Louisiana’s First Design-Build Project: The John James Audubon Bridge

2007 Louisiana Transportation Engineering Conference
February 12, 2007
Chuck Duggar, P.E.

Project Manager – Major Bridges

Louisiana TIMED Managers
Louisiana TIMED Managers
John James Audubon Bridge
John James Audubon Bridge
Agenda

1. Enabling Legislation
2. Procurement Process
3. Lessons Learned
4. Revisions to Design-Build Legislation
Design-Build is a “different way” of doing business, and there are “different ways” to do the Design-Build Business.
• **Act 81** – Passed 2004 regular session, effective August 2004

• Design-Builders be a single legal entity holding both engineering and contractor licenses (licenses must be issued prior to due date for letters of interest)

• Evaluate SOQs and recommend (via Chief Engineer) a short list of not more than 5 entities to the Secretary for approval

• Request for detailed technical and price proposals to short-listed entities (final scope of Services Package)
Louisiana Statutes for Design-Build...required

- A “Technical Review Committee” (TRC) to evaluate proposals (established by Chief Engineer with concurrence of the Secretary)
- A Project Manager, who will chair TRC (assigned by Chief Engineer with concurrence of the Secretary)
- Hearings and review prior to considering price
- Secretary makes the selection (lowest adjusted score is winning proposal)
- Payment of stipends to proposers
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• Design-Build Procurement Milestones
  • Act 81 – 2004 Regular Session, effective August, 2004
  • Development of DB Procurement Plan – Fall, 2004
  • Notice of Intent published – November 15, 2004
  • Informational meeting – January 19, 2005
  • Request for LOI & Qualifications – March 31, 2005
  • Shortlist Announced – May 4, 2005
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- Design-Build Procurement Milestones
  - Issue Draft Scope of Services Package – June 15, 2005
  - Informational meeting – July 26, 2005
  - Release of Final Scope of Services Package – August 15, 2005
  - Receipt of Technical and Price Proposals – January 18, 2006
  - Opening of Price Proposals – March 2, 2006
  - Notice of Award to Winner – April 4, 2006
  - Notice of Contract Execution & NTP – May 4, 2006
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- RFQ Evaluation Factors:
  - (Pass/Fail) Legal
  - (Pass/Fail) Financial
  - (Pass/Fail) Responsiveness
  - Organization and Key Managers
  - Experience
  - Past Performance
  - Backlog/Capacity
  - Project Understanding
Process Procurement

- Received proposals from three short listed proposers
- Completed technical review process
  - Procurement Management Team
  - Evaluation Teams
  - Technical Review Committee
Design-Build Proposers

- American Bridge/Bilfinger Berger Joint Venture
  - American Bridge Company
  - Bilfinger Berger Civil, Inc.
- Audubon Bridge Constructors Joint Venture
  - Flatiron Construction, Inc.
  - Granite Construction Company
  - Parsons Transportation Group
- MRB Constructors
  - Traylor Bros., Inc.
  - Massman Construction Company
  - Gilbert Southern Corp.
American Bridge/Bilfinger Berger JV
American Bridge/Bilfinger Berger

- 1700’ cable-stayed mainspan
- Twin planes of cable-stays
- Single pylon (485’ above low-water elevation)
- Drilled shaft foundations
- Main pier footings below mudline
- Primarily land-based construction from trestles
- Numerical and physical modeling for scour
- Would become the longest cable-stayed span in North & South America
Audubon Bridge Constructors
Audubon Bridge Constructors

- 1583’ cable-stayed mainspan
- Twin planes of cable-stays (galvanized strand)
- H-shaped pylon with double strut above deck (515’ above low-water elevation)
- Drilled-shaft foundations (post grouted)
- Main pier footings at low-water level
- Substantial amount of construction to be land-based from trestles
- Would become the longest cable-stayed bridge in North & South America
MRB Constructors
MRB Constructors

• 1400’ cable-stayed mainspan
• Twin planes of cable-stays
• H-shaped pylon with single strut and wall beneath roadway (405’ above low-water elevation)
• Caisson foundations
• Main pier foundation construction – sand island construction on west, floating caisson on east
• Innovative design at River Road and Proposed LA 10 and LA 10/LA 1 Intersection
The LA DOTD Design-Build Procurement Process

- The Evaluation Process:
  - Technical Review Committee
  - Clarifications
  - Adjectival Rating Method and Scoring
  - Recommendations by Evaluation Teams
  - Members rate all factors
  - Consensus of all members for Final Factor and Overall Ratings
  - Conversion Table to Point Scores
Evaluation Criteria

- **Scope of Services Package Evaluation Factors:**
  - (Pass/Fail) Legal
  - (Pass/Fail) Financial
  - (Pass/Fail) Responsiveness

- Technical Solutions
- Key Personnel and Experience
- Management Approach
- Project Support

*Technical factors above are in descending order of importance*
Scope of Service Package Evaluation Factors

- Technical Solutions (Sub-Factors)
  - Cable-Stayed Bridge
  - Approach Structures
  - Roadway
  - Drainage

Sub-factors above are of equal importance
Scope of Evaluation Package
Evaluation Factors

- Management Approach
  - Project Management Plan (including, quality plan, design management and construction management)
  - Project Controls (including Baseline Progress Schedule and Price Center Descriptions)
  - Organization

Sub-factors above are in descending order of importance
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• Key Personnel & Experience
  • Identified in Management Approach…ie., managers of QC (design and construction), safety, design & construction of cable-stayed bridge and approach structures, public outreach/community relations and specialty consultants

• Project Support
  • Including plans for: public outreach/community relations (preliminary), site access, utility & railroad coordination, local office, etc.
The LA DOTD Design-Build Procurement Process

The Adjectival Ratings:

EXCEPTIONAL ~ The proposer has demonstrated an approach that is considered to significantly exceed stated criteria in a way that is beneficial to the department. This rating indicates a consistently outstanding level of quality, with very little or no risk that this proposer would fail to meet the requirements of the solicitation. There are essentially no weaknesses.

GOOD ~ The proposer has demonstrated an approach that is considered to exceed stated criteria. This rating indicates a generally better than acceptable quality, with little risk that this proposer would fail to meet the requirements of the solicitation. Weaknesses, if any, are very minor.

ACCEPTABLE ~ The proposer has demonstrated an approach that is considered to meet the stated criteria. This rating indicates an acceptable level of quality. The proposal demonstrates a reasonable probability of success. Weaknesses are minor and can be readily corrected.

UNACCEPTABLE ~ The proposer has demonstrated an approach that indicates significant weaknesses/deficiencies and/or unacceptable quality. The proposal fails to meet the stated criteria and/or lacks essential information and is conflicting and/or unproductive. There is no reasonable likelihood of success; weaknesses/deficiencies are so major and/or extensive that a major revision to the proposal would be necessary.

In assigning ratings the Department may assign “+” or “-” (such as “Exceptional -”, “Good +”, “Acceptable +”) to the ratings to more clearly differentiate between the Proposals.
# Technical Evaluation Ratings

<table>
<thead>
<tr>
<th>Technical Evaluation Factors</th>
<th>AB/BB</th>
<th>Audubon Bridge Constructors</th>
<th>MRB Constructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Solutions</td>
<td>Good</td>
<td>Good +</td>
<td>Acceptable +</td>
</tr>
<tr>
<td>Key Personnel &amp; Experience</td>
<td>Acceptable -</td>
<td>Acceptable -</td>
<td>Acceptable +</td>
</tr>
<tr>
<td>Management Approach</td>
<td>Good</td>
<td>Good</td>
<td>Exceptional -</td>
</tr>
<tr>
<td>Project Support</td>
<td>Acceptable +</td>
<td>Good</td>
<td>Acceptable +</td>
</tr>
<tr>
<td>Overall Rating</td>
<td>Good -</td>
<td>Good</td>
<td>Acceptable -</td>
</tr>
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# Technical Scoring System

<table>
<thead>
<tr>
<th>Overall Proposal Technical Rating</th>
<th>Final Total Score</th>
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<tbody>
<tr>
<td>Exceptional +</td>
<td>1,050</td>
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<tr>
<td>Exceptional</td>
<td>1,040</td>
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<tr>
<td>Exceptional -</td>
<td>1,025</td>
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<tr>
<td>Good +</td>
<td>1,010</td>
</tr>
<tr>
<td>Good</td>
<td>1,000</td>
</tr>
<tr>
<td>Good -</td>
<td>990</td>
</tr>
<tr>
<td>Acceptable +</td>
<td>975</td>
</tr>
<tr>
<td>Acceptable</td>
<td>960</td>
</tr>
<tr>
<td>Acceptable -</td>
<td>950</td>
</tr>
<tr>
<td>Overall Rating</td>
<td>Good -</td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>Overall Score</td>
<td>990</td>
</tr>
</tbody>
</table>

**Recommended Projects**

- **AB/BB** (American Bridge/Bilfinger Berger JV)
- **Audubon Bridge Constructors**
- **MRB Constructors**
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### Design-Build Procurement – Price Proposals & Adjusted Scores

<table>
<thead>
<tr>
<th>Engineer’s Estimate*</th>
<th>Base Proposal</th>
<th>Base Proposal Plus Option 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$346,046,477.00</td>
<td>$427,776,227.00</td>
</tr>
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</table>

**Adjusted Score Calculation**

<table>
<thead>
<tr>
<th>Final Total Technical Score</th>
<th>Base Proposal</th>
<th>Base Proposal Plus Option 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Lump Sum Price</td>
<td>Adjusted Score</td>
</tr>
<tr>
<td>American Bridge/Bilfinger Berger JV</td>
<td>$344,690,753.67</td>
<td>$348,172.48</td>
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<tr>
<td>Audubon Bridge Constructors</td>
<td>$334,656,245.00</td>
<td>$334,656.25</td>
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<tr>
<td>MRB Constructors</td>
<td>$376,995,741.00</td>
<td>$386,662.30</td>
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Lessons Learned

• Performance Specifications
  • Must identify specifically any performance requirements that the owner will or will not accept
  • Minimum performance requirements must be clearly stated
  • Consistency of personnel throughout the process is important
Lessons Learned

• Interaction with the Proposers
  • More face-to-face interaction would be desirable
  • Prior to Proposal due date
    • Technical concept reviews
    • Alternative technical concepts
    • Both allow technical innovation
  • Different levels of interaction between the owner and the individual Proposers
Lessons Learned

• Interaction with the Proposers
  • After the Proposal due date
    • Presentations
    • Interviews
    • Discussions (written or verbal)
    • Proposal revisions (or, Best and Final Offers or BAFOs)
  • Again, different levels of interaction between the owner and the individual Proposer
Lessons Learned

• Evaluation factors and weighting
  • Revisit evaluation factor weighting prior to release of the Scope of Services Package?
Lessons Learned

- **Key Personnel**
  - Principal-in-Charge, Project Manager, Design Manager and Construction Manager evaluated at the SOQ phase
  - Second tier of key personnel evaluated at the Proposal phase
  - No carry over of ratings between the two phases
  - Carry SOQ ratings forward to final rating?
Lessons Learned

• Pricing and payment
  • Consolidate the Price Center method of pricing and payment with the Site Manager System
  • Site Manager allows faster payment (24 hour turnaround)
  • However, Site Manager geared toward traditional design-bid-build projects (% complete)
  • Site Manager allows reports and daily diaries to be loaded into the system
Current Design-Build Legislation

• New legislation in 2005 and 2006
• Allows use of DB in hurricane-impacted areas
• No longer requires single legal entity
• Licensing not required until award
• Appropriately split LOI and SOQ into separate documents
• Requires a short list of three to five Proposers and allows Secretary to move forward with less than three Proposers
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Project Rendering
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Questions