Introductions

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Introduction to The Walsh Group

- 121 year-old, family-owned business
- $5 billion in revenue
- 50%-70% self-performed work
- 9,200 employees
- 6,000 craft personnel
- Progressive design-build, CMAR, design-build-finance, early contractor involvement, hard bid, P3
THE WALSH GROUP

RANKS #1

Water Treatment and Desalination Plants
Wastewater Treatment Plants
Walsh Water/Wastewater Program

$2.7B ALTERNATE DELIVERY

$1.5B DESIGN-BUILD

$1.2B CMAR
Walsh Water/Wastewater Program

59 CMAR

26 Design-Build and Progressive DB
Between 2013 and 2017, the use of alternate delivery methods for water and wastewater projects grew steadily from $3.4 billion, approximately 8% of the total market, to about $5.29 billion, or nearly 12% of the total market. This represents a compound annual growth rate of 10.3%, even while the overall market was flat.

This growth is expected to continue at an even faster pace at least through 2021, with a forecasted total market size of $6.1 billion in that year.

TRADITIONAL HARD-BID DELIVERY
Hard Bid Steps

1. Owner has a need
2. Goes through selection process and selects designer
3. Design begins
Hard Bid Steps

1. Equipment reps visit designer to tell about their products
2. Designer designs around certain equipment and/or equals
3. Project goes out to bid
Hard Bid Steps

1. Every equipment rep visits bidding contractors
2. Bid day prices start high and reduce like a reverse auction
3. GC writes contract to equipment supplier
Designer designs with safety factor on the numbers equipment manufacturers say they can do
Hard-Bid
Drivers for Equipment Selection

- Cost
- Does it meet specifications
- Delivery schedule
- Warranty
ALTERNATE DELIVERY
REASONS FOR ALTERNATE DELIVERY
Chlorine Contact Basin
Cofferdam at Influent Pump Station
Effective BIM Use
Effective BIM Use
Alternate Delivery Options

DB
- OWNER
- DESIGN-BUILDER
- ONE LUMP-SUM COST

CMAR
- OWNER
- DESIGNER
- CM
- MULTIPLE COST MODELS
- TRADE SUBS
- PROCESS EQUIPMENT

PDB
- OWNER
- DESIGN-BUILDER
- TRADE SUBS
- PROCESS EQUIPMENT
- MULTIPLE COST MODELS
LUMP SUM DESIGN-BUILD
“Design something to get me to and from work.”
FINAL PRODUCT
Lump Sum Design-Build (DB)

- Design-Builder is some combination of contractor with a designer
- Selected based on low price and/or qualifications
- Lump sum price and performance guarantee, but limited post-award flexibility and owner input
- Best when owner is seeking an innovative, turnkey solution
- Owner usually offers a stipend to proposers
Lump Sum Design-Build Steps

1. Owner conceives project idea
2. Owner hires program manager
3. Program manager and Owner prepare bridging documents
Lump Sum Design-Build Steps

1. Program manager prepares and sends out RFQ
2. DB teams respond and shortlist is selected
3. Program manager prepares RFP with bridging documents
Lump Sum Design-Build Steps

DB teams progress design to the point of preparing accurate price

DB teams submit proposals with design and price

Owner selects a DB team
Lump Sum Design-Build: Upsides

• Improved overall design and construction schedule
• One contract with DB team
• Risk transferred to DB team
• Allow ingenuity from DB team
• Single point of contact with owner
Lump Sum Design-Build: Downsides

• Must **pay for bridging** documents
• Requires a **lot of effort** from DB teams to propose
• Any change to what DB team proposes is a **change order**
• Most teams expect a **stipend** in order to pursue
• Procurement **schedule is prolonged**
• **Limited** opportunity for collaboration
Lump Sum Design-Build
Risk to Equipment Suppliers

- Contractor will take minimal process risk and will flow this down to designer
- Safety factors are minimal
- Designer will write performance-based specifications for everything
- If process doesn’t work, equipment supplier is responsible
Lump Sum Design-Build:
Drivers for Equipment Selection

- Amount of process for $$
- Willingness to sign process risk contract
CONSTRUCTION MANAGER AT RISK
Construction Manager at Risk (CMAR)

• Increased designer / contractor collaboration, but limited opportunity for CMAR to drive design innovation

• CMAR prepares initial 30% cost model. After VE efforts, CMAR prepares 60-90-100% cost models
CMAR Steps

Owner contract with Engineer → Prepare preliminary design → Select CMAR
CMAR Steps

Contract with CMAR for preconstruction services

Entire team works toward final design

CMAR develops final cost components
CMAR Steps

1. Negotiate GMP
2. Enter into construction phase contract
3. Complete construction
Construction Manager at Risk: Multiple Cost Models

Equipment selection may be locked in at any point
Construction Manager at Risk: Upsides

- Integrates **constructability**
- Provides contractor-led **estimates**
- **Scope revision** during design to meet project budget
- Can **reduce** overall project **risk** and contingency
- Can **reduce** design **misunderstandings** and resulting potential for change orders
- **Qualifications** and past performance to be taken into account when selecting a contractor
Construction Manager at Risk: Upsides

• Allows for **off-ramps** if a final GMP cannot be agreed to
• **Collaborative team** – Owner, A/E, CMAR have vested interest
• **Key subcontractors** are utilized for constructability, costs and schedule during engineering phases
• Costing is “**open book**” and allows Owner to participate
• Greater ability to “**fast track**” construction
• **Contingency** owned and managed by Owner
• CMAR offers “**Guaranteed Maximum Price**” (GMP)
Construction Manager at Risk: Downsides

- Relies on **engineers estimate** for initial cost characterization
- Creates a “**forced marriage**” between designer and contractor that may – may not – work
- Final construction scope still subject to **change order** potential
- Added cost to owner for contractors **preconstruction** phase services (although may be offset with construction savings due to early collaboration)
- **Separate contracts** for design and construction creates multiple points of contact for owner
- Owners **unfamiliar** with the process
Construction Manager at Risk: Value Engineering

• Constructability reviews
• Efficiency of equipment
• Operations cost
• Innovation
Construction Manager at Risk: Risk to Equipment Suppliers

Majority of risk is still with designer, who covers this with safety factor
Construction Manager at Risk: Drivers for Equipment Selection

- Owner’s preference
- Cost
- Operating costs
  - Power
  - Chemicals
- Equipment maintenance cost
- Delivery schedule
- Start-up effort
PROGRESSIVE DESIGN-BUILD
Why Owners Are Selecting Progressive Design-Build

Construction estimating can start very early in design, allowing comparison of specific technical solutions.

"Progressive" estimates keep Owners informed and support informed scope adjustment decisions.

First fully detailed estimate can be used to establish a scope baseline. Estimating process is “open book.”

Owners can use third-parties to verify cost...and go to the hard-bid market if needed (the “off-ramp”).

Guaranteed Maximum Price established at the right time: risk and contingency reduced, schedule needs met.
Progressive Design-Build (PDB)

- Design-Builder is usually a contractor teamed with a designer
- Offers flexibility and owner input, with final cost determined post-award
- Best when owner wants input to design, but does not want low-bid
- Does not provide price certainty at time of award
Progressive Design-Build Steps

1. Owner determines need for project
2. Owner hires program manager or elects to do work themselves
3. SOQ is submitted
Progressive Design-Build Steps

1. Shortlist of PDB teams
2. Interviews
3. Selection based on price and qualifications
Progressive Design-Build Steps

1. Preconstruction begins
2. Team works to final design and cost model
3. Project is built
Progressive Design-Build: Multiple Cost Models

Equipment selection may be locked in at any point
Progressive Design-Build: Upsides

- One contract, to DB team
- Cost model approach ensures you meet budget
- Risk is pushed to party most capable of handling
- Truly a team approach
- Design and contractor are more likely to share resources
- Allows addition of operation to cost model
- Selection-based qualifications with price components
- Provides off-ramp if needed
Progressive Design-Build:
Big Creek WRF PDB – Equipment Selection Example

- $250 million
- 38 MGD
- MBR facility
- 90% drawings
Progressive Design-Build: Big Creek WRF – Equipment Selection Example

• 8 month process
• Extensive research
• Specific criteria
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| Points Award as % of Low Cost                     |            |            |            |            |
| % Over Lowest Total Cost                          | -100.00%   | -100.00%   | -100.00%   | -100.00%   |
| Points Awarded as $ of Max                        | 200.00%    | 200.00%    | 200.00%    | 200.00%    |
| Points Awarded                                    | 30.00      | 30.00      | 30.00      | 30.00      |

Notes:
1. Points pro-rated based on actual cost difference based on %
2. Determine Total Lowest Capital Cost
3. Award Max point to Total Lowest Cost Proposer
4. Compare total lowest cost to Other Proposers’ Total Costs
5. Decrease Point Awards to Remaining Proposers by total cost increase % vs Lowest Cost Proposer
Progressive Design-Build: Value Engineering

- Constructability reviews
- Efficiency of equipment
- Operations cost
Progressive Design-Build: Risk to Equipment Suppliers

- Process risk flows down to the equipment suppliers
- Design will include some safety factor
- May require a performance bond from equipment suppliers
Progressive Design-Build: Drivers for Equipment Selection

• Cost
• Operating costs
  □ Power
  □ Chemicals
• Equipment maintenance cost
• Delivery schedule
• Start-up effort
How to Get Your Product Selected

• Realize alternate delivery takes a lot of time and effort during preconstruction

• Be prepared to provide honest information. We’re going to share your information!

• Be solution-minded

• Remember that the owner doesn’t have to use the low bidder

• Provide a service that the owner will praise to everyone
What Affects Equipment Supplier Selection?

- Past performance
- How well known is your equipment
- Ease of maintenance
- Response of local representatives
- Schedule
- Do something that makes you stand out!
Questions?