RAPID RESPONSE TO BRIDGE IMPACTS

Leon Flournoy, PE
Bridge Division
Rapid Response to Bridge Impacts

Bridge Division
Field Operations
Construction & Maintenance Branch

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Kevin Pruski, P.E. (512)-416-2306
• Introduction
• Background
• Types of Damage
• District’s Response
• Bridge Division’s Response
• Examples
Increase in Impact Damage

Well Permits by Year Cumulative

Source: Texas Railroad Commission
Since July 2012, there have been 19 overpasses damaged in the 12-county Odessa District. Seven have been hit in Midland County; five have been hit in Ward and Ector counties. Reeves County and Upton County had one overpass each hit.

Source: Odessa American June 25, 2013
Superstructure Impacts

16 FT 0 IN
Substructure Impacts
Damage caused by debris
Fire Damage
District’s Response to Bridge Impacts

Take all impact damage seriously:

• Get photos and the location to the Bridge Division as soon as possible (more on this).

• If any substructure elements are severely damaged, close the bridge. Close the lanes above damaged beams.

• Remove loose debris if the damage is over a roadway and tie exposed strand with tie wire; **do not cut the hanging strand**. Chicken wire or hardware cloth, can be used to keep loose rocks from damaging vehicles if roadway is to remain open.

• Don’t worry about getting plans and the bridge folder just yet.
District’s Response to Bridge Impacts: Photos and Information

Photos: Try and send overall damage first
Overall Damage
All areas of damage
06 238 0004 02 064
Pictures to avoid
Additional information: Lane configuration & other pertinent information:

- Photos on top of the bridge are useful if showing the lane and shoulder configuration

- Collect additional information if the bridge is subject to heavy loads: namely 18 wheelers & concrete trucks.
Notifications: Administration, FHWA & Maintenance Division

We often make immediate arrangements for a site visit. Bridge Impacts take priority

While one of us is on the road, we usually will start a preliminary analysis with what we know
District Bridge Engineer/Coordinator should locate the Bridge folder. Send the NBI # (if not included with the photos), PDF’s of As-Builts if they are available including layouts, beam details that show beam type, and beam design details.

The Bridge Division can begin an immediate load rating analysis to determine if the bridge needs to be load restricted.

Contact the District Permit Coordinator in order to get the bridge removed from routes for Super Heavy vehicles.
Traffic Control may be required to inspect the damage safely.

Bucket-truck access is almost always required

- Count Severed Strand
- Check for composite action
- Look for additional damage
Severed Strand: Flame Cut
GRAB-IT Strand Splicing System
Strand Splicing System
Special Consideration for Steel Beams & Girders
Special Consideration for Steel Girders & Beams
Availability of Maintenance Sections

![Image of maintenance work in progress]
Additional Damage
Extreme Case
No Apparent Deflection
We will talk with the District about the next course of action:

• Repair Details
• Replacement Details
• Continue to monitor

We can help develop a repair cost estimate:

• Traditionally Let Contracts
• Emergency Maintenance Contracts
## Bridge Webinar Presentations

### Feb. 27, 2013

<table>
<thead>
<tr>
<th>Title</th>
<th>Presenter</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Finishes for Concrete</td>
<td>Tom Schwerdt, CST</td>
<td></td>
</tr>
<tr>
<td>Revisions to Design Policy and Practices</td>
<td>John Holt, P.E., BRG</td>
<td></td>
</tr>
<tr>
<td>Information Sheet for Bridge Railing Upgrades, Retrosfits, &amp; Repairs</td>
<td>Thomas Stout, P.E., BRG</td>
<td></td>
</tr>
<tr>
<td>Use of Bridge Division Consultant Contracts</td>
<td>Jeff Tomkins, P.E., BRG</td>
<td></td>
</tr>
<tr>
<td>MSE Retaining Wall Standards</td>
<td>Marcus Galvan, P.E., BRG</td>
<td></td>
</tr>
<tr>
<td>Structural Spec Changes 2014 Specifications: Info for Bridge Designers</td>
<td>Brian Merrill, P.E., BRG</td>
<td></td>
</tr>
</tbody>
</table>

### July 30, 2012

<table>
<thead>
<tr>
<th>Title</th>
<th>Presenter</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodating for ROW on Bridge Projects</td>
<td>Tommy Abrego, E.I.T., BRG</td>
<td></td>
</tr>
<tr>
<td>Phased Construction Recommendations for Bridges</td>
<td>Taya Retterer, P.E., BRG</td>
<td></td>
</tr>
</tbody>
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