Illinois Department of Transportation
Office of Highways Project Implementation / Region 5 / District 9
P.O. Box 100 / Carbondale, Illinois 62903-0100

To: File

From: Ben Wills

Date: May 28, 2025

Subject: Pre-Bid Meeting

Contract: 78985

Route: IL 13 / FAP 331

Section: (12-1) SLP-1

County: Jackson

Job No: C-99-030-23

Project: N/A

Project Description: Slope repair on SN 039-0075 carrying IL 13 over the Big Muddy River east of IL 127 in Murphysboro.

On May 28th, 2025, a Pre-Bid Meeting was held at the IDOT District 9 Office with the following personnel present:

- **SEE ATTACHED ROSTER**

Assigned personnel for this contract will be as follows:

- Resident Engineer: Luke Estel
- Field Engineer: Ben Wills

The meeting was convened at 10:00 AM, an attendance roster was distributed, and introductions of attendees were made.

Ben Wills (IDOT Construction) presented the Description of Work.

Ben Wills (IDOT Construction) indicated that per the Special Provisions, a SARS will be required if equipment is to be placed on the structure.

10:04 AM, The meeting was open for discussion:

Ben Wills opened the meeting, describing the general project and noting the intent of having a pre-bid to openly discuss the unique aspects of the project and allow contractors to ask questions about the plans and specifications. Ben noted stability monitoring during construction, permanent monitoring after construction, 121 large-diameter open-ended pipe piles, 60-in diameter with minimum wall thickness of ½", superstructure removal and associated tight windows for pile installation and relatively small site constraints. Finally, Ben noted the specs allow for some flexibility with respect to installation, including impact driving, vibratory hammer driving, or other proposed methods. Following this, it was stated that a Structural Assessment Report (SAR) would be required if the Contractor intends to place equipment on the existing bridge.

Jim Jones (E.T. Simonds) requested elaboration on the proposed methods for installation of the pipe piles. Page 8 of the Special Provisions was referenced indicating (3) preferred methods. Aaron Hayes (IDOT District 9 Materials) provided a general response that a failure plane exists below the west embankment, with rock around 88' feet deep, and a layer of 20' of dense sand over that and about 45' of very soft soil over that to the top of the riverbank. The embankment and bridge continue to move. Andy Boeckmann, Dan Brown and Associates (DBA) added that based on further geotechnical investigation and analysis, including a significant amount of instrumentation to monitor movement and placement of piezometers to determine artesian pressure, etc. – several options were investigated, and large diameter pipe pile were chosen as the most feasible solution to address the slide. There is no measurable

movement on the east embankment except for a small bank failure, but it was decided to incorporate a similar solution as a safety measure due to unknown potential of future sliding and marginal existing computed factor of safety.

Contractors are advised to review the geotechnical report and additional information that will be provided on the IDOT letting website, specifically the piezometer data noting the hydraulic head being approximately 2' above the working platform of the riverbank due to artisan pressure and recent inclinometer readings illustrating continued movement of the embankment.

Casey Teckenbrock (IDOT District 9) described the general history of the bridge movement, including movement of pier 4 shifting towards the river, failure of the bearings and anchor bolts and the piles being overstressed. The west abutment has not experienced movement, likely because of a structural anchorage system that was installed with the 2013 construction. The emergency shoring pier was constructed as a "catch" should a failure occur at pier 4. There is a ¼" gap between the bearing plates and the bottom of the girders. To date, there has not been vertical movement to close the gap for the bridge to bear on the shoring pier.

Contractors are advised to fully review the plans and specifications. The Large Diameter Pipe Pile special provision was discussed, specifically the installation requirements described in the section Penetration of Pile. Impact and vibratory installation methods are mentioned, however there is flexibility in the installation methods. Other examples mentioned include oscillating, rotating, etc.

Means and methods will be by the contractor. General challenges discussed include installation of piles in the area between the bridges, equipment on the bridge, crane reach, potential construction of a temporary support buttress, stability during construction, etc. It is the contractor's responsibility to determine how the pile will be installed.

Jim Jones (E.T. Simonds) discussed the removal of material and how the stockpiling of said material and the weight of equipment could contribute to bank failure. Jim also discussed the effect of vibration on the failure plane and how this potential may affect the sequential or randomized driving of the piles. Aaron Hayes stated that prisms and inclinometers will be monitored weekly (continuously). See page 5 of the special provisions. The contractor may set up over an installed pile as noted in the plans. All are precautions as safety measures to limit impacts to the embankment. Material will need to be hauled offsite. It was noted that a vibratory method was used to install the casing for the drilled shaft for the emergency shoring project and there was not any movement observed during this installation process. The installation plan should be prepared in accordance with the plans and specifications and submitted for approval.

Jim Jones (E.T. Simonds) sought clarity on the contractor's responsibility to monitor movement. A section in the special provision for Large Diameter Pipe Pile, page 8, under "Installation Equipment", section c Vibratory hammer states: "The Contractor shall monitor the effect of vibrations during driving to verify no settlement or horizontal movement…" Question - Will the contractor need to monitor or is the to be completed by IDOT? Answer - It is clarified that IDOT will complete all the instrument monitoring,

and the contractor will not need to provide measurements or instrumentation. IDOT and contractor's field personnel should be aware of potential movement and keep their eyes out for visual distress at the site as referenced in the special provision Stability Monitoring During Construction.

A question was raised regarding the special provision Stability Monitoring During Construction. The Basis of Payment notes "…. If the Department requires a temporary work stoppage due to movement or other safety concerns, the Department will evaluate whether compensable delay costs shall be allowed." Contractors expressed concern that this could result in significant costs with equipment, labor, material, etc. including an unknown duration of stoppage. If the Department approves the installation plan, and movement occurs due to slope instability, a work stoppage resulting from movement may be out of the contractor's control. Answer - should the Department stop the work due to meeting the movement allowances in this special provision, the compensable delay costs will follow the procedures outlined in the BDE special provision titled "Compensable Delay Costs". This special provision is included in the specifications. Work stoppage due to meeting the movement allowances shall be considered the same as a conflict with a utility in an unanticipated location.

It was noted that the embankment is actively moving based on recent instrumentation, resulting in a theoretical factor of safety of 1.0 or less. Movement and stability are not predictable, and monitoring will be completed by the Department to provide direction as needed. IDOT is in the process of installing prisms.

Brian Dorris (Samron Midwest) inquired about other large diameter pile projects and were they used for slope stabilization, Aaron Hayes (IDOT Materials) indicated that other jobs were performed in District 8, however the primary purpose was not slope stabilization.

Doug Helfrich (IDOT District 9 Project Implementation Engineer) inquired about the immediacy of improvement after the individual piles are driven. Paul Axtell (DBA) replied that no study was done on prior jobs to indicate the degree of improvement.

A question was asked by Brian Dorris (Samron Midwest) about the ½" pile wall thickness, expressing concern this may be thin to drive into and through rock. Answer: Paul Axtell (DBA) explained that the ½" wall thickness is a minimum and based on the flexural strength required for lateral bending. The installation criteria are defined in the special provisions (page 9, LDPP, Penetration of Piles, items a though c). A specified axial bearing resistance to be verified during driving is not required for this application, i.e., a "giant" hammer to drive and prove the piling is not anticipated to meet the installation criterion. It was noted that the drilled shaft for the previously constructed emergency shoring was installed using a ½" thick 60" diameter casing, with a vibratory hammer, and one casing experienced crushing. For the slide mitigation application, some crushing of the pile at its toe to achieve the tip elevation would be acceptable. The contractor may increase the wall thickness in their bid costs if they choose to do so. It was reiterated that the goal is to embed the piles approximately 20 ft into the sand beneath the critical shear surface, which roughly corresponds to the top of bedrock.

Brandy Maes (IDOT Bridges/Hydraulics) informed all that additional docs (Existing Structure information, Geotech Report, etc.) are forthcoming and will be included on the IDOT Transportation Bulletin.

Aaron Hayes discussed Removal and Disposal of Regulated Substances (see special provision). It would be acceptable to dispose of on ROW however, there is not an area to do this for this project and the material should be removed immediately. Contractors should assume this should be hauled off-site.

A question was asked about the weld detail for the piling. i.e., if a ring should be placed on the inside and welded to the pipe pile with a fillet weld all around. Answer - This was reviewed, and the weld detail is a standard detail for large diameter pipe pile with the intention of meeting the full section capacity of the pile. If additional welding is required for constructability, it would be considered means and methods and no further compensation would be allowed.

Question about the quantity for furnishing and driving pile, including the furnished length for pile driven through the deck. Answer - The furnished length was estimated to account for lack of subsurface information outside the bridge area. There will be no allowance for additional length of pile that may be required to drive the pile through the deck.

The Structural Assessment Report was discussed in general. Requirements are detailed in the special provision.

A question was asked if a SAR is required for concrete removal of the deck. Answer – this depends on the means and methods and loads placed on the bridge. The requirements are described in the special provisions. Contractors should review the special provision to determine if a SAR is required for any construction operations including pile installation, deck removal, deck replacement, etc.

A question was asked about the bridge diaphragms and if they could be temporarily removed if required during pile installation. Answer - if a diaphragm is to be temporarily removed, a SAR would be required to determine impacts to the bridge.

Rob Stanley (CW3M) indicated that Type A1 soil would need to be taken to a landfill for disposal as well as time periods for obtaining permitting for disposal of soil/materials.

Ben Johnson (IDOT Utilities) discussed the presence of (2) fiber optic lines that would require relocation.

Ben Wills (IDOT Construction) discussed lead times on piles.

Question – the deck reinforcement is epoxy coated. If the bar coating is damaged during deck removal, will the coating need to be replaced? Answer - Yes.

Question – is a Bidwell required for the concrete superstructure that will be replaced? Answer - A vibratory screed will be allowed on this project due to the short length of pour.

Shape array – no questions.

Decorative Fence and Railing – no questions.

Lighting / conduit – no questions.

No further questions or discussions were presented; meeting adjourned at 11:22 AM.