Successful D/CMAR Delivery of Water Projects in North Texas
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<th>AGENDA</th>
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<td>• Why Owners Select D/CMAR</td>
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• **North Texas History**
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• Discussion
D/CMAR legislation in Texas has been an evolution

- 1997 SB-583 & 1999 SB-669
- 2001 SB-510
- 2003 HB-3028
- 2011 HB-628
- 2015 HB-2634

- Originally enacted for Education Facilities
- Expanded for all state agencies
- Design Professional is precluded from also acting as the CMAR
North Texas Owners are increasingly utilizing D/CMAR for project delivery

<table>
<thead>
<tr>
<th>Current Number of North Texas Water CMAR Projects</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of completed projects through 2013</td>
<td>$ 450M</td>
</tr>
<tr>
<td>Projects in design or construction</td>
<td>$1,250M</td>
</tr>
</tbody>
</table>

**Total value of completed and in-progress projects $1.7B**
Completed and in-progress D7/CMAR projects in North Texas

- 2 projects, $59M
- 1 project, $195M
- 1 project, $29M
- 1 project, $29M
- 2 projects, $59M
- 1 project, $34M
- 1 project, $34M
- 8 projects, $1.33B
- 1 project, $42M
AGENDA

- North Texas History
- **Why Owners Select D/CMAR**
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Owners’ select D/CMAR to improve project results and provide delivery flexibility

- An easy first step from DBB
- Value vs. cost decisions
- Balanced risk
- Higher quality

These are not Carollo projects...!
D/CMAR method provides for risk transfer while retaining control

- Why is DBB at the high end of the risk spectrum?
  - Spearin Doctrine (248 US 132)
Design-Bid-Build (DBB) is the traditional project delivery method for municipal W/WW agencies.
D/CMAR promotes collaboration across the project team and allows the Owner to transfer control and risk

Does the Spearin Doctrine still apply?
Texas Owners’ surveyed experience with D/CMAR

<table>
<thead>
<tr>
<th>Rationale for Using CMAR</th>
<th>Observed Advantages</th>
<th>Observed Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saves Time</td>
<td>Cost savings</td>
<td>Difficulty of use</td>
</tr>
<tr>
<td>Saves Money</td>
<td>Innovation</td>
<td></td>
</tr>
<tr>
<td>Contractor Qualifications</td>
<td>Effectiveness</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Time savings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexibility</td>
<td></td>
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</table>

From: *Survey on the Use of Design-Build and Other Alternative Project Delivery Methods in Texas*, prepared by the Research Division of the Texas Legislative Council
D/CMAR delivery offers many advantages for the Owner

- Involvement & control
- Design phase construction input
- Project risk identification
- Accelerated schedule
- Maximized local participation

The key...
D/CMAR delivery offers the following disadvantages for the Owner

- Split Design & Build responsibilities
  - Spearin
- Multiple contracts
- Limited experience with preconstruction phase
D/CMAR delivery offers the following advantages for the CMAR

- QBS selection
  - Less expensive procurements
- CMAR input reduces risk
- Negotiated GMP, not hard bid
- Shared savings motivate
D/CMAR delivery disadvantages for the CMAR

- Self-performance contract limits
- ROI may be lower
- Preconstruction phase ties-up resources
- Limited preconstruction experience
The benefits of D/CMAR delivery are generated through the Preconstruction Phase

### Preconstruction Phase Services

<table>
<thead>
<tr>
<th>Budget ConFORMANCE</th>
<th>Scope ConFORMANCE</th>
<th>Schedule ConFORMANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Reviews</td>
<td>Design Workshops</td>
<td>MOPO Development</td>
</tr>
<tr>
<td>Value Engineering</td>
<td>Constructability Reviews</td>
<td>Phasing Plans</td>
</tr>
<tr>
<td>Bid Gap Analysis</td>
<td>Subcontractor Qualification</td>
<td>Early Out Packaging</td>
</tr>
</tbody>
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D/CMAR delivery can provide multiple benefits to the Owner

- QBS
- Shorter schedules
- O&M input
- Scope and budget certainty
- Off ramp
- Best Value decisions
D/CMAR delivery supports shorter project schedules

Potential schedule savings
D/CMAR delivery maximizes O&M input and provides for scope and budget certainty
Qualitative and quantitative subcontractor bid evaluation criteria support best value decisions

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Maximum Score</th>
<th>Subcontractor A</th>
<th>Subcontractor B</th>
<th>Subcontractor C</th>
</tr>
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<tbody>
<tr>
<td>Quantitative Score (Bid Price see Note 1)</td>
<td>40</td>
<td>40</td>
<td>34</td>
<td>36</td>
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Note 1 – Lowest reasonable bid price receives highest score
Quantitative and qualitative subcontractor proposal evaluation criteria support best value decisions

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<tr>
<td>Qualifications</td>
<td>20</td>
<td>16</td>
<td>19</td>
<td>18</td>
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<tr>
<td>Experience</td>
<td>20</td>
<td>17</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Project Approach</td>
<td>10</td>
<td>7</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Subcontract Exceptions</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Qualitative Score</td>
<td>60</td>
<td>48</td>
<td>57</td>
<td>53</td>
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Highest “Tech” Score

Best Value

Note 1 – Lowest reasonable bid price receives highest score
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Lessons learned in D/CMAR delivery.....

- Independent cost model checks
- Preconstruction scope coordination
- Interpersonal skills of Designers and CMAR staff are paramount
- Use a proven CMAR contract form
Resources for starting your next D/CMAR Project

• AWWA M47 Capital Project Delivery
• Water Design Build Council
  – Municipal W/WW Design-Build Handbook
• Qualified Owner’s Advisor
  – Project scoping
  – Contract development
  – Procurement
  – Contract(s) administration
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