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**From:** Mantych, Timothy  
**To:** Sukys, Raymond (FTA)  
**CC:** Luu, Catherine (FTA); Matley, Ted (FTA); Tsiforas, William; Tahir, Nadeem (FTA); Carranza, Edward (FTA)  
**Sent:** 4/27/2010 10:59:26 AM  
**Subject:** RE: Test piers  
**Attachments:** Geotechnical Planning Report 14.pdf

Ray – Per your request, I offer the following information:

· **Description of the activity and why needed at this time;**

The City has authorized Kiewit to begin the geotechnical boring program under NTP #1B. This work is necessary to support the Interim Design stage, as defined in Special Provisions 4.7 (h) of the WOFH DB Contract. The City intends to authorize Kiewit to complete installation of Demonstration Shafts and Load Test Shafts since they consider this work to also be within the bounds of New Starts PE as defined by Federal Register Volume 72, No. 12 dated January 19, 2007. Following is a summary description of the work activities for Demonstration and Load Test Shafts:

- Demonstration Shafts – These shafts are used to help determine optimal installation methods and refine design criteria. They are typically utilized following completion of the initial subsurface exploration program. Installation methods are developed based on preliminary data obtained from the program and the characteristics of the proposed drilling equipment. Demonstration Shafts are installed in various locations along the segment where the subsurface conditions may vary. The Demonstration Shafts assist the designers in determining, for example, whether the production shafts will require permanent casing, and if so how deep. Such information is used to refine the design parameters. These shafts are sacrificial (abandoned below grade) and are not incorporated into the permanent guideway structure.
- Load Test Shafts – These shafts are installed once the Demonstration Shaft installation has been completed and approved within a section of the guideway segment. These shafts are installed, statically load tested, and abandoned below grade. They are sacrificial and are not incorporated into the permanent guideway structure.

The value of these activities is \$3.5M, which is based on nine (9) Demonstration Shafts and nine (9) Load Test Shafts. However, the City and Kiewit are discussing the need to complete only three (3) Demonstration Shafts and eight (8) Load Test Shafts. This would result in a net savings of \$1M. It is anticipated that this work would begin in late May or early June 2010.

· **Identify locations, grantee/contractor knowledge of area;**

The attached PDF provides the location (station and offset) of each proposed Demonstration and Load Test shaft.

Test borings will be completed at each of the proposed locations where Demonstration or Load Test Shafts are planned. The subsurface conditions will be relatively known based on the exploration program but would be confirmed by the Demonstration and Load Test Shaft program.

· **PMOC's opinion that this is a PE item;**

It is the opinion of the PMOC that these Demonstration and Load Test Shafts meet the criteria for preliminary design activities outlined in Federal Register Volume 72, No. 12 dated January 19, 2007 since the data will be used to complete the Interim Design stage. Further refinement of the drilled shafts would occur during Final Design (i.e. reinforcing requirements, drilled shaft to column connection, installation details, etc.) upon authorization from the FTA.

· **Describe how the mobilization will look;**

Kiewit intends to mobilize three drill rigs, all of which will be shipped from the mainland. Mobilization is anticipated to take 30-60 days from NTP.

· **Possible mitigations or work-arounds; and,**

Three of shafts will be on Department of Land and Natural Resources (DLNR) property. DLNR is concerned that all environmental issues have been cleared prior to providing right-of-entry. PB is preparing a white paper stating there are no

issues and that a categorical exclusion is not required for this work. It is anticipated that this white paper will be provided to DLNR this week.

· **Anything else that you think is relevant.**

I was informed yesterday by the City that they intend to issue NTP #1C to Kiewit by the end of this week or early next week. However, the City indicated that NTP #1C would not be issued until all permits are received.

The City will issue NTP #2 once the Record of Decision is issued.

I hope this helps. Please let me know if you have any questions with this information.

Thanks,  
**Timothy L. Mantych, P.E. (MO, IL)**  
**Jacobs**

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-----Original Message-----

**From:** Raymond.Sukys@dot.gov [mailto:Raymond.Sukys@dot.gov]

**Sent:** Tuesday, April 27, 2010 12:18 PM

**To:** Mantych, Timothy

**Cc:** Catherine.Luu@dot.gov; Ted.Matley@dot.gov; Tsiforas, William; Nadeem.Tahir@dot.gov; Edward.Carranza@dot.gov

**Subject:** Test piers

Hi Tim,

HQs is considering whether to go to the Administrator about the 6 test piers.

We need the following information (concise, by e-mail) from the PMOC:

- Description of the activity and why needed at this time;
- Identify locations, grantee/contractor knowledge of area;
- PMOC's opinion that this is a PE item;
- Describe how the mobilization will look;
- Possible mitigations or work-arounds; and,
- Anything else that you think is relevant.

Something by tomorrow morning would be great.

Ray

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