Minutes of
Pre-bid Meeting
Project No. STPC/E-6-7(114)
C.N. 20581
Call Order F03

KARL FREDRICKSON: We are here for the Pre-bid Meeting on Project 6-7(114), Control No. 20581, 198th Street Skyline Drive in Omaha, July 15, 2002, 10:03 a.m.

We have several people here with the Department of Roads, our District 2 Office, our Construction Office and our Bridge Design. Roadway Design is represented to answer any questions. With that, I think I will turn it over. Doctor Tadros has a short presentation, he'd like to make on the bridge designs. I'll turn it over to Doctor Tadros.

DOCTOR MAHER TADROS: Good morning to everyone. We are getting to the computer set up here, so give us a second.

FREDRICKSON: Excuse me for one minute. Anybody who hasn't signed in, please do so at the door. That will be recorded in the file, so we know who attended. Also, we will try to get a transcript on our web site, probably towards the end of the week of the proceedings.

After Doctor Tadros' presentation, we can have some questions, or comments.

TADROS: Good morning everyone. I have with me Mr. Sun and Doctor Yehia with the University of Nebraska. You probably know Mr. Sun, the one here. If you would like, we could go through introductions very briefly here, so people could apply themselves.
_____.

FOUAD JABER: Fouad Jaber, I'm in Bridge Design.

TADROS: Fouad is the one who wrote the specifications or who is responsible for the specifications.

DENNIS BOYD: Dennis Boyd from the Bridge Office.

TADROS: Dennis Boyd did the design of the bridge, one of the bridges.

JOHN BAKER: I'm John Baker from Roadway Design with the Department.

FRANK BRILL: I'm Frank Brill, the Contracts Office-Construction Office.

CLAUDE OIE: Claude Oie, Construction Office.

MARVIN LECH: Marvin Lech, District 2 Construction Engineer.

JOE BARATTA: Joe Baratta, District 2.

FREDRICKSON: Karl Fredrickson with the Construction Office.

NANCY LOOS: I'm Nancy Loos with the Construction Office.

SAM FALLAHA: I'm Sam Fallaha with the Bridge Design.

_____: (inaudible).

_____: (inaudible).

LON ZIMMERMAN: Lon Zimmerman, Irving F. Jensen Company, Incorporated.

TIM GOLDSBERRY: Tim Goldsberry, Dobson Brothers.

DOUG MOHRMAN: Doug Mohrman, Concrete Industries.

MARTY MISFELDT: Marty Misfeldt with Luxa Construction.

BUZ HUTCHINSON: Buz Hutchinson with Wilson/Rinker.

DENNIS DREWS: Dennis Drews, Rinker Materials.

NOAL SCHINZEL: Noal Schinzel with Vrana Construction.

TED BUTLER; Ted Butler, Hawkins Construction.

JIM GREGORY: Jim Gregory, Hawkins Construction.

CURT SMITH: Curt Smith with Capital Contractors.

TADROS: There is more than one bridge on this project. The second one is a post-tensioned concrete girder with about 206 foot span. We don't have a slide presentation on that. I think Sam said we could get them to answer any questions that you might have on that.

At this time, maybe what I could do is go through the precast deck panel system that we have on one bridge. Then, we will open it up for discussion on this precast deck panel system and other structures on the project. If I don't have an answer, that's why I have my two Associates here. If we can't answer, then we will go to the alternate source. That is Sam and his two designers for an answer.

FREDRICKSON: Of course, John Baker on any other design features.

TADROS: Dennis Boyd is one that designed the bridge. The University of Nebraska (NU). NU bridge deck system follows on the NU I Girder, which was developed and adopted back in the early 90s and is now the standard product. We are hoping that NU deck will become the standard product for bridges. At this time, it is on an experimental bridges and we will see what happens. Evaluate the results after the bridge is built. It is called Innovative Bridge Research and Construction Program (IBRC) that has some small funding from the Federal Highway Administration in addition to the standard funding.

The outline of the presentation. Can you all hear me? The outline of the presentation will consist of planning of the bridge. Components of the system, that's the deck system. Description of the panel within that system. Some of the between panels, this year's in between panels, the open channel, construction steps. Of course, each one of the contractors will select

his own steps. We are saying that these are proposed steps that you could consider. There are some additional information on the plans that were handed out to you today.

Then, of course, the post tensioning procedure, which is done in the field.

This is a view of the bridge. It has 26 of what we call typical panels. Each one of these is a typical panel. It has two end panels. These are end panels.

The plan view shows a skew of 25 degrees. The whole bridge is about 200 and some feet long. Each one of these panels is about 8 feet by 60 feet and it has that skew.

The panels, of course, this overall view doesn't show a whole lot of details. Each one of these lines is a girder line. So, you have one, two, three, four, five girder lines. These double lines here show an intricate channel that is open for the girder lines, so this studs would come through and the post tensioning would be installed. Each one of these lines presents a shear key location for year around. Grout between the panels to make the deck continuous.

These are two half panels, if you will, eight foot wide by four foot wide were made by Rinker Materials early on in the program. To see how these would look like and we have just concrete blocks to represent the girders underneath. So, the components of the system consist of the panel, as I said these are two half panels just to show shear key between them. It shows the panel, the girder underneath and in this case, it's a steel beam girder, the shear key between panels that gets grouted. The open channel over the girder lines and an in curve that you could use to strike off the overlay against. There are some sleeves to attach the railing.

The steel post tension is not shown here, it will be shown later to keep later just to keep things simple.

This panel will come to you, it's just one individual panel. This panel will come to you from the precaster, either Rinker Materials or Concrete Industries. They are responsible for making it and all the details that go into it.

I'm just giving you an idea of what is in it. There's an option on the plans that tells you can have a prestressed panel or a precast nonprestressed panel. But in all cases, it's a precast panel. The reason we have for precast panel is because we want to take a shrinkage degree from the temperature drop out of the deck before it gets locked with the girder. We think that's a primary cause of cracking of the deck. So, that's the whole idea because we want to take the shrinkage out. We want to take creep out. We want to take the temperature drop as concrete cools off after it hardens as it initially sets. The column gets out before it is locked in with the girder. That's the idea. So, the panel, as I indicated, how long is it?

FOUAD JABER: Fifty-two feet.

TADROS: Fifty-two feet. It's eight feet on the skew. It's shorter than eight feet on the right angle. This is a prestressed strand or rebar. It's a little less than two foot spacing. This is number five rebar for temperature and shrinkage distribution. This tram gets put this way for pretensioning and precast. These open channels again are used to strengthen the post-tensioning cable through in the field.

This is a cross section of a panel.

The next few pictures show a panel being made at Concrete Industries. The second producer that could supply you with this panel. This is a full size panel. It's an exact replica of what you will see on the bridge. Again, this is the end with spirals in it to confine the strand and the prestressing. This is wood forming. Probably it is going to be steel in production of the panel. This is wood forming to form the open channels and the panel will come precrown for you.

Concrete placement. The panel has hardened now and they are ready to remove the strings, cut the strings and remove the panel. As the panel is removed, it forms the crown, the two percent crown. So, you would have a panel with a two percent crown.

Now here, we come to the areas that you acquire attention in the field. Panel to panel, you are having what we call sheer of key. This sheer of key has to be crowded before post-tension is done because the post-tensioning comes across this way in open channels and in pockets. It pushes the entire bridge lengthwise together in deep compression. So, this is a deck system that's decompressed both ways. So, hopefully, we will have, hopefully, we will see no cracks in it for a long, long time. So, keep our fingers crossed and see what happens.

This is the open channel over the girder line. We have selected one support system. You can use any support system you want. These angles are used with the precast stay-in placed panels. They're also used with a steel corrugated metal stay-in place panels. So, this is a popular system for support. At least, it's an existing system. But with this system, the two angles that fall on both sides are strapped together with a strap. It's like a saddle. This thing sits on top flange because it gets welded to the top flange. It gets welded together in the saddle, but it sits on the top flange.

About this angle, you could have some plastic shims for minor adjustments. But these angles would have the proper elevation that is needed to become camper in the beam and also, the dead weight of the deck itself. So, these should be fairly accurate. You would not want to make any adjustments after you lay the panels on.

This shows what post-tensioning strands are, 16 of them that get pushed from one end per pull, one of two ways and it anchors the ends.

Okay. We are saving possible construction steps because we are leaving this open. There are certain requirements, but we are leaving this open for you. You can use your ingenuity to construct this deck anyway you want to, as long as you meet the minimum requirements.

Determined elevations of steel support angles and installment. That's something that's done on a regular basis. I would include the weight of the panels. Make sure you have a roadway profile that's smooth and acceptable. Set the panels sequentially from one end.

We are telling you that you can use your construction equipment and we selected Catline 50 front-end loader because that was the information that was given to us by one of the contractors at an earlier meeting. It's a popular piece of equipment that is easy to rent. If you have another piece of equipment that you want to use, just get in touch with Department of Roads. They will tell you if there needs to be any adjustments. Actually, we will accommodate that by adjusting the design of the panel itself. We think just about any piece of equipment that you use will be okay. But unless you tell us, we will not know for sure.

So, the panels are installed sequentially from one end of the bridge right after another with two front-end loaders or forklifts that go from one end to the next.

After the bridge is totally installed, the deck is totally installed, the obvious key is and if I go back to slide number 10, the shear key is this one here.

To this one, here. Back to the first one.

TADROS: That's the transverse structure. That has to be grouted and cured. Before you go to the next step and that is the installation of the post-tension. Make sure the ends are fully sealed. You don't want to have that open channel blocked out with grout because that's where you will install your post-tensioning cable. Then install the post-tensioning and finally fill the open channel together with the overlay, separate from the overlay is your choice. It's the same material.

This is shear key, again, as we talked about the transverse joint.

We went ahead just a couple of weeks ago and built up the material over an open channel. It's just 50' x 8' x 8' wide to go over the process of post-tensioning itself. That's what we had in the construction lab. This does not present the panel. This represents his trip over a girder light. It's all made in one piece. We really don't have any of the transverse joints that would show up in the actual bridge. We built this just for the sake of demonstrating of how the post-tensioning looks like and how you do the post-tensioning. So, this is during the installation. You can see strand already pushed through. In your situation, you might want to consider renting or buying this what I call Chinese Fingers or it could be something else. It's a device that you attach to a bunch of strands and pull with a cable from the other end. So this way, you are pulling a group of strands. This is used just typically for post-tensioning end rods.

Here we have an open channel, which is a lot easier to see what's going on. But in close to that, this is one of the ways of stringing the cable through. This is an end. This truck looks big, it is bigger than what you will need because it's a reusable anchorage truck. The one time use, which is going to be used on the bridge is about two-thirds the size of this. But even with one with the increased used truck, we have no problem of fitting everything together.

The post-tensioning process begins with saying this is how we did in the lab, we think it's a good idea to do this. The tension is up 50 percent. Take all the sealing out of what we call "the dead end," which is the far end. Then start measuring the elongation from 30 percent to 100 percent tension. Then you measure that, the elongation to give you an idea about the prestressing pores that you are applying. You also measure the pressure on the fluid to give you a second idea and then you average the two. The post-tensioning equipment is very, very simple. It's something that you can do, your people can do. The jack is about 25,000 weight. You post-tension one piece at a time, one strand at a time. The bulk is very light weight and this is the pressure gauge that tells you what the force you are applying is. As we apply this force, we measure the elongation by marking this strand and then marking it again after we apply the force to see if the elongation matches the force that we want in this strand or not. Most of the pressure on the gauge itself will tell us whether that force is good enough or not.

You will notice the slight shortening of the entire deck. We expect that would be what about a half inch? A quarter of an inch on each side. Because when the deck receives that compression, it shortens it. So, you would need to be aware of that. You would want to have your supports. That's why you don't weld the support angles to the deck or girder. You would want to have the deck have some room to breathe because it is shortened.

That's the end of the dissertation. I will be happy to discuss any issues here. I've had other people help me out with the discussion. Any questions or comments?

JIM GREGORY: Jim Gregory of Hawkins Construction. Maher, do you anticipate any conflict with your reinforcing that goes across your girder line joints interfering with the stud? I'm looking at the setting procedure and you're wanting to set those type before you grout.

TADROS: Yes.

GREGORY: It looks like we got a bunch of rebar coming across your girder line splice and I'm not sure. I haven't looked at it to see what our splice spacing of our studs are, but they are generally spaced pretty tight. What type of thought process has been put in that?

TADROS: Did everyone hear what Jim asked? Okay. Dennis, you can help me out on this. It starts with our six inch spacing?

DREWS: Yes, those are accounted for, the spacing has been put in such that it will clear all of the prime reinforcements by a fairly good margin.

TADROS: So, there's no interference between the stud and transverse reinforcement. It was designed that way. So, the studs are placed in a way that they do not interfere with that transverse reinforcement. The reinforcement is at two foot spacing. The studs are at six inch spacing and they are made to miss each other. The strand goes on either side. That's not what, okay.

FOUAD JABER: There's only one stud on a girder.

TADROS; There's only one stud line. The stud is an inch and a quarter, not the 7/8s.

DREWS: Correct.

GREGORY: I guess I got several questions. So, I will run them all by you. Regarding the mechanical splices that are going to be on the exterior, the mechanical rebar splices are required for the caps in place curb after the caps are in place. Is that something that I'm assuming with the precaster that will coordinate, so we can make sure we get the right rebar that's going to have to fit into the mechanical splice? This is a little bit to the precasters. I'm assuming that's something that will have to be coordinated.

TADROS: Is this the right slide here?

GREGORY: Yes.

_____: Are you saying there are _____ here and you need to draw in?

GREGORY: That's correct.

DREWS: Okay.

TADROS: The deep end of the front sheet of our handout. Concrete Industries and Rinker, are you guys going to coordinate with the contractor to make sure that the female insert and the male _____ fit together.

_____: I'm assuming that you mean double before the insert and they will use pollard.

_____: You have to give 125 percent and if you are not going to get that, you have to use Lincoln Supply, or a large supply or something like that.

_____: So, is the precaster going to furnish half of that, all of if or none of it?

_____: You expect the contractor…

_____: I don't think it matters, as long as we go up front. If we put it in place and have everything. Right now we are intending to supply all the prestressed strand that you are going to use for post-tensioning plus the trucks.

_____: If your labor is forced to pull the strand and also post catching it. But if you want us to come up, we certainly would supply the inserts into the precast. We would have to do that. I don't think. Dennis, it doesn't matter what we do as long as we know what we are doing.

DREWS: That's right. If the contractor has maybe a mechanical system that he is comfortable with, he can let us know. You know I can adjust my spall to take that sleeve out, you know. I would just have to coordinate delivery of that mechanical splice to our production facility. We can bid it either way.

TADROS: If I could just add to this. The sleeve insert on a mechanical connection is not something that is an essential component to the system. The way this was put in there, it was for convenience of shipping. So, but we don't really know whether you're going to be shipping one panel, or two on top of each other or what ever. If you have one panel shipped at the time, you could have the bars sticking up without the mechanical splice.

_____: I don't think we want to do that. I think you will have insert.

_____: The bars are a separate bid item. So, when you get those prices from the different suppliers, they won't be plugging into the supplies.

TADROS: I think the mechanical connector can be worked out in a way that will satisfy the crash testing requirements and give you an economical system. Curt, do you want to add to this?

SMITH: Well, there's insert or cast-in-place bolts to for the pits.

_____: It looks like to me would be a bigger problem than the rebar type sleeves.

_____: So, you're asking whether it's going to be supplied or not?

TADROS: Yeah, that would have to be coordinated for sure, for the fence and the railing. I think I'm not going to speak on behalf of the precasters because they are here. They can speak on their own behalf. I think they have every intention to make this job as easy on you as possible including providing technical support for the prestressing, the post-tensioning in the

field because they do that every day. That is part of their job. So, they will supply whatever support you need including possibly renting you equipment jacks, pumps and everything else.

GREGORY: That was my next question. Is the post-tensioning in the equipment, is that going to be furnished by the supplier possibly on a rental basis?

MOHRMAN: Jim, from our standpoint, we're going to have to look into that. The jacks we have aren't portable. I mean the stuff we use in our prestress plant, we can't haul to a bridge to be used. I assume you rented the jacks.

TADROS: We haven't as of yet. We can make that available to the contractors. It's University's equipment. It's BSL equipment. It's used for parking garages.

_____: Same type that's used in post-tensioning.

TADROS: I think you have that equipment in Rinker. If you don't, renting that equipment is not a problem. You could certainly have it from the University. We are bound in agreement and I can arrange through the University to get that equipment released to you during construction. If you take it in good condition and bring it back in good condition, there will be no charge.

GREGORY: The support system that support these things to the required shim. Is that something that precasters are going to be looking at supplying or is that something the contractors are going to look out source?

TADROS: Sam, do you want to answer that? Yeah, it's about support angles.

FALLAHA: It's a question _____.

GREGORY: I was looking at is the precasters going to pick that up or are we looking at an out source for picking that up?

FALLAHA: For the angles? This is, I guess we did not put that as part of the deck. That would be the contractor supplies that. However, I guess we showed the straddle and the angles, but I guess you are free to pick anything that you think would work. The process is typical, like we normally do. We shoot the girder. We send you the shims. You set up those angles any height you need or according to the shims that we send you that you set the panels on.

_____: Is that going to be _____?

_____: The various sizes and support angles to take care of your shim.

FALLAHA: Yes, yes effectively. Those are normally, I guess they are welded according to the shims, usually welded at site. Am I correct on that, Jim?

TADROS ?: About four foot spacing.

FALLAHA: Well, it depends, it has to be designed.

TADROS ?: Two foot spacing.

FALLAHA: It has to be designed depending on the span. The other thing on the angles is that when you order something like that, if you're placing on or driving on those panels right after you place them or as you place them. Then those angles need to be designed accordingly. So, they may have to be a little heavier gauge than normal.

GREGORY/TADROS ?: So, the two angles go at two foot spacing. Who do you contact?

FALLAHA: Usually the same forms, the supplier design those and ship the pieces. The contractor welds them together in the field. So, I assume that is the process.

GREGORY: If I understand that then. Can everybody hear me without the microphone? Okay. As I understand the support system then. We are talking about setting these units with a couple of wheel loaders to prevent, not that we are required to, but I think the strategy is to try to try set and make this a simple sale with the wheel loader. That support system is going to have to be designed to hold up the weight dead load of the panels plus a transduced live weight of an additional panel plus the loaders as it rolls over the top.

FALLAHA: That's correct. The panels are designed to take the weight of the loaders at a time with the panel. Carrying the panel. We increase the reinforcement for construction loads. So, this reinforcement is way above what is needed for traffic loading. We have the number seven bars continuous. We had them shortened before. So, as far as the panels are concerned, we know it will take the load. The support system is something that I guess the formwork installers will need to help you with or someone will need to help.

GREGORY: The phasing on this particular job I believe shows this bridge being built in two phases. Half in phase three and half in phase four. The sequence of construction indicates that steel has to be set before the phasing. I mean all the steel has to be set before we install the precast panels. So, I'm assuming the phasing as it shows half in phase three and half in phase four, we are talking about substructure only at that point. It would be substructure only with structural steel coming in and completing that phase four.

FOUAD JABER: We talked about it. We can set the steel girder, but you cannot set the panels.

_____: The panels are in one sequence after another.

JABER: That is in the Special Provision.

GREGORY: Very good. I guess I came across. There are a couple technical questions on the plans during takeoff that are a little bit unclear. Frank indicated that I might want to bring those forward. Those doesn't have to do with the precasting, it has to do with the substructure. On sheet 10 of 25.

FALLAHA: I don't have that.

_____: Is this the right bridge?

GREGORY: The pile cap on Section AA. It shows one side of the pile cap at 1.68 meters in depth and the other side it shows it at 1.4. We'll need a clarification of that. On Section AA, the left side of the pile cap is shown at 1.68 meters and the left side is shown at 1.4.

JABER Yeah. We will verify that. That's minor.

GREGORY: The girder seats that are shown on sheet nine of 25. If we calculate the top of the pier cap from the elevation given at the bottom of the pile cap, the girder seats are rather on pedestals. Some of them are recessed and lower than the top elevation. When you have that minimum 1.2 elevation on the right-hand side and it looks to me like we might have a plan error in there, where we don't have girder pedestals. We're going to have girder insets in the pier cap.

JABER: We will verify this again.

GREGORY: On sheet nine of 25 and 10 of 25, the pier stem on Section CC is shown at a different total width than what the pier stem is shown on the elevation of the plan. It looks like Section CC is not consistent with what is dimensioned. The CC comes off the sister symmetrical pier, but is not consistent with what the pier stems dimensioned on the other drawing. If we could get that looked at. Possibly you might change the bid item quantity.

The transverse joint, this gets back to our precasting, the transverse joint that has the becker rod in it. That grouting then is not the Type K overlay material. That's actually grout.

JABER: That's correct.

GREGORY: That's going to be subsidiary to the job…

JABER: That's correct.

GREGORY: …or subsidiary to the precasting. The filling of the beam channels, that material is a Type K concrete. We have the option of pouring that in place.

JABER: That is correct.

GREGORY: Prior to putting the deck on and post tensioning.

JABER: You have the option of construction joining.

GREGORY: Very good. That's all I have on this one.

TADROS Okay. I guess to sum this up, we have some clarifications to make on the plans on some of the pier sections and the beam seats. We have clarified the issue of post-tensioning. Equipment is available and if it's not from the precasters, it could be loaned to you from the University. I need to clear the University system for that and I will work on that. I can tell you tentatively that should be no problem to get that equipment from us.

The transverse joint or the sheer key is a material that is put in before you do the post-tensioning. That's very important because that provides you with the continuity panels to panel. That does not have to be type case cement material. It is just standard grout material, not specified in the Special Provisions. Then you do the post-tensioning and pour open channel and overlay together or separately. It's your choice. Then install the barriers and the fence and all of the other attachments.

We will work on any simplification that we can gather the inserts. We don't want anything to be expensive in this project. We want non-proprietary easy to use quick stuff.

So, if we end up using Dayton Superior, or Bar Supplies or $40.00 piece insert, we will definitely come up with a different solution. So, we will work with the precasters on making sure that detail is given to everybody.

Any additional comments or questions on this bridge? Yes.

BRILL: This is Frank with the Department of Roads here. Clarifications that were talked about between Jim and Jake over here, are those going to be handled by addendum? That's the only way we can get this information out to people. So, whatever clarifications you would have to make, I assume we are going to do an addendum. All the other information that has been discussed up to this point will just be contained in our notes package if you will.

TADROS: Are we done talking about the NU deck? I guess should we bring up now the other bridge, which is the bigger bridge. The other bridge was designed as about 206 foot single span with a prestressed girder splice and post-tension in the field, I guess. The details are shown in the plans and, of course, _____.

We envisioned that the girder could be spliced and post-tension on the ground or it could be spliced and post-tension on temporary supports as shown in the plans. I guess I'm just bringing up the thought here. Any questions or thoughts on that bridge?

GREGORY: This is Jim Gregory of Hawkins again. I guess I had a few questions on that one. Assuming we are going to post-tension this with temporary supports, as somewhat outlined in the plans. On sheet 124, I know you have a bid item for a temporary support system. Under the girder seat elevations, it gives us some notes to look at. They allude you to the potential of temporary bearings during the post-tensioning operation. Sam, what type of temporary bearing that we anticipate needing there on our temporary support?

FALLAHA: I believe what we intended to show there is some type of a jack, if you just have elevations. But we really didn't intend to show bearings. However, it's just something that would temporarily to prevent any cracking or any problem with the concrete. That's a minimal bearing.

TADROS: If I could just add to this. Jim, on the bridge that you are talking about, when you do the post-tensioning, it lifts off these bearings on the towers. So, if you use wood blocking, good quality wood blocking, that will do the trick. Any material, as long as it is strong enough and doesn't compress, that's going to be good enough until you get the post-tensioning all done.

GREGORY: So, as we are designing our temporary support system, we don't need to be worried about any allowing it to move laterally or sliding along the temporary support. We're talking about designing the temporary support system for the sole purpose of supporting the girders at the proper elevation prior to making the wet splice and then post-tensioning. No additional thought needs to be given to bearing surface there.

JABER: As long as the bearing we use does not yield or settle is the idea.

Let me elaborate on that a bit, Jim. The girder was designed or the temporary support of elevation needs to be designed so it will produce the correct blocking diagram that we intended. So, the final pour on the bridge would match the perfect profile. So, it's similar with what we do

on splice bridges or splice girders that we intend to block it, so it would produce. What we were saying, as long as the bearing does not compress and change the elevations on you.

FALLAHA: Of course, the temporary support is supposed to be designed not to settle itself. So now, if the temporary support is not settling and the grade is not settling, so you get the right elevation.

GREGORY: Yes. On page 124 in the top right-hand corner, it shows the MSE wall in relation to our approach slab. It looks to me like what we have is basically probably somewhere around half or support of our approach slab is acting as a suspended bridge deck. It is actually a suspended approach slab (end of side one of tape). Are we supposed to keep that granular backfill back behind the MSE wall as shown in that gap there? There's no cover necessary there.

BAKER: The MSE wall, this is Baker in Design. The MSE wall has a coping v-ditch that goes beyond the coping or the wall that would cover that zone. So, that detail is shown on the MSE wall, page 224.

GREGORY: You anticipate that v-ditch going along the top of the MSE wall, underneath the bridge deck slab and then being poured continually from the bottom of the approach slab to the top of the MSE wall then.

_____: You got the microphone.

FALLAHA: Jim, I think I see there is a little difference between the roadway plans and the bridge plans. I think we need to clarify this and we will clarify in the addendum that Frank mentioned earlier. At this point, we have two different details. We'll make sure we end up with one detail. At this point, I don't think, I guess we will discuss it and we'll come up with an addendum before I answer that question.

GREGORY: Very good. You have some wingwalls that fit between the MSE wall and your piers on this job. I believe those are needed to be precast. They're not picked up in a quantity. I believe they are identified to be subsidiary to your 47BD concrete on this job. Would you anticipate those being field precast or shop precast or do you have a directive that way?

FALLAHA: We don't have a directive on that.

GREGORY: During the course of the post-tension operation, the plans talked about a requirement for intermediate, I believe, temporary diaphragms. I'm assuming that's necessary to hold these things in a straight line during the post-tensioning operation. Can you give us an idea on how many and type of intermediate diaphragms may be necessary?

FALLAHA: We showed it on the plans.

GREGORY: Is that what you're showing on sheet 125 on the top right?

FALLAHA: One moment, Jim. That is correct.

GREGORY: So, there would be no additional diaphragms needed other than what's shown, what is shown on the plans?

FALLAHA: The only diaphragm needed is what is shown on the plans.

GREGORY: I believe there's a bid item for those diaphragms. So, the note that talks about the intermediate diaphragms being subsidiary is not required then.

FALLAHA: Where is that note at, Jim?

GREGORY: I didn't jot it down, I apologize.

FALLAHA: We will look it up.

GREGORY: Another question I had was on the traffic signals supports that are subsidiary to some item on the bridge. I don't got that noted. But on sheets 136 and 137 on the right-hand, I think they indicate they are subsidiary under general notes on the first page of the plans. The total count of these traffic supports I find somewhat confusing, when I look at sheet 138 that shows the electrical conduit required for these traffic signals supports. It appears to me that, when I went over this with Frank, we had thought there was seven each of these temporary traffic supports to be suspended off the bridge. I guess I'd like to see that count there somewhere, so we know how many reports we're actually dealing with. We have a detail for a center traffic support and a detail for an exterior traffic support. But it is somewhat unclear where how many each of these we actually have.

BOYD: There's one, the center support is the only one of that.

BAKER: There's one center and six exterior.

BOYD: Yeah, one center and six exterior supports.

_____: Are they all the same?

BOYD: No. The center support is different from the exterior support.

_____: There is a detail for each type of support?

BOYD: Yes.

FALLAHA: If there are any further clarification on this, we will show it in the addendum.

GREGORY: That concludes my questions.

FALLAHA: Thank you, Jim.

FREDRICKSON: Anybody else have any questions? Any on the roadway? Anything else? Any questions? Hearing none. We will go over some of those questions, put out an addendum for some of those and clarify those. Anything else that comes up for the next two or three weeks, the same thing probably.

If nobody else has any questions, I guess we'll conclude the meeting. Thank you all for coming. We'll try to put out, I don't know if we'll get a full transcript, but we'll have kind of condensed notes of this meeting. It's hard to get names back and forth for some of the questions or

comments. So, we'll put out some kind of condensed version of the meeting on our web site for everybody to view.

No other comments, I guess we are adjourned.

Please Print

Company Name	Address	Person Attending
Univ of Nebraska		Maher Tadros
Univ of Nebraska		Sherif Yehia
University of Nebraska		Chunbong Sin
Rinker Materials		Dennis Deeds
LON ZIMMERMAN	IRVING F. JENSEN Co, SUX, IA	LON ZIMMERMAN
Concrete Industries	PO Box 29529 Lincoln Ne 68529	Doug Mohrman
NDOR		JOE BAKAITIS
NDOR		MARK TECH
WILSON/RINKER	801 ALLIED ROAD LAPLATTE NE	BUZ HUTCHINSON
~~John~~ NDOR	JOHN BAKER	
NDOR	Lincoln	Frank Brill
HCE		Tee Baker
NDOR-Bridge		Sam Fallaha
Luxa Constr.	Blair	Marty Misfeldt
~~Jim Gregory~~ Hawkins	2512 Bedford Omaha	Jim Gregory
Peterson Brothers	Lincoln NE	Tim Goldsberry
Ormal Contractors	"	Curt Smith
~~Paul Schinzel~~ Vrana	4816F Omaha	Paul Schinzel
Vrana	"	Red Keisel
NDOR		Karl Fredrickson
NDOR		Nancy Loos
NDOR		Claude Oie
NDOR		DENNIS BOYD
NDOR - Bridge.		Fouad Jaber

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