PROGRESSIVE DESIGN-BUILD
Commonwealth Transportation Board

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VDOT Project Delivery Options

- Design-Bid-Build
- Emergency Force Account
- Public Private Transportation Act
  - Design-Build-Finance-Operate-Maintain
  - Design-Build-Operate-Maintain
  - Design-Build-Finance
- Design-Build
  - Lump Sum
  - Fixed Price
  - Best Value
  - Guaranteed Maximum Price
VDOT’s Design-Build Program

• VDOT’s design-build program has steadily grown since 2004
  • Nationally recognized program
    • VDOT named 2016 Transportation Owner of the Year by Design-Build Institute of America (DBIA)
  • VDOT D-B Project Awards
    • 27/244 Interchange – 2016 DBIA Merit Award (Transportation)
    • I-64 Capacity Improvements, Segment I – 2018 DBIA Merit Award (Transportation)
    • I-66/Route 15 Interchange – 2018 DBIA Project of the Year Award (All Sectors)
    • DBIA Mid-Atlantic Chapter – Numerous Awards

• Next Step
  • Add Progressive Design-Build delivery option
Design-Bid-Build Attributes

- No contractor involvement during design development
- Price is the only consideration for selection
- Project is totally defined at time of award
- No contractor involvement in ROW acquisition
Design-Build Attributes (VDOT’s Two-Phase Best Value)

- Some early contractor involvement
  - Proprietary meetings
- Opportunities for innovation
  - Alternative Technical Concepts
- Risk transfer in ROW acquisition and Utility Relocation
- VDOT selects the most highly qualified teams
Progressive Design-Build (PDB)

A procurement tool that provides the following benefits on high risk, complex projects:

- Involvement of most qualified Design-Builder at the earliest point of project development
- Collaboration with the Design-Builder on key scope and risk issues
- Owner’s involvement in the selection of subconsultants, subcontractors, vendors and suppliers (including DBE & SWaM)
- Transparency in cost development using open-book pricing

As a result, PDB reduces project risk for Owner and Design-Builder
PDB Advantages

• Design-Builder becomes a strategic partner in planning and project definition
• Allows involvement of public and private stakeholders throughout design development
• Single point responsibility avoids Spearin liability (errors and omissions) as there is no design “handoff”
• Potential cost & schedule savings
  • Preliminary Engineering - No duplication of effort as bridging documents are not required
  • Use of early work packages (R/W acquisition and utility relocation)
• Expedited procurement
When to use PDB

• **Design and Construction Challenges**
  • Interface with other planned construction
  • Need for early contractor involvement
  • Unproven technology
  • Operational impacts during construction
  • Input on specific performance parameters
  • Urban areas with dense commercial and residential development

• **Environmental Challenges**
  • NEPA
  • Permits
  • 4F Properties
  • HAZMAT
  • USACE
When to use PDB

- **Right of Way Challenges**
  - Large number of parcels impacted
  - Federal and State property
  - Third Parties (railroad and transit authorities)

- **Utility Challenges**
  - High volume
  - Unknown and/or dark utilities

- **Stakeholder Involvement**
  - Extensive input during design development
    - Advisory panels
    - Business entities, developers
    - Military, municipalities, governmental agencies, Homeowners Associations, Architecture Review Boards
    - Public transit and airports
Progressive Design-Build Process

RFQ Advertisement

RFQ

RFP

Phase 1A - Proof of Concept

Phase 1B – Project Development

Phase 2 – Final Design and Construction

GMP

CTB Award (GMP)

Decision Point #1
Proof of Concept within GMP or Off Ramp

Decision Point #2
Lump Sum Price Established at 40-60% Design or Off Ramp

Virginia Department of Transportation
PDB – Open Book Pricing

• Collaborative effort between Owner and Design-Builder
• Ongoing and transparent cost estimating process
  • Goal is to stay below established GMP
• Similar to existing escrow information
  • Real time quotes from Design-Builder, subcontractors and subconsultants
    • Quantity take-offs
    • Crew size and shifts
    • Equipment
    • Direct labor
    • Indirect costs
    • Bond rates
    • Insurance costs
    • Mark-up and contingency
• Better understanding of risk
• High confidence in price throughout process
Owner’s Off-Ramp Rights

• Operates as a termination for convenience

• Commercial terms generally include:
  • Right to use work product
    • Design-Builder is paid for services rendered; VDOT owns design
  • Right to contract directly with designer to finish the design
  • Right to use any other type of delivery system
Next Steps

• **CTB Policy Change is Required**
  • **Amendment to Design-Build Objective Criteria**
    • Expedited Schedule
    • Established Budget
    • Well Defined Scope
    • Risk Analysis
    • Pre-Qualification of Design-Build Firm
    • Competitive Bidding Process Basis for Award
      • Lump Sum
      • Fixed Price
      • Best Value
      • Guaranteed Maximum Price