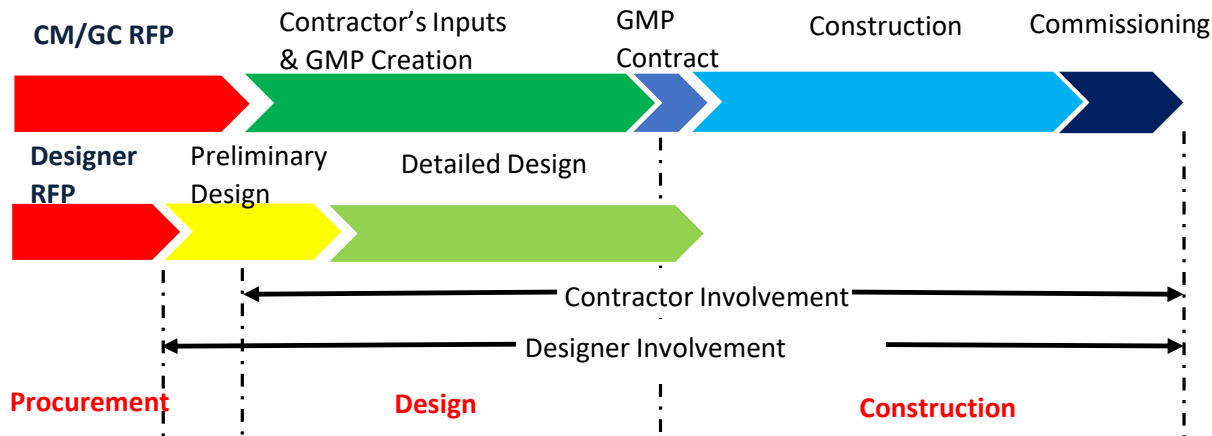
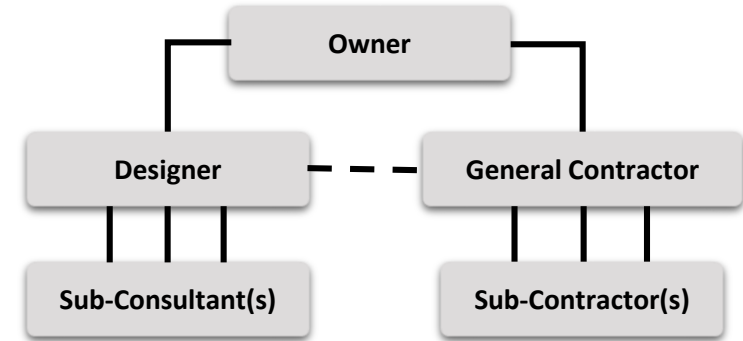
Design-Bid-Build

- Separate selections
- Low bid construction
- Longest schedule



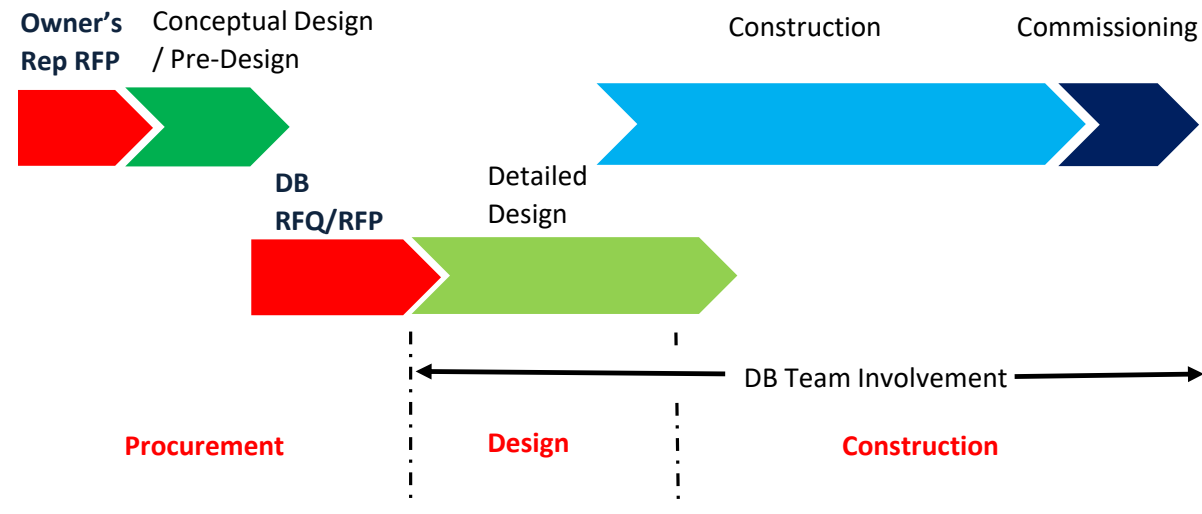
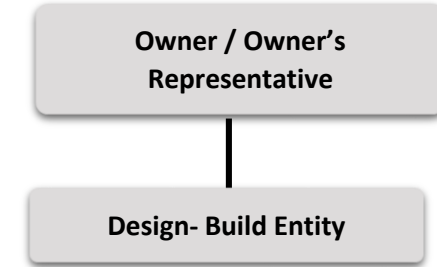
CM/GC

- Separate selections
- Price negotiations



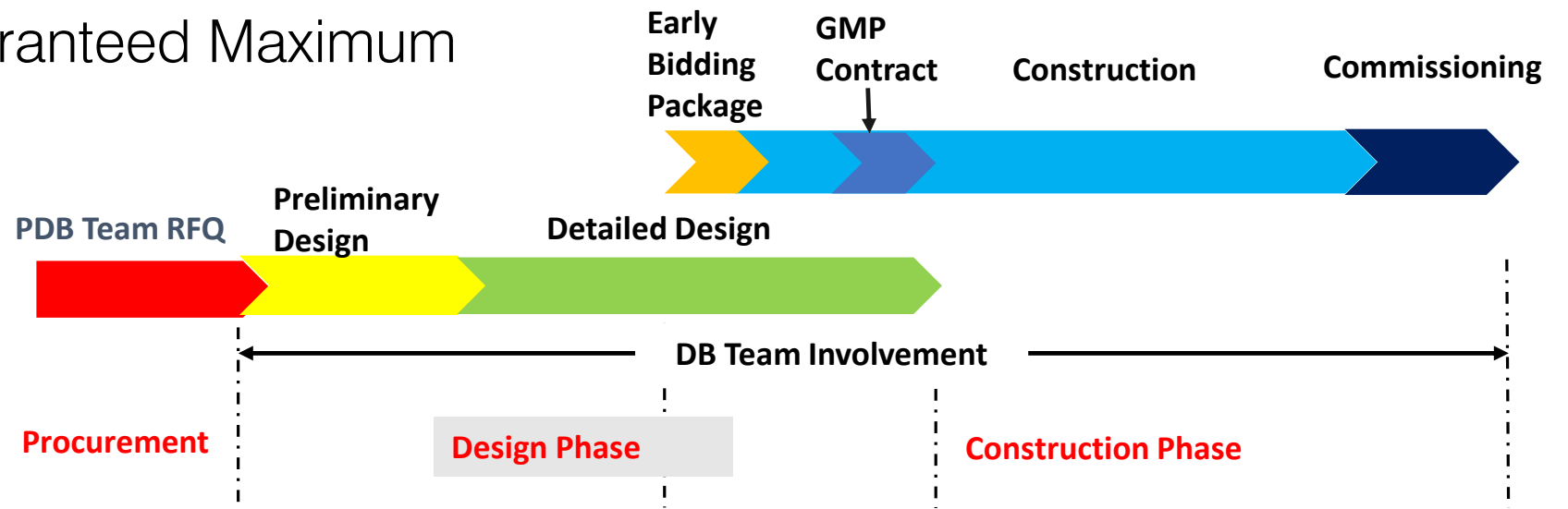
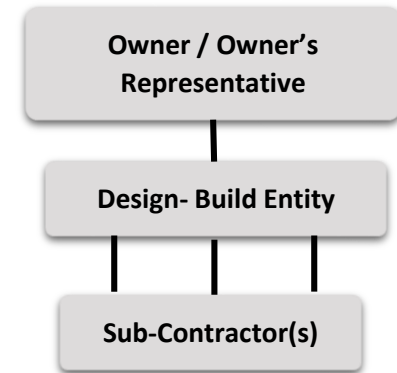
Design-Build

- Selection
- Schedule
- Innovation
- Lump sum price



Progressive Design-Build

- Single selection
- Schedule
- Bid packages
- Owner input
- Negotiated Guaranteed Maximum Price (GMP)





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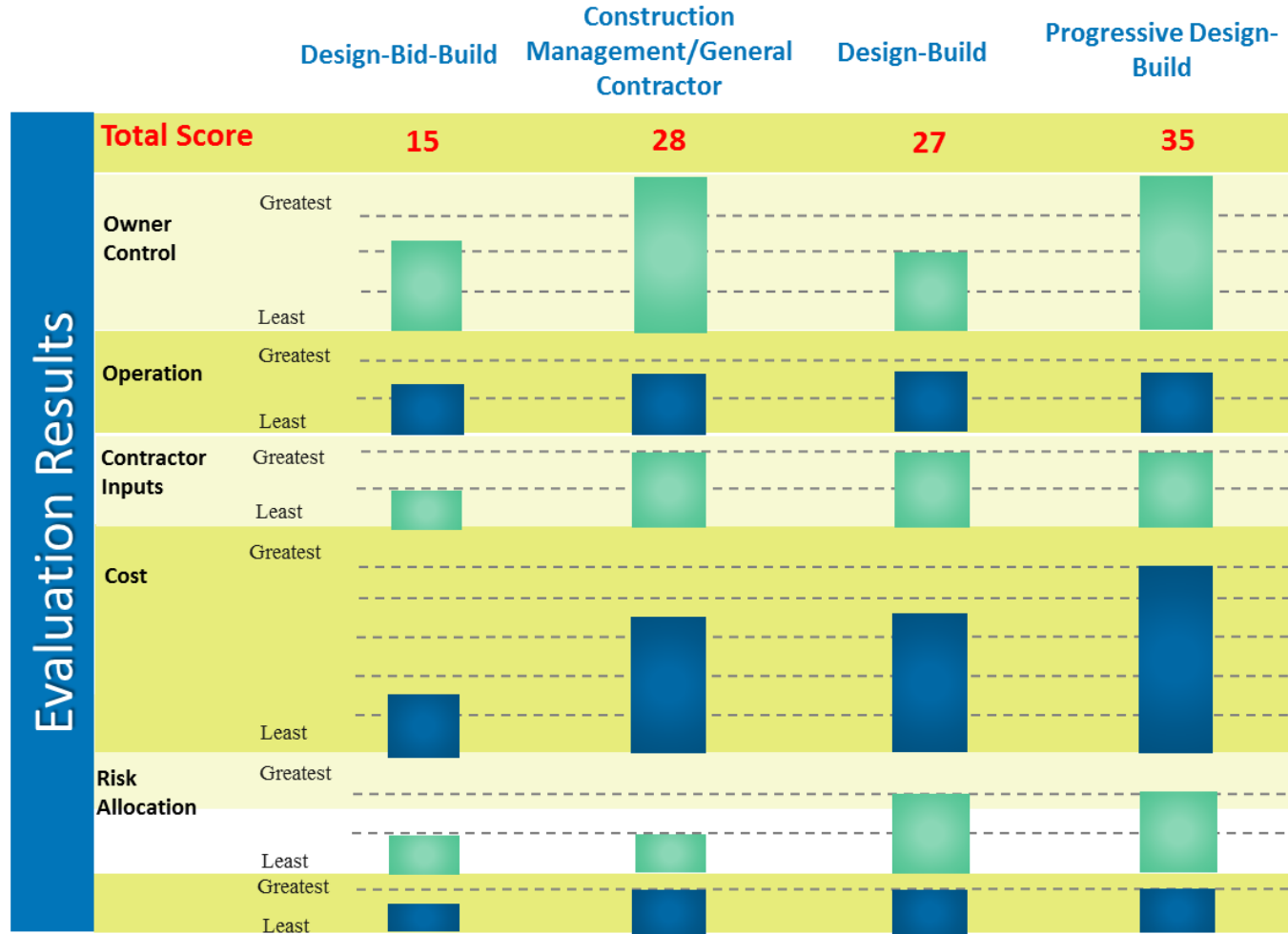
Delivery Decision Process

Decision Matrix/Weighting Criteria

Criteria	DBB	CM/GC	DB	PDB
Owner Control				
Enables Owner to Control Decision-making Throughout the Design Process	+	+	-	+
Enables Owner to Use Qualifications in Design Consultant Selection	+	+	+	+
Enables Owner to Use Qualifications in Construction Contractor Selection	-	+	+	+
Ability to Separate Work into Discrete Packages for Design and/or Construction Delivery, including Cash Flow	-	+	-	+
Enables Owner to Manage Interactions with Stakeholders	+	+	/	+
Operations				
Ability to Minimize Impacts to Existing Operations During Construction	/	+	+	+
Enables Transition of Operational and Maintenance Control to the Owner Meeting the Schedule	/	/	/	/
Ability to have Performance Guarantee for Operations	/	/	/	/
Contractor Input				
Secures Contractor Input on Innovation, Efficiency of the Design, Constructability, and Value Engineering (VE) Concepts throughout Design	-	+	+	+
Secures Contractor Input on Pricing and Schedule	-	+	+	+

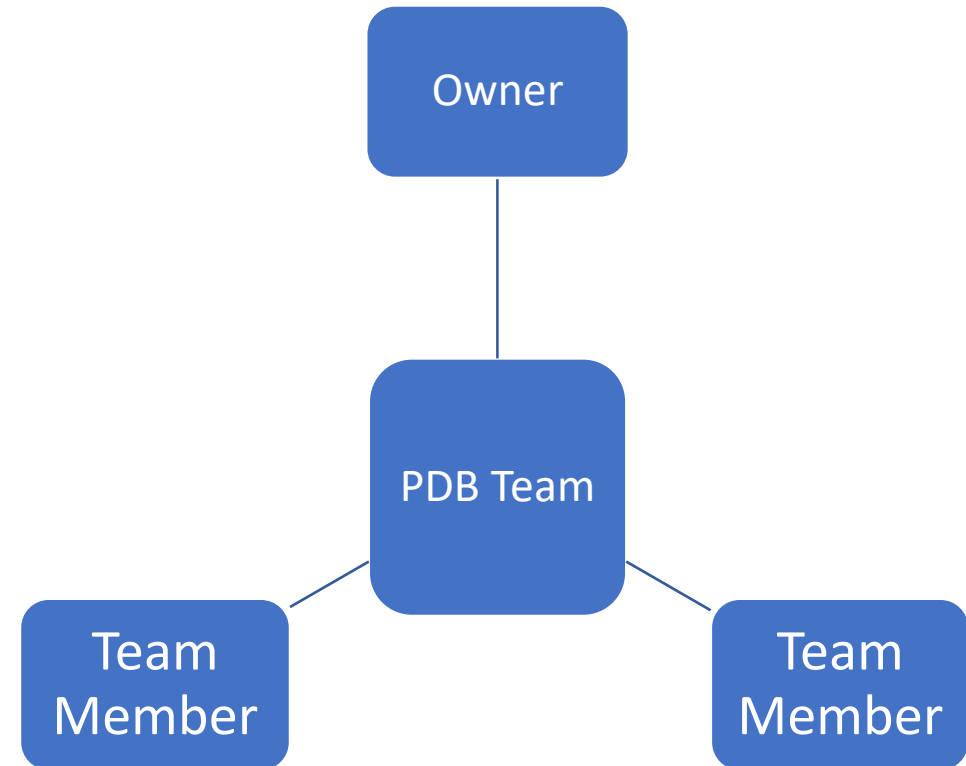
Criteria	DBB	CM/GC	DB	PDB
Cost				
Enables Owner to Accrue Innovation and VE Savings during Design	/	/	/	+
Maximizes Owner's Share of Innovation and VE Savings during Construction	-	+	-	+
Promotes Competitive Construction Pricing that Benefits Owner	+	/	/	/
Minimizes Risk and Contingency Pricing within Construction Bids	-	+	/	+
Promotes Competitive Design Pricing that Benefits Owner	-	-	+	+
Maximizes Long Term Value / Lower Life Cycle Cost	N/A	N/A	N/A	N/A
Price Certainty Early in the Project	-	/	+	/
Risk Allocation				
Enables Owner to Define Role in Resolving Changes and Disputes among Parties	+	/	/	/
Contracting Arrangement Enables Allocation of Risk to Party Best Able to Manage the Risk	-	-	+	+
Minimize Owner's Involvement in Changes and Disputes among Parties	-	/	+	+
Schedule				
Enables Project to Achieve Construction Completion Meeting Owner's Schedule	/	/	+	+

Decision Matrix/Weighting Criteria

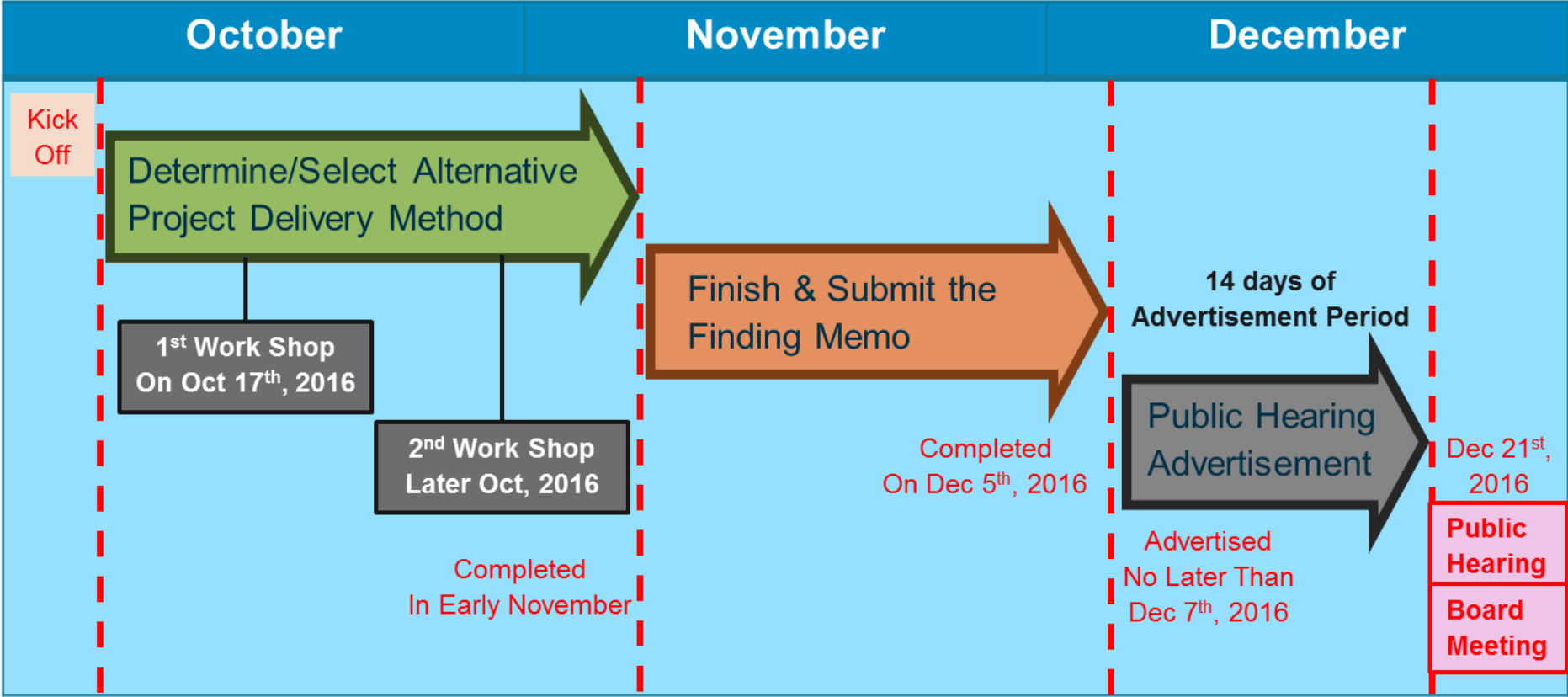


Progressive Design Build

- Single point of contact
 - Contracting advantages
- Schedule advantages
- Owner control
- Well qualified teams interested in the project
- Risk advantages
- Used successfully by similar Oregon utilities



Alternative Delivery Schedule Advantages



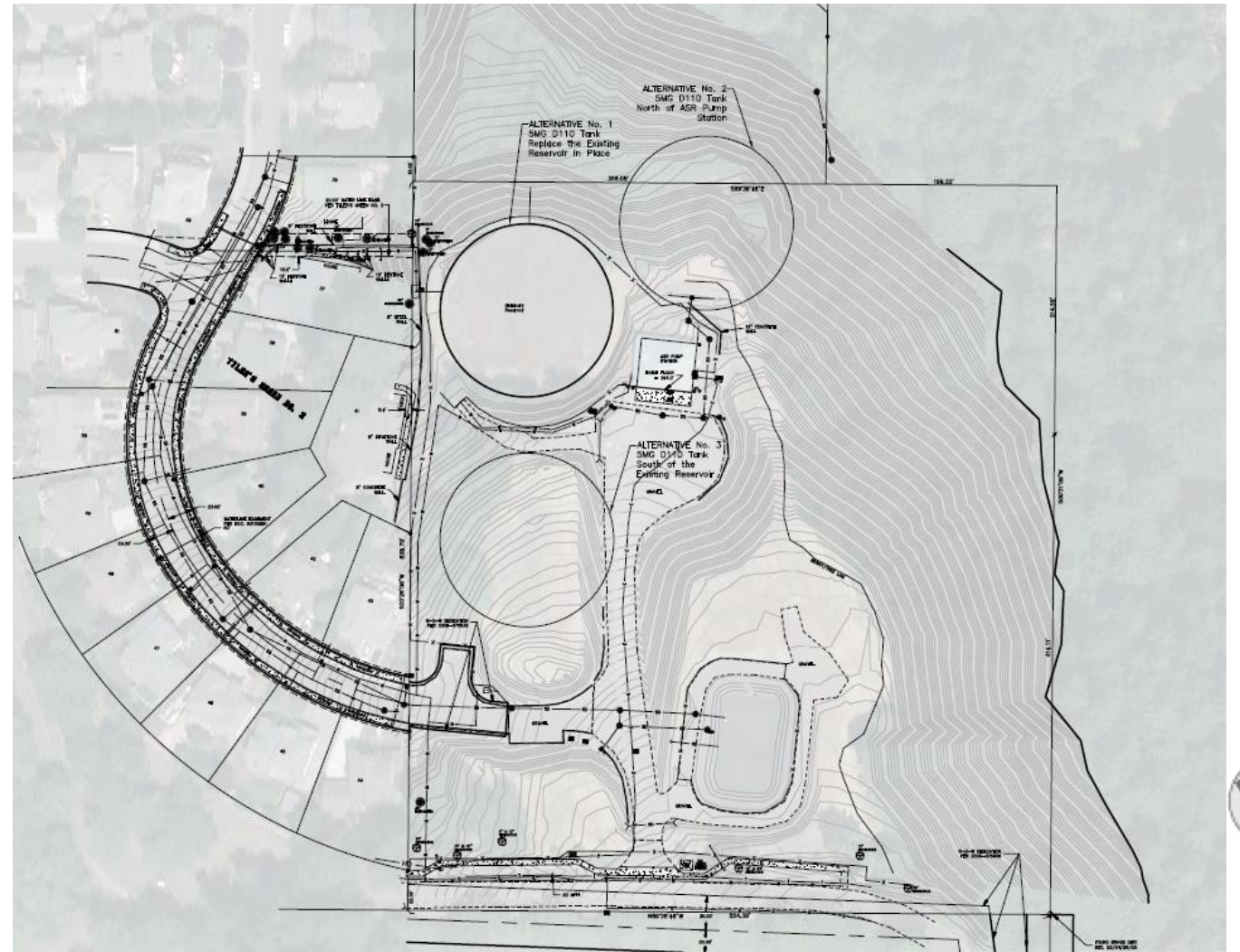


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Contractor Selection Process

Bidding – What the Contractor Needs to Know

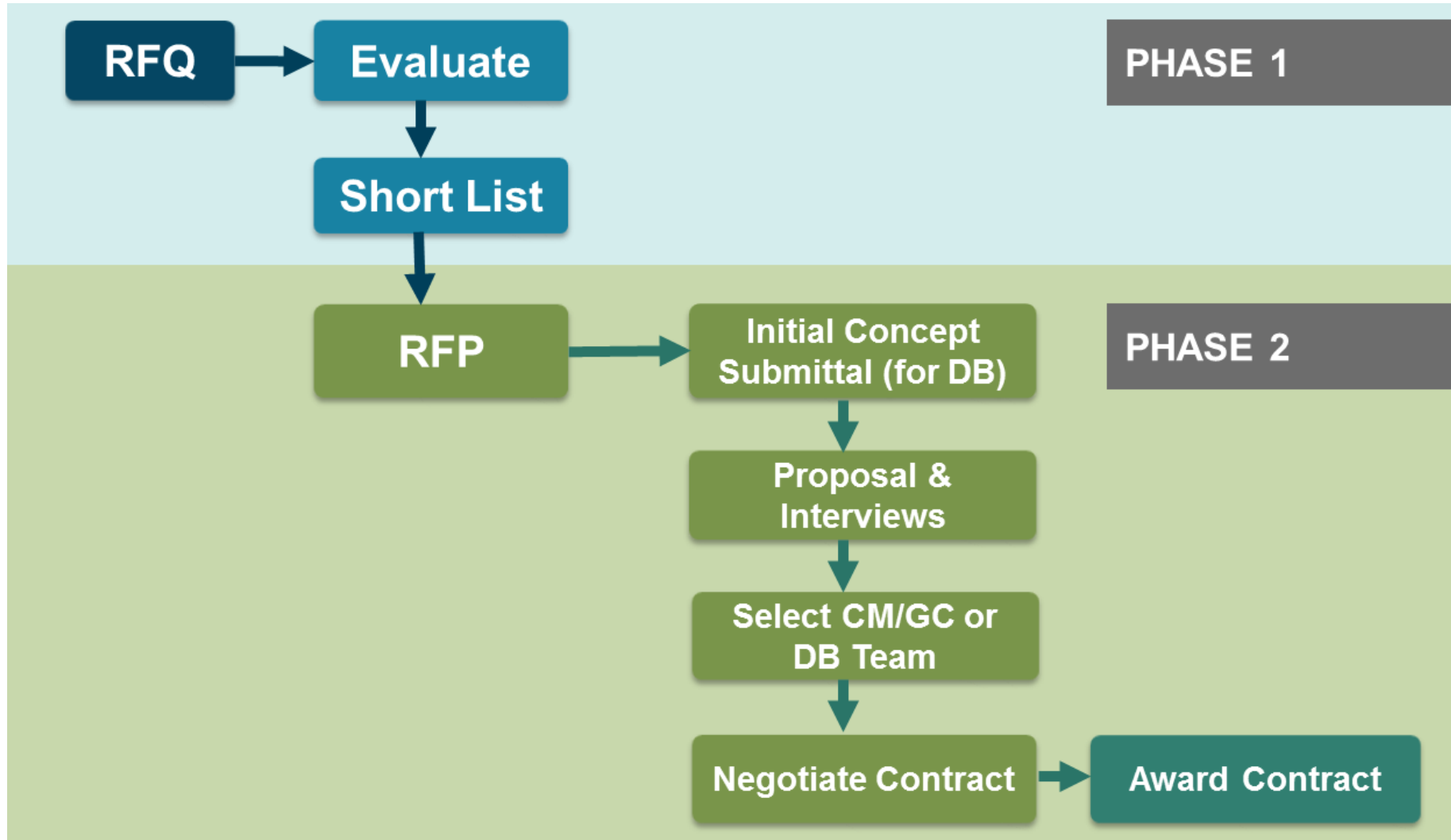
- Have to know it will work
- Leave room for innovation



Alternative Delivery in Oregon

- Owner encouraged competition
 - Solicitation of interest sent to 15 potential respondents
 - Request for Letters of Interest published in Daily Journal of Commerce
 - 20 firms responded and expressed interest

Contractor Selection



Guaranteed Maximum Price / Contract Setup

- Open book process for prime and subs
 - Allow for clear communication
 - Bonus for completing project under budget (shared savings)
- Risk allocation
 - Contracted risk
 - Negotiated risk
 - Contingency items: Rock Excavation, Lead-Based Paint, Extra Paving



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Project Progress



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GRABHORN

RESERVOIR REPLACEMENT

Tank Demolition
May 16, 2018





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Summary / Lessons Learned

Summary / Lessons Learned

- TVWD's First Alternative Delivery Project
- Progressive Design Build preferred
- Four qualified proposers meeting minimum qualifications
 - Did not need to short-list (additional RFQ)
- Contractor led teams
 - Preparation of proposals
 - Interviews
- Not perfect solution for all projects
 - PDB fit well for this project
 - Alternative is also termed "collaborative" delivery.
 - Project team and collaboration is key

Summary / Lessons Learned

- Consultant expertise / assistance throughout design
- Control of the process
- 30% cost estimate – perform separate independent estimate prior to review of contractor submittal (data point)
- Growing pains
 - Contract modification
 - Development of PDB contract
 - Big lift, turned out great



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Questions and Discussion



THANK
YOU!