

**Garrard/Mercer Counties
KY 152 Bridge Replacement
Kennedy Mill Bridge over Herrington Lake
Item No. 7-1116.00
Mandatory Pre-Bid Conference Minutes**

A Mandatory Pre-Bid Conference was held on Friday, March 10, 2017 at 10:00 a.m. at the Kentucky Transportation Cabinet's District 7 Office, 763 West New Circle Road, Lexington, Kentucky. The subject project is the replacement of the existing Kennedy Mill (KY 152) Bridge over Herrington Lake. Ananias Calvin III opened the meeting and welcomed everyone to the Conference. Mr. Calvin read from the letter that accompanied the proposal to remind all present to sign the official roster of the conference meeting. The letter stated that any company that would be submitting a bid for the bridge project must have a representative at this pre-bid meeting. This representative must have sufficient authority to bind the company. Bids submitted by ineligible companies will not be opened. Mr. Calvin asked that employees of the Kentucky Transportation Cabinet and the project consultants to stand and introduce themselves to all in attendance.

The following is a list of the contractors in attendance:

Richard Hentzer	C. J. Mahan Construction
Mark Dickerson	Massman Construction Company
Tanner Genenbacher	Massman Construction Company
Joel Covitz	PCL Civil Constructors
Taylor Taluskie	Terracon
Joel Halterman	Walsh Construction
Meredith Oder	Walsh Construction
Michael Merida	Kay & kay Contracting
Ryan Kendall	Marine Solutions, Inc.
Doug McCrae	C. J. Mahan Construction
William G. (Bill) Praderio	Massman Construction Company
Phil Crump	Mago Construction
Vincent Lemieux	The Allen Company
Don Wilkins	Marine Solutions, Inc.
Tyler James	Case Foundation Company
Dan Kessinger	Michael Baker
Michael Sharp	GRL Engineer
Paul Larsen	Thelen/Geotechnology
Jason Stith	Michael Baker

The following is a list of employees of the Kentucky Transportation Cabinet and employees of the project consultants in attendance:

Brandon Lowe	WMB Inc.
Ed Odell	WMB, Inc.
Darrin Beckett	KYTC C.O. Geotech

Casey Smith	KYTC D07 Highway Design
Daniel Kucela	KYTC D-7 Structures
Ryan Gossom	KYTC C.O. Construction
Matt Simpson	KYTC D-7 Branch Manager for Project Delivery & Preservation
Robert Johnson	KYTC D-7 Richmond Section Supervisor
Robin Sprague	KYTC D-7 Branch Manager for Project Development
Rick Holman	KYTC D-7 Richmond Section
Ananias Calvin III	KYTC D-7 Highway Design
Adam Crace	Stantec
Derek Adams	KYTC D-7 Environmental Coordinator
Josh Rogers	KYTC C.O. Structural Design
Daryl Greer	KYTC C.O. Geotech
Randy Crawford	KYTC C.O. Structural Design
Bill McKinney	KYTC C.O. Structural Design

Meeting discussions and questions are as follows:

- 1.) Derek Adams reported that the asbestos inspection of the existing bridge has been completed. The letter of confirmation of the inspection is included in the proposal packet. Inspection of lead paint will be required before demolition of the existing bridge.
- 2.) Mr. Adams also discussed the Special Note for Interpretive Sign Installation. He has seen the panels. They will be installed in the ground (about 2 feet deep) rather than base placed installation. Instructions for both forms, however, are also included in the special note. The signs are being stored at the Garrard County Maintenance Facility rather than the Mercer County Maintenance Facility. The Garrard County location is more efficient delivery to the project site.
- 3.) Mr. Adams presented a map identifying trees that must be removed. All trees to be removed must be on the ground by June 1, 2017. Handouts of the map were available to all conference attendants.
- 4.) The NW permit will expire on March 18, 2017. The Corps of Engineers are in the process of renewing the permit. The new permit will be provided to the contractor. If there are changes or problems, the District will notify the contractor.
- 5.) Ed Odell also made mention of the Special Note for Work on Herrington Lake. Traffic will be maintained on the existing bridge throughout construction. Further, traffic on the lake itself will also be maintained during construction with exception during temporary periods when closure is required. In previous meetings, the Cabinet required that a portion of the lake will be open to traffic 24/7 with a minimum width of 100 feet. However, subsequent discussions indicated an adjustment is necessary. The Cabinet and consultants will meet to discuss this issue and an answer will be provided at a later date. The vertical clearance should be 16-18 feet above the summer pool. In addition, in previous meetings access to the lake would be available through the use of the Kentucky Utilities ramp. However, it has been determined that an agreement will be necessary between the company to receive the

contract and Kentucky Utilities. Mr. Calvin will have the contact information for the Plant Manager which will be posted on the Construction Procurement Website.

- 6.) The existing structure is an old truss structure built in extremely deep water. The tallest pier is over 200 feet tall which is in serious distress at this time. It is very important that this fact is under consideration at all times during construction of the new bridge. The contractor shall not use the existing structure for construction equipment tie-downs nor should any work be done near the piers. Due to the condition of the existing bridge, the Cabinet is utilizing vibration monitoring in order to protect the piers.
- 7.) Darrin Beckett presented a power point presentation to discuss the drilled shafts. He summarized the subsurface conditions (limestone interbedded with shale bedrock), bridge foundations, special notes, cavities and testing and monitoring.
- 8.) Mr. Beckett reported that there are small voids in the upper 20 feet of bedrock with rather minor karst features. The contractor should also be aware that 100 feet of casing is in the lake but the exact location has not been identified. It may be located where the shafts are to be drilled. It was also noted that during a drilling operation, a piece of the drill fell into the lake and the technicians were unable to retrieve it.
- 9.) There are drilled shaft foundations in Abutment 1, Pier 1, and Pier 2. The drilled shafts in Pier 1 will be the big challenge. There are spread footing foundations in Abutment 1 (the two wings) and Abutment 2.
- 10.) Special Notes for Drilled Shafts, Non-Destructive Testing in Drilled Shafts, Vibration monitoring and for Work on Herrington Lake are in the project's proposal.
- 11.) We are anticipating a relatively small amount of cavities. Envisioned excavating past the cavity and filling the rock socket with concrete. Concrete will be paid as cavity stabilization (Cu. Yd.). Once filling the cavity with concrete then go back and re-drill through. Payment will be made for re-drilling in LF.
- 12.) Concerning testing and monitoring, we will require a Shaft Inspection Device (SID or Mini SID). This work is incidental to the drilled shafts. This is expressed in the special notes for drilled shafts. There is Crosshole Sonic Logging (CSL) and Thermal Integrity Profiling (TIP), which are two different methods of integrity testing for drill shafts. These two methods should be in conjunction with each other. There is Sonar Calipering and Video Inspection. There is also vibration monitoring on the existing bridge because we are concerned about its condition. There are special notes for vibration monitoring. All pre-construction surveys, etc. should be included in the vibration monitoring. This is a lump sum item and includes everything that is addressed in the notes.

- 13.) Also with the Shaft Inspection Device, you will need to access the top of the shaft using the SID to check the bottom for cleanliness and look for vertical karst features at the bottom. This is not a separate pay item, but is incidental to the Drilled Shaft.
- 14.) The Special Note for Non-Destructive Testing in Drilled Shafts involves Sonar Caliper Testing to detect cavities, evaluate verticality, and provide a profile of the rock socket. In addition, Video Inspection to view rock sockets, casings, etc. is required. It involves Crosshole Sonic Thermal Integrity Profiling to further evaluate the integrity of the drilled shafts within the reinforcing cage and to the edge of the shafts. (This method requires embedded sensors, which we believe will provide better data.) These are separate pay items in addition to the drilled shaft installation.

Question: At the last meeting there was discussion about the intermediate bracing. It was determined that there would be some latitude to the actual details shown in the plans versus what the contractor would like to do. But to obtain the intent, there was no change in the language. Will it be allowed to submit something after the fact that will provide same results?

Answer: The Cabinet is leaning toward concrete bracing due to future maintenance inspection to be reduced. If we were to allow something other than the reinforced concrete bracing system, it could prove to be troublesome in the future. The Division of Maintenance has been consulted. It is possible an alternate steel bracing system may be suggested. However, it is not preferred because of increased inspection costs in the future.

Question: If we use reinforced concrete bracing but then find the need to veer from the details that are shown for the precast collar slabs, would it be acceptable to submit them afterward?

Answer: The Cabinet would consider that option. However, we would prefer to consider it after the contract has been awarded. To answer, we would be open to that option.

Question: As a follow-up question, if an alternate collar or bracing was proposed, would that be handled as a Value Engineering to the Cabinet?

Answer: The Director of Construction is the only one to decide on value engineering with one of the key factors being that these options have not been discussed previously in the Design Phase. It would be necessary to meet all processes and that decision would be made by the Director. It is difficult to determine at this time, however, the Specification Book provides the processes.

As a follow-up, this answer was correct under the 2008 Specifications. However, that changed in 2012 and we would now consider that possibility even if the team previously had considered it.

Question: What is the purpose of the studs on the casings? What are they there for?

Answer: They are to develop the moments and shears, basically the bracing forces that are being transmitted from the shaft in addition to the dead weight of the platforms themselves. The design is set up that we have a redundant system particularly for carrying the dead weight. The dead weight is obviously a major, major portion of the design connection strength. The purpose for the adjacent resonant studs, not studs, brackets are for two purposes. They are set up as a stop replacing the soffit slabs as you bring them down to provide something to rest them on while you are getting everything adjusted. Secondly, they are also designed to carry the full dead weight of the slabs in addition to the studs. The studs are designed to carry those also. We have a redundant system, however, if one fails in some way, we have another to take over. During the construction process there will also be a redundant system because the brackets are in place to hold the dead weight. Once everything is secured and in place when the hangars are released, there will be a redundant system for the shafts.

Question: Regarding the drilled shafts at Pier 1 and regarding the Special Note 3.2.5 addressing permanent casing and particularly field welds, the proposal states that approximately 33” of the length of all pipe welds will be NDT tested. It also states that once the testing has been completed and submitted to the Cabinet in digital form, the Cabinet will have 5 days to review and accept. Depending on which configuration that the pipe is being welded in the horizontal or the vertical position that seems like a long time. Would you consider to review in a shorter period of time?

Answer: The 5 day limit was set in order to allow enough time for our contract for welding consultant as well as the engineering staff to review the digital forms. Five (5) days was to allow appropriate time should that be necessary. We should be able to turn around more quickly but we need to allow time for our consultant to review them.

Question: Regarding the permanent casing, the proposal states we are to space all the field welds for permanent casings a minimum of 60 feet along the length of the casing. That can be troublesome depending upon what length the casings can be feasibly and logistically delivered to the lake as well as what the ultimate casing length is depending the lake level. Whether the pieces are delivered in 30, 40, 50, 60 feet lengths, it will be a big problem to make splices at 60-foot minimums. Am I interpreting that correctly – you cannot have a splice at 35 foot intervals?

Answer: No. I think the 60 feet was originally set so that no one would bring a 180 foot shaft in one length. We were trying to keep them at a reasonable shipping length. You could bring an 8 inch diameter shaft in one place, in one piece at 8 feet. Anything bigger would have to be split. The 60 feet was set in order to provide an idea of what length can be brought on site. There is no reason why, if your welds meet minimum specifications, that you could not have one at 40 feet. However, the more welds you have, the more alignments you have. It will bring more problems to keep everything lined up and plumb. There is nothing from a design standpoint that limits you.

Question: Are shear studs there to make the shear moment connection? Is that moment connection necessary for bracing the column?

Answer: Yes. In addition to some lateral bracing forces, because of the jimmy of it, you also have some moment transfers.

15.) The letting date is March 24, 2017.

16.) The fixed completion date is November 29, 2019

17.) Daniel Kucela discussed a new Special Note that has been added to the project proposal. It contains information about the necessary repairs to the existing bridge that will need to be done at the beginning of the project – 13 repairs are necessary. The list is not exclusive. This structure has an annual inspection and one will be in August. When these repairs are completed and if any other repairs are deemed necessary after the annual inspection, the Cabinet will request additional maintenance or repairs. All details are in the proposal with the exception of one. There is a girder repair that needs a plate placed on the bottom with an anchor on each side – a simple sandwich splice.

Question: As far as the existing bridge, are there additional plans that detail existing member sizes that you can calculate a weight of the existing truss? The plans that were posted showed some existing detail, but did not show member sizes of the truss. There was not a way to get the weight of the members from the plans that were posted.

Answer: We do not have anything else that may show the member sizes. You will need to take measurements in the field to get member sizes to determine the weight.

Question: So, there are no as-built drawings that show the size of the members of the truss?

Answer: Apparently not.

18.) Matt Simpson stated that a special note indicated the possibility of lane closures. He believes we will need to close the structure for repairs. This needs to be discussed, determine a time frame and how much time will be needed for the initial repairs and closure. We will establish a time for repairs and length of closure.

Question: Is there a specification given for the form liners?

Answer: They are on Page 2 of the General Notes. The note for the retaining wall is not on the plan sheet. It is in the CAP. It is the intent that the form liner be the same as that on the abutment on the Garrard County side. Use the same specifications that are on the bridge in the bridge notes.

19.) A special note was included for the web camera construction monitoring system. There are 3 cameras that will be set up, one on each side of the bridge and one in the middle. These

cameras can be moved during the period of the construction project as determined by the field engineer.

20.) Every question that has been sent in prior to the Pre-Bid Meeting will be answered and put on the Construction Procurement website. All questions that have been asked at the Pre-Bid Meeting will be in the minutes. The list of everyone who signed in at the Pre-Bid Meeting will also be available on the website.

Question: At the last meeting there was discussion about the bridge demolition in regard to the elevation 635 and what the pier can be taken down to. There was also some brief discussion about the steel of the truss and whether it can remain in the lake. Are there any further thoughts on that?

Answer: As far as the demolition of the existing piers, it has been brought up to within 50 feet of the winter pool elevation which is about the depth that the temporary cable was done for drilling. As far as leaving the remaining portion of the steel, dropping it into the lake and leaving it there – that is an environmental issue. I imagine there is quite a bit of lead paint on the old steel. I would assume they would prefer not to drop it in the lake nor to leave it in the lake. Remove it and demolition it off-site.

Question: Did the note say that it cannot be dropped in the water?

Answer: No, it does not say that. Historically on these projects if they are dropped into the water, the Division of Water will ask if we can remove them as quickly as possible. I do not think we want to leave the steel in the water. However, the lead paint should be remediated prior to dropping them into the water.

Question: I thought that had more to do with clearance. There is steel falling into the water every day.

Answer: It may have more to do with clearance. But if you leave the steel in the water, it deteriorates and rusts. This is a recreational lake.

Question: We have concerns about the estimate for the project. In looking over the program for the project, it appears that \$20,000,000 is for construction and that figure includes other fees for design or inspection. That figure (\$20,000,000) seems low for this project. Has the Cabinet evaluated or updated that figure since the STIP was published?

Answer: From the start of this project the construction funding has been increased. I believe the beginning figure was about \$8,000,000. We also looked at leaving the deep water pier in place, but that changed because the pier needs to be replaced.

Question: I think with the amount of equipment and unique resources that will need to be brought in to build the project, these are tough things to be put into an independent estimate. In fact, it had been requested to have a separate mobilization item for the marine based equipment to be higher than the standard mobilization. Equipment valued over a million dollars will be

required because this is not your typical bridge construction project. If the Cabinet has a budget and the bid comes in 50%-100% higher than what is in the budget, what is the next step?

Answer: That decision will be made at the Central Office in Frankfort. If the bids are not acceptable, then the project may be let again. There is an Engineer's Estimate which we have not seen and it would be on that basis whether to accept a bid or not. I do not think the STIP is a basis for accepting or rejecting the bids. It is up to the Engineer's Estimate and the review committee. No one else is privy to the Engineer's Estimate. If what you say is true, perhaps they may revise the estimate higher. The Cabinet's leadership will establish if there is funding in the program that can be applied to this job. That decision will be made by Central Office.

Question: In follow-up, because of the uniqueness of this job and the special equipment needed, an Engineer's Estimate cannot be developed from previous bid prices or recent bid prices because of the logistics and the challenges at the site location and the depth of the water. It is important that we have an understanding that there is some type of reasonable analysis on the Cabinet's part to recognize the cost. It is a huge effort to go through the bid process for nothing.

Answer: It is more than taking numbers off of previous bids, they do more than that. We do not know what the estimate is. We do not know everything that has been considered when an estimate is prepared. I do know more is involved than pulling numbers from previous bids. We will relay your concerns to Construction Procurement.

Question: I would like to sound the alarm and mention the unique work and difficulty to price this project even for those of us in this business.

Answer: Because this is an unusual and complex project, it is possible the Engineer's Estimate will be re-evaluated. If bids come consistently higher, the estimate may be reviewed.

Question: It was mentioned that the bid date was pushed but the end date remained the same. Will there be any consideration like a substantial completion date, or perhaps open the new bridge and the old bridge has not been demolished, and you have full use of the project at that end date?

Answer: That would be based by a special note in the proposal. Are you asking if that note can be revised? Are you asking that traffic be open on the new bridge at what is the completion date and through the winter months as an alternate, say April as an alternate completion month to have all completed. (Response was yes.) We will discuss and respond to that.

Question: In regard to Pier 1 and the casings...the Specifications say the casings are utilized in the design of the structure. Were the casings utilized in the design of the pier or is it solely the 8.5 foot diameter concrete shaft and the 8 foot sections?

Answer: The shafts were designed assuming that they were uncased. However, the casing itself is an integral part of the connection with the bracing platform. In respect to that statement, the casings are an integral part of the design. They were not included in the section properties for the shafts.

Question: They were primarily used, designed for the horizontal bracing...the collars?

Answer: Yes, other than that the casings are basically a form for the concrete. From an analysis standpoint they do not contribute to the structural strength of the shaft.

Question: Can we change the keys and thickness if we think it is possible?

Answer: No, we need a 1 ½ inches for the shafts. Plus as long as these are, I cannot imagine you would want to use any casing thinner than that.

Question: Is there a time frame when questions will not be answered?

Answer: The cut off time will be Thursday afternoon before the letting date. That will be the latest we will post answers. Keep in mind that much is required to get answers, especially complex questions. We will make every effort to post answers but it may not be answered before the cut-off deadline.

Conference was then dismissed.



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March 10, 2017 at 10:00 AM

Kentucky Transportation Cabinet ~ District 7 Office ~ Large Conference Room

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CABINET EMPLOYEES

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