FDOT UTILITY MARKUPS AND UTILITY CONFLICTS!
INTRODUCTIONS

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  Utility Coordination Manager, 18 years utility coordination and utility engineering & design experience. *(Natural Gas background)*

• Alan Boaz - Wantman Group
  Senior Utility Coordinator, 30 years utility coordination and utility engineering & design experience. *(Retired FP&L)*
5 PROJECT COORDINATION - Project coordination is a cooperative effort between FDOT and the UAOs.

5.1 FDOT Coordination

FDOT shall make arrangements to ensure all of the following is done:

1. Advance planning of highway projects is coordinated with affected UAOs no later than the project being placed in the FDOT Five-Year Work Program.

2. Project drawings are provided to the UAO for markup in an agreeable format.

3. Conflicts with the UAO’s utilities are identified to the UAO. This may be provided in a conflict matrix format when available.

4. Reasonable lead-time is provided for the UAO to relocate or adjust their utilities.

5. Reasonable lead-time is provided for the UAO to physically expose their utilities when the UAO elects to do this work.
5.2 UAO Coordination

The UAO shall do all the following:

1. Provide project work schedules to resolve all conflicts between the FDOT project and the UAO's utilities.
2. Obtain permits for utility work in compliance with all applicable laws and the UAM.
3. Identify to the designer utilities and utility service connections the UAO has determined to be in conflict that were not previously identified.
4. Provide existing and proposed utility locations and elevations on the project drawings or project CADD files with ties to the project’s survey points, as can reasonably be obtained by a review of existing records, topographic surveys and detection devices without physically exposing the utility. The UAO shall use the following color code:

Red: Existing utilities that are: (a) To be removed or relocated horizontally or (b) To be placed out-of-service (deactivated) but left in place.

Green: Existing utilities to remain in place with no adjustment.

Brown: Utilities that are: (a) existing utilities to be adjusted vertically but to remain in the same horizontal alignment, or (b) completely new utilities to be installed.
5. Complete the utility work schedule provided in UAM Section 8 for all needed utility work activities when requested by FDOT. The UAO shall include in the utility work schedule all of the following:

Conflict with FDOT construction activities or schedules.

a. In Section B, all special conditions and constraints needed to perform the UAO’s work activities and/or other important information.

b. In Section C, the type, size, material, status and offset to the centerline of construction, or other FDOT approved baseline, from station to station of the UAO’s utilities.

c. In Section C, all UAO work activities to facilitate the needed relocations or adjustments, indicating an activity number, the TCP phase, the number of consecutive calendar days needed to complete the utility work activity by showing the breakdown of days prior to FDOT project construction and during FDOT project construction. In addition to UAO’s work activities within the project limits, other offsite utility work activities such as procurement of material or property shall be included when these activities affect the time needed to complete the UAO’s work activity.

d. In the Dependent Activities column in Section C, identify all activities that need to be completed, by the UAO or others, before the listed UAO’s work activity can start. The UAO shall provide any additional locates required by FDOT to facilitate construction. Through ongoing coordination, the UAO shall provide FDOT the most current information.

e. In Section A, show the sum of the calendar days prior to FDOT project construction and during FDOT project construction from the breakdown provided in Section C.
UTILITY MARK UPS
UTILITY MARK UPS – UAO’S PROVIDE
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UTILITY MARK UPS
UTILITY MARK UPS

[Image of utility map with annotations]

- Utility Mark Ups
- Street Light Circuit
- Utility-owned Service
- Customer-owned Service
- 24" Handhole
- 3" Utility, 15kV
- 6/0" Cu Wire
- 15kV, 18kV
- Survey S.R. 7 (U.S. 441), Sect 8
UTILITY MARK UPS

PROPOSED 6" HDPE 317 LF

6" PVC TO BE REMOVED 477 LF

PROPOSED 6x12x7' MANHOLE TO REMAIN

6x12x7' MANHOLE TO BE REMOVED
UTILITY CONFLICTS

Project Plan View

Conflict?

18” Drainage

30” Water
BRIDGE PLANS – TEMPORARY CRITICAL WALLS
BRIDGE PLANS – PILES (including test piles)

Diagram of bridge plans showing piles and installation criteria.

**LEGEND:**
- ○ Indicates approximate location of existing 18” square prestressed concrete pile.
- ● Indicates approximate location of existing 18” square prestressed concrete pile battered in direction shown. For approximate batter, see existing bridge plans.
- □ Indicates proposed 24” square prestressed concrete pile.
- □ Indicates proposed 24” square prestressed concrete test pile.
- ◊ Indicates approximate location of SPT borings, for boring data, see sheets B1-3 thru B1-6.
- — Indicates location of temporary critical wall, for temporary wall information, see sheets BW-3 thru BW-5.

**INSTALLATION CRITERIA:**

<table>
<thead>
<tr>
<th>Pier or Bent Number</th>
<th>Pile Size (in.)</th>
<th>Nominal Bearing Resistance (tons)</th>
<th>Nominal Uplift Resistance (tons)</th>
<th>Minimum Tip Elevation (ft)</th>
<th>Test Pile Length (ft)</th>
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<tbody>
<tr>
<td>End Bent 1</td>
<td>24</td>
<td>225</td>
<td>0</td>
<td>SEE NOTE 5</td>
<td>80</td>
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<tr>
<td>Pier 2</td>
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<td>225</td>
<td>0</td>
<td>SEE NOTE 5</td>
<td>80</td>
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BRIDGE PLANS – PIER FOUNDATIONS

**Typical Pier Elevation**

**Footing Plan**
BRIDGE PLANS – TEMPORARY CRITICAL WALLS
**STEEL SHEET PILE WALL, CANTILEVER DATA TABLE**

### CONSTRUCTION INFORMATION

<table>
<thead>
<tr>
<th>WALL LOCATION</th>
<th>MINIMUM * SECTION MODULUS (in³/ft)</th>
<th>MINIMUM REQUIRED MOMENT OF INERTIA (IN²/FT.)</th>
<th>MINIMUM WALL TIP ELEVATION (FT.)</th>
<th>WALL TOP ELEV. (FT.)</th>
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<tr>
<td>STATION (BEGIN TO END)</td>
<td>A-328 (ksi) f_y=39 ksi</td>
<td>A-572 (ksi) f_y=50 ksi</td>
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<td><strong>OFFSET (FT.)</strong></td>
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<tr>
<td><strong>TSW1</strong></td>
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<tr>
<td>2474+13.26 TO 2474+23.84</td>
<td>35.52 RT. TO 1.11 RT.</td>
<td>16.28</td>
<td>12.70</td>
<td>62.61</td>
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<td>62.61</td>
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<td><strong>TSW2</strong></td>
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<td>2475+18.32 TO 2475+28.45</td>
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*MINIMUM SECTION MODULUS IS BASED ON HOT ROLLED SECTIONS. FOR COLD ROLLED SECTIONS, INCREASE MINIMUM
Roadway Construction

Utilities lying within the horizontal limits of the project and within 12 inches below the ground surface or the excavation surface on which the Contractor operates construction equipment, or within 12 inches below the bottom of any stabilizing course specified in the plans.
Utilities lying within the normal limits of excavation for underground drainage facilities or other structures. Such normal limits shall extend to side slopes along the angle of repose, as established by sound engineering practice, unless the Contract Documents require support of the excavation sides by sheeting or the Contractor elects to sheet such excavation for his own convenience.

Illustration of OSHA’s requirement for sandy soils. 1 ½ /1, Horizontal /Vertical. The Red line is for the structure, the Blue line is for the pipe.
Questions?
Answers?
Further Discussion?