AGENDA

PTI M-50 / ASBI Bonded Tendon Task Group
Sunday, October 22, 2017, 1:00 PM – 5:00 PM
Marriott Marquis, New York, Room O’Neill

Voting Members Present (x of 30; Quorum=12)

Dave Martin, Co-Chair
Guido Schwager, Co-Chair
Ken Bocchicchio
Tommaso Cicone
Guy Cloutier
Tom DeHaven
H.R. Hamilton
Joe Harrison
H.R. Hamilton
Guy Cloutier
Ken Bocchicchio
Guido Schwager, Co-Chair
Dave Martin, Co-Chair

Dywidag-Systems International USA, Inc.
Schwager Davis, Inc.
TENSA
LCPT International Consulting, Inc.
Figg Bridge Engineers
University of Florida
Federal Highway Administration
Parsons
Parson Brinkerhoff
VSL
General Technologies, Inc.
Dywidag-Systems International USA, Inc.
Wiss, Janney, Elstner Associates, Inc.
Freyssinet, Inc.
Finley Engineering Group
Mexpresa
PT-Technologies
Florida DOT
Kiewit Infrastructure West
Schwager Davis, Inc.
Janssen & Spanns Engineering, Inc.
Virginia Transportation Research Council
Florida Department of Transportation
Minnesota DOT
Traylor Bros., Inc.
VSL

Bob Sward
Teddy Theryo
Dustin Thomas
Scott Tumpaugh
John Crigler, TAB Contact, NV
Randy Cox, NV
Ted Neff, NV
Miroslav Vejvoda, Secretary, NV

VSL
Caltrans
RS&H
Geotechnical and Environmental Services
Washington State DOT
Atkins Global
Consultant
Parsons
Tectus Group
Schwager Davis, Inc.

DYWIDAG-Systems International Canada, Ltd.

Associate Members Present

Yosbani Ballate
Mike Beauchamp
Robert Bennett
Thomas Helm
Bijan Khaleghi
David Konz
Jim McTaggart
Shannon Meeks
Marcel Poser
Mario Salice
Joe Salvadori
Don Singer

VSL
Caltrans
Geotechnical and Environmental Services
Washington State DOT

Consultant
Parsons
Tectus Group
Schwager Davis, Inc.

DYWIDAG-Systems International Canada, Ltd.
## ACTION ITEMS FROM LAST / THIS MEETING

<table>
<thead>
<tr>
<th>Item #</th>
<th>Subject</th>
<th>Action</th>
<th>Responsible</th>
<th>Deadline / Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Ballot Item 13</td>
<td>Restore reference to Bulletin 7 Add specification and commentary language per motion in Item 1.1</td>
<td>Staff</td>
<td>Asap</td>
</tr>
<tr>
<td>3.1</td>
<td>Replaceable and Monitorable Tendons</td>
<td>Distribute to committee for review</td>
<td>Staff</td>
<td>Asap</td>
</tr>
<tr>
<td>4.2</td>
<td>M-50 version for publication</td>
<td>Distribute to committee for review</td>
<td>Staff</td>
<td>Asap</td>
</tr>
<tr>
<td>5.1</td>
<td>95% MUTS</td>
<td>Propose specific language including test setup; present to T-10</td>
<td>TG: Xia, Myer, Micklus, Ciccone, Holt</td>
<td>Before T-10 meeting in June 2017</td>
</tr>
<tr>
<td>D.1</td>
<td>Plastic duct requirements</td>
<td>Set up TG to work on Bulletin 7 vs. 75 or other plastic duct requirements</td>
<td>Schwager/Martin</td>
<td>Asap</td>
</tr>
</tbody>
</table>

## Agenda Item

### A. General
- **A.1 Call to Order**
- **A.2 Introductions / Attendance Sheet (Exhibit A.2)**
- **A.3 Committee Roster**
- **A.4 PTI Antitrust Policy (Exhibit A.4)**
- **A.5 Committee Annual Report**

### B. Agenda & Minutes
- **B.1 Approval of Agenda**
- **B.2 Approval of Minutes (Meeting ballot required)**
  - **B.2.1 Meeting Minutes from April 30, 2017, distributed on May 15, 2017.**

### Expected Outcome / Actions Taken

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Expected Outcome / Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td></td>
</tr>
<tr>
<td>A.2</td>
<td></td>
</tr>
<tr>
<td>A.3</td>
<td></td>
</tr>
<tr>
<td>A.4</td>
<td>All are reminded of the PTI Antitrust Policy and asked to initial the right-hand side column on the Attendance Sheet to confirm their knowledge of and adherence to the policy.</td>
</tr>
<tr>
<td>A.5</td>
<td></td>
</tr>
<tr>
<td>B.1</td>
<td>Any changes to the agenda?</td>
</tr>
<tr>
<td>B.2.1</td>
<td><strong>Motion / Second to approve Meeting Minutes from 4/30/17: Name / Name, 0-0-0 (Y-N-A)</strong></td>
</tr>
<tr>
<td>Agenda Item</td>
<td>Expected Outcome / Actions Taken</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>C. Actions Taken Between Meetings</strong></td>
<td></td>
</tr>
<tr>
<td>C.1 No letter ballots</td>
<td>C.1</td>
</tr>
<tr>
<td>C.2 No Web Meetings</td>
<td>C.2</td>
</tr>
<tr>
<td><strong>1. Action Item 1: Commentary</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Status of Commentary: Approved</td>
<td>1.1 Document with the approved Commentary is ready for publication.</td>
</tr>
<tr>
<td><strong>2. Action Item 2: PT Systems Qualification Testing</strong></td>
<td></td>
</tr>
<tr>
<td>2.1 Progress report</td>
<td>2.1 CRT-70 Chair Hunsicker will report progress from the CRT-70 meeting on October 5, 2017</td>
</tr>
<tr>
<td><strong>3. Action Item 3: Monitorable, Replaceable and Assessable PT Research Project</strong></td>
<td></td>
</tr>
<tr>
<td>3.1 Progress update of the FHWA Task 5009 as of April 2017</td>
<td>3.1 The final drafts are for review and comment. The final and official versions should be balloted by M-50 when available.</td>
</tr>
<tr>
<td>3.1.1 Replaceable Grouted Tendons</td>
<td>3.1.1 Final draft with Specification and Commentary for replaceable grouted tendons was attached to the minutes from April 30, 2017. Any comments?</td>
</tr>
<tr>
<td>3.1.2 Monitorable Tendons</td>
<td>3.1.2 Final draft with Specification and Commentary for monitorable tendons was attached to the minutes from April 30, 2017. Any comments?</td>
</tr>
<tr>
<td>3.2 Discussion and time table for integration into M-50</td>
<td>3.2 These items will be included in M-50 next edition (after 2017).</td>
</tr>
<tr>
<td>4.1 Items for the next edition.</td>
<td>4.1 The next edition will be published in 2017 and include items that have already been balloted. Possible inclusion of items identified by CRT-70 to be resolved by M-50. See attached list in (Exhibit 4.1).</td>
</tr>
<tr>
<td>4.2 Time table to completion of the next edition.</td>
<td>4.2 The next step to publication are:</td>
</tr>
<tr>
<td></td>
<td>• Assemble final document</td>
</tr>
<tr>
<td></td>
<td>• M-50 short review</td>
</tr>
<tr>
<td></td>
<td>• TAB review</td>
</tr>
<tr>
<td></td>
<td>• M-50 responses to TAB review comments</td>
</tr>
<tr>
<td></td>
<td>• TAB compliance check</td>
</tr>
<tr>
<td></td>
<td>• Public review</td>
</tr>
<tr>
<td>Agenda Item</td>
<td>Expected Outcome / Actions Taken</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. Action Item 5: AASHTO Bridge Construction Specification</strong></td>
<td>5.1 Progress report from the TG (Xia):</td>
</tr>
<tr>
<td>5.1 Status of 95% MUTS (TG: Xia, Myer, Micklus, Ciccone, Holt)</td>
<td>5.2 This is an ongoing effort.</td>
</tr>
<tr>
<td>5.2 AASHTO Updates (TG: Merrill, Cloutier/Krauser, Cox, Hunsicker)</td>
<td></td>
</tr>
<tr>
<td><strong>6. Action Item 6: Flexible Fillers</strong></td>
<td>6.1 Training class report from Cox:</td>
</tr>
<tr>
<td>6.1 Status</td>
<td>6.2 Refer to 4.1; Flexible filler should be included in the CRT-70 program but must be first addressed by M-50.</td>
</tr>
<tr>
<td>6.2 Action items?</td>
<td></td>
</tr>
<tr>
<td><strong>D. New Business</strong></td>
<td>D.1 Items for new edition (after 2017):</td>
</tr>
</tbody>
</table>
| D.1 New items? | • Bulletin 7 vs. Bulletin 75 or other plastic duct requirements  
• Loops, diabolos  
• Tangent length (straight part of tendon) at anchorages  
• Replaceable tendons  
• Monitorable tendons  
• Possibly flexible fillers; refer to 4.1 |
| **E. Next Meeting** | E.1 |
| E.1 PTI Convention – Sunday, May 6, 2018, at the Minneapolis Hilton in Minneapolis, MN | E.2 Web Meetings: |
| **F. Adjourn** | F. |

**AGENDA / MINUTES EXHIBITS**

<table>
<thead>
<tr>
<th>Exhibit #</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.2 / A.4</td>
<td>Attendance Sheet / PTI Anti-Trust Policy</td>
</tr>
<tr>
<td>4.1</td>
<td>CRT-70 List of Items for M-50</td>
</tr>
</tbody>
</table>
At a meeting on October 8, 1980, the Board of Directors first discussed the Institute's status and policies regarding compliance with antitrust laws. After review of both the internal and external compliance procedures, the following resolution was approved:

"The staff, officers, directors and members of the Post-Tensioning Institute are reminded that they are required to comply with the spirit and specific requirements of the antitrust laws on all activities within the scope of, and related to, the official functions of PTI. Further, this restated position, along with appropriate explanatory material, should be placed in all meeting folders/books periodically, beginning with the 8th of October meeting of PTI."

On July 24, 2012 and again on October 7, 2015, the Executive Committee authorized Legal Counsel to review and update this Policy Statement in the perspective of the Department of Justice Business Review Letter of July 30, 1997 and current case law. As a continuing guide for your participation in PTI's meetings, please review and continue to adhere to the following "Legal Limitation on Discussions at PTI Meetings."

**LEGAL LIMITATION ON DISCUSSIONS AT PTI MEETINGS AND EVENTS**

A free exchange of ideas on matters of mutual interest to the members is necessary for the success of all meetings. Indeed, such an exchange of views is essential to the successful operation of every trade association and the law specifically allows legitimate exchange of views pertaining to, e.g., quality control, safety, building design and construction integrity, etc.

It is not the purpose of this memorandum to discourage the exploration in depth of any matters of legitimate concern to meeting participants. Nevertheless, to ignore certain antitrust ground rules, either through ignorance or otherwise, is to create a civil and criminal hazard businessmen simply cannot afford.

It is for these reasons that PTI provides you with a reminder that certain areas of formal and informal communication between competitors or between manufacturers and their suppliers and customers must be avoided, as posing potential antitrust problems.

The Sherman Antitrust Act, the Clayton Act, the Federal Trade Commission Act, and the Robinson-Patman Act comprise the basic federal antitrust laws, which set forth the broad areas of conduct considered illegal as restraints of trade. In general, agreements or understandings between competitors that operate as an impediment to free and open competition are forbidden. Federal antitrust prohibitions forbid any "agreement or understanding...to substantially lessen competition or tend to create a monopoly in any line of commerce." An important point to keep in mind is that communications and discussions between competitors or between sellers and customers, about matters which may be considered anti-competitive, often comprise the evidence from which courts infer antitrust violations. **It is the policy of the Post-Tensioning Institute that such agreements, understandings or communications shall not be tolerated at any formal or informal meetings or social events of the Institute.**

The general prohibitions contained in the federal antitrust laws, have been particularized in the form of a series of consent decrees, originally entered against a number of member companies of various trade associations and the associations themselves. It is important to note that these laws not only apply to PTI members, but also to PTI itself. Often trade associations have been and are presently co-defendants in cases brought by the Justice Department and the Federal Trade Commission (“FTC”). Recently, the FTC has stated: “Because trade associations are by their nature collaborations among competitors, the Commission and courts have long been concerned with anti-competitive restraints imposed by such organizations under the guise of codes of conduct. Competing for customers, cutting prices, and recruiting employees are hallmarks of vigorous competition. Agreements among competitors not to engage in these activities injure consumers by increasing prices and reducing quality and choice.” Similar “codes” or policies and requirements that encourage directly or indirectly members’ unlawful activity are strictly forbidden by PTI in the course of its business with its members.
SPECIFIC EXAMPLES OF ACTIVITIES AND PRACTICES PROHIBITED
AT ALL PTI MEETINGS AND EVENTS:

Included in activities and practices which are forbidden, and are contrary to the policy of the Institute, both under the general antitrust laws and the consent decrees, subject to the said Business Review Letter, are the following:

- Agreeing to allocate markets, customers or suppliers among competitors, classify certain customers or suppliers being entitled to preferential treatment by manufacturers, and establish geographic trading areas.

- Participating in any plan designed to induce any manufacturer or distributor to sell or refrain from selling, or discriminate in favor of, or against any particular customer or class of customers.

- Agreeing in any manner to fix or otherwise establish bids, prices (including price increases, decreases, standardization or stabilization), profits, costs, contract terms affecting price (such as discounts and credit terms), etc. because, e.g. prices were too low, with the exception of certain resale pricing agreements between manufacturers and retailers or distributors.

- Agreeing in any manner to limit or restrict the quality of products to be produced (e.g., restrictions on selling coated strand to certain customers).

- Participating in any plan which has the effect of discriminating against, or excluding competitors, suppliers or customers.

These examples are provided to guide you in your discussions during formal and informal PTI meetings and social events. If the occasion arises, more specific advice will be provided by legal counsel, who is required by Article IV, Section 7 of the PTI By-Laws to be present at all meetings of the Board of Directors and the Executive Committee.
Changes Recommended to M50/M55

- **Section 4.4 (& others) Independent Lab:**
  - Revise language to indicate certification to ISO 17025 or corresponding AMRL (John Pearson to provide information on AMRL equivalent). For old tests (prior to publication of the document) the independent auditor engaged by PTI will determine if the old tests are acceptable. The acceptance criteria must be met however acceptance of the test based on the credentials of the lab will be judged based on the auditors' review (in cases where the lab was not AMRL or A2LA certified or documentation not provided of some aspects).

- **Section 4:** Bar nuts not mentioned. Recommend including similar requirements to PT wedge plates, however specific to bars.

- **Section 6.4:** Under “acceptable ranges” it refers to section 12.5 which appears to be the incorrect section.

- **Section 4.4.3:** “The duct shall have adequate longitudinal bending stiffness for smooth placement”. This is too vague and should be revisited by the committee.

- **Section 4.3.9:** Second paragraph, line 6: delete “EPDM couplers made of” or add commas before and after this phrase.

- **Section 4.4.2:** Recommend removing “in concrete” as it is not necessary for this testing.

- **Section 4.4.2:** PL1b requires permanent grout caps and therefore recommend it should have similar requirements as PL2 and PL3 grout caps. (Previously discussed)

- **Flexible Filler:** Recommend consideration of Flexible Filler PT System requirements. Previously Discussed in M50 ((part of M-50 minutes from November 6, 2016 meeting)

- **Section 4.4:** Equipment for testing needs specifics (calibrations, photos, hand written notes, etc.) Testing Equipment such as load cells, jacks, etc. from a laboratory should be traceable to NIST. Discussion: Tests performed before publication of document with this requirement would be excluded. A TG to look into QA issues: M. Schwager, Krauser (Negative #6 & others)

- **Section 4.4.1:** 95% vs. 96% AUTS/GUTS – Already being addressed (Negative #25 & others)

- **Section 4.3.2:** Inspectability behind Bearing Plate should read behind wedge plate within bearing plate. Replace “bearing plate” with “wedge plate” where borescope inspection access is specified Discussion: Include this on the M-50 ballot (Negative #19)

- **Section 4.3.2:** Bolting grout cap to anchorage vs. bearing plate (negative #35)

- **Section 4.4.4:** – What constitutes a change in material property or geometry (Negative #53)
• **Section 4.3.10**: No reference can be made to minimum bend radius without procedure and criteria (Negative #58)

• **Section 4.3.10**: “Duct in deviator and diaphragm shall not be allowed.” Seems to conflict with earlier part of the segment. Proposed to add “Standard” before “duct” (Negative #61).

• **Section 4.3.10**: Does this effectively prohibit the use of diabolos, which are attractive for replaceable tendons? (Negative #65)

• **Section 4.4.5**: Remove segmental couplers for internal duct test, not practical (otherwise provide guidance) (Negative #81)

• **Section 4.4.5**: Consider S,M,L or some family testing rather than all sizes. (Negative #94)

• **Connection between grout cap and bearing plate/anchorage**: Does an O-ring or gasket need to be used? Discussion: The wording in Section 4.3.3 is OK as is.