With a history of innovation and experience, Contech has taken precast buried bridge systems to the next level with the optimization of the CON/SPAN® O-Series®. Requiring less concrete per open area than any other precast buried bridge structure, the O-Series is the ideal blend of hydraulic efficiency and structural capacity.

A Legacy of Innovative Technologies...

Extensive analysis of the buried structure and its interaction with surrounding soil mass sponsored by the FHWA

1980

First precast foundations

CON/SPAN® B-Series

1990

First 42’ span

1990

First precast wingwalls

HITEC published their evaluation of the CON/SPAN wingwall system

2000

First 48’ span

2000

HEC-RAS integration

2000

Design Your Own Bridge (DYOB®) developed

2010

Mega-Span (54’ and 60’)

EXPRESS™ Precast Foundations

2010

CON/SPAN® O-Series®

Taken to the Next Level of Optimization...

GOOD BLEND of hydraulic efficiency and structural capacity

CON/SPAN® B-Series, circa 1980

BEST BLEND of hydraulic efficiency, structural capacity, less material

CON/SPAN® O-Series

Featuring EXPRESS™ Foundations

Released in 2012

18% Less Concrete*

36% Less Concrete*

22% Less Concrete*

*dependent upon actual project
Features & Benefits of the Optimized Series

- Complete system – precast foundations, units, headwalls and wingwalls
- Rapid installation
- Material savings – concrete and steel
- Lighter piece weights or longer lay lengths for most projects
- Cost savings
- Outward horizontal reactions – one-sided keyway, reduced forming and grouting
- Maximized clear span and clear distance between footings
- Lower maintenance cost
- Proven design methodology
- Total reliability

A precast foundation system that blends the speed of precast with the economy of cast-in-place

Benefits to You

- Provides ease and speed of installation
- Alleviates hazardous working conditions
- Trapezoidal foundation reduces wingwall concrete quantities
- Minimal reinforcement to be placed on site
- Pick weights and sizes customized to your equipment

Construction Process

1. Excavate and prepare foundation subgrade
2. Unload and place precast foundation sections
3. Place minimal reinforcing at joints to provide foundation continuity
4. Set precast bridge units, headwalls and wingwalls
5. Fill cells with cast-in-place concrete
6. Seal joints, grout wingwalls and backfill

Design Challenges

<table>
<thead>
<tr>
<th>Shape</th>
<th>O-Series</th>
<th>B-Series</th>
<th>% Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span (ft)</td>
<td>25</td>
<td>28</td>
<td>-11%</td>
</tr>
<tr>
<td>Rise (ft)</td>
<td>5</td>
<td>6</td>
<td>-17%</td>
</tr>
<tr>
<td>WW Area (ft)</td>
<td>108</td>
<td>118</td>
<td>-9%</td>
</tr>
<tr>
<td>Concrete (tons/ft)</td>
<td>1.96</td>
<td>2.46</td>
<td>-26%</td>
</tr>
<tr>
<td>Steel (lbs/ft)</td>
<td>108</td>
<td>137</td>
<td>-26%</td>
</tr>
<tr>
<td>Piece lay length (ft)</td>
<td>3</td>
<td>9</td>
<td>-25%</td>
</tr>
<tr>
<td>Weight (tons/unit)</td>
<td>15.68</td>
<td>21.12</td>
<td>-22%</td>
</tr>
</tbody>
</table>

ACCELERATED BRIDGE CONSTRUCTION

ABC is bridge construction that uses innovative planning, design, materials and construction methods in a safe and cost-effective manner to reduce the onsite construction time that occurs when building new bridges or replacing and rehabilitating existing bridges.

ABC improves
- Site constructability
- Total project delivery time
- Work zone safety for the traveling public
- Weather-related site delays

ABC reduces
- Traffic impacts
- Onsite construction time
- Weather-related site delays

ABC = CONSPAN + EXPRESS Foundations
**Application Optimization**

<table>
<thead>
<tr>
<th>Wetlands &amp; Clear Spanning Optimization</th>
<th>Hydraulic Optimization</th>
<th>Clearance Box/Grade Separation Optimization</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>CON/SPAN® O-Series®</td>
<td>CON/SPAN® O-Series®</td>
<td>CON/SPAN® O-Series®</td>
</tr>
<tr>
<td>Maximizing span for sensitive environmental conditions.</td>
<td>Maximizing waterway and span area for hydraulic efficiency.</td>
<td>Minimizing excess materials, while closely matching clearance diagram.</td>
</tr>
</tbody>
</table>

**Contech. Your Project Partner.**

Experience the value of Contech’s products and extensive technical support. Our proven innovative approach and engineering resources can help you discover the most economical solution for your site without compromising your expectations for safety, reliability and performance.

**CONTECH can provide design tools and info to help optimize your project:**

- Series Selection Chart
- Waterway Area Charts
- O-Series Drawing Details
- Hydraulic Coordinates for HEC-RAS and HY-8
- Wetted Perimeter Charts
- Vertical and Horizontal Foundation Reactions