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Before
THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

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In re: C-80092154 - Glenfield Borough vs. Consolidated Rail Corporation, Allegheny County and Pennsylvania Department of Transportation - Alleging replacement of the Glenfield Viaduct, who will construct the facility, pay the costs thereof, and assume maintenance responsibility therefor..

Further hearing.

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Stenographic report of hearing held in State Office Bldg., 300 Liberty Avenue, Pittsburgh, Allegheny County, Pennsylvania,

Friday,
November 27, 1985,
at 10:00 o'clock a.m.

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BEFORE: MICHAEL A. NEMEC, ADMINISTRATIVE LAW JUDGE

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ADMINISTRATIVE LAW JUDGE MICHAEL A. NEMEC: This morning we have a further hearing in the case that's captioned, "Glenfield Borough vs. Consolidated Rail Corporation, et al." The matter is docketed at C-80092154. My name is Michael Nemec; I'm an Administrative Law Judge with the Pennsylvania Public Utility Commission and I've been assigned to conduct the further hearing in this matter.

I want to start on my left and go around the room and have every attorney who's in this room to identify themselves and state the party for whom they're appearing.

MR. CRAYNE: Larry Crayne, Duquesne Light Company.

MR. HERSKOVITZ: Richard Herskovitz, P.U.C. Trial Staff.

MR. MARTIN: Stephen Martin, PennDOT.

MR. JACOBY: William Jacoby, Columbia Gas of Pennsylvania.

MR. DONOVAN: Daniel F. Donovan, appearing for Consolidated Rail Corporation.

MR. OPSITNICK: Allan Opsitnick, Allegheny County.

MR. FECZKO: Al Feczko, Glenfield Borough.

MR. CONWAY: Joseph Conway, American Industrial Contracting.

JUDGE NEMEC: The hearing today actually is the result of a Commission Order that was entered December 13,

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1982. In that Order, in the fourth ordering paragraph, the Pennsylvania Department of Transportation, at its initial expense, was directed to conduct an in-depth evaluation of the entire situation involving the Glenfield Viaduct, including economic and engineering considerations, to answer the following questions:

A. Is it practical both in cost and impact on Glenfield Borough to rehabilitate the Glenfield Viaduct.

B. If the answer to A above is yes, then the Department shall prepare plans to accomplish the rehabilitation.

C. If the answer to A above is no, then the Department shall prepare plans for the replacement of the Glenfield Viaduct with another crossing adequate and suitable for the needs of the Borough of Glenfield.

The Order went on to specify the amount of time in which this was to be accomplished. Needless to say, there have been extensions granted since that time. The last Commission Order with regard to this structure was entered on November 18, 1985, when the Commission ratified two emergency Orders which had the net effect of reducing the posted weight limit on the subject structure from 16 tons to 3 tons, and allowed an exception to the Quaker Valley School District to permit it to use 12-passenger vans which were not to exceed 4 tons in weight across the subject structure.

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Attached to the notice of this hearing we have a proposed questions and procedure list, which I suggest that we follow in this hearing today, and it provides for the Pennsylvania Department of Transportation to go first.

Mr. Martin, you may proceed.

MR. MARTIN: Thank you, Your Honor. I call Mr. Peda to the stand.

(Witness sworn)

ROBERT M. PEDA, called as a witnees on behalf of PennDOT, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MARTIN:

Q Would you state your name for the record, please?

A Robert M. Peda -- P-e-d-a.

Q And by whom are you employed, Mr. Peda?

A Pennsylvania Department of Transportation.

Q What is your position with the Department of Transportation?

A I'm a grade crossing engineer for the Bureau of Design.

Q And are you authorized to testify on behalf of the Department of Transportation at this proceeding?

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A Yes, I am.

Q Mr. Peda, are you familiar with the questions and procedure which were promulgated for this particular hearing?

A Yes, I am.

Q Very well, Mr. Peda, let me refer you to Question No. 1. Would you indicate for the record, please, whether the Department of Transportation has prepared plans for a replacement structure in compliance with the Commission's Orders of December 3, 1982 and modified Order adopted May 11, 1984 and submitted or distributed those plans to all the parties of record?

A Yes, we have prepared plans and we have distributed drawings authorizing acquisition of right-of-way and detailed structure drawings, which were submitted to the parties of record by letter of September 30, 1985 for their review and comments at the P.U.C. field investigation conference held on October 15, 1985.

MR. MARTIN: At this time, Your Honor, I would like this exhibit to be marked as PennDOT Exhibit No. 1.

JUDGE NEMEC: Let's go off the record for a second.

.....OFF RECORD DISCUSSION.....

JUDGE NEMEC: Your exhibit will be marked as PennDOT Exhibit 3.

(PennDOT Exhibit No. 3, being the right-of-way

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drawings and the structure drawings, was produced and marked for identification)

Q Mr. Peda, I show you what has just been marked as PennDOT Exhibit No. 3. Are these the right-of-way and structure drawings to which you have just referred?

A Yes, these are the right-of-way drawings and the structure drawings.

Q Mr. Peda, has the Department of Transportation prepared other plans not distributed to the parties of record in compliance with the December 3, 1982 and the May 11, 1984 Commission Orders?

A Yes, we have. We have prepared drawings for construction and the traffic control plan, which is attached.

MR. MARTIN: Your Honor, I would ask that this be marked PennDOT Exhibit No. 4.

JUDGE NEMEC: It may be so identified.

MR. MARTIN: Let me note for the record that these copies I have distributed are already marked PennDOT No. 2 and should be clarified by this proceeding.

(PennDOT Exhibit No. 4, being drawings for construction and traffic control plan, was produced and marked for identification)

Q Mr. Peda, I show you what has been marked as PennDOT Exhibit No. 4. Could you briefly explain these proposed construction plans for the replacement structure

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and give us an estimate of the cost of construction?

A These plans are for the project which involves reconstruction of Phillips Lane from its intersection with Dawson Avenue and East Beaver Street at Station 10.87 to Station 3.91 or 391.5 at the beginning of the proposed Glenfield Viaduct.

The viaducts will consist of a 10-span steel eye-beam and multi-girder bridge, terminating at the local access ramp of L.R. 652 at Station 11+99.01, a distance of 1,188.14 feet.

The proposed alignment will bear off the existing alignment at Phillips Lane at or about Station 2 and will parallel the existing Phillips Lane to the south and continue to parallel the viaduct to the south, and then to the east to its connection with the local access ramp.

The roadway typical section would consist of two 12' lanes with curbs and a 5' sidewalk on the left side of the road.

The engineering estimate for the cost of construction is 3.25 million dollars. An additional 10 percent contingency for inspection and administration cost is anticipated, bringing the total construction cost to 3.58 million dollars.

Q Mr. Peda, referring to Question No. 2 promulgated by the Commission, would you please state for the record

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whether any new highway has been or will be legally laid out and established, and whether it will be necessary for the Commission to lay out any new highway?

A The highway for the replacement of the Glenfield Viaduct has been laid out and is shown on the plans previously submitted and described. It will not be necessary for the Commission to lay out any new highway.

Q Referring to Question No. 3, Mr. Peda, is the Commission requested to vacate any highway in this circumstance?

A Yes, the Commission should vacate the existing highway or viaduct between Station 8+56 and Station 10+80 where the existing viaduct will be removed and a right-of-way no longer required for the proposed crossing.

Q Referring to Question No. 4, would you state for the record whether it will be necessary for the Commission to appropriate any railroad property for this project?

A Yes, it will be necessary for the Commission to appropriate a required right-of-way for aerial easement over ConRail property.

Q Mr. Peda, have you prepared a property description for that aerial easement?

A Yes, I have.

MR. MARTIN: Your Honor, at this time I would like this marked PennDOT Exhibit No. 5.

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JUDGE NEMEC: It may be so identified.

(PennDOT Exhibit No. 5, being a metes and bounds description of property for an aerial easement over ConRail property, was produced and marked for identification)

Q Mr. Peda, I show you what has been marked as PennDOT Exhibit No. 5. Is this the property description which you just indicated was prepared?

A Yes, it is. It's a metes and bounds property description for an aerial easement over ConRail property. Also attached is a portion of the plan indicated in yellow the portion required for aerial easement. The description has three blank spaces at the last paragraph. The blanks refer to the recording of the right-of-way plan, which the plan has not been recorded to date, and we do not have information at this time on the date that the ConRail deed was recorded at a courthouse. That information can be obtained and will be submitted.

Q Still referring to Question No. 4, Mr. Peda, will it be necessary for the Commission to appropriate any other property to accommodate the construction?

A No. All private property will be acquired by the Department.

Q Referring to Question No. 5, Mr. Peda, would you state for the record what portion of the costs of preparing studies and detailed construction plans the Department agrees to bear, and indicate, please, which party or parties

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should bear the remaining portion?

A The Department agrees to bear engineering costs, including cost for the preparation of detailed construction plans and right-of-way acquisition plans in accordance with funding provided in the Bridge Bill. The Department is utilizing federal funds on all phases of this project. When using federal funds on local road Bridge Bill projects involving rail-highway crossings, it is our policy to fund the project with 80 percent federal funds and 15 percent state funds and 5 percent from other sources. The 5 percent other share should be borne by Glenfield Borough and Allegheny County in that the viaduct carries a local road. It may be in the interest of the railroad to assist the borough and the county in meeting the local share. If the railroad is agreeable to pay a portion of the project cost, it will first be deducted from the municipality's share of cost.

Q Referring to Question No. 6, Mr. Peda, would you state for the record which portions of the proposed crossing project the Department will agree to construct and what portions, if any, the Department suggests should be constructed by other parties?

A The Department agrees to construct the entire project and to perform the necessary right-of-way acquisition and utility relocation and administration for the project.

Q Referring to Question No. 7, Mr. Peda, would you

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state what portion of the costs of the proposed crossing project the Department will agree to bear, and indicate for the record which party or parties should bear the remaining portion, if any?

A In accordance with the funding in the Bridge Bill, the Department agrees to fund the project with 80 percent federal funds and will contribute 15 percent state funds. The recommendations for funding the 5 percent remaining share are the same as answered in Question 5.

Q Mr. Peda, referring to Question No. 8, would you state for the record which portions of the proposed project the Department will agree to maintain after the project has been constructed?

A Since the crossing project is located on a local road, the Department does not agree to bear any portion of the project after it is constructed. Phillips Lane, including the viaduct, are not in the State Highway system. ConRail is currently assigned maintenance responsibility for the span over its railroad tracks and the 13 southern viaduct spans under Commission Order adopted December 3, 1982.

The Highway Department is assigned maintenance responsibility of the steel girders span and Pier A and the northerly abutment supporting said span north of the railroad crossing by Order at Application Docket 79419

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adopted August 10, 1953. The assignment of this maintenance responsibility was due to the Department's construction of a highway parallel to the present Legislative Route 652 and under the northerly end of the span.

We suggest that if the railroad assists in the other share of funding for the project, it may be equitable for the railroad to be relieved of all or a portion of its current maintenance responsibility, and that maintenance responsibility be assigned to the Borough of Glenfield and Allegheny County.

Q Referring to Question No. 9, Mr. Peda, would you state what portion of the cost of property damages resulting from the construction of this crossing project the Department will agree to bear?

A The cost of all property damages except the cost for appropriation of the required aerial easement over ConRail's property should be included in the total project cost. In accordance with the funding of the Bridge Bill, the Department agrees to fund the project 80 percent federal funds and will contribute 15 percent state funds. Again, the recommendation for funding the 5 percent remaining share are the same as answered under Question 5.

Q Still on Question 9, Mr. Peda, would you indicate whether the Department agrees to reimburse any involved non-carrier public utility companies for any of their costs

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incurred in the alteration or relocation of their respective facilities?

A The Department as the administrator for the project will agree to reimburse any involved non-carrier public utility company for only those costs incurred in the alteration or relocation of its respective facilities which were located in private right-of-way prior to construction.

In the opinion of the Department any involved public utility company should be required to alter and/or relocate its facilities located in public right-of-way at its sole cost and expense because of the benefit it has received by occupying public right-of-way free of charge in the past and because it will continue to receive that benefit by occupying public right-of-way in the future. It is generally understood that when utility companies located their facilities in public right-of-way, they may have to relocate at their own cost and expense to accommodate future highway improvement projects.

Q Referring to Question No. 10, Mr. Peda, would you state for the record whether pedestrian and vehicular traffic will be maintained during the construction of this project, or whether detours will be necessary?

A The Department will maintain pedestrian and vehicular traffic on the existing bridge during construction. The Department has prepared a four-sheet two-stage traffic

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control plan, which is attached to the drawings for construction, and is identified as PennDOT Exhibit 4. Detours will not be necessary during the time the crossing project is being constructed.

Q Referring to Question No. 11, Mr. Peda, would you state for the record when construction on this project could be started and how long it would take to complete the construction of this proposed project?

A Upon issuance of an Order resolving the unfunded 5 percent portion of the project cost, the Department can proceed to acquire the private right-of-way for the project. It is anticipated the minimum time required to clear right-of-way is nine months. Upon clearance of right-of-way, the project must then be advertised, bids opened, contract awarded, and then the contractor given notice to proceed with construction. This time frame would require an additional three months, which will be one year from the issuance of a Order until the contractor can be given notice to proceed with construction. Construction of the project can be completed within one to one and one-half years thereafter.

Q Mr. Peda, that concludes the questions and procedure directed toward the Department. Do you have anything else to add to this record at this time?

A No, I do not.

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MR. MARTIN: Your Honor, this witness is available for cross-examination.

JUDGE NEMEC: Mr. Donovan.

CROSS-EXAMINATION

BY MR. DONOVAN:

Q Mr. Peda, when you were explaining the proposed funding for this project, you mentioned the fact that the 5 percent that would not be funded with federal or with state funds, should be assumed by the County of Allegheny and the Borough of Glenfield. You also mentioned that ConRail might consider making a contribution toward that unfunded portion, is that correct?

A Yes.

Q Were you alluding to the regulations of the Federal Highway Administration, which provides that where federal funding is used for the accomplishment of a reconstruction of a railroad-highway bridge, that state laws, including a P.U.C. Order, would not be applicable in that situation and that the railroad need not, unless it voluntarily agrees to do so, assume any cost of the construction?

A That is correct.

Q I take it that you have reached a conclusion that this structure has, from an engineering point of view, outlived its useful life, is that correct?

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A Yes, it has.

Q You mentioned the Order of December 3, 1982, which obligated ConRail to maintain certain portions of this structure. That Order provided that ConRail on a temporary basis, at its initial cost and expense, should perform that maintenance, is that correct?

A I know it's interim -- I'm not sure about initial without reviewing the Order.

MR. DONOVAN: Perhaps just so the record can be straight, Your Honor, the Order of December 3, 1982 says that Consolidated Rail Corporation is for the present assigned maintenance responsibility for the span over its tracks, the thirteenth southern viaduct spans, the sidewalk on the 14 spans and the stairs leading to the sidewalk. That was the imposition. The condition was "for the present", and I have nothing further of Mr. Peda.

JUDGE NEMEC: Allegheny County, Mr. Opsitnick.

BY MR. OPSITNICK:

Q Looking at the plans, would you agree that the viaduct as proposed is a project is in essence a ramp from Glenfield Street, Dawson Street to the State L. R. 652?

A Yes, it is.

MR. OPSITNICK: I have nothing further, Your Honor.

JUDGE NEMEC: Mr. Feczko.

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BY MR. FECZKO:

Q Mr. Peda, have you in your recommendation that Glenfield Borough bear the maintenance cost considered the amount of cost that might be incurred in maintaining the superstructure of this viaduct?

A I personally have not considered the amount of cost.

Q Have you considered at all the financial condition of the Borough of Glenfield?

MR. MARTIN: I'm going to object to that question, Your Honor. The financial condition of the Borough is not relevant testimony under recent P.U.C. Order.

JUDGE NEMEC: I'll overrule the objection. Please answer.

A Will you state that again, please?

Q I asked you if you had taken into account in forming your recommendition the current financial condition of the Borough, the amount of revenues it raises every year by taxes?

A I have not taken that into account.

Q Do you know the amount of liquid fuels that it receives per year from the state?

MR. DONOVAN: For the record, I would like to join in Mr. Martin's objection to these questions with regard to the ability to pay.

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MR. HERSKOVITZ: Your Honor, I, too, will join in that.

JUDGE NEMEC: All of your objections are noted. They're overruled, Please answer.

MR. MARTIN: And they will continue to this line of questioning.

JUDGE NEMEC: Fine.

A I do not know what the amount is, although I assume it's minimal.

MR. FECZKO: That's all I have.

JUDGE NEMEC: Mr. Jacoby.

MR. JACOBY: No questions.

JUDGE NEMEC: Mr. Crayne.

MR. CRAYNE: I have no questions.

JUDGE NEMEC: Mr. Conway.

BY MR. CONWAY:

Q Mr. Peda, what gross weight of vehicular traffic would you maintain during construction?

A It would have to continue at 3 ton until further reinforcement of the structure is performed.

Q What would the people who have vehicles in excess of 3 tons have to do while this construction is going on in order to get over to their places of business?

A They would be limited to 3 tons but we will maintain the bridge at the posting at that time.

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Q Does PennDOT have any present plans or intentions to provide other access for vehicles in excess of 3 tons?

A No, we do not.

Q Has that not been discussed, to your knowledge?

A Yes, it has been discussed.

Q What kind of resolution was arrived at, if any?

A It will be up to the contractor to determine his operations, what he needs to get access to the project. He may have to support the structure to be capable of carrying loads much in excess of 3 tons, if that's how he chooses access.

Q To your knowledge, the problems of any business on the other side of this viaduct as far as access, that's their problem and something they have to pay for themselves in order to use the bridge, is that PennDOT's position?

A No. We recommended at the P.U.C. field conference October 15 the weight limit be reduced for the safety of the motoring public.

Q If I have a vehicle and I'm in business on East Beaver Street and my equipment weighs 15 tons, how am I to get it over there?

A You cannot legally cross the bridge and, to my knowledge, there is no other public access.

Q Does PennDOT intend to provide one?

A No, not at this point.

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Q Does it intend to provide one at any point, to your knowledge?

A We will provide a new bridge when constructed to handle full legal loads.

Q As I understand PennDOT's position then, in the meantime any businessman operating on East Beaver Street that has a load or vehicle or equipment to get over there that weighs more than 3 tons, has to shift for himself and work out some other way to stay in business, is that right?

A Yes, he must take other measures.

Q Is that a decided or declared policy or decision of PennDOT at this point?

A No. However, the street is a local road and it's not a street under our jurisdiction.

Q I don't understand this.

A The Glenfield viaduct is a borough street -- it is not a state highway -- and that's why we cannot go in and do additional work at this time.

Q Whose consent would you need to do that?

A The resolution of the problem is to construct a new bridge. Our hands are tied until the funding is fully resolved.

Q You're not saying that PennDOT is not going to accommodate these businesses because they have no jurisdiction over this bridge?

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A We don't have a choice at this point.

Q If you had the money, would you shore it up so other vehicles could use the bridge over a 3-ton limit?

A We don't have funds available to do that on a local road.

Q So it's just a money problem -- it's not an engineering problem, or a political problem or any problem other than money?

A It's a financial problem.

MR. CONWAY: I have no further questions.

JUDGE NEMEC: Trial Staff, Mr. Herskovitz.

BY MR. HERSKOVITZ:

Q With regard to Mr. Conway's questions relating to increasing the load carrying capacity in the interim while the new bridge is being constructed, do you know what has to be done to the existing bridge to increase the load carrying capacity?

A I'm not a structure's expert but it does have to be supported from underneath. The bearing capacity of the piers is limited, there's cracks in the piers, the structure is a fractured critical structure, and if any portion fails, either the portion of that span or several spans may fail. The beams between the piers are probably capable of handling much higher loads; however, they must be supported moreso than the existing piers that provide

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support.

Q Has PennDOT done any type of study to determine exactly what is to be done and how much it would cost the party involved in doing it?

A We have done no such thing.

Q Do you have an opinion yourself what the cost would be?

A No, I don't.

Q Did you say that PennDOT is going to maintain the structure for the 3-ton limit while construction is being performed for the new bridge -- do you know if that's part of your contract with your contractor if he's going to keep that bridge maintained?

A It would be up to the contractor to maintain his equipment. If he needs more than 3 tons, he would have to increase the load carrying capacity.

Q Would that be included in your total estimate of 3.5 million dollars for any additional work he has to do on the existing bridge?

A I can only assume that additional cost for access was considered and put somewhere into the estimate. I don't know for sure.

Q Following completion of the new structure, is the old one to be demolished under PennDOT's plans?

A Yes, it is.

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Q Is the cost of that included in this estimate?

A Yes, it is.

Q How long following opening the new bridge would it take to demolish the existing structure?

A I don't know. I would think that it would be one month.

Q Is that included in your one and a half years of construction -- the time to demolish it?

A Yes.

Q I notice on Exhibit 4 there's supposed to be 10 pages, I believe, and pages 5 through 8 are not attached. Could you explain why there are some pages missing?

A Those pages are strictly summaries of items of work or work units for the contractor's use in bidding the project and breaking down the numerous items of work in the overall contract.

Q Are additional plans required before actual construction can begin?

A Basically, not. These plans are not in their final stage for preparation for contract, although they are I would say 98 percent complete.

Q How much time will be needed to put the other 2 percent in and complete them?

A It would be a matter of a few weeks.

Q So once those additions are made, then these plans,

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plus the addition, that's all you need to get the project moving, is that correct?

A As I said in my previous testimony, the critical path is clearing right-of-way, which requires nine months before we can actually advertise the job. The plans are required for advertising of the job, so really nine months from resolution of the 5 percent is when the plans --

Q I guess what I was getting at is, you don't need any more detailed plans than what you have submitted here?

A No.

MR. HERSKOVITZ: Thank you.

JUDGE NEMEC: Is it the Department's position that the cost allocation has to be decided by the Commission prior to commencement of the project?

THE WITNESS: Yes, it's necessary.

JUDGE NEMEC: And that's under the federal funding guidelines or requirements?

THE WITNESS: Yes.

JUDGE NEMEC: Any other questions for this witness? Mr. Donovan.

MR. DONOVAN: A couple were raised on cross-examination, Your Honor.

BY MR.DONOVAN:

Q In connection with the present load limit, Mr. Peda, in its initial Order imposing the 3-ton weight limit,

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the Order referred to critical conditions that prompted the imposition of this load limit. Could you tell us just briefly what those critical conditions were?

A The major critical condition was a sheer crack in one of the pier caps.

Q And that's right before the turn going down into the lower -- down onto the grade level, is that correct?

A Yes, just between the tracks and --

Q Do you know how long that crack has existed at that location?

A I'm not aware of how long.

Q If I told you it was at least 10 years, would you think that that would be a reasonable estimate of the time that crack has existed?

A It's possible the crack could have started 10 years ago.

Q You didn't make the analysis of this structure, did you?

A No, I did not.

Q Was an engineering rating analysis made?

A A rating analysis was not made.

Q So that when a determination was made that a 3-ton limit should be imposed, there wasn't any real engineering basis for that decision, was there?

A There was good engineering judgment because of

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the severe deterioration and the very difficulty in knowing exactly on how that structure was acting, plus the fact that the structure is a fractured critical structure, meaning that one break can collapse the structure and put it completely out of commission.

Q Do you think that the guesstimate of 3 tons could just as well have been, say 6 tons, based upon the analysis or lack of analysis that was made on the structure?

A I wouldn't say 6 tons, but basically in such a structure, the decision is normally to close the bridge or post it for a very low weight limit.

Q Without an actual engineering rating analysis?

A Under the conditions given, yes, but it's very difficult to determine how strong the concrete is, how much deterioration has taken place inside the cracks where you cannot see section loss of steel reinforcing -- it's not easy to determine exactly what you have as far as --

Q But a rating analysis can be made?

A It can be made. A lot of judgments have to be made --

Q Would you say that the determination that this bridge should be posted for 4 tons, if that is an error, that the intent was to err on the side of caution?

MR. MARTIN: I'm going to object at this point, Your Honor. I think Mr. Donovan is challenging the emergency

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Order of the Commission, and I don't know that this is the place to do that.

JUDGE NEMEC: Whether it is or isn't, we're going to talk about it, so I'll overrule your objection.

A Allowing 4-ton vehicles, what happens is you're allowing the minimum of a vehicle which is just slightly over your estimate, which we hope the estimate of 3 tons is very safe. There's not that many repetitious loads of a heavy vehicle which would be more prone to cause accelerated damage.

Q In order to maintain traffic as it existed until the issuance of the emergency Order imposing a 3-ton limit, that would require additional work on the structure at this time, is that right?

A Yes.

Q In the event that the Department were ordered to take some temporary measures to bring it up to, say a 15- or 16-ton limit in order to maintain the status quo until the new structure is built, would the cost of that work be eligible under the federal rules for funding by federal funds?

A It may be eligible, but there is an outstanding Order which would disqualify that or another party be responsible for that in the interim. That negates the qualifications.

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Q So following that to its logical conclusion, I assume that if the Commission entered an Order today or tomorrow telling the Department of Transportation to maintain the status quo of 16 tons and directing the Department to take temporary measures to accomplish that, that Order would make the expense of that work eligible as a project cost?

A Yes, it would.

MR. DONOVAN: I have nothing further.

JUDGE NEMEC: Any other questions for this witness?

MR. FECZKO: Yes, I have a couple more.

BY MR. FECZKO:

Q Is there any way to speed up this construction schedule that you outlined?

A Well, we can include in the contract that the present schedule may require the contractor work double shifts. We could include disincentives requiring penalties for going beyond a deadline; however, it's our experience that such incentives do run the cost of the contract up.

Q This major problem that caused a drastic weight reduction you said was a sheer crack over one of the pier caps. . Under the original Order of maintenance responsibility whose maintenance responsibility was that particular area?

A Under the 1982 Order, ConRail was ordered to maintain the structure and perform inspections on a six-month basis to monitor the structure.

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Q I'm talking about prior to that Order, is this part of the part that was required by PennDOT to be maintained because of the change of Route 65, or is this part of ConRail?

A In the original Order, I'm not sure of the maintenance responsibility.

Q Did PennDOT have the benefit or access to the original construction plans when they made this analysis to reduce the weight limit on the bridge recently?

A No.

Q Do you know whether or not ConRail was performing the six-month inspection as required previously by the Order?

A I know they have been performing inspections.

MR. FECZKO: That's all.

JUDGE NEMEC: Any other questions?

MR. CONWAY: Yes.

BY MR. CONWAY:

Q Mr. Peda, if the P.U.C. would order that the bridge be temporarily repaired so that the original weight limits could be maintained, how long would that work take?

A Are you assuming PennDOT would do it?

Q Yes.

A First of all, we would have to determine what is required to repair the structure. That would probably require several weeks and we would have to go through cal-

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culations and maybe take three weeks. We would also have to prepare a contract to subsequently advertise this work which you may have a month and a half, two months involved before we can advertise the work. The job has to be advertised for roughly one month before we can open the bids, so we're looking basically at three months as the soonest from the time PennDOT was ordered to do it.

Q That does not include construction time?

A The does not include construction time.

Q How much time would that be?

A I really don't know the extent of what would be required -- that has to be determined.

Q You don't know who had maintenance responsibilities for this bridge prior to 1982, is that your testimony?

A Prior to 1982, as I stated in the testimony, ConRail had the maintenance of the 13 southern viaduct spans and the span over the railroad track.

Q Where is the problem involved in this bridge today -- in that area you just described?

A Primarily the 13 southern spans.

Q Has anybody made a determination as to what caused the structural problem that resulted in the load restriction?

A It's just a matter of deterioration over a period of years.

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Q Was it lack of maintenance, or was it a design flaw originally or a material problem, or don't you know?

A It's probably a combination of maybe lack of some maintenance and old age.

Q Has anybody actually made that determination at PennDOT?

A Not that I'm aware of.

MR. CONWAY: I have no further questions.

JUDGE NEMEC: Any other questions? (No response) Any redirect?

MR. MARTIN: No, Your Honor.

JUDGE NEMEC: Thank you, sir, you're excused.

MR. MARTIN: Your Honor, I wish to move PennDOT Exhibits 3 through 5 into the record at this time.

JUDGE NEMEC: Objections to PennDOT Exhibits 3, 4 and 5? (No response) There being no objections, PennDOT Exhibits 3, 4 and 5 are admitted into the record in this proceeding. We'll take a 5-minute break at this point.

.....RECESS.....

JUDGE NEMEC: Mr. Donovan.

MR. DONOVAN: I call Mr. Addison.

(Witness sworn)

WINFRED R. ADDISON, called as a witness on behalf of ConRail, being first duly sworn, was

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examined and testified as follows:

DIRECT EXAMINATION

BY MR. DONOVAN:

Q Would you please state your full name?

A Winfred R. Addison--A-d-d-i-s-o-n.

Q And by whom are you employed?

A Consolidated Rail Corporation.

Q And what is your business address?

A 15 North 32nd Street, Philadelphia, Pennsylvania.

Q What position do you hold with ConRail?

A Senior Civil Engineer.

Q Are you a graduate engineer, Mr. Addison?

A Yes, I am.

Q In civil engineering?

A Yes.

Q How long have you been employed by ConRail and its predecessor?

A 33 years.

Q And has all of that been in the engineering department?

A Yes, it has.

Q And do you in your work address yourself to the question of safety of railroad-highway crossings at above and below grade?

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A Yes.

Q Are you authorized to testify for ConRail this morning?

A Yes, I am.

Q Are you familiar with the structure that we're discussing?

A Yes, I am.

Q I refer you to the questions posed to ConRail in the Commission staff's Questions and Procedure, and particularly to Question No. 12. I would like you to state whether or not ConRail has any objections or constructive criticism to offer concerning the plans introduced in evidence by PennDOT this morning.

A ConRail has no objections to the proposed crossing plans. The construction of Pier No. 8 will involve driving sheet piling close to the southerlymost track. That work will have to be coordinated with our train movements. It will not be possible to do both at the same time.

Q So the solving of that problem is a matter of an agreement on the ground between the contractor and ConRail's inspectors during the course of the construction, is that correct?

A Yes, it is.

Q What work, Mr. Addison, will be required to alter or relocate ConRail's facilities to permit the construction

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of this project?

A It will be necessary to relocate our open communication and signal lines on the southerly side of our track to permit construction of the new bridge and demolition of the old bridge.

Q Did you cause a force account estimate to be prepared for that work?

A Yes, I did.

MR. DONOVAN: Your Honor, may I have marked as ConRail Exhibit No. 5 a five-page exhibit being the force account estimate for the alteration of ConRail's facilities in the area of the construction during the construction of the project?

JUDGE NEMEC: It may be so identified.

(ConRail Exhibit No. 5, being a five-page document captioned, "Force Account Estimate", was produced and marked for identification)

Q You have before you, Mr. Addison, what has been marked as ConRail Exhibit No. 5 and I ask you if that is the document I just described?

A Yes, it is.

Q Would you tell us just briefly what that covers?

A It covers the labor and material to relocate the communication signal line in the amount of $24,000 and the preliminary engineering for the project in the amount of $9,276 and the accounting for the project and also a con-

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tingency factor.

Q And what is the total amount of that estimate?

A The total amount is $37,219.

Q Would you consider that that cost would be a part of the project cost which would be included in the amount to be funded as described by PennDOT's witness?

A Yes, sir.

Q What portion of the cost of preparing studies and detailed construction plans would ConRail agree to bear?

A ConRail does not agree to bear any of that cost.

Q That has already been accomplished by PennDOT, is that right?

A Yes, it has.

Q What portions of the project would ConRail agree to construct, Mr. Addison?

A ConRail will not agree to construct any part of the project.

Q You were present during the testimony of PennDOT's witness to the effect that PennDOT proposes to construct the entire project, is that correct?

A Yes, sir, that's correct.

Q What portion of the cost of the proposed crossing project will ConRail agree to bear?

A ConRail does not agree to bear any of the cost of the proposed project.

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Q What portions of the proposed crossing project will ConRail agree to maintain after the project has been constructed?

A ConRail will not agree to maintain any portion of the project after it's constructed.

Q Do you have any recommendation with respect to the manner in which the Public Utility Commission should assign the maintenance responsibility?

A The maintenance should be assigned to the person that's responsible for the roadway and who receives the benefits of the roadway.

Q Will it be necessary to maintain railroad flagmen, watchmen and construction inspectors during construction?

A Yes, it will be necessary.

Q And do you recommend that the costs involved in that work be a part of the project cost financed in the manner that was described by PennDOT's witness?

A Yes, that should be a project expense.

Q Will ConRail agree to assume responsibility for the maintenance of its own facilities at the construction site after the project is constructed?

A Yes, ConRail will agree to maintain its facilities upon completion of the project.

Q There was testimony this morning by PennDOT's witness that it will be necessary to acquire some property

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rights from ConRail in order to accomplish this project. Will ConRail be willing to release damages for its operating right-of-way required for this project?

A Yes, ConRail agrees to release damages for its operating right-of-way to permit construction of the project.

A Pursuant to the earlier Order, I believe in 1982 with respect to the maintenance of the structure, has ConRail performed any work in furtherance of that directive?

A Yes, they have.

Q Just briefly describe what that work was and how must cost was incurred.

A We have incurred approximately $12,500 repairing the steps on different occasions, repairing the sidewalk and the curb, and preparing a structural inventory for the structure.

MR. DONOVAN: I have nothing further, Your Honor.

JUDGE NEMEC: PennDOT, Mr. Martin.

CROSS-EXAMINATION

BY MR. MARTIN:

Q Mr. Addison, is it your opinion as an engineer that this structure at the present time can carry a 16-ton weight limit?

A Yes.

Q Have you prepared any studies or undertaken any

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calculations to submit for the record at this time supporting that opinion?

A The area structural engineer has looked at the structure since then and calculations were prepared and submitted with our letter to PennDOT in '82 or '83 -- I don't recall what date -- but those calculations were submitted to PennDOT and all parties of record.

Q Have you undertaken anything since that time?

A No, we have not, except our actual six-month inspections and we have not developed anything that tells us to change our opinion.

Q And you undertook no further study once the Commission issued the emergency Order limiting the structure to 3 tons, is that correct?

A We inspected the bridge.

Q Did you do calculations at that time to rebut the Commission's posting?

A No, sir, we did not.

Q Are you requesting the Commission at this time to lift that 3-ton limit and again allow 16 ton vehicles to use that structure?

A We are not requesting the Commission. As I stated, in our opinion, the existing structure is capable of carrying 16 tons.

Q Mr. Addison, insofar as the Commission has posted

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the viaduct for 3 ton, and it appears that there is limited access into this community which may prove a hardship to certain businesses, would ConRail be willing to undertake any temporary measures to shore up the structure or improve its load bearing capacity at this time?

A ConRail feels that the 3-ton limit was imposed by PennDOT and PennDOT should take temporary measures to support what it thinks is necessary. If PennDOT refuses to do it, ConRail will agree, at project expense, to install a minimal amount of supports -- 1, 2 or 3 -- that the P.U.C. feels is necessary to support the bridge.

Q You just stated you feel that PennDOT has imposed the weight limitation. You are aware, of course, that the weight limitation was posted by the Public Utility Commission, not by PennDOT?

A Yes, sir, that's correct.

Q And you are aware that that posting by the Public Utility Commission for 3 tons was done at a time during which ConRail under previous Order was directed to maintain the structure at a 16-ton limit, is that correct?

A Yes, sir, that's correct.

MR. MARTIN: I have nothing further, Your Honor.

JUDGE NEMEC: Allegheny County.

BY MR. OPSITNICK:

Q Mr. Addision, the position of ConRail is in

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essence that ConRail does not agree to reimburse or make any expenditure -- outside of its own facilities, ConRail would not agree to make any expenditures on this project?

A ConRail is not required to make a contribution where federal funds are involved. If it so desires, they could volunteer to make a contribution toward construction of a new bridge.

Q But at this time by agreement and volunteering, there would be no contribution intended, am I correct?

A ConRail would volunteer to share the unfunded portion with the county and with the borough.

Q The maintenance work that you referred to, was that work performed by ConRail employees?

A Yes, it was.

Q Likewise with the inspections they have been performed by ConRail employees?

A Yes, they were.

MR. OPSITNICK: I have nothing further, Judge.

JUDGE NEMEC: Glenfield Borough, Mr. Feczko.

BY MR. FECZKO:

Q This underground cable that you're talking about, that would become a permanent improvement for ConRail?

A No, sir, it's not a permanent improvement.

Q Doesn't your exhibit indicate that it would become a permanent improvement?

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A Yes, it would be permanent.

Q It would become a permanent improvement --

A No, it's not an improvement.

Q Undergound cable as opposed to above ground is not an improvement in your opinion?

A No, it's not.

Q Hasn't ConRail already put the cable underground from C & E Marina up past 79 in the same general vicinity -- you put that all underground?

A I don't know.

Q From your last inspection of the viaduct, was a determination made how long that ConRail engineers felt that this bridge would be capable of supporting the 16-ton weight limit -- would it be up till the amount of time to construct the new viaduct?

A It would be until the condition changed, we see something that would cause us to change our mind.

Q You've seen nothing up till now?

A No, sir, nothing up to now. It could be on the next six-month inspection or after the other bridge is constructed.

Q Did your engineers or your engineering department review PennDOT's current evaluation which resulted in the reduction?

A Yes, we did.

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Q What were your findings, or did you agree or disagree with their evaluation?

A This was more or less an educated guess -- it was not calculations.

Q Did you feel that your previous calculations still are valid today unless you see somthing otherwise that would change them?

A Yes, sir.

Q If you performed that same test, they would remain, in your opinion, to be a 16-ton weight limit?

A Yes, sir.

Q Up till the time that the weight limit was reduced to the 3 tons, was ConRail using the viaduct to bring their vehicles over for track maintenance in this area?

A I don't know. I would say probably they were.

Q Your vehicles would be over a 3-ton limit, wouldn't they?

A Some of them are, yes. We do have other access, though, to get into the track.

Q Dowh at Dixmont?

A Dixmont.

Q That's not for public use?

A No, that's not public -- that's strictly for railroad use, and normally we use that instead of access over the bridge.

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MR. FECZKO: That's all.

JUDGE NEMEC: Columbia Gas, Mr. Jacoby.

BY MR. JACOBY:

Q Will all the work you propose to do as shown in green on your exhibit, would that be performed in the confines of your right-of-way?

A Yes, sir.

MR. JACOBY: Thank you.

JUDGE NEMEC: Duquesne Light.

MR. CRAYNE: No questions.

JUDGE NEMEC: American Industrial Contractors.

BY MR. CONWAY:

Q How long has this crack existed that has caused this weight limit to be changed?

A According to our files, it has existed for a period longer than 10 years. There's references to the crack in the file that was dated 10 years ago.

Q Is this crack any worse today than it was when the P.U.C. issued its Order in 1982 requiring ConRail to maintain the structure?

A In that period of time the crack has lengthened somewhat.

Q Does ConRail's study indicate the cause of the worsening of this condition?

A No, sir.

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Q I believe you stated that since 1982 and the P.U.C. Order, ConRail has spent $12,500 in connection with its maintenance obligation?

A Yes.

Q What was that spent for -- do you have a breakdown of what that was for?

A No, I don't have a specific breakdown but it was for repairing the steps, repairing the sidewalk, repairing the curbs and a structural inventory of the structure.

Q What does that mean -- what's a structural inventory of the structure mean?

A Well, they make a detailed inspection.

Q That's an inspection cost?

A That structural inventory is required in order to apply for federal funds.

Q What I'm trying to get at, that's really not a maintenance matter -- that's a matter of going out and looking at the bridge?

A Yes.

Q How much of the $12,500 was spent on the inspection?

A I don't know.

Q What did ConRail do with respect to maintaining this bridge before 1982?

A Nothing.

Q Didn't it have any obligation before 1982 for

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maintenance?

A No, sir.

Q Do you know who did?

A No, sir.

Q What do you base that opinion on, Mr. Addison?

A ConRail had no obligation to maintain overhead bridges.

Q Prior to 1982?

A Until the Order, yes, prior to '82 when the Order was issued.

Q Yourunderstanding is that there was no Order prior to 1982 imposing maintenance obligations on ConRail with respect to this bridge?

A There wasn't to my knowledge.

Q Is it your testimony that ConRail would be willing to do something to maintain this bridge until the new bridge was built as long as it was made a project cost?

A Yes.

Q Has ConRail done any studies to indicate how much that kind of work would cost and how long it would take?

A No, sir, we haven't. That would have to be as a result of a joint inspection by PennDOT, the P.U.C. and ConRail.

Q Has ConRail made any studies or determinations as to the type of work that would be needed to temporarily

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repair this bridge to maintain the old load limits?

A We would have to make studies to place temporary supports at certain locations.

Q Do you know where those supports would be?

A No, I don't offhand.

Q You don't know how long it would take or how much it would cost at this point?

A No, I don't know how much it would cost and, of course, until what work is required, you wouldn't know how long it was going to take, but ConRail's work force completing outstanding P.U.C. Orders, we are booked up that we wouldn't be able to start till some time in February and then it would probably take a minimum of 60 days to do the work after that.

Q But it is ConRail's opinion at this time that the crack that's been discussed here in this hearing is not of such a nature that justifies reducing the weight limit to 3 tons?

A No, sir, it is not.

Q Is it ConRail's opinion that that crack justifies a reduction of the weight limit at all from 16 tons?

A No, sir, not at this time.

MR. CONWAY: Thank you.

JUDGE NEMEC: Trial Staff.

BY MR. HERSKOVITZ:

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Q You stated that there were no Orders directing ConRail to perform any maintenance prior to 1982, is that correct?

A Yes, sir, that's correct.

Q Were there any Orders that assigned maintenance to whatever railroad was operating under the bridge?

A Yes, there was.

Q And those were for 13 of the spans, is that correct?

A Yes.

Q I believe those Orders have already been mentioned by Mr. Peda. Are those the Orders you're referring to?

A Yes.

Q I believe you stated that you would not contribute to any cost of future maintenance for the new structure. Then you stated that you would share in the unfunded portion with the borough and the county. Could you reconcile those two statements for me? On the one hand you're saying you're not agreeing to contribute any costs and then on the other you stated you would share, and I'm not sure what you're saying.

A ConRail will volunteer to contribute 2-1/2 percent of the construction cost, but we do believe we should be relieved of any future maintenance obligations on the structure.

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Q So the 2-1/2 percent would be one-half of the unfunded share?

A That's correct.

Q What are your reasons for just volunteering the 2-1/2 percent and no further cost and no maintenance responsibilities -- do you have reasons why ConRail should not be responsible for additional cost for maintenance?

A Well, the person responsible for the roadway is the one that should be responsible for the maintenance because they are the one that receives the majority of the benefits.

Q Is a separated structure safer for the railroad's operations?

A Yes, it is.

Q Much safer than an at-grade crossing?

A Yes, it is.

Q Getting back to your statement that it's your opinion that the existing structure is adequate to carry 16-ton loads at this time, is that with or without any additional support?

A That's without any additional support.

Q So that if the Commission directed ConRail to maintain the existing structure for 16 tons while the new bridge was being built, you'd have no problem with that, right -- from your testimony you wouldn't have to do any-

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thing -- if the railroad was ordered to maintain it for 16 tons, you'd take that responsibility?

A Yes.

Q Would it be capable of carrying 28 ton combination loads -- tractor-trailers?

A Yes, I would think so, the same that it was originally posted.

MR. HERSKOVITZ: Thank you.

JUDGE NEMEC: How far is the Dixmont access from Glenfield?

THE WITNESS: There is no Dixmont access.

JUDGE NEMEC: You stated that ConRail had access to its right-of-way at Dixmont.

THE WITNESS: We originally had 4 tracks; presently we have 3 tracks, and when the other track was taken out, we put in a private crossing for our own across one of the tracks to put us into the inner track space, and we can get our maintenance vehicles into the space where the track came out and drive between the tracks for a considerable distance either way.

JUDGE NEMEC: What is the distance between that access and the --

THE WITNESS: It's approximately three-quarters of a mile.

JUDGE NEMEC: Duquesne Light, Mr. Crayne.

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BY MR. CRAYNE:

Q Do you know if there are facilities of Duquesne Light Company in the vicinity of the bridge?

A No, I do not.

Q If there are and if Duquesne would need rights from the railroad to cross the railroad, would the railroad require Duquesne to obtain a license agreement?

A Yes.

Q Even though the facilities may be within the jurisdictional limits of this bridge?

A Yes, we would still --

Q And even though Duquesne is locating those facilities at that location pursuant to an Order from the Commission?

A We would require some kind of an agreement.

Q Would you charge for that agreement?

A I don't know.

Q Do you charge for other such agreements?

A Yes, we do.

Q What are your charges based upon?

A I don't know. We have a manager of contracts that handles those, and unless I get into a specific location and consult with him, I would have no idea what the charges would be.

MR. CRAYNE: I have no further questions.

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JUDGE NEMEC: Redirect?

MR. DONOVAN: Just a few on redirect.

REDIRECT EXAMINATION

BY MR. DONOVAN:

Q ConRail made an inspection at the behest of the Commission in 1982 or 1983 and on that it based its opinion that 16 tons could be accommodated on the bridge, is that right?

A Yes.

Q Has ConRail since that time made six-month periodic inspections?

A Yes, we have.

Q And have those inspections indicated any substantial change in the structure since the original rating which would alter that conclusion?

A No, sir, they have not.

Q With respect to the alteration of ConRail's facilities -- the communications and signals -- would ConRail be agreeable to replacing those lines on poles after the project has been completed?

A Yes.

Q Would that entail more expense than the expense shown in ConRail's Exhibit No. 5?

A Yes, it would.

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Q Is it easier and cheaper to maintain a communications and signal line on poles than it is underground?

A Yes, it is.

Q And what's the reason for that?

A You have more work, etc. to get in to the underground cables, and also they're buried, you cannot see them to visually inspect them, whereas you could if they were overhead.

Q If the Commission issues an Order directing ConRail to bury its lines during construction of the project and then replacing them on poles after the accomplishment of the project, would ConRail be agreeable to do that?

A Yes, we would at project expense.

Q You stated the ConRail would voluntarily make a contribution of one-half of the 5 percent unfunded portion, is that right?

A Yes, sir.

Q Is that conditioned upon ConRail not being imposed any maintenance responsibility for the new structure and conditioned upon any temporary measures that the Commission might direct taken be a part of the project cost?

A Yes, sir.

MR. DONOVAN: I have nothing further.

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JUDGE NEMEC: Any other questions of this witness?

RECROSS-EXAMINATION

BY MR. MARTIN:

Q Mr. Addison, just to clarify this one-half of the remaining 5 percent, is ConRail willing to volunteer to pay half the remaining 5 percent of the entire project cost?

A Yes.

Q It was testified, I believe, that you were present at a field conference with the Department and Commission engineers before the Commission's emergency Order issued?

A Yes, I was.

Q Did you testify that at that time you did not disagree with the judgment of the Department and the Commission engineers that the bridge should be posted for 3 tons?

A I did not disagree with them; I did not agree with them either.

Q Would you agree that even assuming there is room for disagreement over the bearing capacity of this structure, that it's better and in the interest of the public safety to err on the side of reducing the load limit as opposed to err on the side of keeping it at what some engineers

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believe is dangerous tonnage level?

A Yes.

Q Wouldn't you agree then that in order to repost the bridge for the original 16 tons, before that is done and in order to err on the side of the public safety, it would be best to undertake a study justifying raising the limit rather than to undertake a study to justify the reduction?

A Yes.

MR. MARTIN: I have nothing further, Your Honor.

JUDGE NEMEC: Any other questions?

FURTHER REDIRECT EXAMINATION

BY MR. DONOVAN:

Q How long would such a study take, Mr. Addison, do you have any idea?

A No, I do not. I would agree with what Mr. Peda has already testified to. I think it would take approximately the same amount of time that Mr. Peda --

Q To make a study?

A Yes.

MR. DONOVAN: I don't have anything further.

MR. FECZKO: I have a few.

FURTHER RECROSS-EXAMINATION

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BY MR. FECZKO:

Q The only condition that you've indicated that you saw that has changed since the '82 Order was the crack getting somewhat wider or moving a little?

A Yes.

Q Is there any other condition that you saw in the bridge structure since the '82 Order that would constitute a changing or indication that some change of that weight limit should have occurred?

A The concrete continues to spall and some falls down, but in our opinion that's more cosmetic than it is actual structural failure.

Q So that the only structural thing is this one crack that we're talking about?

A Yes.

Q Back to this signal line, if I indicated to you that the railroad did bury their cable lines along the entire length of Dawson Avenue in the Borough of Glenfield, would you know why they did that if it's more expensive and not as good to maintain that way?

A They probably buried them to accommodate the construction of the I-79 overhead bridge. I wasn't working in this territory at that time and I don't know that to be a fact.

MR. FECZKO: That's all.

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JUDGE NEMEC: Any other questions?

MR. CONWAY: Yes.

BY MR. CONWAY:

Q Mr. Addison, what railroads had maintenance obligations prior to 1982 in connection with this bridge?

A The original Order required Pennsylvania Railroad to maintain.

Q That's a predecessor of ConRail, is that right?

A That's legal -- you'd have to talk to my lawyer.

Q You wouldn't know how to answer that as a layman?

A No, I don't.

Q Any other railroad?

A Not that I know of.

Q How far back did the Pennsy's obligations go with regard to maintenance?

A They started in 1925.

Q How old is the bridge?

A That's when the bridge was built.

Q So Pennsylvania Railroad and then ConRail had the continuing maintenance responsibility in connection with this bridge up until today?

MR. DONOVAN: Object.

A No. Penn Central was in there some place.

Q That's also a predecessor to ConRail, is that not right?

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A I don't know.

Q Who else?

A That's all.

MR. CONWAY: Okay.

JUDGE NEMEC: Any other questions for this witness? (No response) Thank you, sir, you're excused.

MR. DONOVAN: Your Honor, I'd like to offer ConRail's Exhibit 5, and for the convenience of the parties also, I would like to file a late-filed exhibit which would be an Order of the Public Service Commission of Pennsylvania entered on October 27, 1925 at Complaint Docket 6297 entitled, "County of Allegheny vs. Pennsylvania Railroad Company, Department of Highways, Borough of Glenfield, Township of Kilbuck, Allegheny County", and an amended Order at the same docket number entered on January 12, 1926, same caption on the case.

This involves the then elimination of a grade crossing by the construction of the viaduct that is substantially there today, under which The Pennsylvania Railroad and the County of Allegheny equally shared the cost of the construction, and under which The Pennsylvania Railroad was obligated to maintain the structure.

If I might file those two Orders as ConRail's Exhibit No. 6, I'll furnish copies to all parties. Although it is part of the Commission's record, I think for the convenience

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of the parties I think it would be helpful.

JUDGE NEMEC: Any objections to ConRail's Exhibits 5 and 6?

MR. MARTIN: No objection.

JUDGE NEMEC: There being no objection, Conrail's Exhibits 5 and 6 will be admitted into the record. 6 is subject to ConRail providing adequate copies for all of the parties. Glenfield Borough is next.

(Witness sworn)

JOHN MENHART, called as a witness on behalf of Borough of Glenfield, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. FECZKO:

Q Would you state your name, please?

A John Menhart.

Q Where do you live, Mr. Menhart?

A I live in Glenfield Borough.

Q Where at?

A 115 River Avenue.

Q And are you directly affected by this proposal personally?

A Yes.

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Q And what is your position in the Borough?

A I am President of Borough Council.

Q How long have you been president of council?

A 3-1/2 years and have been on council approximately 6 years.

Q Have you reviewed the questions that the Commission requested be answered?

A Yes, I have.

Q Using the same format then, would you state whether the Borough has any objections or constructive criticism to offer concerning the proposed crossing project?

A We have no objections to the proposed crossing project; however, we do recommend that steps be taken to either restore the weight limit or provide alternate access for construction as soon as possible to alleviate problems within the Borough's services until such new construction can be completed.

Q Would you state what portion of the costs of preparing studies and detailed construction plans Glenfield Borough would agree to bear, and what party or parties it suggests should bear the remaining portion, if any, and state the reasons?

A Glenfield Borough cannot bear any cost of the studies and plans for the subject project. We recommend that since funding has been provided at 80 percent federal

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and 15 percent state, that the remaining 5 percent be assigned to ConRail.

JUDGE NEMEC: Let's go off the record a second.

.....OFF RECORD DISCUSSION.....

Q In regards to Question 5, is it the Borough's feeling that since PennDOT has already agreed to bear the cost of the studies and plans that the Borough is agreeable to that?

A Yes.

Q Would you indicate which portions of the proposed crossing project the Borough would agree to construct and which portion it suggests should be constructed by other parties and state reasons for the recommendation?

A We will not construct any portion of the project and recommend that construction be by the Pennsylvania Department of Transportation.

Q You said you will not -- can the Borough construct this project?

A We do not have the resources to construct the project.

Q Would you state what portion of the costs of the proposed crossing project the Borough would agree to bear, state which party or parties it suggests should bear the remaining portion, if any, and state the reasons for the recommendation?

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A We cannot bear any cost of construction. We recommend that the remaining 5 percent that is in question be covered by ConRail.

Q Would you state which portions of the proposed crossing project the Borough would agree to maintain after the project has been constructed, state which party or parties it suggests should bear the remaining portions, if any, and state the reasons for the recommendation?

A We can provide the routine seasonal maintenance of cleaning snow removal, line painting, such routine maintenance functions; however, for more detailed maintenance activities such as routine inspection of the structure, repainting of the superstructure and redecking when necessary, Glenfield Borough does not have the resources. We recommend that that portion of the maintenance responsibility be assigned to the Department of Transportation.

Q Does the Borough have an engineer?

A No, we do not.

Q Have they had one in the past year?

A We have occasionally retained an engineer for specific projects strictly on a project basis.

Q Do you know what the current annual budget is for the Borough of Glenfield?

A The 1985 --

MR. HERSKOVITZ: Objection.

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MR. MARTIN: Objection, Your Honor.

MR. DONOVAN: I join in that objection, Your Honor.

JUDGE NEMEC: The objections are noted. For the sake of having a complete record in this proceeding, I'll permit the witness to answer. Go ahead, sir.

A The 1985 income for the Borough of Glenfield in the general account is approximately $30,390; the liquid fuels tax refund approximately $4,700; revenue sharing approximately $2,600. Our 1986 projections are essentially the same; however, we expect general revenues will increase to approximately $31,000.

Q Would you state what portion of the cost of property damages resulting from the construction of the proposed crossing project the Borough can agree to bear and whether it agrees to reimburse any involved non-carrier public utility companies for any of their costs incurred in the alteration or relocation of their facilities?

A We cannot bear the cost of such damages. We do recommend that those costs be considered as part of the construction project and appropriated as such.

Q Has the reduction of the weight limit on the viaduct caused a hardship for the residents of the Borough?

A Yes, it has. At this point we have had school buses disrupted; however, the emergency ruling permitting the van type school bus has taken care of the problems for

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the primary school students. The secondary students are waiting at the top of the viaduct for bus transportation.

Q Is there a bus stop at that location?

A There is no specific bus stop.

Q Are there sidewalks up there?

A There is a sidewalk but no designated bus stop area.

Q How about the fire department, where is the fire department in the Borough of Glenfield located?

A The fire department is on the river side of the Borough; therefore, to service other areas of the Borough, it must cross the viaduct and does exceed the weight limit. We also have a situation where the present fire equipment is really not adequate to handle a residential or business fire on the river side of the viaduct; therefore, there would be a need for assisting companies to cross the viaduct. We also had a situation on November 19 where an individual jumped from the Interstate 79 bridge. At that time several fire companies from the surrounding area did come to try to assist in that rescue. Their equipment did exceed the weight limit.

Q Does the Borough fire department presently have a ladder truck at all?

A No, it does not.

Q So they have to get that from somewhere else if

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they need access for a ladder?

A Yes, that is correct.

Q What has caused in the recent years a reduction of the Borough's income so drastically?

A The Borough was reduced to its present size by two construction projects -- construction of the expanded Route 65, which during construction eliminated approximately 15 percent of the Borough's structures and tax base; construction of the Interstate 79 project removed approximately 50 percent of the remaining structures and tax base. That amounted to a total reduction of approximately 60 percent, or 120 of approximately 200 structures that existed in the Borough.

Q That occurred in the last how many years?

A The Route 65 project was in the late '50s, I believe; Interstate 79 was in the late '60s, early '70s.

Q Has that affected the Borough's ability to at this time provide any additional funds to fund any of these projects that are being requested?

A Yes, it definitely has.

Q Is there a county funded park located within the confines of this particular area with access across the viaduct?

A Yes, there is.

Q Are there river docking facilities and also

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river access for pleasure boating within the Borough of Glenfield located across the viaduct?

A Yes, there is a privately operated facility.

Q And are the boats within the weight limit that cross this particular bridge?

A The boats are perhaps within the limit; however, they must be towed by some other vehicle. The combination of the boat and vehicle would exceed the existing weight limit.

MR. FECZKO: That's all. Cross-examine.

JUDGE NEMEC: Mr. Martin.

CROSS-EXAMINATION

BY MR. MARTIN:

Q Mr. Menhart, you indicated that from time to time the Borough has retained an engineer for special projects, is that correct?

A Yes.

Q Could not the Borough retain an engineer to perform periodic inspections or studies of this bridge if the Borough were assigned maintenance responsibility?

A Depending on the extent and nature of such inspections, it is possible that we could. We would have to look at it from a financial standpoint and whether or not that would be possible.

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Q The Borough certainly has the legal capacity?

A We have the legal capacity.

Q And the Borough also has the legal capacity to contract out for any work that its own forces cannot do, is that not correct?

A Yes, we do.

Q With respect to the remaining 5 percent not funded, has the Borough sought any other source of funding from county, federal or even state sources to assist in coming up with that 5 percent?

A Yes, we have sought funding from virtually every source we could think of, including state, federal, county and possible alternate local and grant type funding. So far we have not had any commitments for specific assistance in the funding.

Q Is it your position that all those sources of funding will prove to be unavailable?

A At this time I would say yes.

Q Have you performed any calculations or has anyone under your supervision or supervision of council performed any calculations to indicate what the actual effect on taxpayers on the Borough would be if the Borough were ordered to come up with this 5 percent?

A No, we did not do that. The 5 percent would be approximately $175,000 and when one looks at our total

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income structure, we didn't feel that calculation was necessary to determine the effects.

Q Is the Borough permitted to borrow money under the law?

A We probably are permitted to borrow money. We have not really evaluated opportunities for borrowing.

Q You heard the testimony of ConRail's witness that ConRail was willing to voluntarily contribute 2-1/2 percent of this project cost. Is it your position that even 2-1/2 percent by the Borough would have too serious an economic impact on it?

A Yes.

Q Supposing the remaining 2-1/2 percent not volunteered by ConRail were divided in half between the Borough and the County, would that still be your position?

A Yes.

Q Mr. Menhart, you testified as to the hardship caused by the present posting of the bridge for 3 tons. It's not your recommendation that that limit be lifted without any additional work done to the bridge, is it?

A Our concern from a Borough standpoint is twofold. One is the economic viability of the businesses involved, which are a source of our income, and also the services and convenience of the public safety nature to the Borough; however, we also have the broader concern of the

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public safety of those people who are using the viaduct, and certainly we believe that there apparently was a reason for the reduction or it would not have been accomplished, and we believe that further studies should be undertaken, or modifications to the structure be made before the limit is lifted again.

MR. MARTIN: I have nothing further, Your Honor.

JUDGE NEMEC: ConRail.

MR. DONOVAN: Nothing.

JUDGE NEMEC: Allegheny County.

BY MR. OPSITNICK:

Q Mr. Menhart, I guess from your comments I'm assuming there are no schools located below the viaduct?

A No, there are not.

Q So all the pupils either have to apparently catch a bus at the bottom of the viaduct or walk to the top to catch a bus?

A That is correct.

Q I get the impression from your testimony that this viaduct is a key link in both getting from one part of the Borough to the other, and the people on the river side getting to other points, am I correct?

A It is the only link.

Q The viaduct is in essence a ramp between Legislative Route 652 up above and your local streest below them?

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A Yes, it is.

MR. OPSITNICK: I have nothing further, Your Honor.

JUDGE NEMEC: Columbia Gas?

MR. JACOBY: No questions.

JUDGE NEMEC: Duquesne Light.

MR. CRAYNE: Nothing.

JUDGE NEMEC: American Industrial Contractors.

BY MR. CONWAY:

Q Mr. Menhart, are you familiar with any other businesses on East Beaver Street other than C & E Marina?

A The three businesses that exist in the Borough, C & E Marina, American Industrial Contracting and a Valley Veterans organization, which is a non-profit organization.

Q What kind of use does AIC use the viaduct for?

A American Industrial uses the viaduct for deliveries of materials in the manufacture of their product, and also for transport of construction vehicles, necessary trailers and other items necessary in conducting the trade to and from the main location.

Q Most or all of these things are now forbidden on the viaduct under this new weight limit, is that right?

A That is correct.

MR. CONWAY: I have nothing further.

JUDGE NEMEC: Redirect?

MR. FECZKO: Yes.

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JUDGE NEMEC: I'm sorry, Trial Staff.

BY MR. HERSKOVITZ:

Q Mr. Menhart, at the beginning of your testimony you made a statement, I'm not sure I got it all. You said while the new bridge is being constructed, steps should be taken to improve the existing structure, is that what you stated?

A Or provide an alternate access.

Q Basically, what steps are you suggesting be performed?

A Whatever steps are deemed necessary by an evaluation in order to determine what is required to provide a weight limit, preferably the 16-ton limit; however, an alternate limit that would serve the purposes of the Borough residents, the Borough businesses, our need for emergency services, and also the needs for the construction vehicles that will be required for the construction of the new project.

Q What would be the minimum weight limit?

A Based on my discussions with the affected people within the Borough, we believe that a 10-ton limit would probably suffice for the services that we need; however, this still does impose some restrictions on American Industrial Contracting and C & E Marina as far as their ability to bring in their materials and equipment in a

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most economical fashion. There would be additional costs incurred by those people.

Q The 16-ton limit that was on the structure, that was adequate for those two companies?

A The weight limit was 16 tons or 28 tons for combinations.

Q And that was adequate?

A That was adequate.

Q And what is your alternate method besides increasing the load carrying capacity of the bridge?

A The only other alternate that appears possible would be a temporary grade crossing.

Q An at-grade crossing?

A Yes.

MR. HERSKOVITZ: Thank you.

JUDGE NEMEC: Where would you put the at-grade crossing?

THE WITNESS: An at-grade crossing could possibly be located near the existing Interstate 79 bridge. At that location the southbound lanes of Route 65, Dawson Avenue in the Borough of Glenfield, and the ConRail tracks are at nearly an equal level. A problem with that location, however, is that to the west of that site the ConRail tracks do curve and there is a limited visibility of approximately one quarter mile along those tracks, so considering the

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speeds of ConRail trains, that would create additional safety hazards, not only from a railroad standpoint, but also from a standpoint of the traffic on Route 65.

JUDGE NEMEC: Any other questions for this witness?

REDIRECT EXAMINATION

BY MR. FECZKO:

Q Do you know if there's any money in the Glenfield budget provided for engineering services?

A We provide some money in the budget for engineering services. In '85 it was $1,000 in order to provide administration for a water line project; in '86, our proposed budget will be $800 for engineering services.

Q Is there any surplus left at the end of the year for Glenfield Borough?

A No.

Q Can you recall the last time the Borough had an emergency situation involving expenditure of funds that they couldn't come up with through their taxing powers?

A No, I cannot at this time.

Q Do you recall the water line break under the Ohio River -- were you a resident --

A No, I was not a resident of the Borough at that time.

Q Is the Borough limited in the amount of taxes

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it can charge or access against the taxpayers of the Borough?

A Yes, we are presently within, I believe it is two mills of the maximum allowed by Pennsylvania State Law.

Q If the Borough was able to borrow money, if the bank would loan it to the Borough --

MR. DONOVAN: Your Honor, I assume there's a continuing objection to testimony with respect to ability to pay, is that right?

JUDGE NEMEC: Yes, sir.

Q If the Borough were able to borrow money, if the bank would loan it to the Borough, would the Borough have sufficient funds even if it raised the millage to be able to pay this back in any reasonable amount of time?

A It is not likely in the dollar amounts that would be necessary.

Q Do you know whether the Borough tried to borrow money when the last problem arose with this river project -- the water line project?

A I do not know about that particular instance; however, we have occasionally evaluated the possibility of tax anticipation bans, which of course are of a very short term nature. That's the only borrowing that we have

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evaluated in recent years.

Q Have they ever gotten any?

A No, we have not.

MR. FECZKO: That's all.

JUDGE NEMEC: Any other questions for this witness?

RECROSS-EXAMINATION

BY MR. OPSITNICK:

Q Mr. Menhart, you would agree that the pedestrian traffic on the viaduct walkway is all local in nature then?

A Yes, it is.

Q Would you also agree that the vehicle traffic is local in nature in that if you're coming down the viaduct, there's no through passenger going into Glenfield Borough for a particular purpose, coming up the viaduct and leaving from Glenfield?

A That is correct.

MR. OPSITNICK: That's all.

JUDGE NEMEC: Any other questions?

BY MR. MARTIN:

Q Mr. Menhart, you were present at the testimony, I believe of ConRail's witness or perhaps it's what ConRail's attorney read into the record, but the existing viaduct was constructed some time ago to eliminate an at-grade crossing, were you not?

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A Yes, sir.

Q So the purpose of the construction of the viaduct was not to provide a ramp to Route 65, is that correct, even though it may serve that function?

A That I suppose would be true.

Q Did you not indicate that there was a County park and other river side recreation attractions, let's say, within this area that is served by the viaduct?

A Yes.

Q Would it be your opinion that residents from other parts of Allegheny County would have to use the viaduct to access both that County park and these recreation attractions?

A Yes.

MR. MARTIN: I have no further questions.

JUDGE NEMEC: Any other questions? (No response) Thank you very much, sir, you're excused. Allegheny County.

(Witness sworn)

JOE HRABIK, called as a witness on behalf of Allegheny County, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. OPSITNICK:

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Q Would you state your name and spell your last name?

A My name is Joe Hrabik -- H-r-a-b-i-k.

Q Mr. Hrabik, in what capacity are you employed with Allegheny County?

A I'm employed as the chief engineer of the Allegheny County Department of Engineering and Construction.

Q Are you authorized to testify on behalf of the County today?

A Yes.

Q Mr. Hrabik, does Allegheny County have any facilities in the immediate area of the Glenfield viaduct in terms of roads, bridges, other types of structures that it's responsible for?

A No, it does not.

Q Do you have any idea of the number of bridges and other bridge type structures that the County currently is responsible for?

A Yes, I can provide a rough estimate. Our lists currently contain slightly over 500 structures within Allegheny County. That includes large structures, say the size of the Sixth, Seventh and Ninth Street bridge, South Tenth Street bridge on our major rivers all the way down to smaller box culverts in excess of 8' in length, and if you include drainage structures which are smaller than 8',

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you could run it up into the thousands of structures within Allegheny County that we have full responsibility for.

Q Do you have any idea of the number of miles of roadway that the County is responsible for?

A Yes, the County is responsible for roughly 700 lane miles of roadway pavement within Allegheny County and approximately 350 miles of roadway.

Q Mr. Hrabik, more specifically with this project, does the County have any objections or constructive criticism regarding the proposed crossing project?

A No, we have no objections to the improvement.

Q Does the County have any constructive criticism?

A No, we do not.

Q Mr. Hrabik, does the County agree to bear any portion of the costs of preparing studies and detailed construction plans for this project?

A No, the County has no plans for that participation.

Q Does the County agree to pay any portion of the proposed crossing project construction costs?

A No, the County has no plans for that participation either.

Q Does the County agree or have any plans to participate in bearing any portion of the cost for the maintenance of the proposed crossing?

A No.

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MR. OPSITNICK: I have nothing further.

JUDGE NEMEC: PennDOT.

CROSS-EXAMINATION

BY MR. MARTIN:

Q Mr. Hrabik, you heard the testimony of the witness from the Borough that there was a County park located in this area that is served by the viaduct -- you heard that testimony, did you not?

A Yes.

Q Is that correct?

A I'm not aware of any County park facility in that area. We do through our department work in the major County parks, but I'm not familiar with any park in that area.

Q Are you familiar with the river bank's recreational facilities that were testified to?

A No, sir.

Q Do you have any evidence to rebut the testimony that such facilities are there?

A Not at this time.

Q Let us assume then that they're there, would you agree that those kinds of facilities have appeal to residents in Allegheny County at large rather than just residents within the Borough or within this particular area?

A I'm aware of County parks attracting a tremendous

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volume of people. Of course, most of the County parks that I'm aware of exceed in acreage the entire community of Glenfield. Our major parks, I can't imagine one being located there.

Q Does Allegheny County have the engineering staff to assist the Borough in performing periodic inspections on the new structure if the Borough should be assigned maintenance by the Commission?

A The County has been able to cooperate in that capacity with local communities.

Q Would the County be willing to cooperate in that capacity with respect to this project?

A I can foresee that being a possibility. At the present time I wouldn't see any reason why that wouldn't be possible unless it was considered a PennDOT structure.

Q Does the County have the engineering capability and also the maintenance staff to assist the Borough in performing any maintenance which the Borough forces cannot perform, again, should the Borough be ordered maintenance of the new structure by the Commission?

A I can respond to that and also clarify my response to your previous question. The County has no capability -- no in-house staff -- no equipment or manpower facilities to do any of that type of work. Any work that we would do, we would have to contract out or find some other way to

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do that just as any other community would. We have no in-house capability either for maintenance or inspection or anything.

Q Would Allegheny County be willing to bear maintenance responsibility for the new structure jointly with the Borough?

A The County has no plans to engage in that sort of thing.

MR. MARTIN: I have no further questions, Your Honor.

JUDGE NEMEC: ConRail.

BY MR. DONOVAN:

Q I take it, Mr. Hrabik, then that any maintenance that's done under the auspices of the County on roads and bridges is all done under contract, is that correct?

A Well, let me speak to that. The vast majority of our major work such as this bridge would entail is done by outside contract. We have to get other people involved because we don't have the staff. Minor maintenance work is handled by our staff, but this project would be out of our realm in capacity.

MR. DONOVAN: I have nothing further.

JUDGE NEMEC: Trial Staff.

BY MR. HERSKOVITZ:

Q What are your reasons for your statements that the County will not participate in sharing the cost of the

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project or future maintenance?

A Our general feelings are that our current limits of responsibility are weighty enough and really bring the County to its capacity as far as maintenance and ownership of responsibility. We have, as I mentioned in my testimony, extensive responsibility. We find ourselves in a situation where we have numerous bridge designs and numerous weight limit problems on our own bridges that we have funding problems with and are unable to construct because of those funding problems. For example, we have 40 designs for bridges with weight limits that because of various funding problems we're unable to construct. I hope that gives you a feeling in response to your question.

JUDGE NEMEC: Let me interject here. Wouldn't the County like a deal like ConRail is asking for -- put up 2-1/2 percent and then be out from under any maintenance responsibilities?

MR. OPSITNICK: Judge, if I may interject. I don't think Mr. Hrabik or I have any authority to even begin to answer that question to be honest with you. It's something that bears looking into.

JUDGE NEMEC: That's fair enough. I'm sorry, go ahead.

A That might be a fair deal, though, right?

Q The bridge is in the County, isn't it?

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A Yes.

Q And the residents who live in the Borough are also County residents, right?

A Yes.

MR. HERSKOVITZ: Thank you.

JUDGE NEMEC: Also you'd agree that County residents make a great deal of use of the improvements that were made to Route 65 and Interstate 79?

THE WITNESS: State roads?

JUDGE NEMEC: Yes.

THE WITNESS: Yes, sir.

JUDGE NEMEC: Any other questions for this witness?

BY MR. FECZKO:

Q Are you familiar with any grants that would be available to the County or the Borough to pay this 5 percent share that needs to be funded?

A I'm aware of the funding programs for bridge construction which both PennDOT and County and other governmental units take advantage of. Beyond that I'm not really involved in the funding area.

Q Do you know whether the County Community Development funds would be available to fund this type of thing, or is that prohibitive to be used in connection with the other funds?

A I really can't speak to that. That's outside my

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department and responsibilities.

Q One of the questions that the Commission asked you to respond to was who should bear the cost of that 5 percent, and I don't think you've answered that. Will you tell us what your opinion is of who should bear that responsibility?

A We have no opinion on that.

MR. FECZKO: That's all I have.

JUDGE NEMEC: Any other questions? (No response) Any redirect?

MR. OPSITNICK: No redirect.

JUDGE NEMEC: Thank you very much, sir, you're excused. Columbia Gas We'll take next.

(Witness sworn)

JOHN WEBER, called as a witness on behalf of Columbia Gas, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. JACOBY:

Q Will you state your name for the record, please?

A John Weber.

Q By whom are you employed, Mr. Weber?

A Columbia Gas of Pennsylvania.

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Q What is your position with Columbia Gas?

A Supervisory civil engineer.

Q Are you authorized to testify on behalf of Columbia Gas in this proceeding?

A I am.

Q Are you familiar with the project which is the subject of this proceeding?

A Yes, I am.

Q The Commission has posed certain information that they wish to elicit from you. Does Columbia Gas object to the proposed crossing inprovement presented by the Department's detailed construction plan?

A No, we don't.

Q Do you have any constructive criticism to offer in connection with this project?

A No.

Q Have you or has Columbia Gas prepared a detailed plan indicating the specific location of its existing facilities?

A Yes, we have plans prepared on PennDOT's pass out plan showing our existing facilities.

MR. JACOBY: I have copies of this plan I would like to introduce as our Exhibit No. 1.

JUDGE NEMEC: We'll mark this as Columbia Exhibit 1.

(Columbia Gas Exhibit No. 1, being a plan indicat-

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ing location of existing facilities, was produced and marked for identification)

Q Does it indicate any proposed relocation of any facilities?

A No, at this time we do not propose any relocation of our facilities; however, they are very close to some of the construction proposed on this project, and any changes in the plans or if the contractor decided he could not live with this closeness would require some relocation.

Q But at the present time, to your knowledge, we have no need to relocate?

A We do not believe there is any reason to relocate any facilities.

Q When were the present facilities installed?

A Columbia has a 16" line along Dawson and East Beaver Streets that was installed in 1974, and also has a 4" line along the same street installed in 1977, and 2" line installed along Phillips Lane in 1977.

Q Do you know under what authority or whose permission was obtained to install these facilities?

A The 2" and 4" line were done with the permission of Glenfield Borough; the 16" line was installed under authorization of the P.U.C. at Application Docket 95518.

Q Were these facilities installed at Columbia's cost and expense or was Columbia reimbursed for it?

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A Columbia was reimbursed for 90 percent of the cost of the installation on that docket.

Q What do you expect to be the service life of the present facilities?

A 100 years.

Q In the event Columbia Gas were forced to relocate its facilities based on a change in the present plans, where would such relocation be made?

A We don't know definitely what we would be trying to avoid. They would probably end up within the public right-of-way again.

Q Have you any idea how much it would cost for right-of-way acquisition and construction?

A We have no idea what any cost would be on it.

Q Would Columbia expect to be reimbursed for this cost?

A If we incurred any cost, yes, we would expect to be reimbursed.

MR. JACOBY: That's all, Your Honor.

JUDGE NEMEC: Does Trial Staff have any questions?

MR. HERSKOVITZ: No, Your Honor.

JUDGE NEMEC: PennDOT.

MR. MARTIN: Just a couple.

CROSS-EXAMINATION

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BY MR. MARTIN:

Q You indicated, did you not, that all the facilities we're talking about are located within the public right-of-way?

A Yes.

Q You indicated placement of the 16" steel pipe was in the public right-of-way and was 90 percent reimbursed?

A Yes.

Q Yet in spite of the benefit that Columbia Gas receives from locating its facilities within the public right-of-way and the fact that the original installation of one of those facilities was 90 percent funded by other parties, you're still unwilling to relocate that facility at your own cost and expense?

A There was no benefit to Columbia -- it was just a replacement of the existing facility.

MR. MARTIN: I have nothing further.

JUDGE NEMEC: Any other questions for this witness? (No response)

MR. JACOBY: I move that this exhibit be admitted.

JUDGE NEMEC: Any objections to Columbia Exhibit 1? (No response) There being no objections, Columbia Exhibit 1 is admitted into the record in this proceeding. Thank you, sir, you're excused. Duquesne Light.

(Witness sworn)

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THOMAS T. HAMILTON, called as a witness on behalf of Duquesne Light, being first duly sworn, was examined and tesfied as follows:

DIRECT EXAMINATION

BY MR. CRAYNE:

Q Please state your full name.

A Thomas T. Hamilton.

Q What is your business address, Mr. Hamilton?

A Duquesne Light, One Oxford Centre, Pittsburgh.

Q You're employed by Duquesne Light Company?

A That is correct.

Q In what capacity?

A I'm supervising engineer at Western Division.

Q Are you authorized to give testimony in this proceeding?

A Yes, I am.

Q Mr. Hamilton, does Duquesne Light Company have any objection to the proposed crossing improvement in this proceeding?

A No, we don't.

Q Do you have any constructive criticism to offer?

A No.

Q Have you prepared a plan indicating the location of the Duquesne facilities which exist in the vicinity of

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the crossing?

A Yes, we have a preliminary plan of locating present facilities and our preliminary proposal to relocate existing facilities.

Q I'm going to show you a document, Mr. Hamilton, and ask you to identify that document.

A This is the preliminary plan.

Q How is it identified?

A It has a file number Western 407640.

Q And does it have a drawing number?

A That would be the file number on it.

MR. CRAYNE: I would like to have this marked as Duquesne Exhibit 1.

JUDGE NEMEC: It may be so identified.

(Duquesne Light Exhibit No. 1, being a preliminary plan, No. W-407640, was produced and marked for identification)

Q Mr. Hamilton, could you briefly tell us what Duquesne facilities are in fact involved?

A Yes, we have a distribution pole line that's involved along most of the Glenfield viaduct -- it's running parallel to it. There's a total of seven poles that would have to be relocated to facilitate the new viaduct.

Q Are those seven poles located in private or public right-of-way?

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A Some are in private right-of-way and some are in public right-of-way. There are two along Phillips Lane that are in private right-of-way and there are three along Beaver Street that are in public right-of-way, and across the other side of the railroad tracks there's a pole and an anchor that are within the limits of the state highway.

Q So there are two on private right-of-way?

A That is correct.

Q Can you identify when these facilities were installed?

A Yes, they've been installed at various dates. The two poles on private right-of-way located in Phillips Lane were installed in 1972; the three poles located along East Beaver Street two were installed in 1936 and one in 1958, and across the way located near L. R. 652, the one in state right-of-way was installed in 1958.

Q The poles in public right-of-way, under what Commission authority were they installed?

A They were installed with a municipal permit approval and the one in the state right-of-way was installed with a state permit.

Q And the poles on private property are installed pursuant to private easement?

A That is correct.

Q What is the anticipated service life of the exist-

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ing facilities?

A Approximately 30 years.

Q That's from the date they were installed?

A That's correct.

Q If you are required to relocate these facilities, what will be the expected service life?

A 30 years.

Q Will there be an increase or decrease in the capacity of these facilities to serve customers?

A No, there will not be any increase or decrease in capacity.

Q Can you state where you would relocate the facilities that are in public right-of-way if you were not allowed to occupy public right-of-way?

A If we were not allowed to occupy public right-of-way, we would have to go on private right-of-way.

Q Is that possible?

A That is possible. We prefer to stay on the public right-of-way.

Q Do you have any idea how much it would cost to purchase private right-of-way?

A No, I do not.

Q Will Duquesne need to obtain a license from ConRail for certain of these facilities?

A Yes, we will for the portion of our wire that

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would go across the railroad tracks.

Q Do you know if it's ConRail's normal practice to require a license in the vicinity of a P.U.C. jurisdictional crossing?

A No, I do not.

MR. CRAYNE: I have no further questions.

JUDGE NEMEC: PennDOT.

CROSS-EXAMINATION

BY MR. MARTIN:

Q Mr. Hamilton, is cost the reason that Duquesne would choose to relocate facilities within public right-of-way?

A No.

Q Is it not less expensive to locate facilities within public right-of-way as opposed to purchasing private easements for those facilities?

A It could be but not necessarily.

Q What are the other reasons that Duquesne would choose to located its facilities within public right-of-way?

A Mainly two reasons. No. 1 reason would be to serve the existing customers. It's to our advantage to give them proper service, and No. 2, it's ease of maintenance as far as getting our equipment in, trucks and that to maintain the poles and wires.

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Q In your testimony, Mr. Hamilton, did you indicate whether Duquesne would be willing to relocate its facilities at its own cost and expense or would expect reimbursement from others?

A No, I did not but Duquesne would not agree to bear the entire cost of relocation.

Q Would Duquesne Light agree to perform its own relocation if necessary to do the work?

A We will agree to do the work at this time, yes.

Q Would Duquesne Light be willing to perform that work at its own initial cost subject to submission of what those costs actually are at some later time?

A That's correct.

MR. MARTIN: I have nothing further, Your Honor.

JUDGE NEMEC: ConRail.

MR. DONOVAN: Nothing.

JUDGE NEMEC: Trial Staff.

MR. HERSKOVITZ: Nothing.

JUDGE NEMEC: Any other questions for this witness? (No response) Any redirect?

REDIRECT EXAMINATION

BY MR. CRAYNE:

Q Do you have an estimate of these costs at this time, Mr. Hamilton?

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A Yes, I do.

Q What is that estimate?

A Approximately $20,000.

Q Do you know how much of those costs would be applicable to the facilities that are presently located in private right-of-way?

A I would say one-third to 50 percent.

Q Concerning the question of putting facilities in private or public right-of-way, is it always possible in your experience to obtain private right-of-way when you're trying to install or construct utility facilities?

A No, it's not always possible.

Q And is that a reason why you sometimes put facilities in public right-of-way?

A Yes.

MR. CRAYNE: That's all.

JUDGE NEMEC: Any other questions? (No response) Thank you, sir, you're excused. Objections to Duquesne Exhibit 1?

MR. MARTIN: No, Your Honor.

JUDGE NEMEC: No objections to Duquesne Exhibit 1, is it admitted into the record in this proceeding. We'll take a five-minute break at this point.

.....RECESS.....

MR. FECZKO: Could I clarify something for the record

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that came up during the break?

JUDGE NEMEC: Sure.

MR. FECZKO: The status of the park in Glenfield is actually a Borough park, but it has been required by the County of Allegheny to remain open to all residents of the County of Allegheny because the County paid for the park. So we can clarify that so there's no question about the status of the park. It's called Riverside Park. The County named the park, and as I said, they provided all the funds to construct the park -- there was a grant provided to construct the park and the County provided a grant to buy the park because the Borough didn't have the money to buy. That's the status.

JUDGE NEMEC: I can assure you the nature of the park and the funding of it is not critical to the decision in this case.

MR. FECZKO: I didn't want anyone later to think that was the new South Park or North Park.

JUDGE NEMEC: I take it there are no other non-carrier utilities present. Is the Duquesne Light witness still here? Stay right there. I note on your drawing it said foreign poles. Are those poles that belong to someone other than Duquesne Light?

MR. HAMILTON: What part are you looking at?

JUDGE NEMEC: You have a notation of foreign poles

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on the exhibit. Any chance those are ConRail's?

MR. HAMILTON: The poles with the circle with a dot in the middle are foreign owned. That would be customer poles that we attached our service to.

JUDGE NEMEC: It's no other utility?

MR. HAMILTON: There's no other utility on the poles there.

JUDGE NEMEC: Thank you, sir.

MR. FECZKO: See if I can indicate in response to the other question. The Borough water company, of course present, we have our own water system. We've had no problem other than what's already been put on the record. We know of no effect this is going to have on water lines.

JUDGE NEMEC: Trial Staff.

(Witness sworn)

DONALD R. FLEISHER, called as a witness on behalf of the P.U.C., being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HERSKOVITZ:

Q State your name and address.

A Donald R. Fleisher -- F-l-e-i-s-h-e-r -- Pennsylvania Public Utility Commission, P. O. Box 3265, Harrisburg

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Pa. 17120.

Q By whom are you employed?

A Pennsylvania Public Utility Commission.

Q In what capacity?

A As bridge engineer in the Rail Safety Division of the Bureau of Safety Compliance.

Q Are you a registered professional engineer in the Commonwealth of Pennsylvania?

A Yes, I am.

Q As part of your duties with the Public Utility Commission do you testify in rail-highway crossing proceedings?

A Yes, I do.

Q Do you make recommendations as to what should be done at crossings in the interest of public safety?

A Yes, I do.

Q Are you authorized to testify on behalf of the Commission in this proceeding?

A Yes, I am.

Q Are you familiar with the structure which is the subject of this proceeding?

A Yes, I am.

Q What, in your opinion, is necessary before construction can begin on a new bridge at this location?

A The right-of-way plans, the roadway construction

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plans and the bridge detailed construction plans must be completed and submitted to the Commission for its review and approval, and also should be submitted to all parties for their review.

Q Is that the only thing remaining, in your opinion, that needs to be performed before the project can begin?

A As the Department's witness indicated, the right-of-way must be cleared so that the Department or its contractor can go on to the property that's necessary once this structure would be built.

Q You have been at this location on prior occasions, is that correct?

A Yes, I have.

Q And you've observed the condition of this bridge?

A From a visual standpoint, yes, a cursory inspection.

Q Do you have any opinion as to whether or not the posting should remain at 3 tons, or posted for some other higher load limit?

A Since, I think 1980, which is the first time I visited this bridge, there has been a lapse of approximately five years time, and although I have not observed a great deal of difference in the condition of the structure, there has been some change, and in view of the fact that the Department of Transportation has retained a reputable con-

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sultant and he has made a recommendation that the posting should be lowered. I think, though, to be certain that we have a safe situation for the public, the posting had to be lowered. Whether 3 tons is the right figure or not, the conditions that we have here are such that it's sort of a judgment call. Really, the condition of this structure is such that it's very difficult, if not impossible, to actually calculate the capacity of this structure.

Q So what you're saying then is you're erring on the side of public safety?

A When we ordered the bridge posted at 3 ton, that's exactly what we did if we erred.

Q Do you have any opinion as to whether or not the existing bridge should be strengthened or the load carrying capacity increased in the interim before the new bridge is completed?

A I think in view of the testimony that has been presented here today, there certainly is some compelling reasons why perhaps this bridge should be capable of carrying heavier loads or should be available for carrying heavier loads, and in view of the fact in my prior testimony, we have posted it for 3 ton, and I think the bridge should be looked at and a determination made whether strengthening is necessary. ConRail has said that posting limit could be raised to 16 tons. I personally view that

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with all the facts and information we have question if this would be the right thing to do. I think some studies should be done before any increase in weight limit should be ordered at this location.

Q Is it your opinion that this should be looked at immediately?

A The need is now, and if anything is going to be done, it should be done as quickly as possible.

Q Mr. Menhart had mentioned another alternative would be to construct an at-grade crossing. Do you have any opinion as to the feasibility of that alternative?

A When I was at the site October 15, I spent some time looking around the area to see if I could spot a location where it might be possible to put in an at-grade crossing because as the discussion had occurred that day, it became evident that this might be a necessity at some point and it could occur at any point in case we had a sudden occurrence at the structure.

There is a location within the Borough west of the present viaduct -- between the present viaduct and I-79 -- and somebody mentioned this today where the street in the Borough, the railroad tracks and the state highway are reasonably close to the same elevation and it would be possible to put a grade crossing at that location.

Q Do you feel as between the two, strengthening

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the existing bridge and an at-grade crossing, which one would you recommend?

A Assuming that adequate strengthening is done, the use of the structure would result in much greater safety to the traveling public than putting in an at-grade crossing. If you use an at-grade crossing, you have the interference between the trains and the motor vehicles. You have motor vehicles trying to get out, particularly going out from Glenfield Borough and trying to get on to 65, which that itself would be a hazardous operation and perhaps result in some back-up of vehicles on the railroad tracks, creating another hazardous situation, and since in all probability the structure is going to have to be strengthened prior to its demolition strengthened to permit construction of a new bridge, doing strengthening work to the structure would -- what I'm saying is, strengthening the structure at some point is going to be a necessity anyway.

Q Are you saying it may have to be strengthened because the contractor may have to use it?

A Yes. Certainly he cannot use the bridge posted at 3 tons because he's going to have equipment, trucks hauling material, etc. that would far exceed the 3-ton weight limit posted on the bridge now.

Q The at-grade crossing alternative, if that was

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to be constructed, automatic flashing lights and gates would be needed there?

A There would certainly be some sort of protection necessary to attempt to try to eliminate any possible conflict between the railroad traffic and the highway traffic.

Q Do you have any opinion as to whether or not the current 3-ton load limit, or what the service life of the bridge is at the current 3-ton load limit -- that's assuming nothing is done to the bridge?

A It's extremely difficult, if not impossible, to really predict how long this structure is going to remain in its present condition. It has been opened up due to deterioration and it takes on water, I'm sure it's saturated, and what may occur during this ensuing winter with the freezing, particularly next spring when we have freezing and thawing, it could result in this structure being closed down, hopefully, with no collapse, but that's entirely possible.

Q So then it's your opinion that the bridge should be strengthened at this point in time?

A It would be my opinion that a must thorough study by someone expert in this area would indicate a solution, but in my position now in order to use the bridge with heavier loads that strengthening should be

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done, and without strengthening, the potential situation occurring of something happening to the bridge would necessitate closing it.

MR. HERSKOVITZ: Thank you, that's all I have.

JUDGE NEMEC: PennDOT.

MR. MARTIN: I have no questions of this witness.

JUDGE NEMEC: ConRail.

MR. DONOVAN: Just a couple.

CROSS-EXAMINATION

BY MR. DONOVAN:

Q Mr. Fleisher concerning the facts that the contractor who will perform this project will have to utilize this bridge for loads in excess of 3 tons, the fact that PennDOT, based upon the recommendation of its consultant, has imposed a 3-ton load limit and the fact that the testimony shows that if others than PennDOT are to perform temporary repairs, those temporary repairs could not be considered as part of the project cost to be financed with federal funds and state funds, would it be your recommendation that any temporary measures to increase the load limit be done by PennDOT?

A I think you made a statement that if any repairs were done by others than PennDOT, that these costs would not be considered as project funds. I'm not sure that

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that's true -- I don't know that that's been testified to.

Q I believe the testimony, Mr. Fleisher, by Mr. Peda was to the effect that if PennDOT were directed by the Commission to make temporary repairs which would result in a higher load limit, that that cost incurred by PennDOT would be eligible under federal rules for federal funding.

A I think he did make that statement, yes. To follow up on your prior question, in view of the rather intricate situation that we have here right now, I think I would have to recommend that PennDOT be ordered to do these repairs. ConRail has been under orders to keep the bridge maintained and capable of carrying a 16-ton load; however, they have expressed their opinion that they feel they have done this. The only alternative I have to PennDOT doing the repairs is to have PennDOT plan the repairs or prepare the plans for what repairs will be done and to have ConRail do it, and unfortunately, I feel this may result in delay in getting the work done, so I reluctantly say that I think PennDOT should be the one ordered to do it.

MR. DONOVAN: I have nothing further.

BY MR. MARTIN:

Q Mr. Fleisher, in light of the existing Order to which you referred assigning maintenance responsibility to ConRail, would it be your recommendation that ConRail be

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ordered to participate, if not entirely bear the cost of any of this repair work that you have recommended the Department study and undertake to perform?

A I think these costs should all be thrown into the project cost. I do feel that ConRail should share in the project cost.

Q Are you aware that under federal regulation if these costs are made part of the project costs, that the Department's federal funding may be jeopardized if the Commission should order ConRail to participate in these costs in any way?

A Yes, I am.

Q And that does not change your opinion with respect to who should bear the cost of these repairs?

A Does it really make any difference whether ConRail is ordered to pay them directly, or whether it's included in the project costs?

MR. HERSKOVITZ: If you can't answer --

JUDGE NEMEC: Let's go off the record for a second.

.....OFF RECORD DISCUSSION.....

JUDGE NEMEC: Anything further you wish to add to your answer, Mr. Fleisher?

THE WITNESS: I don't know whether I actually answered the last question.

JUDGE NEMEC: The situation appears to be that

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PennDOT's position is that they believe that any shoring up ought to be the responsibility of ConRail, given the Commission's 1982 Order.

THE WITNESS: Let me say this: In view of the fact that we really don't know at this time how much shoring work should be done or is going to be done, as a result we don't really have much of a handle on the size of the bill here. I would suggest that this be done at the Department's initial cost and expense and this be subject to further consideration by the Commission at another hearing.

JUDGE NEMEC: I specifically asked Mr. Martin early on in this hearing whether he felt it was a requirement of the funding process that the Commission fully allocate the costs of this project, and his answer was yes.

THE WITNESS: We're keeping the cost out of the project cost --

JUDGE NEMEC: In terms of interim temporary repairs and do that on a interim basis and allocate it later, yes, I guess we could do that.

MR. FECZKO: If they want to get into the full cost, I think it has to be done now.

MR. MARTIN: I think it may have to be decided now, Your Honor, because ConRail has conditioned its voluntary participation on including these costs within the project

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costs, so therefore, if we put off that question, then that jeopardizes ConRail's commitment, which leaves the 5 percent open again and that does not satisfy --

JUDGE NEMEC: Okay. Any other questions for Mr. Fleisher?

MR. FECZKO: I have one.

BY MR. FECZKO:

Q Do you have an estimate of the time that would be required to do this evaluation and study for the temporary shoring up repairs and to make these actual repairs how much time would that approximately take?

A Hopefully, a couple, three weeks to come up with plans of what has to be done. PennDOT I think has testified to the time it would take to go through the contracting process. I don't know personally of any way of shortening this, unfortunately.

MR. FECZKO: That's all.

JUDGE NEMEC: Any other questions for Mr. Fleisher?

BY MR. CONWAY:

Q If I understand you, Mr. Fleisher, it's immaterial what problems businesses or residents are having because this work is going to have to be done so that the contractor can build a new bridge, is that right?

A There's going to have to be strengthening work done to the bridge, yes.

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Q So regardless of what the problems are to the residents, it's the cost of this project, is it not?

A Yes, you could look at it that way. The strengthening of the bridge to permit the businesses and the people of the Borough to be served I don't think is as extensive as the strengthening that will have to be done to permit the construction to proceed.

Q What strengthening do you think the contractor who's going to build the bridge will require in matter of tons or gross weight?

A In all probability he's going to have to accommodate a transit mixing truck and they have a maximum load limit of 36 tons.

MR. CONWAY: I have no further questions.

JUDGE NEMEC: Any other questions for Mr. Fleisher? (No response) Thank you, sir, you're excused. Do we have any other parties who wish to offer their statements or testimony?

RESPONSE: Yes.

(Witness sworn)

EDWARD C. STEINHAUSER, a witness in his own behalf, being first duly sworn, made the following statement:

My name is Edward C. Steinhauser; I'm the president

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of C & E Motor and C & E Marina, located at 200 Dawson Avenue, Glenfield, Pennsylvania.

We have been in the marine business and we have been operating in the Borough of Glenfield since in the late 1960s. We have lived through the demolition of Glenfield and the building of I-79 and now we face the complete closing of our business unless some help is received on the Glenfield viaduct problem.

The viaduct was reduced to its 3-ton limit by a governing body and the new structure from what I gather at this hearing would be at least 3-1/2 years down the road for an opening.

We cannot receive products, as we are in the marine business, we handle boats, motors, trailers and all related facilities and accessories. We cannot receive our boats, motors, or trailers or parts for our customers due to this 3-ton limit.

We have the only retail gasoline outlet on the Ohio River pool between the City of Pittsburgh and Rochester in Beaver County. Without the gasoline, there's a very good possibility that the safety of the general public from western Pennsylvania would be in jeopardy due to the proximity of the dams. A gasoline truck cannot and will not come over that viaduct.

Our customers cannot legally bring their boats and

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equipment across our viaduct for the needed service. We handle boats from 16' up through 34'. Our rubbish removal is now impossible as the big rubbish trucks, again, will not come across.

In order to handle our facility, we have cranes, forklift and other service equipment which cannot be serviced; therefore, endangering our products because our facility does not service this type of equipment.

A major gas line crosses our property and in the event of a rupture we can see major problems. In fact there was a gas company -- I do not know which one -- worked within the Borough just within the last two days, and they had a backhoe and a dump truck in the Borough so they could not legally come across that structure.

We have fire hazards in that our product is made entirely of fibreglass which is highly inflammable. The Borough of Glenfield fire department has antiquated equipment, and in the event of an emergency, we would definitely need bigger equipment to come into our Borough.

We had been issued a building permit by the Borough of Glenfield to help us modernize our structure and to help us expand, thereby getting more jobs into the Borough which we now have to put on the back burner due to the fact we cannot get materials across the bridge.

The businesses in Glenfield, and I'm speaking naturally

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of C & E Marina, cannot wait, gentlemen, for 3-1/2 years -- we just can't do it. As of today, we are legally out of business. That's all.

JUDGE NEMEC: Any questions for Mr. Steinhauser? (No response) Thank you very much, sir, you're excused.

(Witness sworn)

DAVE MAYERNIK, a witness on behalf of his constituents in Glenfield Borough, being first duly sworn, made the following statement:

I'm Dave Mayernik, State Representative from the 29th Legislative District, which encompasses the Borough of Glenfield. Glenfield is one of the smallest of the non municipalities that I represent, and I'd like to give you a little background.

In the late '60s, early '70s, Glenfield had over 600 people. Because of PennDOT and progress, I-279 came right through the town and the little town of Glenfield now went down to 249 people, reducing their population by 60 percent and their tax base by 60 percent. Now their budget is approximately $30,000, and the two businesses that they have there are virtually closed. As Mr. Steinhauser has told you, he is legally closed because he can't get anything in or out through the viaduct.

The other business we have to consider is AIC, American

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Industrial Contracting, They have a warehouse and storage down there. They pay $3700 a month. They cannot bring any vehicle into that facility, and as a result, they are losing $44,000 by this being closed down annually. They have to rent another facility, and what we're requesting here today is that you waive the payment for Glenfield and find other resources for it, because as I've told you, you've cut their tax base by putting I-279 through there. You've done away with their businesses by putting a 3-ton weight restriction. They can't afford it, you can't get blood out of a stone, so I ask that you find an alternative means of financing the project. Thank you, sir.

JUDGE NEMEC: Thank you. Any questions of the representative? (No response) Do we have any other interested parties, individuals, groups, anybody else have anything they wish to add?

MR. MARTIN: Your Honor, I'd like to call Mr. Peda for a few brief questions to clarify some things that were put on the record since his testimony.

JUDGE NEMEC: You may do so.

MR. MARTIN: Mr. Peda, you've been previously sworn at this hearing.

ROBERT M. PEDA, a witness on behalf of PennDOT, was recalled to the stand, examined and testi-

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

fied as follows:

DIRECT EXAMINATION

BY MR. MARTIN:

Q Mr. Peda, you heard Mr. Fleisher's testimony that it was his recommendation that the Department of Transportation undertake to perform study and design to determine what is needed to return this bridge to a 16-ton limit, did you not?

A Yes, I did.

Q Does the Department of Transportation have the in-house capability to perform such a study and design, or would such work have to be contracted out?

A We do not have the capabilities. The work would have to be contracted out.

Q Would the work to perform any rehabilitation or whatever that was determined to be made also have to be contracted out?

A Yes, it would.

Q And would that increase the amount of time that would be required to get such a study done and to get that work done?

A Yes, it would substantially.

Q Given we don't know what needed work might result from that study, can you indicate for the record what

PEHGAD CO., BAYONNE, N.J. 07002 FORM 2094

delay might be caused by simply having to engage a consultant to undertake the study and design?

A To engage a consultant, we have to prepare a scope of work, advertise it. Our consultant selection procedures take roughly four months. Once we've advertised the work, the design itself can be done in a rather short time frame, say two to three weeks. Performing the analysis itself is a two to three week time period, and then once we have a design which the parties are in agreement with, we would have to proceed to advertise and let the contract.

MR. MARTIN: I have nothing further, Your Honor.

JUDGE NEMEC: ConRail, any questions?

MR. DONOVAN: Yes.

CROSS-EXAMINATION

BY MR. DONOVAN:

Q You referred to a 16-ton limit, Mr. Peda. You were present during Mr. Fleisher's testimony, were you not, when he said that the contractor has equipment that weighs up to 36 tons, isn't that right?

A Yes.

MR. MARTIN: Your Honor, that's beyond the scope of the questions I've just asked.

JUDGE NEMEC: Yes, it is but I'm going to permit

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

the question.

Q Wouldn't it be sensible if temporary measures were taken to increase the load limit that it be done at once in order to accommodate not only the loads that previously used this bridge, but also the loads that we can anticipate being put on it by the Department's contractor?

A It would be sensible, but the problem being -- you're talking such a time frame to actually do the design and perform the work separate from an upcoming contract. The contractor who did the job, I'm sure before he did the job would determine what he was going to do to get that structure up to the weight limit he needs, and he, as part of his work, would do that probably as part of the very first item that he would do on the job.

Q In other words, he would then repeat what had already been done to determine --

A What I'm saying is, he could do it quickly. There's no need for -- he wouldn't have to let a separate contract to do that. Before doing construction, he would beef it up to carry the weight that he would need during construction, keeping in mind that he only has to maintain that weight limit for a restricted period of time during construction.

Q Has the Department ever had an occasion that

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required quick action in an emergency?

A We have emergency procedures which can be implemented when life and limb is threatened, but in this particular case, precautions have been taken to eliminate that threat, so therefore, it cannot be classified as an emergency -- we cannot go and expedite it. We can't utilize an expedited procedure to do what's required.

Q Considering the testimony that we heard this morning with regard to the real dire need for the use of this structure to keep businesses in business and the accommodation of fire units, etc., wouldn't you anticipate that there will be violations of that 3-ton limit?

A It is possible there will be violations. The Order did require parties to enforce the weight limit. Obviously, you can't have somebody there 24 hours around the clock.

Q If use of this bridge by heavy fire-fighting equipment, for instance, if there is that use, in light of the Commission's imposition of the 3-ton limit, that would pose a hazard to the public safety, would it not?

A Yes, it would.

Q So as I understand your testimony, the Department does have a procedure to address emergency situations so that you don't have to go through the long bureaucratic red tape that you've described, isn't that right?

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

A We're getting into a very, very fine line definition here in the fact that emergency, I don't think that would be considered an immediate threat to loss of life..

Q If the Public Utility Commission were to determine that in light of the extreme need for this structure, and considering that although we're made in the image of God, we don't all act like God, and people have tendencies under those circumstances to take short cuts or violate the load limit, would you think that an Order by the Commission recognizing that fact and citing an emergency, would that be sufficient to trigger the emergency procedures that are already in place?

MR. MARTIN: Your Honor, I think that calls for a legel conclusion and I'm not certain the witness has the qualifications to answer that sort of a question.

JUDGE NEMEC: I'll sustain the objection.

MR. DONOVAN: I have nothing further.

MR. CONWAY: I have a few questions.

BY MR. CONWAY:

Q Mr. Peda, some contractor is going to beef up this bridge to handle 36 tons. He's going to have to close the bridge for a while, isn't he?

A If he shored it from underneath, I would think he would do most of his work without a bridge closure, and not knowing what would be required, it's probably possible for

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

a very short closure.

Q Wouldn't you agree that it's impossible that somebody is going to shore that bridge up to hold 36 tons without having to close it for some period?

A Again, I don't know exactly how it would be done and what would be required. I'm not familiar with that type of construction procedure.

Q If it has to be closed for some period, what would PennDOT propose to alleviate the emergency that's going to be created by the closing of this bridge to shore it up to hold 36 tons?

A Again, I say I don't know. It may only have to be closed for 15 minutes -- I don't know.

Q What would PennDOT propose for the time it has to be closed, or don't you have any ideas on that?

MR. MARTIN: Your Honor, I'm going to object. The witness has already stated that he has no idea what the contractor might do or whether any closure of the bridge would be necessary, and if such a closure would be necessary, for how long.

JUDGE NEMEC: I'll sustain your objection.

Q Is PennDOT proposing to put this new bridge out for bid without telling the contractor, or contractors who are going to bid on this job, how they're going to be able to get to the job site?

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A We have prebid and then again preconstruction bids in which we discuss such items.

Q One of the items will be that you, contractor, have to fix this bridge to your satisfaction so you can get to the job site, is that going to be one of the instructions at the preconstruction meeting?

A We can't dictate that -- that's up to the contractor. If he needs a greater weight limit, if no other alternate is available to get his equipment in, that's up to him to determine his own operation.

Q What if he says, "I'm satisfied to take a chance on sending my equipment across this bridge the way it is, I'm not going to do anything", will you let him do that?

A Our bridge engineer would object to that. He has to present a plan to the Department of what he's going to do and obviously, if he was going to put a 36-ton vehicle over that bridge, we would object and not allow him to do it.

MR. CONWAY: I have nothing more.

BY MR. FECZKO:

Q Mr. Peda, how is the contractor even going to get the equipment in to shore it up if he's not allowed to go over the 3-ton limit now -- how does PennDOT propose that he's going to get that stuff in to do the shoring?

A As I said before, I don't know exactly what has

PENGAD CO., BAYONNE, N.J. 07002 FORM 2054

to be done.

Q There's no way he can get that over that viaduct now with a 3-ton weight limit to do it. He couldn't bring a crane in?

A I believe we would consider a proposal at a point when the contractor has that job for construction, there are certain exceptions, to my understanding, that we can over-stress the structure. That would have to be determined and approved, if say, one or two loads well over the 3-ton weight limit could possibly go across. It would require a special approval.

Q That could be granted?

A If it is feasible.

Q If PennDOT were ordered by the P.U.C. to implement the emergency procedures to get the bridge shored up immediately because it is a threat to life and limb currently, how long would it take to get that procedure started, the planning process and the construction itself?

A If it was considered an emergency and if it qualified for our emergency procedures, it would pretty much follow the path I stated before. I am not qualified to say whether or not under those conditions it would be considered an emergency procedure.

Q I'm saying assuming that you implemented the emergency procedure, you're not talking four months before

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

you hired a consultant, are you?

A No, I think I said before --

Q Could it be done in six weeks?

A If we had to drop everything, I think it could be done. I believe I stated about six weeks until we can actually have the work started. A couple weeks for design and several more weeks for advertising.

Q You wouldn't have to advertise in an emergency?

A It would be a short type.

Q So you could short cut the advertising process?

A Yes, I would say still somewhere between a month and six weeks.

Q Do you know whether or not the ambulance service with paramedics are permitted to cross the bridge with the weight limit as it is?

A I don't know the weight of the vehicles.

Q If the paramedics and ambulance service that services the Borough of Glenfield are not permitted to cross the bridge with their vehicle, is that a life-threatening situation to your standards?

A I can't say the Department's position. A life threatening or emergency situation would be the failure of a bridge or a flood that would cut out people's access.

MR. FECZKO: That's all.

MR. CONWAY: May I ask a few more questions?

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

JUDGE NEMEC: This has been pretty well beat over the head. Go ahead.

BY MR. CONWAY:

Q Mr. Peda, do you know whether or not PennDOT considered the fact that their putting a 3-ton load on this bridge created the emergency that we need fixed up?

A Sure, we are aware of that.

Q And they decided they wouldn't do anything to alleviate the emergency?

A It's our position that the railroad has the responsibility of maintaining the 16-ton load limit, and for the safety of the public we recommended the 3-ton load limit until we can further resolve this whole thing.

JUDGE NEMEC: Hold on a second. Everybody is talking about this 3-ton limit. The Commission ordered the 3-ton limit, but the basis for that Order, was it not the result of a consultant's report to PennDOT?

THE WITNESS: Yes, it is.

JUDGE NEMEC: Did that consultant make any recommendations as to any interim or emergency repairs to the structure?

THE WITNESS: I don't believe he did.

JUDGE NEMEC: Did that consultant pinpoint spots that the consultant felt were the weak links in the structure?

THE WITNESS: Yes, I believe it did in the report.

JUDGE NEMEC: Is it apparent to you or anybody at

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

PennDOT as to what steps could be taken to strengthen those weak spots pinpointed by the consultant -- is it really necessary to have another consultant come in and tell you the same thing?

THE WITNESS: The consultant didn't tell us what we had to do. They identified the problem and made a recommendation that it be posted for 3 tons.

JUDGE NEMEC: But from what the consultant told you, is it or is it not evident to PennDOT what could be done to strengthen those weak spots in the structure?

THE WITNESS: In generalities, yes, as far as designing for what is actually required. You just can't go in there with anything. It has to be designed for the load you want to achieve.

JUDGE NEMEC: Any other questions for Mr. Peda? (No response) Thank you, sir, you're excused. Anybody else have anything else they want to add to this? No response to that, so thank you all for your attendance and we'll adjourn this hearing.

(Hearing adjourned at 2:00 o'clock p.m.)

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

CERTIFICATE

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me during the hearing on the foregoing cause before the Public Utility Commission of the Commonwealth of Pennsylvania, and that this copy is a correct transcript of the same.

Arlene B. Kiger
Official Reporter

Reported by:
Arlene B. Kiger,
7823 Mt. Carmel Rd.
Verona, Pa 15147

PENGAD CO., BAYONNE, N.J. 07002 FORM 2094

BOROUGH OF GLENFIELD

ALLEGHENY COUNTY, PENNSYLVANIA

DRAWINGS AUTHORIZING ACQUISITION

OF RIGHT OF WAY

FOR

GLENFIELD VIADUCT

IN ALLEGHENY COUNTY

From Sta. 0+20.91 To Sta 10+80.38 Length 1059.47 Ft. 0.201 Mi.

THE PUBLIC UTILITY COMMISSION WILL APPROPRIATE PROPERTY IN COMPLAINT DOCKET NO. R-C-12154 BETWEEN STATION 10+02.00 AND STATION 10+80.38 PURSUANT TO THE PROVISIONS OF SECTION 2702 (b) OF THE ACT OF JULY 1, 1978, P.L. 598, NO. 116 (66 P.S. 2702) THIS PLAN PREPARED PURSUANT TO SECTION 2003(e) OF THE ADMINISTRATIVE CODE (ACT OF APRIL 9, 1929, P.L. 177, AS AMENDED BY ACT 1979-100), AND SECTION 402 (b) (3) OF THE EMINENT DOMAIN CODE OF 1964 AS AMENDED.

FEDERAL PROJECT NUMBER

DISTRICT	COUNTY	TOWNSHIP	BOROUGH	ROUTE	TOTAL SHEETS
FCB 11-0	ALLEGHENY		GLENFIELD	GLENFIELD VIADUCT R/W	9

STATE PROJECT NUMBER

SYS	L.R. or W.O.	SPUR/PHA	SECTION	DIST.	CO.
B G	6 5 2	0 4	0 4		

DOCKETED

DEC 16 1985

DOCUMENT FOLDER

ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 402+30 E.B. TO STATION 448+50 E.B. BY PLAN OF LEGISLATIVE ROUTE 652, SECTION 23 R/W APPROVED BY GOVERNOR MILTON J. SHAPP DATED AUGUST 9, 1972.

SCALE

HORIZONTAL 0 50 100

VERTICAL 0 10 20

DESIGN DESIGNATION

CLASS OF HIGHWAY	LOCAL ROAD	A.D.T.	700	(1985)
DESIGN SPEED	25 M.P.H.	A.D.T.	980	(2005)
PAVEMENT SECTION	2-12' LANES	D.H.V.	98	
MEDIAN WIDTH		D	50%	
MAX.		T	2%	
MIN.	NONE			

PA. PUBLIC UTILITY COMMISSION
DOCKET NO. C-80092154
Respondent No. 3
HEARING AT Pittsburgh 11/27/85
REPORTER Arlene B. Kyle

PA. DEPT. OF TRANSPORTATION
EXHIBIT NO. + 3
P.U.C. NO. C 80092154
DATE OF HEARING 11-27-85

PLANS PREPARED BY
RUMMEL-KLEPPER & KAHL
CONSULTING ENGINEERS
NEW CUMBERLAND, PENNSYLVANIA
Albert R. Stallman
Project Manager
Reg. Prof. Engineer
Feb. 26, 1985

RECOMMENDED ____ 19____
DISTRICT ENGINEER
RECOMMENDED ____ 19____
DEPUTY SECRETARY
APPROVED ____ 19____
SECRETARY OF TRANSPORTATION
APPROVED ____ 19____
GOVERNOR

Recorded in the office for the recording of deeds, etc., in ____ County, Pennsylvania, in ____ Book ____, Page ____
Witness my hand and seal of office ____
Recorder

GLENFIELD BOROUGH
APPROVED ____ 19____
MAYOR
APPROVED ____ 19____
PRESIDENT - BOROUGH COUNCIL
APPROVED ____ 19____
SECRETARY - BOROUGH COUNCIL

COMMONWEALTH OF PENNSYLVANIA:
COUNTY OF DAUPHIN: SS
Before me, a notary public, personally came ____ Secretary of Transportation, who acknowledged the within plan, comprising ____ separate sheets, to be an official plan of the Pennsylvania Department of Transportation and desired that the same be recorded as such.
Witness my hand and notarial seal ____
Notary Public

DISTRICT	COUNTY	ROUTE	SHEET
11-C	ALLEGHENY	GLENFIELD VIADUCT R/W	2 OF 9
GLENFIELD BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

INDEX

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TITLE SHEET	1
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LOCATION MAP & TYPICAL SECTIONS	3
DETAIL PLAN SHEETS	4-5
PROPERTY PLATS	6-9

TABULATION OF PROPERTY OWNERS

JAMES B. SAVAGE (NO TAKE)

JOHN J. HALLSTEIN & OEDNA M. SHIPPER (NO TAKE)

EDWARD WOODS & CAROLINE E. WOODS H/W

CYRIL E. YARAS & DEBORAH L. YARAS H/W

THOMAS STEEDLE

JOSEPH W. DEWITT & HILDA M. DEWITT H/W

VALLEY VETERANS ASSOCIATION

THOMAS MICHAEL GILMORE & PATRICIA JO GILMORE H/W (NO TAKE)

FRANCIS REICH & JOANNE REICH H/W (NO TAKE)

JAMES R. TUNNEY & MARY BERTHA TUNNEY H/W (NO TAKE)

PETER J. CERNANSKY & GAIL E. CERNANSKY H/W (NO TAKE)

JOHN A. O'NEIL & JOSEPHINE T. O'NEIL H/W (NO TAKE)

WILLIAM AUGUSTINE & VERNA AUGUSTINE H/W

GLENFIELD VOLUNTEER FIRE CO., INC.

CHARLES B. HAUSER & MARY RUTH HAUSER H/W

BOROUGH OF GLENFIELD, QUAKER VALLEY SCHOOL DISTRICT, & COUNTY OF ALLEGHENY (NO TAKE)

HARRY W. PFLUGH & ELIZABETH H. CARPT (NO TAKE)

RALPH G. FITCH & ELIZABETH FITCH H/W (NO TAKE)

FREDERICK BARONI & RUTH BARONI H/W (NO TAKE)

DEBORAH L. FITCH (NO TAKE)

COUNTY OF ALLEGHENY (NO TAKE)

CRAIN BROS., INC.

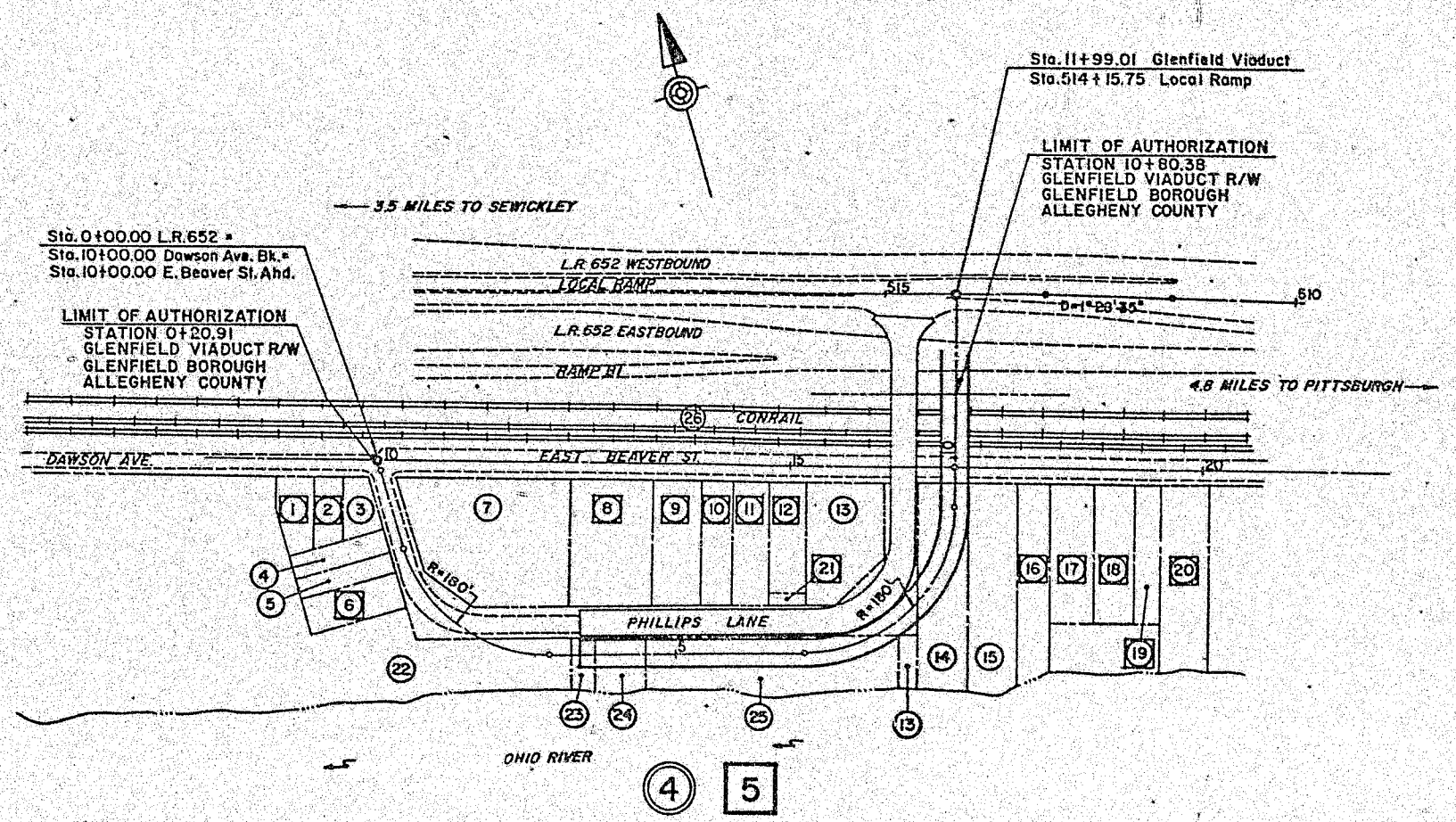
THEODORE F. BECKERT

H. KLEINMAN, A. KRUGH, JOSEPH WATERS, F.H. ANDERSON, T.M. SHOLES, & J.P. TAYLOR

CRAIN BROS., INC.

CONRAIL

PENNSYLVANIA



INDEX MAP

100 0 100 200 300 FEET

LEGEND

PLAN

PROFILE

PROPERTY IDENTIFICATION NUMBER

PROPERTY IDENTIFICATION NUMBER (NO TAKE)

11-0	ALLEGHENY	GLENFIELD VIADUCT R/W	3 OF 9

GLENFIELD BOROUGH

REVISION NUMBER	REVISIONS	DATE	BY

PUBLIC UTILITIES

BELL OF PENNSYLVANIA
201 STANWIX STREET
PITTSBURGH, PA 15222
ATTN: MR. R. HILLIARD
PHONE:(412)633-3131

COLUMBIA GAS OF PENNSYLVANIA, INC.
61 EAST WHEELING STREET
P.O. BOX Z
WASHINGTON, PA 15301-0610
ATTN: JOHN R. WEBER, P.E.
PHONE: (412) 746-2600

DUQUESNE LIGHT COMPANY
1 OXFORD CENTER
301 GRANT STREET
PITTSBURGH, PA 15279
ATTN: RAYMOND J. WIEHAGEN
PHONE: (412) 393-6000

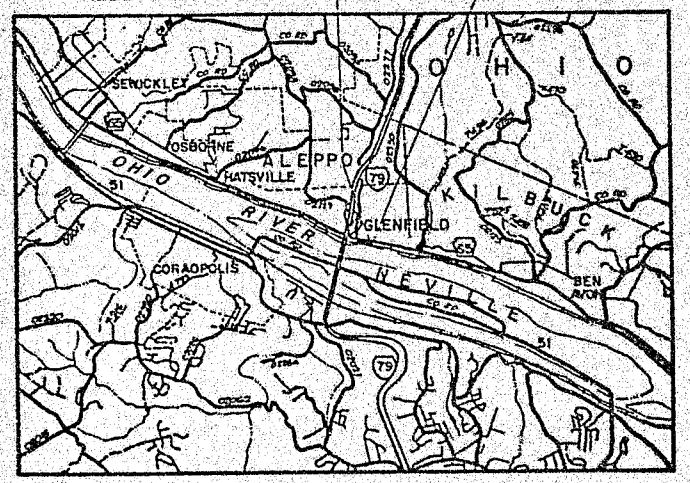
BOROUGH OF GLENFIELD (WATER LINE)
105 RIVER ROAD
SEWICKLEY, PA 15143
ATTN: ANN KIPILO
PHONE:(412) 741-8566

CONSOLIDATED RAIL CORPORATION - CONRAIL
15 N. 3RD STREET
PHILADELPHIA, PA 19104
ATTN: J.T. SULLIVAN
PHONE: (215) 596-3848

CENTRE VIDEO (CABLE TV)
192 OHIO RIVER BLVD.
AMBRIDGE, PA 15001
ATTN: RALPH YAGULLI
PHONE: (412) 922-5522

LIMIT OF AUTHORIZATION
STA. 0+20.91
GLENFIELD VIADUCT R/W
GLENFIELD BORO
ALLEGHENY CO.

LIMIT OF AUTHORIZATION
STA. 10+80.38
GLENFIELD VIADUCT R/W
GLENFIELD BORO
ALLEGHENY CO.

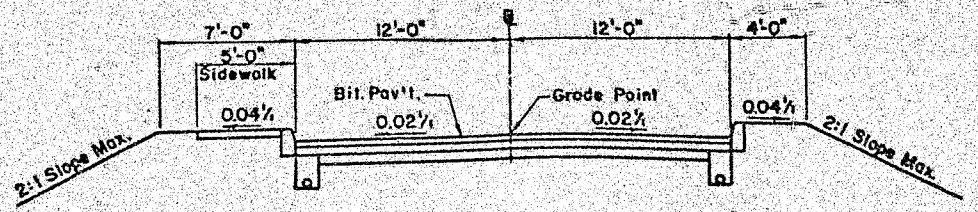


LOCATION MAP

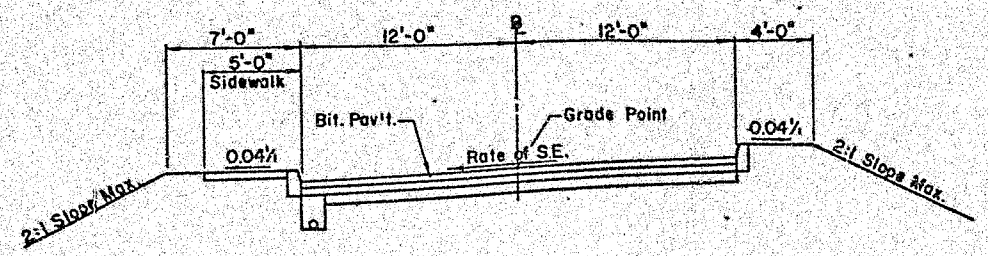
1 0 1 2 3 MILES

LEGEND

STATE HIGHWAYS



TANGENT SECTION



SUPERELEVATED SECTION

TYPICAL SECTIONS - ROADWAY

TABULATION OF OVERALL LENGTH

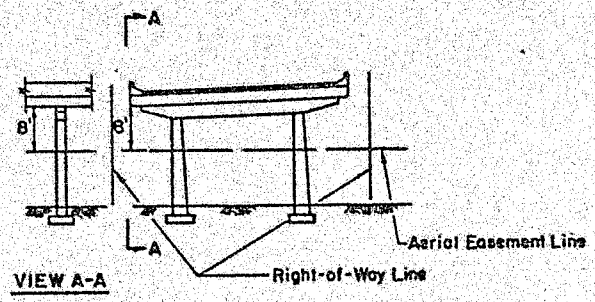
Sta. 0+20.91 to Sta. 10+80.38 Length 1059.47 Ft. 0.201 Miles

LIST OF EQUALITIES

NONE

THE LEGAL RIGHT-OF-WAY ON THE GLENFIELD VIADUCT IS BASED ON CONRAIL PLAN NO. 21453 DATED JUNE 15, 1926. THERE IS NO OTHER RECORD OF THIS RIGHT-OF-WAY.

THE LEGAL RIGHT-OF-WAY ON DAWSON AVE. AND EAST BEAVER ST. IS 33 FEET, BASED ON THE ACT OF MAY 1, 1933, P.L. 103, SECTION 1105, AS AMENDED. THERE IS NO PUBLIC RECORD OF ANY OTHER WIDTH.



VIEW A-A

SKETCH SHOWING ESTATE TO BE ACQUIRED FOR A LIMITED AERIAL EASEMENT

From Sta. 8+07 to Sta. 10+80.38

GENERAL NOTES

BUILDINGS AND STRUCTURES MARKED [C] ARE TO BE REMOVED OR ALTERED BY THE DEPARTMENT OR OTHER AUTHORITY RESPONSIBLE FOR THE PAYMENT OF PROPERTY DAMAGES.

THIS IS A FEDERAL AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION.

INDICATES SCALED DIMENSIONS.

SURVEY IS BASED ON U.S.C.& G.S. DATUM.

KEY TO LIMIT OF SLOPE

Cut	Fill

ABANDONMENTS AND/OR VACATIONS AS SHOWN ON THIS PLAN ARE EFFECTIVE ONLY AFTER THE ROAD HAS BEEN OPENED TO TRAFFIC AND PROPER NOTICE HAS BEEN GIVEN TO THE LOCAL AUTHORITIES.

TEMPORARY AREA(S) REQUIRED UNTIL THE CONSTRUCTION OR WORK INDICATED BY THE PLAN IS COMPLETED, UNLESS SOONER REVERTED IN WRITING BY THE DEPARTMENT.

THE AERIAL EASEMENT TO BE ACQUIRED INCLUDES A SURFACE EASEMENT UNLIMITED IN VERTICAL DIMENSION FOR THE ACCOMMODATION OF PIERS AND OTHER APPURTENANCES, PLUS A TEMPORARY AREA FOR CONSTRUCTION AND FOR STORAGE OF MATERIALS DURING CONSTRUCTION. THE FOLLOWING LIMITATIONS ARE TO BE IMPOSED ON THE PROPERTY BENEATH THE AREA AFFECTED BY THE AERIAL EASEMENT:

1. NO USE IS TO BE MADE OF THE PROPERTY WHICH ENDANGERS THE STRUCTURE OR THE HEALTH, SAFETY OR WELFARE OF THE TRAVELING PUBLIC.
2. NO FLAMMABLE, EXPLOSIVE, DANGEROUS OR HAZARDOUS MATERIAL BE USED, PLACED OR STORED ON THE PROPERTY.
3. NO CONSTRUCTION OF BUILDINGS OR OTHER FACILITIES IS PERMITTED ON THE PROPERTY WITHOUT PRIOR AUTHORITY OF THE DEPARTMENT OF TRANSPORTATION. IF AND WHEN SUCH AUTHORITY IS GRANTED, THE PLANS FOR THE BUILDING OR FACILITY AND CONSTRUCTION METHODS ARE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.
4. NO INTERFERENCE IS TO BE MADE WITH THE RIGHT OF THE DEPARTMENT OF TRANSPORTATION TO ENTER UPON THE PROPERTY FOR THE PURPOSE OF INSPECTION, MAINTENANCE, REPAIR, PAINTING, RECONSTRUCTION OR ALTERATION OF THE STRUCTURE OR APPURTENANCES. MOVEABLE ITEMS MAY HAVE TO BE REMOVED BY THE OWNER DURING SOME OR ALL OF THE ABOVE OPERATIONS.
5. ANY SUBSTANTIAL CHANGE IN PROPERTY USE TO BE MADE SUBSEQUENT TO THE ACQUISITION OF THE EASEMENT IS SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.
6. THE NOTES ON THESE DRAWINGS SHALL NOT BE CONSTRUED AS LIMITING OR INTERFERING IN ANY WAY WITH THE PRESENT AND FUTURE OPERATION, USE, MAINTENANCE, REPAIR, RENEWAL, CHANGE, ADDITION, BETTERMENT OR ALTERATION OF THE RAILROAD AND ITS SUPPORTING FACILITIES.

ALL REQUIRED RIGHT-OF-WAY FOR THIS PROJECT WILL BE ACQUIRED IN FEE SIMPLE UNLESS OTHERWISE NOTED. AREAS, IF ANY, DESIGNATED AS REQUIRED FOR OTHER THAN RIGHT-OF-WAY WILL BE ACQUIRED IN

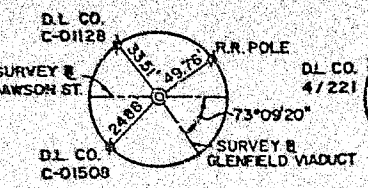
DISTRICT	COUNTY	ROUTE	SHEET
11-0	ALLEGHENY	GLENFIELD VIADUCT R/W	4 OF 9
	GLENFIELD BOROUGH		

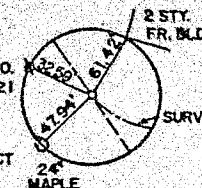
REVISION NUMBER	REVISIONS	DATE	BY

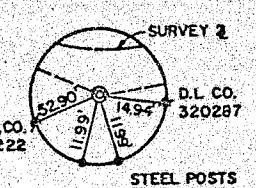
B.M.-Elev. 712.75
3.0' Rt. Sta. 7+90 Survey ℄ Glenfield Viaduct
Cut Mark In Rim Of Manhole

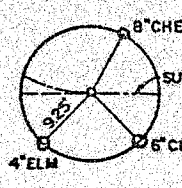
B.M.-Elev. 716.96
21.4' Rt. Sta. 16+55 East Beaver St. ℄
Top Of Bolt On Fire Hydrant

B.M.-Elev. 765.70
23.5' Lt. Sta. 514+35.58 Local Ramp ℄
Penn. D.O.T. Standard Disk Set In Top Of
N.E. Wingwall Of Glenfield Viaduct







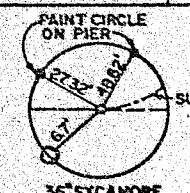


P.O.T. Sta. 10+00.00 ℄ Dawson Ave.
P.O.T. Sta. 0+00.00 Survey ℄ Glenfield Viaduct

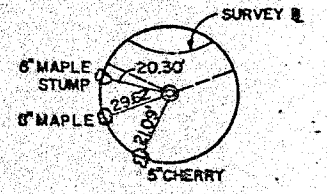
P.C. Sta. 1+13.63

P.I. Sta. 2+49.99
Δ= 105°42' 33"

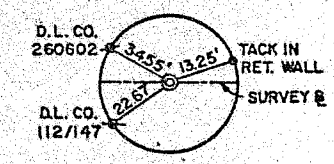
P.T. Sta. 3+47.02



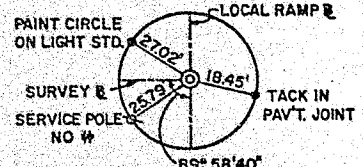
P.C. Sta. 6+59.03



P.I. Sta. 8+37.34
Δ= 90° 34' 20"



P.O.T. Sta. 9+88.80



P.O.T. Sta. 11+99.01 Survey ℄ Glenfield Viaduct
= P.O.T. Sta. 514+15.73 Local Ramp ℄

GLENFIELD VIADUCT
P.I. Sta. 2+49.99
Δ=74°17'27" Lt.
D=31°49'51.6"
T=136.36'
L=233.39'
R=180.00'
E=45.54'
Superelevate
P.C. Sta. 1+13.63
P.T. Sta. 3+47.02

GLENFIELD VIADUCT
P.I. Sta. 8+37.24
Δ=89°25'40" Lt.
D=31°49'51.6"
T=178.21'
L=280.95'
R=180.00'
E=73.30'
Superelevate
P.C. Sta. 6+59.03
P.T. Sta. 9+39.98

P.O.T. Sta. 0+00.00 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 10+00.00 Dawson Avenue

P.O.T. Sta. 11+99.01 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 514+15.73 Local Ramp

P.O.T. Sta. 9+88.80 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 16+96.67 EAST BEAVER STREET

LIMIT OF AUTHORIZATION
STA. 0+20.91
GLENFIELD VIADUCT R/W
GLENFIELD BOROUGH
ALLEGHENY COUNTY

LIMIT OF AUTHORIZATION
STA. 10+80.38
GLENFIELD VIADUCT R/W
GLENFIELD BOROUGH
ALLEGHENY COUNTY

L.R. 652 WESTBOUND
LOCAL RAMP N73°50'33.1"W
L.R. 652 EASTBOUND
RAMP B1
Legal Right-Of-Way Line For Limited Access
DAWSON AVE.
EAST BEAVER ST. G.V.
S73°18'56.2"E
PHILLIPS LANE Legal Right-of-Way Line
S74°26'13.1"E
SURVEY ℄ R/W
GLENFIELD VIADUCT
N16°08'06.9"E
S0°08'46"E
CONRAIL
OHIO RIVER
Required Right-of-Way Line for Boro Street
Required Right-of-Way Line for Aerial Easement
Legal Right-of-Way for Boro St.
Required Right-of-Way Line for Boro Street
Temporary Area for Construction (Grading)
Temporary Area for Construction
Legal Right-of-Way Line (to remain)
Mac. Parking Lot
Trash Bin
Gravel Drive
Conc. Walk
Hedge
Gravel
Metal Shed
Fr. Shed
Blk. Gar.
Fr. Gar.
Bk. Gar.
Light Std.
Guy Pole
D.L. 260603
Foot Bridge
Area of Ditch
U.S. Harbor Line Legal Right of Way
Temporary Area for Construction
Required Right-of-Way Line for Boro Street
Required Right-of-Way Line for Aerial Easement
Required Right-of-Way Line for Boro St.
Bell System M.H.
Gas Marker
Gas Line G.V.
W.V.
F.H.
I.P.
Hedge
Gravel Drive
Conc. Walk
Gravel Dr.
Fr. Gar.
Bk. Gar.
Blk. Gar.
Area of Ditch
U.S. Harbor Line Legal Right of Way
18" R.C.P.
24" R.C.P.
15" C.M.P.
18" Pipe
16" Gas Line
4" Gas Line
30" Maples
36" Maple
42" Maple
36" Twin Maple
30" Maple
8" Apple
18" Apple
48" Triple Maple
89° 58' 40"

1 JAMES B. SAVAGE
2 JOHN J. HALLSTEIN & OEDNA M. SHIPPER
3 EDWARD WOODS & CAROLINE E. WOODS H/W
4 CYRIL E. YARAS & DEBORAH L. YARAS H/W
5 THOMAS STEEDLE
6 JOSEPH W. DEWITT & HILDA M. DEWITT H/W
7 VALLEY VETERANS ASSOCIATION
8 THOMAS MICHAEL GILMORE & PATRICIA JO GILMORE H/W
9 FRANCIS REICH & JOANNE REICH H/W
10 JAMES R. TUNNEY & MARY BERTHA TUNNEY H/W
11 PETER J. CERNANSKY & GAIL E. CERNANSKY H/W
12 JOHN A. O'NEIL & JOSEPHINE T. O'NEIL H/W
13 WILLIAM AUGUSTINE & VERNA AUGUSTINE H/W
14 GLENFIELD VOLUNTEER FIRE CO., INC.
15 CHARLES B. HAUSER & MARY RUTH HAUSER H/W
16 BOROUGH OF GLENFIELD, QUAKER VALLEY SCHOOL DISTRICT, & COUNTY OF ALLEGHENY
17 HARRY W. PFLUGH & ELIZABETH H. CARPT
18 RALPH G. FITCH & ELIZABETH FITCH H/W
19 FREDERICK BARONI & RUTH BARONI H/W
20 DEBORAH L. FITCH
21 COUNTY OF ALLEGHENY
22 CRAIN BROS., INC.
23 THEODORE F. BECKERT
24 H. KLEINMAN, A. KRUGH, JOSEPH WATERS, F.H. ANDERSON, T.M. SHOLES, & J.P. TAYLOR
25 CRAIN BROS., INC.
26 CONRAIL

The Aerial Easement Acquired Between Stations 8+07 And 10+80.38 Includes A Surface Easement Unlimited In Vertical Dimension For The Accommodation Of Piers And Other Appurtenances Plus A Temporary Area For Construction And For Storage Of Materials During Construction.

11-0	ALLEGHENY	GLENFIELD VIADUCT R/W	5 OF 9
GLENFIELD BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

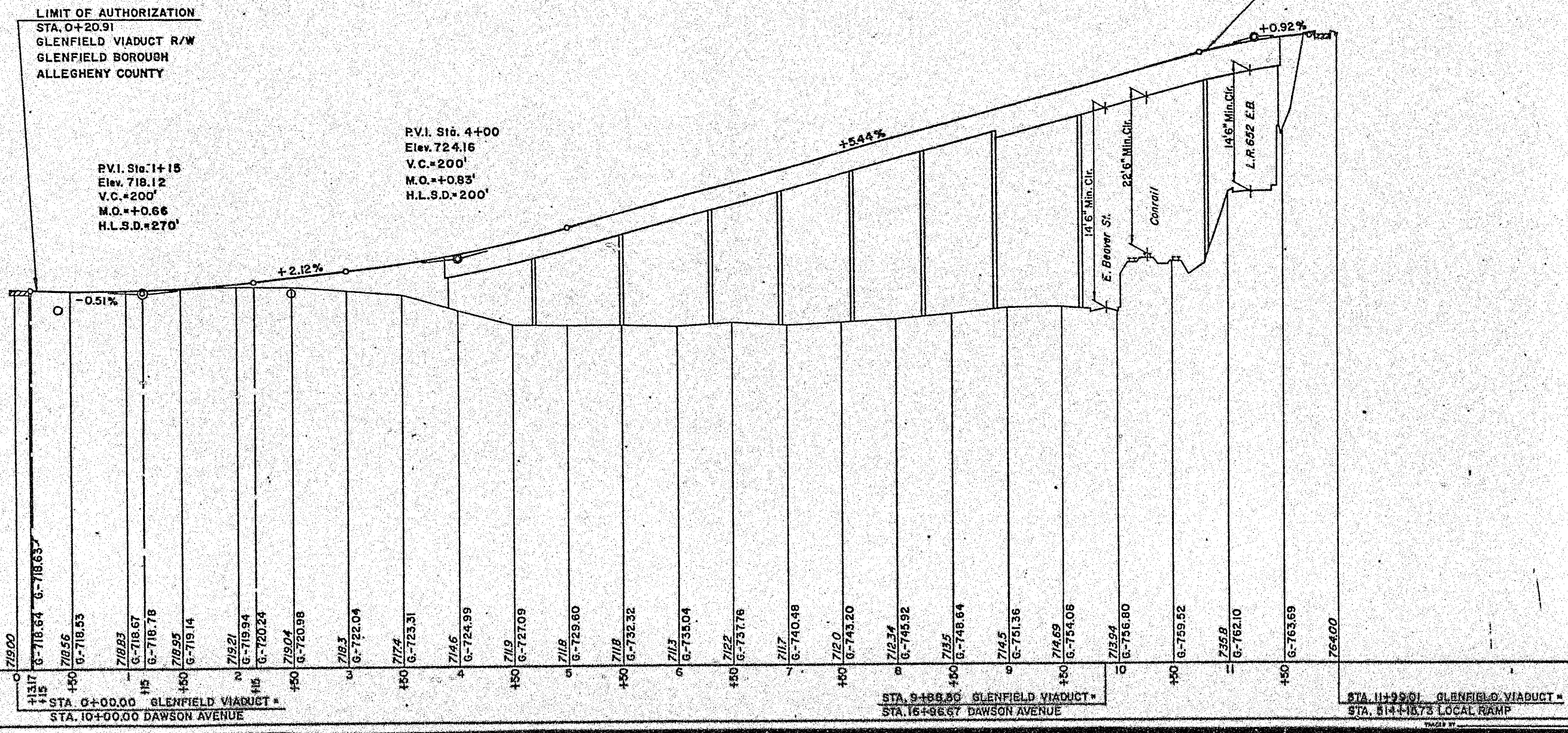
LIMIT OF AUTHORIZATION
STA. 0+20.91
GLENFIELD VIADUCT R/W
GLENFIELD BOROUGH
ALLEGHENY COUNTY

P.V.I. Sta. 1+15
Elev. 718.12
V.C.=200'
M.O.=+0.66
H.L.S.D.=270'

P.V.I. Sta. 4+00
Elev. 724.16
V.C.=200'
M.O.=+0.83'
H.L.S.D.=200'

P.V.I. Sta. 11+25
Elev. 763.60
V.C.=100'
M.O.=-0.57'
STOP CONDITION

LIMIT OF AUTHORIZATION
STA. 10+80.38
GLENFIELD VIADUCT R/W
GLENFIELD BOROUGH
ALLEGHENY COUNTY



PROPERTY PLAT

COMMONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION

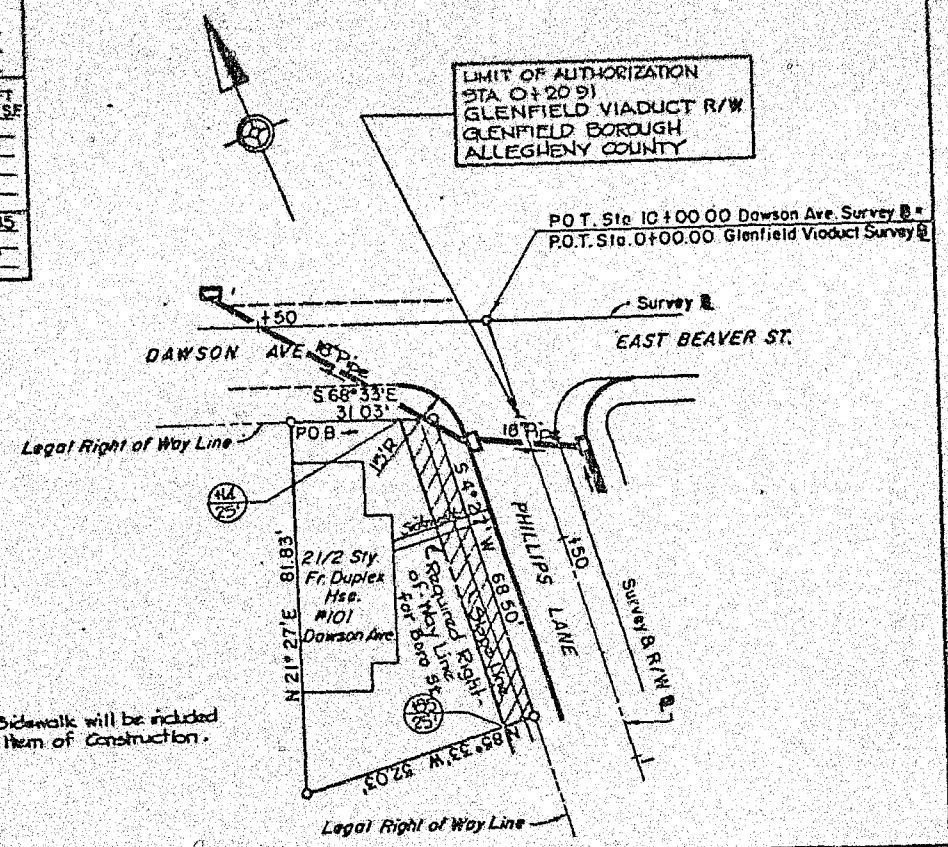
LEG. RTE. GLENFIELD VIADUCT R/W — ALLEGHENY COUNTY
PARCEL NO 3 — SHEET NO — CLAIM NO
PROPERTY OWNER(S) EDWARD WOODS & CAROL E. WOODS H/W
GRANTOR(S) CLARENCE PAUL BRENNER & DOROTHY BRENNER H/W

DEED BOOK	6948
PAGE	628
DATE OF DEED	9-18-84
DATE OF RECORD	9-19-84
CONSIDERATION	$1.00
I.R.S. STAMPS	NONE

AREAS	ACS. SQ FT
DEED	NONE
CALCULATED	2,920.28SF
ADVERSES	—
LEGAL R/W	—
EFFECTIVE	2,920.28SF
TOTAL REQ'D R/W	480.00SF
TOTAL RESIDUE	2,440.28SF
RESIDUE LT.	
RESIDUE RT.	2,440.28SF

REQUIRED AREA	ACS SQ FT
RIGHT OF WAY	480.00SF
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

THIS PLAT IS PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE AND REFLECTS THE ACCURACY AND/OR INACCURACY OF THE DEED.



REQUIRED RIGHT-OF-WAY

SCALE: 20' 0 20'

PROPERTY PLAT

COMMONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION

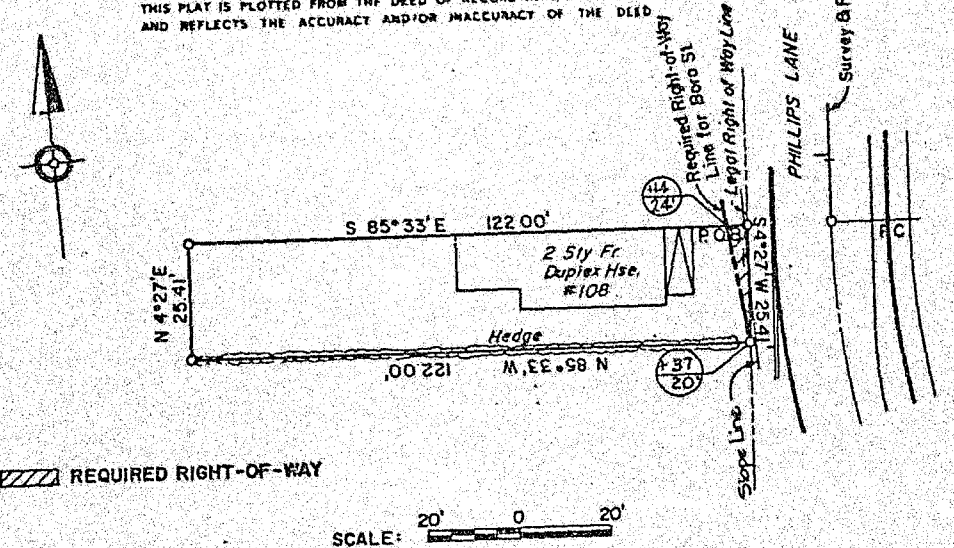
LEG. RTE. GLENFIELD VIADUCT R/W — ALLEGHENY COUNTY
PARCEL NO 5 — SHEET NO — CLAIM NO
PROPERTY OWNER(S) THOMAS STEEDLE
GRANTOR(S) WALDO CONRAD & PATRICIA A CONRAD H/W

DEED BOOK	6929
PAGE	145
DATE OF DEED	7-26-84
DATE OF RECORD	8-13-84
CONSIDERATION	$11,000
I.R.S. STAMPS	NONE

AREAS	ACS SQ FT
DEED	NONE
CALCULATED	3,100.02SF
ADVERSES	—
LEGAL R/W	—
EFFECTIVE	3,100.02SF
TOTAL REQ'D R/W	580.00SF
TOTAL RESIDUE	3,042.02SF
RESIDUE LT.	
RESIDUE RT.	3,042.02SF

REQUIRED AREA	ACS SQ FT
RIGHT OF WAY	580.00
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

THIS PLAT IS PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE AND REFLECTS THE ACCURACY AND/OR INACCURACY OF THE DEED

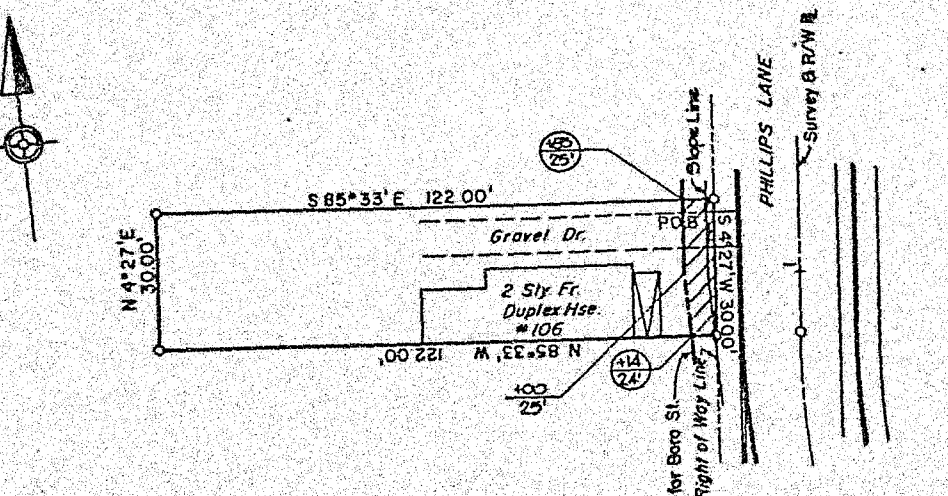


REQUIRED RIGHT-OF-WAY

SCALE: 20' 0 20'

GLENFIELD VIADUCT
P.I. Sta. 2+49.99
Δ = 74°17'27" Lt.
D = 31°49'51.6"
T = 136.36'
L = 233.39'
R = 180.00'
E = 45.54'
P.C. Sta. 1+13.63
P.T. Sta. 3+47.02

11-0	ALLEGHENY	GLENFIELD VIADUCT R/W	8 OF
	GLENFIELD BOROUGH		
RES. SEC. NUMBER	REVISIONS		DATE



REQUIRED RIGHT-OF-WAY

SCALE: 20' 0 20'

PROPERTY PLAT

COMMONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION

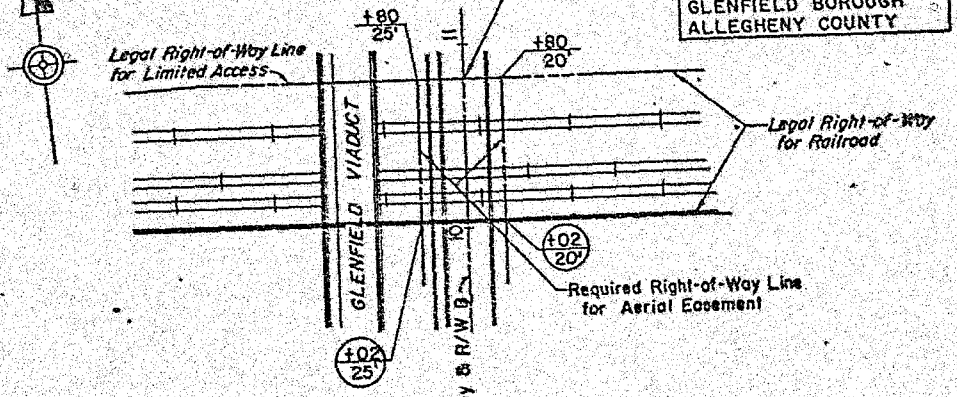
LEG. RTE. GLENFIELD VIADUCT R/W — ALLEGHENY COUNTY
PARCEL NO 4 — SHEET NO — CLAIM NO
PROPERTY OWNER(S) CYRIL E. YARAS & DEBORAH L. YARAS H/W
GRANTOR(S) AMELIA MODER, WIDOW

DEED BOOK	6390
PAGE	765
DATE OF DEED	7-27-81
DATE OF RECORD	7-30-81
CONSIDERATION	$9,000
I.R.S. STAMPS	NONE

AREAS	ACS/SQ. FT.
DEED	NONE
CALCULATED	3,660.00SF
ADVERSES	—
LEGAL R/W	—
EFFECTIVE	3,660.00SF
TOTAL REQ'D R/W	200.00SF
TOTAL RESIDUE	3,460.00SF
RESIDUE LT.	
RESIDUE RT.	3,460.00SF

REQUIRED AREA	ACS/SQ. FT.
RIGHT OF WAY	200.00SF
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

THIS PLAT IS PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE AND REFLECTS THE ACCURACY AND/OR INACCURACY OF THE DEED



PROPERTY PLAT

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

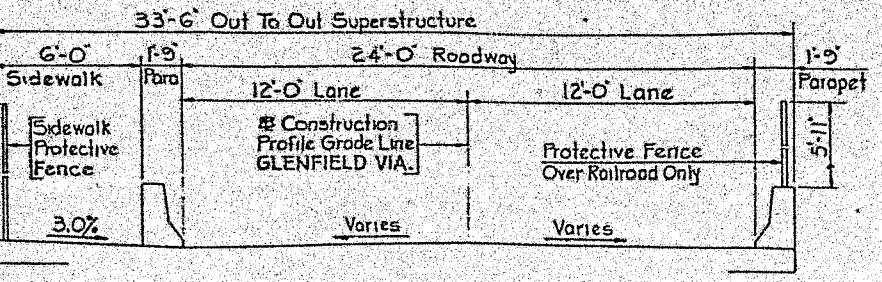
LEG. RTE. GLENFIELD VIADUCT R/W — ALLEGHENY COUNTY
PARCEL NO. 26 — SHEET NO. — CLAIM NO.
PROPERTY OWNER(S) CONRAIL
GRANTOR(S) UNKNOWN

DEED BOOK	
PAGE	
DATE OF DEED	UNKNOWN
DATE OF RECORD	
CONSIDERATION	
I.R.S. STAMPS	

AREAS	ACS/SQ. FT.
DEED	—
CALCULATED	—
ADVERSES	—
LEGAL R/W	—
EFFECTIVE	—
TOTAL REQ'D R/W	—
TOTAL RESIDUE	—
RESIDUE LT.	—
RESIDUE RT.	—

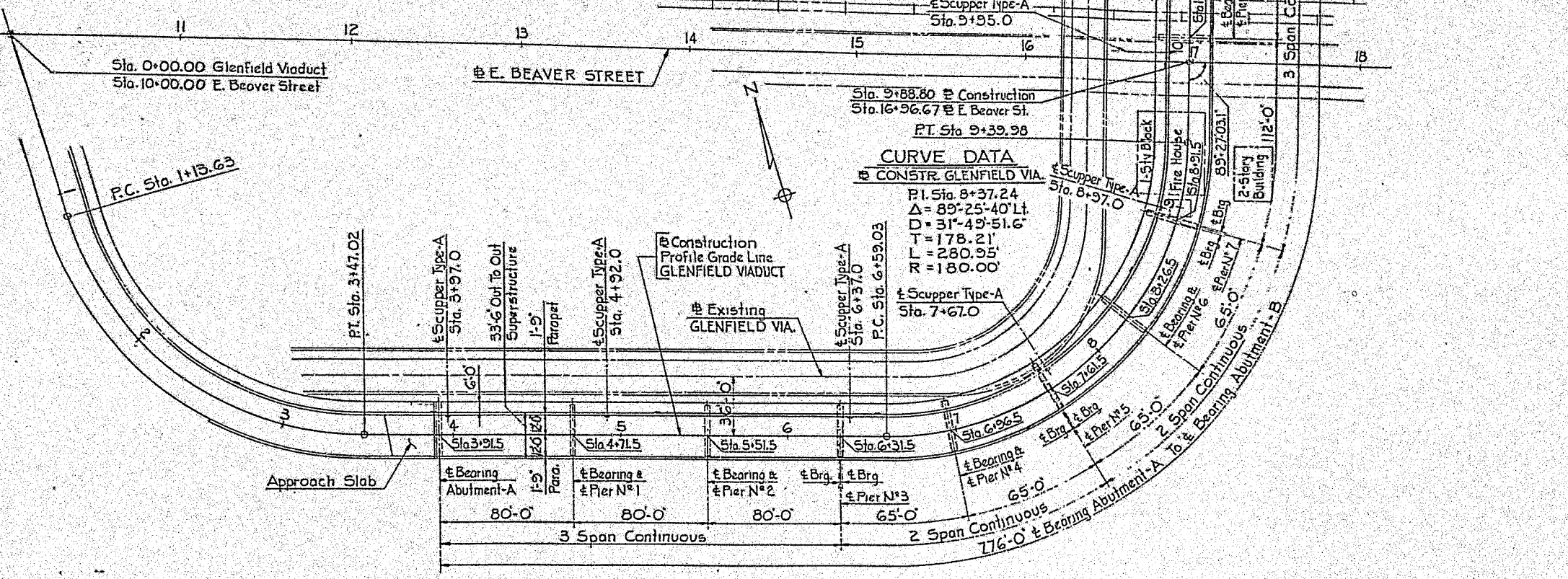
REQUIRED AREA	ACS/SQ
RIGHT OF WAY	—
CHANNEL	—
SLOPE	—
AERIAL EASEMENT	3.5K
VERIFICATION DATE	—
DRAWN BY	J.W.
SCALE	1"=5

SCALE: 50' 0 50'



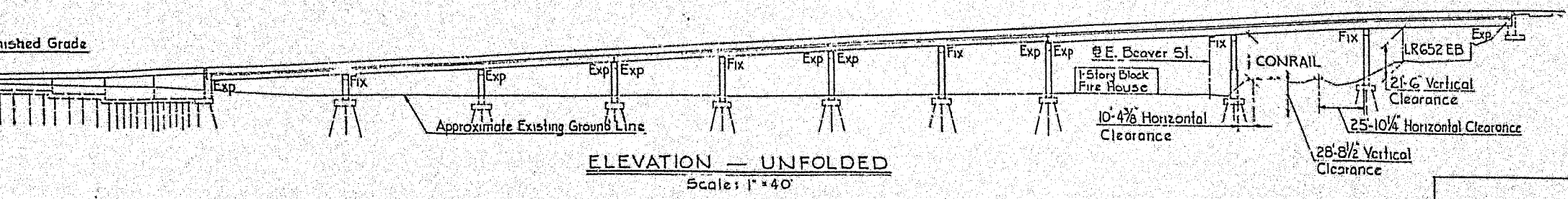
TYPICAL DECK SECTION

No Scale



PLAN

Scale: 1" = 40'



ELEVATION — UNFOLDED

Scale: 1" = 40'

INDEX OF SHEETS

SHT. N°	DRAWING TITLE	SHT N°	DRAWING TITLE
1	General Plan & Elevation	21	Camber & Elevation Schedules - Unit I
2	General Notes & Stake-Out Sketch	22	Framing Plan - Units II & III
3	Abutment-A, Plan, Elev. & Sections	23	Stringer Details - Units II & III
4	Walls A & B, Plan & Elevation	24	Camber & Elev Schedules - Units II & III
5	Walls A & B, Sections & Schedule	25	Framing Plan - Unit IV
6	Abut.-B & Wall-D, Plan & Elevation	26	Stringer Details - Unit IV
7	Wall-C, Plan, Elevation & Section	27	Stringer Splices & Details - Unit IV
8	Abut-B & Wall-D, Sections & Details	28	Camber & Elevation Schedule - Unit IV
9	Abut-B & Walls C & D, Details & Schedule	29	Deck Plan - Unit I
10	Pier N° 1	30	Deck Plan - Unit II & III
11	Pier N° 2	31	Deck Plan - Unit IV
12	Pier N° 3	32	Deck Details & Bar Schedules
13	Pier N° 4	33	Miscellaneous Details
14	Pier N° 5	34	Drainage And Miscellaneous Details
15	Pier N° 6	35	Boring Logs
16	Pier N° 7	36	Boring Logs
17	Pier N° 8	37	Boring Logs
18	Pier N° 9	38	Boring Logs
19	Framing Plan - Unit I		
20	Stringer Details - Unit I		

SUPPLEMENTAL DRAWINGS

DESCRIPTION	DWG. N°	APP. DATE
Protective Fence	BC-301A	3-2-81
Pedestrian Traffic Barrier (Terminal Details)	BC-317A	3-2-81
Electrical Details	BC-321A	6-20-80
Lighting Pole Anchorage	BC-322A	6-20-80
Cement Concrete Slope Wall	BC-331A	11-4-81
Permanent Metal Deck Forms - Sht. 1 of 2	BC-332B	11-4-81
Permanent Metal Deck Forms - Sht. 2 of 2	BC-332B	11-4-81
Threaded Insert Anchor Assembly	BC-334A	3-2-81
Construction & Expansion Joint Details	BC-335A	11-4-81
Reinforcement Bar Fabrication Details	BC-336A	11-4-81
Railing Anchor Systems	BC-337A	3-2-81
Bridge Drainage - Sheet 1 Of 2	BC-351	7-1-70
Bridge Drainage - Sheet 2 Of 2	BC-351	7-1-70
Concrete Deck Slab Details	BC-352	4-1-71
Steel Girder Details	BC-353	4-1-71
Steel Diaphragms	BC-354	7-1-70
Bearings - Sheet 1 Of 2	BC-355A	11-10-80
Bearings (For Curved Steel Beam Bridges)	BC-356A	11-10-80
Armored Preformed Neoprene Compression Dam - 1 of 3	BC-363	10-20-70
Armored Preformed Neoprene Compression Dam - 2 of 3	BC-363	10-20-70
Armored Preformed Neoprene Compression Dam - 3 of 3	BC-363	10-20-70
Classification Of Earthwork For Structures	RC-11	5-2-83
Backfill At Structures	RC-12	5-2-83
Bridge Approach Slab	RC-23	5-2-83

For GENERAL NOTES See Sheet N° 2

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Date:

Rummel, Klepper & Kahl
1309 Bridge Street
New Cumberland, Pa

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

GENERAL PLAN & ELEVATION

RECOMMENDED _____

BRIDGE ENGINEER

SHEET 1 OF ____

S-16201

GENERAL NOTES

TRUCTION SPECIFICATIONS:

IDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF SPORTATION "SPECIFICATION FORMS, PUBLICATION 408," 1983 EDITION, THE AMERICAN ING SOCIETY, "STRUCTURAL WELDING CODE," LATEST EDITION AND THE SPECIAL PROVISIONS.

GN SPECIFICATIONS:

GN IS IN ACCORDANCE WITH THE AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES," EDITION, AS SUPPLEMENTED BY THE AASHTO "GUIDE SPECIFICATIONS FOR HORIZONTALLY ED HIGHWAY BRIDGES," 1980 EDITION, THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION. IGN MANUAL, PART 4, STRUCTURES," 1983 EDITION AND THE "LOAD FACTOR DESIGN MEMO- A," NUMBERS 1 THROUGH 8.

GN:

FACTOR DESIGN METHOD.

LOADS: HS25-44 LOADING; ALTERNATE MILITARY LOADING OF TWO AXLES, FOUR FEET APART, WITH EACH AXLE WEIGHING 30,000 POUNDS; OR 204,000 POUND PERMIT VEHICLE (BDB2-33 DATED AUGUST 6, 1982) WHICHEVER PRODUCES THE GREATEST STRESS.

LOAD: INCLUDES 30 POUNDS PER SQUARE FOOT FOR FUTURE WEARING SURFACE ON THE DECK SLAB.

INCLUDES 15 POUNDS PER SQUARE FOOT OF DECK AREA FORMED USING PERMANENT METAL DECK FORMS.

FFIC: AVERAGE DAILY TRUCK TRAFFIC LESS THAN 2500.

GN SPEED: 25 MILES PER HOUR.

CRETE:

VIDE CLASS AAA CEMENT CONCRETE FOR DECK SLABS.
VIDE CLASS AA CEMENT CONCRETE FOR BACKWALLS, U-WINGS ABOVE BRIDGE SEAT CONSTRUCTION T, CURBS, SIDEWALKS AND PARAPETS.
VIDE CLASS A CEMENT CONCRETE FOR PIERS, ABUTMENTS BELOW BRIDGE SEATS, PEDESTALS, WALLS, RETAINING WALLS AND ALL FOOTINGS.
VIDE CLASS C CEMENT CONCRETE BELOW BOTTOM OF FOOTINGS WHEN SPECIFIED.
VIDE TWO INCH CONCRETE COVER ON REINFORCEMENT BARS EXCEPT WHERE NOTED OTHERWISE.
MFER EXPOSED CONCRETE EDGES 1 INCH BY 1 INCH EXCEPT WHERE NOTED OTHERWISE.
ARDER ADMIXTURE CONFORMING TO SECTION 7113 OF FORM 408 MAY BE USED IN THE CONCRETE K SLAB.
VIDE EITHER PERMANENT METAL DECK FORMS OR REMOVABLE FORMS.
TMENT BACKWALLS MAY BE PLACED UP TO A CONSTRUCTION JOINT BELOW THE LEVEL OF THE BOTTOM THE DECK SLAB PRIOR TO CONSTRUCTION OF THE SUPERSTRUCTURE.
PARE BEARING AREA AS SPECIFIED IN SECTION 1001.3(k)8 OF FORM 408.

NFORCING STEEL:

VIDE GRADE 60 STEEL FOR ALL REINFORCING BARS.
VIDE EPOXY-COATED REINFORCING BARS IN DECK SLAB, SIDEWALKS, PARAPETS AND ABUTMENT KWALLS.
DETAILING IS IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS. DETAIL DIMENSIONS ARE OUT TO OUT.
SCHEDULES DO NOT INCLUDE REINFORCING BARS FOR ITEMS DETAILED IN STANDARD DRAWINGS.

UCTURAL STEEL:

VIDE STRUCTURAL STEEL CONFORMING TO ASTM DESIGNATION A572, GRADE 50, FOR MAIN LOAD RYING MEMBERS AND ATTACHMENTS, AS INDICATED ON THE DRAWINGS. PROVIDE STRUCTURAL STEEL FORMING TO ASTM DESIGNATION A36 AT ALL OTHER LOCATIONS, EXCEPT WHERE NOTED OTHERWISE.

BEAMS OR GIRDERS CAN BE FABRICATED IN LENGTHS LONGER THAN THE SECTIONS SHOWN ON THE NS BY ELIMINATING FIELD SPLICES, FIELD SPLICES MAY BE OMITTED AT THE REQUEST OF THE TRACTOR, PROVIDED HE HAS OBTAINED A HAULING PERMIT PRIOR TO PREPARATION OF STEEL SHOP AIL DRAWINGS. OMITTED FIELD SPLICES WILL NOT BE APPROVED AT THE SHOP DRAWING REVIEW GE IF A COPY OF HAULING PERMIT DOES NOT ACCOMPANY THE AFFECTED SHOP DRAWINGS. IF NS OR GIRDERS CANNOT BE SHIPPED IN LENGTHS SHOWN ON THE PLANS, FIELD SPLICES WILL BE MITTED AT THE REQUEST OF THE CONTRACTOR, BUT NO COMPENSATION WILL BE ALLOWED FOR SPLICE ERIAL.

VIDE FLANGE BUTT WELDED SPLICES AS SHOWN ON THE DRAWINGS.
VIDE HIGH STRENGTH BOLTS CONFORMING TO ASTM DESIGNATION A325 FOR ALL FASTENERS, UNLESS ED OTHERWISE. PROVIDE 7/8 INCH DIAMETER BOLTS UNLESS NOTED OTHERWISE.
MING OF FIELD SPLICES IS REQUIRED.
ERSTRUCTURE DIMENSIONS ARE GIVEN FOR A MEAN TEMPERATURE OF 68° F.
VIDE ANCHOR BOLTS CONFORMING TO ASTM DESIGNATION A36, AND INSTALL IN ACCORDANCE WITH SECTION 0.3(e)4c OF FORM 408. PROVIDE MINIMUM SIZE AND EMBEDMENT OF ANCHOR BOLTS AS FOLLOWS:
TMENT B AND PIER 9: 1¼ INCH DIAMETER, 12 INCH EMBEDMENT
R 8 AND PIER 7, SPAN H: 1¼ INCH DIAMETER, 15 INCH EMBEDMENT
OTHERS: 1 INCH DIAMETER, 10 INCH EMBEDMENT
NT ALL STEEL NOT OTHERWISE PROTECTED IN ACCORDANCE WITH SECTION 1060 OF FORM 408.

NDATIONS:

SPREAD FOOTINGS MAY BE ORDERED BY THE ENGINEER TO BE AT ANY ELEVATION OR OF ANY DIMENSIONS ESSARY TO PROVIDE A PROPER FOUNDATION.

VE BEARING PILES TO ABSOLUTE REFUSAL INTO THE STRATUM DEFINED BY TIP ELEVATIONS PREDETERMINED THE ENGINEER FROM TEST PILES. THE ACCEPTABILITY OF THE BEARING PILES WHICH ATTAIN ABSOLUTE USAL ABOVE THE PREDETERMINED TIP ELEVATIONS SHALL BE DECIDED BY THE ENGINEER. THE CAPABILITY THE HAMMER SELECTED BY THE CONTRACTOR SHALL BE VERIFIED BY THE ENGINEER FROM THE TEST PILE VING RESULTS.

VIDE ALL PILES WITH PILE TIP REINFORCEMENT.

STING STRUCTURES:

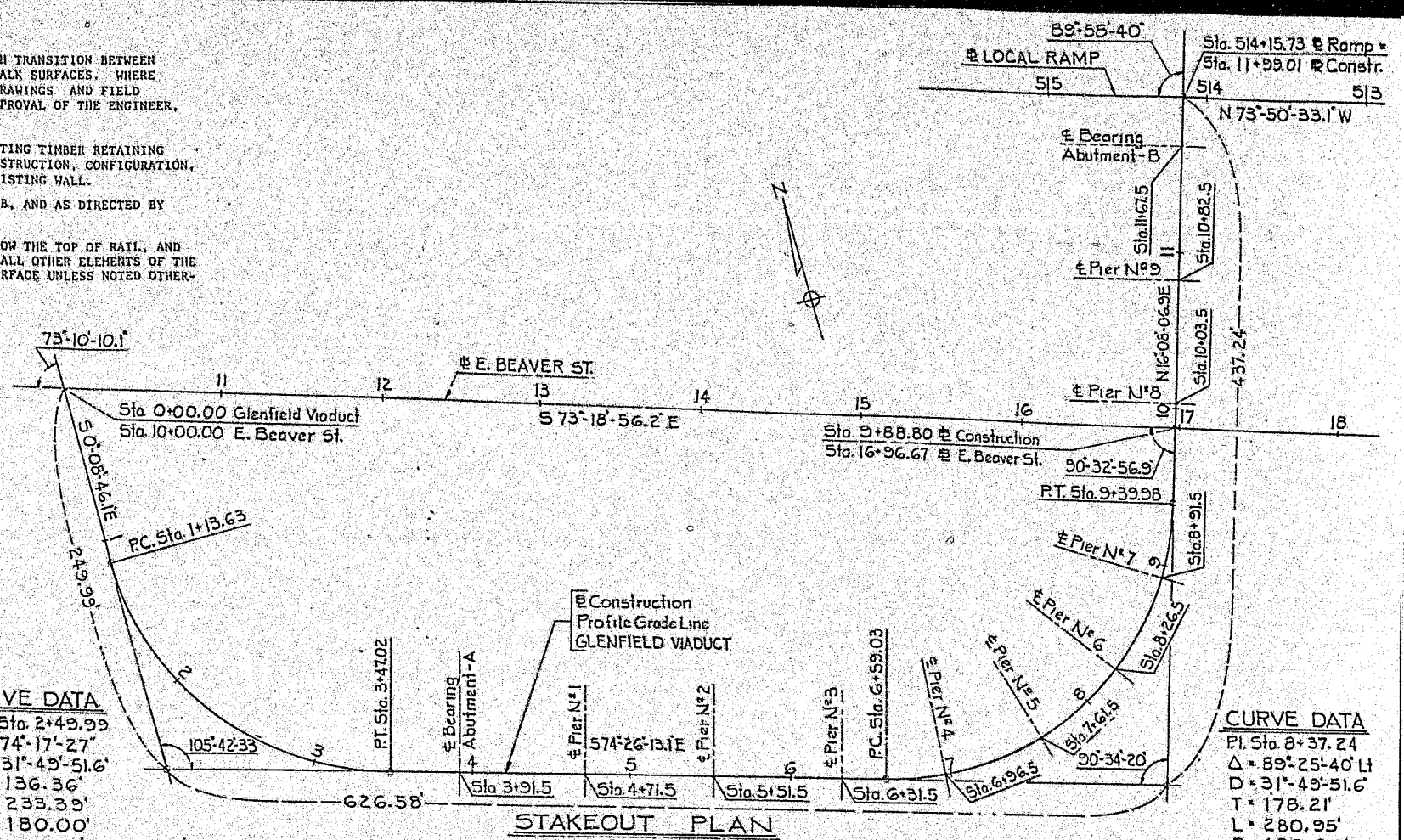
IFY, IN THE FIELD, ALL DIMENSIONS AND GEOMETRY OF EXISTING STRUCTURES RELEVANT TO THE NEW STRUCTION.
RE THE LIMITS OF DEMOLITION ARE VISIBLE UNDER FINAL CONDITIONS, REMOVE EXISTING STRUCTURES OR MENTS TO NEAT LINES. PROTECT PORTIONS OF EXISTING STRUCTURES TO REMAIN AFTER DEMOLITION FROM AGE DURING DEMOLITION AND CONSTRUCTION.

AT ABUTMENT B, THE INTENTION OF THE DESIGN IS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE NEW STRUCTURE AND THE EXISTING STRUCTURES, ROADWAY AND SIDEWALK SURFACES. WHERE MINOR DISCREPANCIES OCCUR BETWEEN INFORMATION CONTAINED IN THE DRAWINGS AND FIELD CONDITIONS, ADJUST DIMENSIONS, ELEVATIONS OR DETAILS, WITH THE APPROVAL OF THE ENGINEER, SO AS TO BEST ACCOMPLISH THE DESIGN INTENTION.

AT PIER 8, PROVIDE SUPPORT FOR THE REMAINING PORTIONS OF THE EXISTING TIMBER RETAINING WALL AS NEEDED, AND CONSTRUCT NEW RETAINING WALLS OF SIMILAR CONSTRUCTION, CONFIGURATION, APPEARANCE AND SERVICEABILITY TO CLOSE OPENINGS CREATED IN THE EXISTING WALL.

PROVIDE TEMPORARY SUPPORT OF EMBANKMENTS AT PIER 8 AND ABUTMENT B, AND AS DIRECTED BY THE ENGINEER.

REMOVE THE EXISTING PIER ADJACENT TO THE RAILROAD TO A LEVEL BELOW THE TOP OF RAIL, AND PATCH THE EXPOSED SURFACE TO PROVIDE A NEAT APPEARANCE. REMOVE ALL OTHER ELEMENTS OF THE EXISTING BRIDGE TO A LEVEL TWO FEET BELOW THE FINISHED GROUND SURFACE UNLESS NOTED OTHERWISE OR DIRECTED OTHERWISE BY THE ENGINEER.



STAKEOUT PLAN
No Scale

CURVE DATA
PI. Sta. 2+49.99
Δ = 74°-17'-27"
D = 31°-49'-51.6"
T = 136.36'
L = 233.39'
R = 180.00'

CURVE DATA
PI. Sta. 8+37.24
Δ = 89°-25'-40" Lt
D = 31°-49'-51.6"
T = 178.21'
L = 280.95'
R = 180.00'

SUMMARY OF QUANTITIES

ITEM	ITEM N°	UNIT	ABUT.A	ABUT.B	PIER-1	PIER-2	PIER-3	PIER-4	PIER-5	PIER-6	PIER-7	PIER-8	PIER-9	SUPERSTR	TOTAL
Bridge Structure As Designed		L.S.													L.S.
Class 3 Excavation	0204-0100	C.Y.	436	1265	74	86	87	81	75	64	75	112	49	—	2404
Cast In Place Cement Concrete Side Slope Wall	0673-0100	S.Y.	—	4360	—	—	—	—	—	—	—	—	—	—	4360
Membrane Waterproofing	0680-0003	S.Y.	—	2	—	—	—	—	—	—	—	—	—	—	2
No. 2A Coarse Aggregate	0703-0024	C.Y.	6	7	—	—	—	—	—	—	—	—	—	—	13
2" Conduit In Structure	0910-5255	L.F.	—	—	—	—	—	—	—	—	—	—	—	770	770
Class AAA Cement Concrete	1001-0000	C.Y.	—	—	—	—	—	—	—	—	—	—	—	721	721
Class AA Cement Concrete	1001-0001	C.Y.	26	37	—	—	—	—	—	—	—	—	—	196	259
Class A Cement Concrete	1001-0010	C.Y.	245	363	48	53	64	66	68	70	74	129	74	—	1254
Lighting Pole Anchorage	1001-0500	Ea.	—	—	—	—	—	—	—	—	—	—	—	7	7
Select Borrow Excavation, Structure Backfill	1001-	C.Y.	538	903	44	55	55	49	44	34	44	58	16	—	1840
Reinforcement Bars	1002-0001	Lbs.	20740	18917	8755	9892	9713	9973	10556	10697	15508	19666	15451	—	149875
Reinforcement Bars, Epoxy Coated	1002-0053	Lbs.	3212	2769	—	—	—	—	—	—	—	—	—	228419	234400
Steel Beam Test Piles, HP 12 x 53	1005-	L.F.	50	—	—	—	—	—	—	—	—	—	—	—	50
Steel Beam Test Piles, HP 12 x 74	1005-	L.F.	47	—	43	40	39	39	40	38	37	37	11	—	371
Steel Beam Bearing Piles, HP 12x 53	1005-1103	L.F.	2040	—	—	—	—	—	—	—	—	—	—	—	2040
Steel Beam Bearing Piles, HP 12x 74	1005-1104	L.F.	480	—	393	365	356	356	365	351	486	592	144	—	3888
Steel Beam Pile Tip Reinforcement HP 12x53	1005-1153	Ea.	41	—	—	—	—	—	—	—	—	—	—	—	41
Steel Beam Pile Tip Reinforcement HP 12x74	1005-1154	Ea.	11	—	10	10	10	10	10	10	14	17	14	—	116
Parapet Protective Fence Steel	1016-0003	L.F.	—	—	—	—	—	—	—	—	—	—	—	78	78
Sidewalk Protective Fence Steel	1016-0102	L.F.	—	—	—	—	—	—	—	—	—	—	—	760	760
Protective Coating For Reinf. Concrete Surface	1019-0002	S.Y.	—	—	—	—	—	—	—	—	—	—	—	3416	3416
Armored Preformed Neoprene Compression Dam 1" Mov.	1021-0002	L.F.	—	—	—	—	—	—	—	—	—	—	—	35	35
Armored Preformed Neoprene Compression Dam 1½ Mov	1021-0003	L.F.	—	—	—	—	—	—	—	—	—	—	—	70	70
Armored Preformed Neoprene Compression Dam 2" Mov	1021-0004	L.F.	—	—	—	—	—	—	—	—	—	—	—	35	35
Armored Preformed Neoprene Compression Dam 2½ Mov	1021-0005	L.F.	—	—	—	—	—	—	—	—	—	—	—	35	35
Downspouting	1051-	L.F.	4	—	10	—	19	—	25	—	29	36	29	69	221
Fabricated Structural Steel	1056-	Lbs.	—	—	—	—	—	—	—	—	—	—	—	753360	753360
Scupper, Type-A	1056-0550	Ea.	—	—	—	—	—	—	—	—	—	—	—	6	6
Scupper, Type-C	1056-0554	Ea.	—	—	—	—	—	—	—	—	—	—	—	1	1
Stair Tower		L.S.	—	—	—	—	—	—	—	—	—	—	—	—	L.S.

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

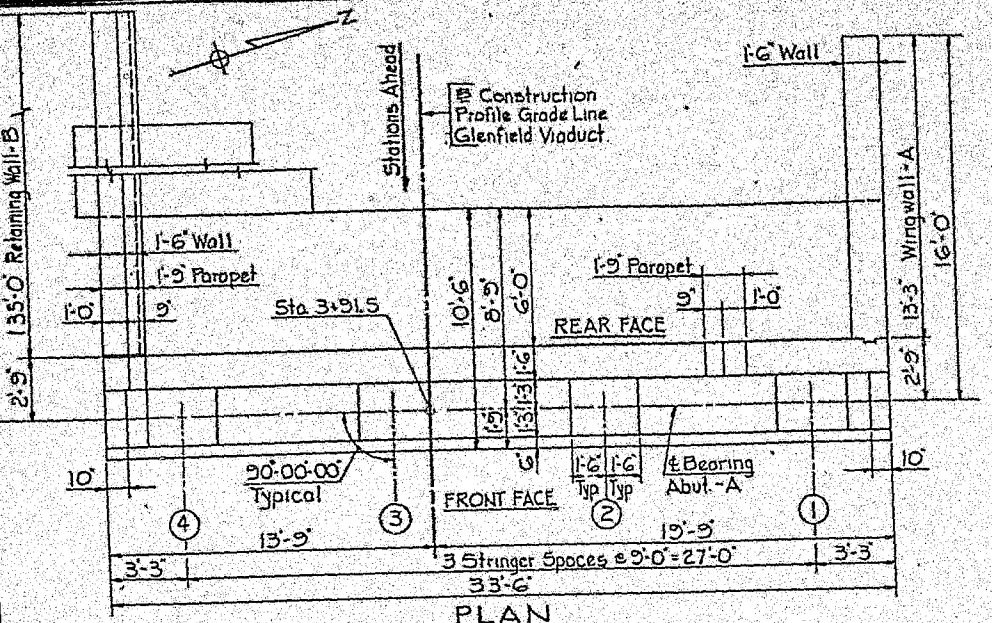
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
GENERAL NOTES & STAKEOUT PLAN

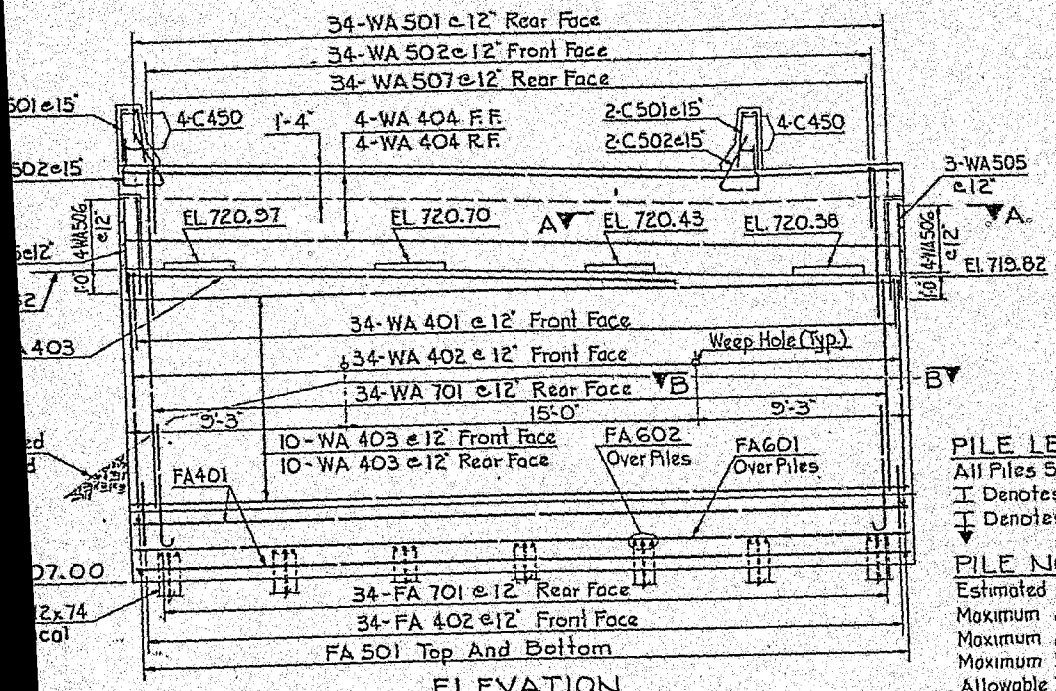
RECOMMENDED _____

SHEET 2 OF ____



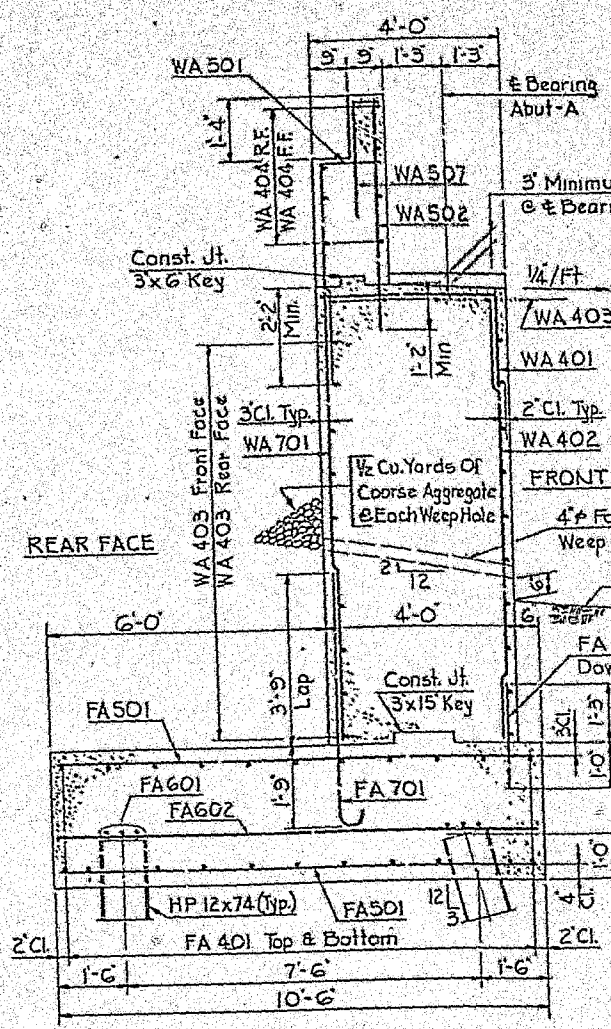
PLAN

Scale: 1/4" = 1'-0"



ELEVATION

Scale: 1/4" = 1'-0"



TYPICAL SECTION ABUTMENT-A

Scale: 1/2" = 1'-0"

PILE LEGEND

All Piles Shall Be HP 12x74

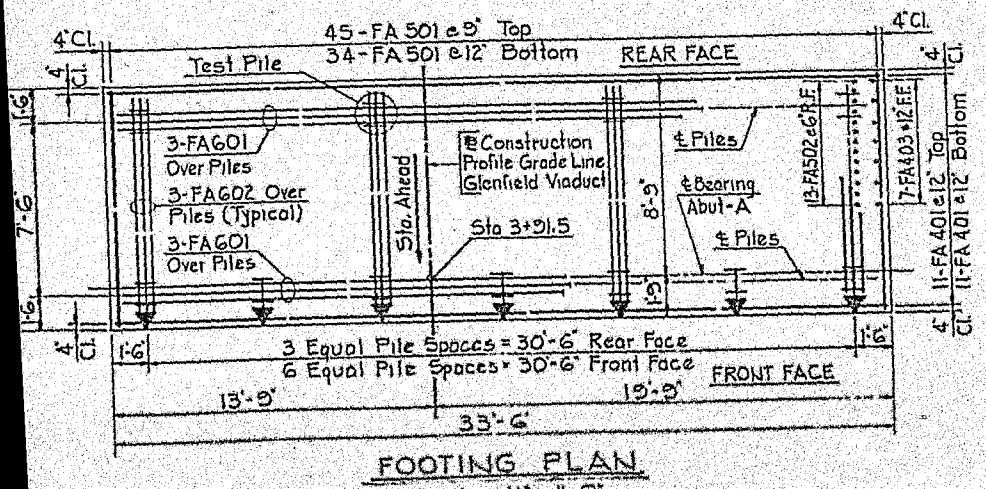
H Denotes Plumb Piles

H Denotes Battered Piles 3:12

PILE NOTES

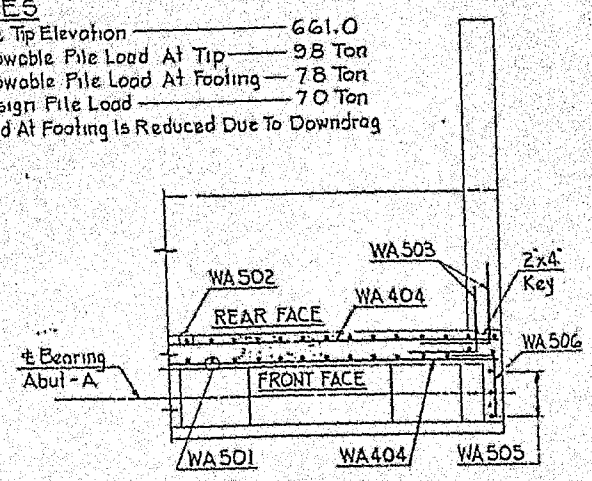
Estimated Pile Tip Elevation	661.0
Maximum Allowable Pile Load At Tip	98 Ton
Maximum Allowable Pile Load At Footing	78 Ton
Maximum Design Pile Load	70 Ton

Allowable Load At Footing Is Reduced Due To Downdrag



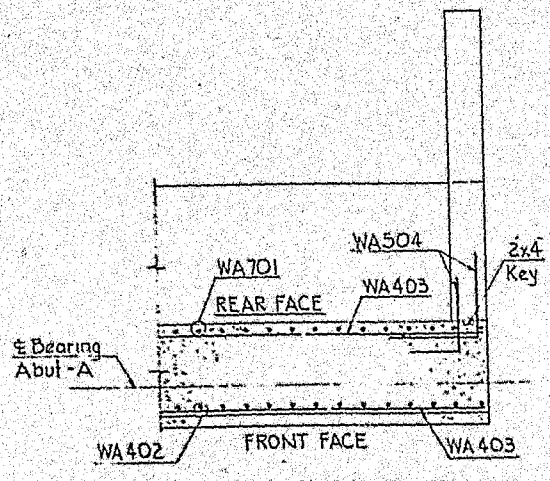
FOOTING PLAN

Scale: 1/4" = 1'-0"



SECTION A-A

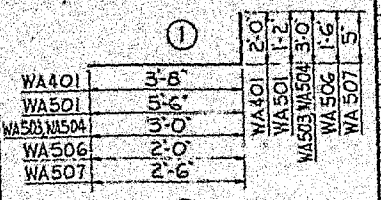
Scale: 1/4" = 1'-0"



SECTION B-B

Scale: 1/4" = 1'-0"

BAR TYPES



BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
FA401	#4	Str.	22	10'-2"	
FA402	#4	Str.	34	2'-3"	
FA403	#4	Str.	7	2'-3"	
FA501	#5	Str.	79	33'-2"	
FA502	#5	2	13	4'-6"	
FA601	#6	Str.	6	33'-2"	
FA602	#6	Str.	12	10'-2"	
FA701	#7	2	34	7'-2"	
WA401	#4	1	34	5'-8"	
WA402	#4	Str.	34	9'-3 To 10'-4"	Vary By 3/8" (+)
WA403	#4	Str.	24	32'-2"	
*WA404	#4	Str.	10	32'-2"	
*WA501	#5	1	34	6'-8"	
*WA502	#5	Str.	34	5'-10"	
WA503	#5	1	22	6'-0"	
*WA504	#5	1	8	6'-0"	
*WA505	#5	Str.	6	4'-2"	
*WA506	#5	1	8	3'-6"	
*WA507	#5	1	34	2'-11"	
WA701	#7	Str.	34	9'-3 To 10'-4"	Vary By 3/8" (+)
*C450	#4	Str.	8	1'-2"	
*C501	#5	3	4	5'-5"	
*C502	#5	4	4	6'-3"	

* Denotes Epoxy Coated Bars.

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY

GLENFIELD VIADUCT

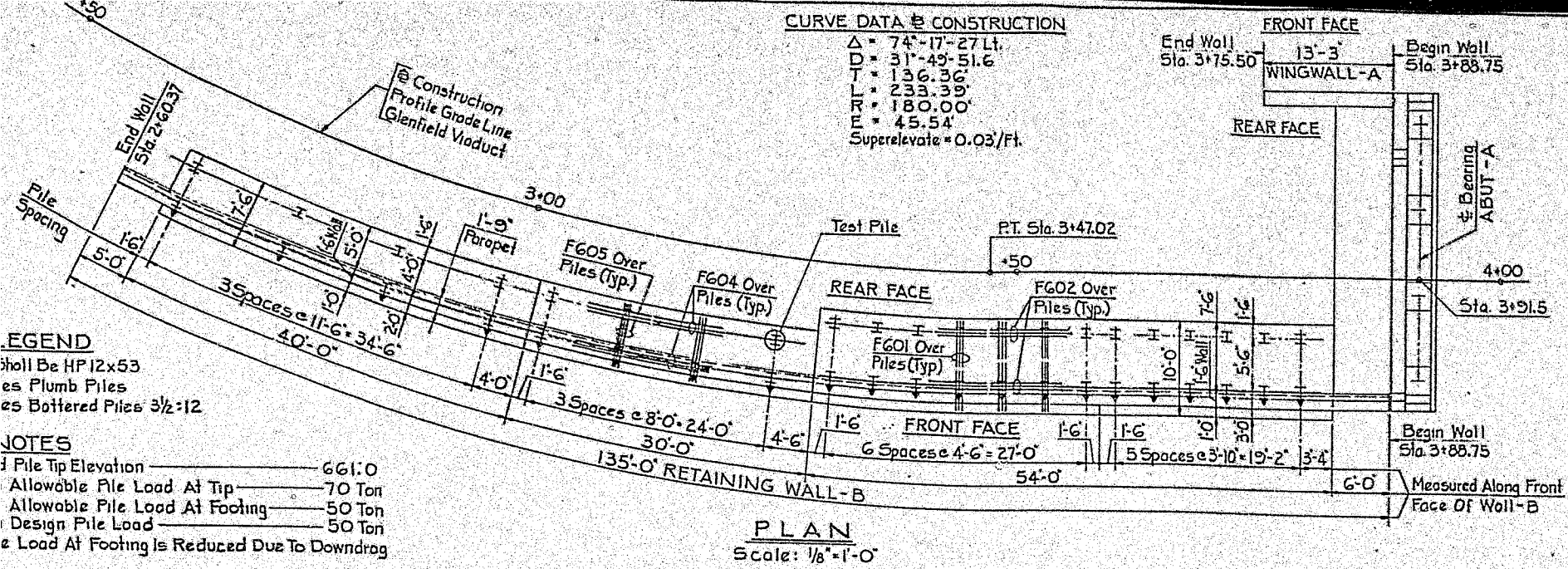
GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

ABUTMENT A PLAN, ELEV, & SECTIONS

RECOMMENDED _____

SHEET 3 OF ____



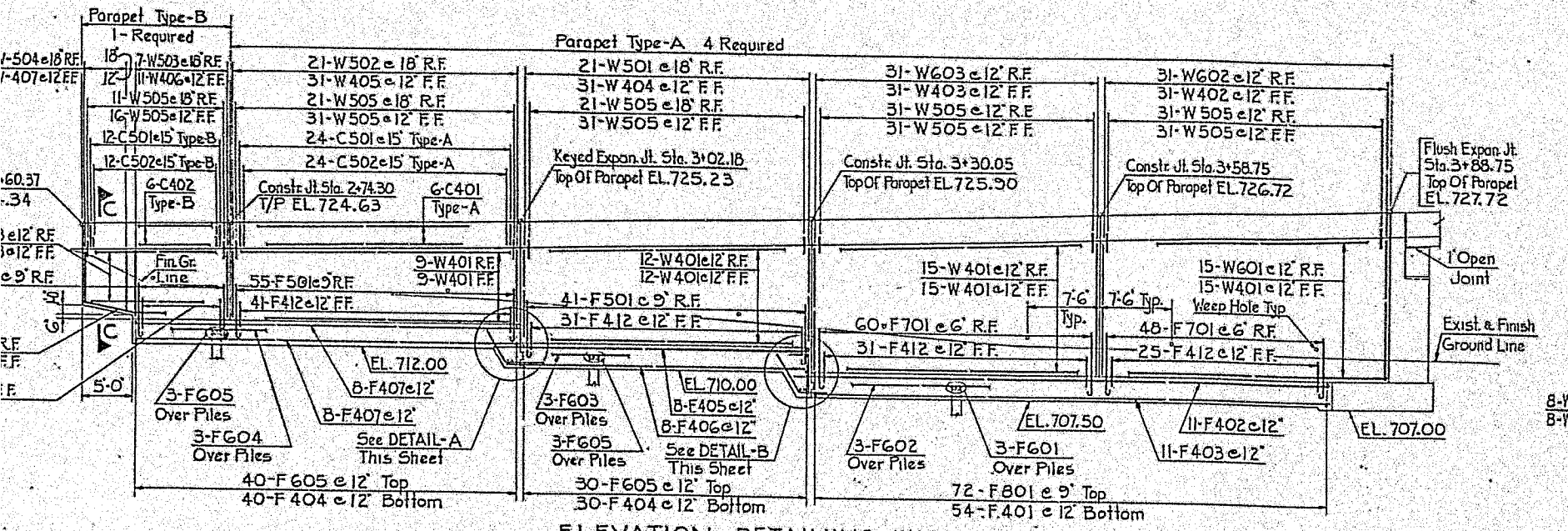
PLAN
Scale: 1/8" = 1'-0"

LEGEND
- Shall Be HP 12x53
- es Plumb Piles
- es Battered Piles 3½:12

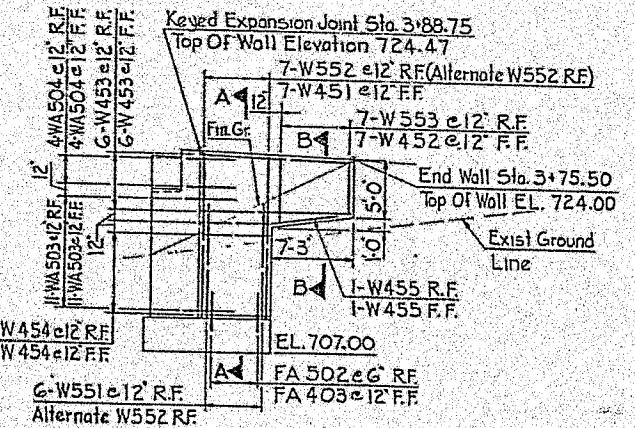
NOTES

Pile Tip Elevation	661.0
Allowable Pile Load At Tip	70 Ton
Allowable Pile Load At Footing	50 Ton
Design Pile Load	50 Ton

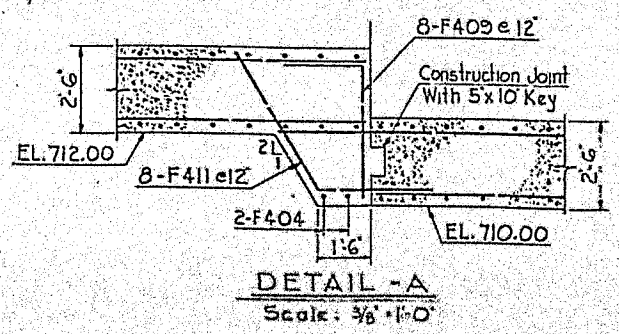
e Load At Footing Is Reduced Due To Downdrag



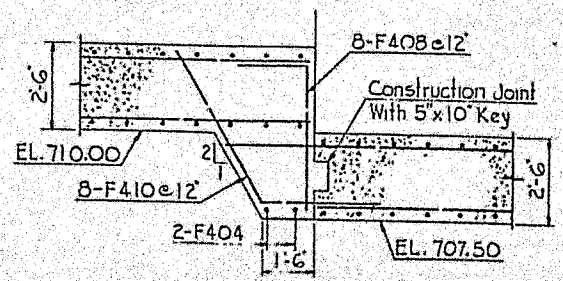
ELEVATION RETAINING WALL - B
Scale: 1/8" = 1'-0"



ELEVATION WINGWALL - A
Scale: 1/8" = 1'-0"



DETAIL - A
Scale: 3/8" = 1'-0"



DETAIL - B
Scale: 3/8" = 1'-0"

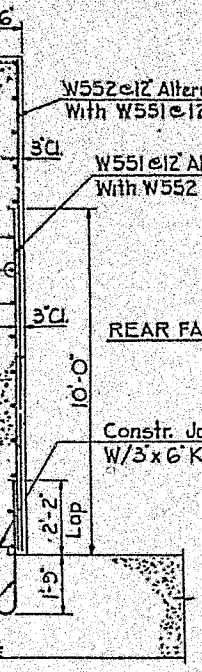
NOTE:
For Sections A-A, B-B, C-C And Typical Wall Sections, See Sheet N°

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

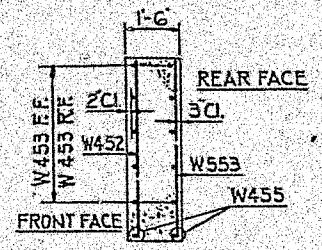
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
WALLS A & B, PLAN & ELEVATION

RECOMMENDED _____ SHEET 4 OF ____

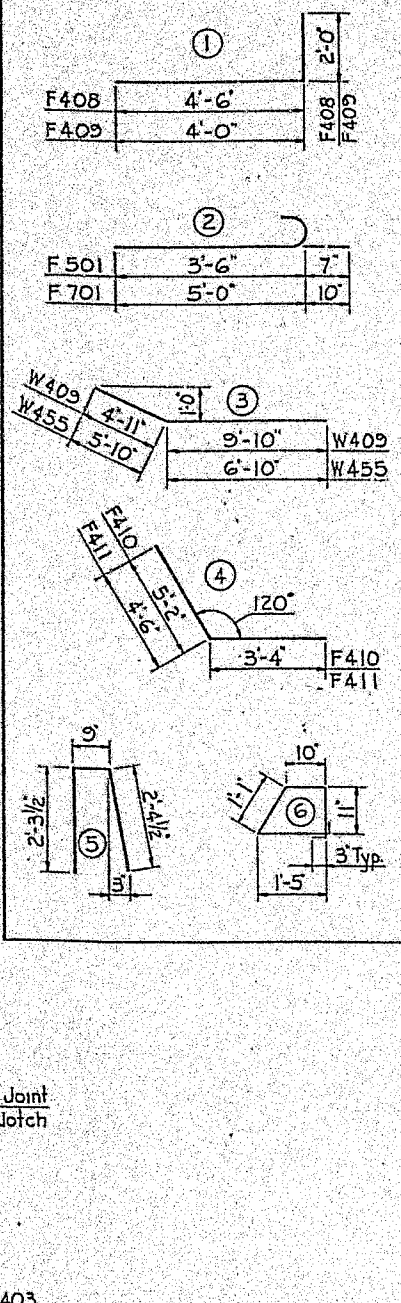


CTION A-A
cale: 3/8" = 1'-0"



SECTION B-B
Scale: 3/8" = 1'-0"

BAR TYPES

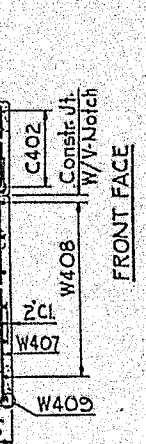


BAR SCHEDULE

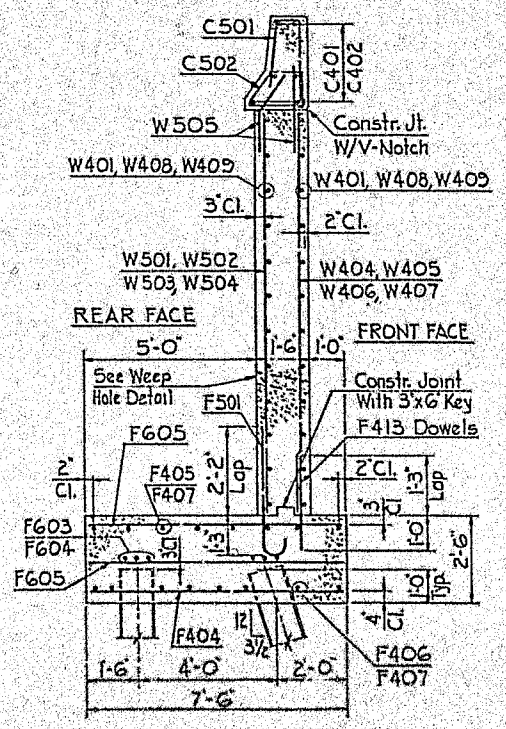
MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
F401	#4	Str.	54	9'-8"	
F402	#4	Str.	11	56'-2"	
F403	#4	Str.	11	55'-4"	
F404	#4	Str.	74	7'-2"	
F405	#4	Str.	8	32'-0"	
F406	#4	Str.	8	31'-2"	
F407	#4	Str.	16	38'-8"	
F408	#4	1	8	6'-6"	
F409	#4	1	8	6'-0"	
F410	#4	4	8	8'-6"	
F411	#4	4	8	7'-10"	
F412	#4	Str.	139	2'-3"	
F501	#5	2	111	3'-9"	
F601	#6	Str.	72	9'-8"	
F602	#6	Str.	6	50'-0"	
F603	#6	Str.	6	26'-0"	
F604	#6	Str.	6	36'-6"	
F605	#6	Str.	94	7'-2"	
F701	#7	2	108	5'-10"	
F801	#8	Str.	72	9'-8"	
*C401	#4	Str	24	29'-8"	
*C402	#4	Str	6	14'-8"	
*C501	#5	5	108	5'-3"	
*C502	#5	6	108	4'-9"	

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
W401	#4	Str.	87	29'-8"	
W402	#4	Str.	31	13'-10" To 14'-11"	Vary By 7/16"
W403	#4	Str.	31	13'-0" To 13'-10"	Vary By 5/16"+
W404	#4	Str.	31	9'-10" To 10'-6"	Vary By 1/4"+
W405	#4	Str.	31	7'-4" To 7'-10"	Vary By 3/16"+
W406	#4	Str.	11	7'-0"	
W407	#4	Str.	5	5'-6" To 6'-6"	Vary By 3"
W408	#4	Str.	12	14'-8"	
W409	#4	3	2	14'-9"	
W451	#4	Str.	7	14'-1" To 14'-4"	Vary By 1/2"
W452	#4	Str.	7	4'-10" To 6'-0"	Vary By 2 3/8"-
W453	#4	Str	12	13'-0"	
W454	#4	Str.	16	5'-8"	
W455	#4	3	2	12'-8"	
W501	#5	Str.	21	9'-10" To 10'-6"	Vary By 3/8"+
W502	#5	Str.	21	7'-4" To 7'-10"	Vary By 1/4"+
W503	#5	Str.	7	7'-0"	
W504	#5	Str.	4	5'-6" To 6'-6"	Vary By 4"
* W505	#5	Str.	255	2'-6"	
W551	#5	Str.	6	10'-0"	
W552	#5	Str.	7	14'-1" To 14'-4"	Vary By 1/2"
W553	#5	Str.	7	4'-10 To 6'-0"	Vary By 2 3/8"-
W601	#6	Str.	15	29'-8"	
W602	#6	Str.	31	13'-10" To 14'-11"	Vary By 7/16"
W603	#6	Str.	31	13'-0" To 13'-10"	Vary By 5/16"+

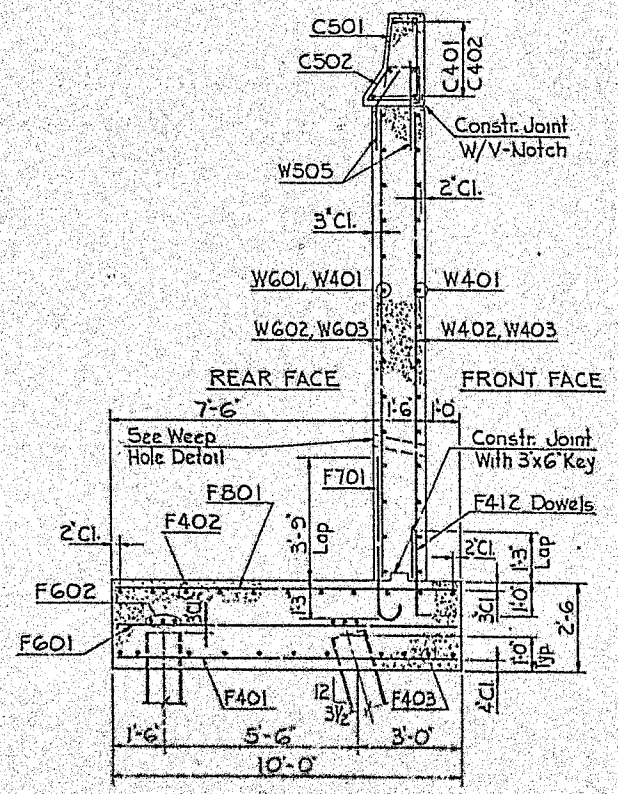
* Denotes Epoxy Coated Bars.



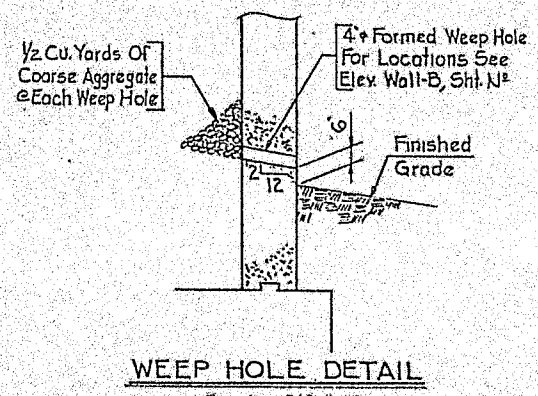
N C-C
/8" = 1'-0"



TYPICAL SECTION
STA. 2+65.01 TO STA 3+30.05
Scale: 3/8" = 1'-0"



TYPICAL SECTION
STA 3+30.05 TO STA. 3+88.75
Scale: 3/8" = 1'-0"



WEEP HOLE DETAIL
Scale: 3/8" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

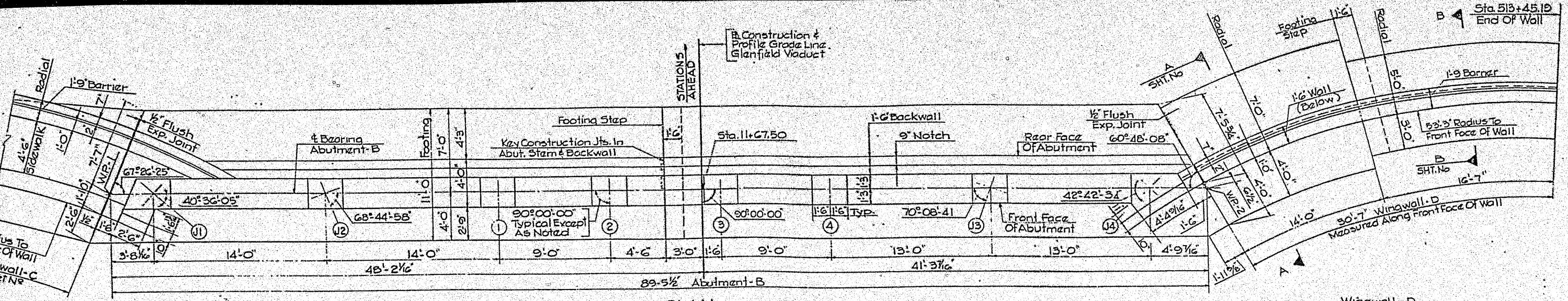
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
WALLS A & B SECTIONS & SCHEDULE

RECOMMENDED _____

SHEET 5 OF ____



Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

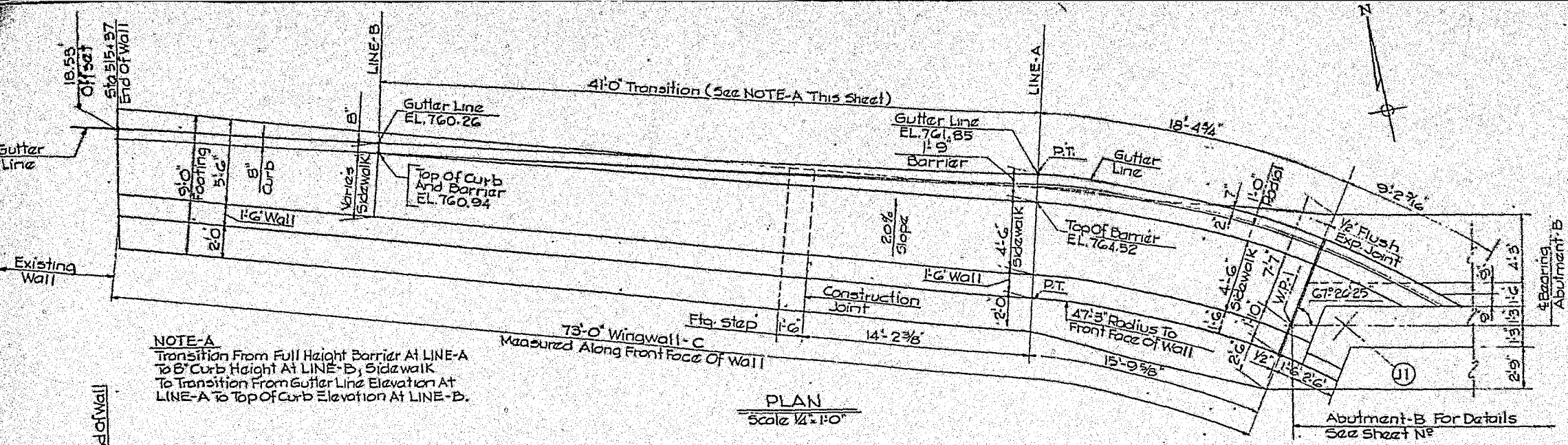
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
ABUT-B & WALL-D PLAN & ELEVATION

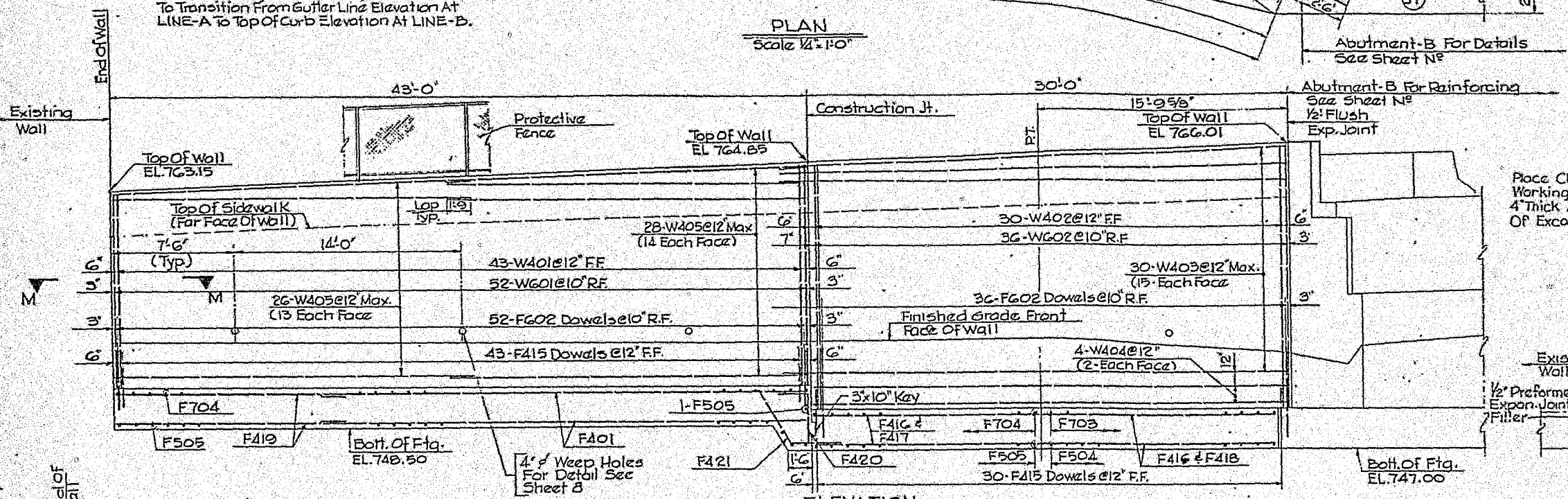
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 6 OF ____
S-16201

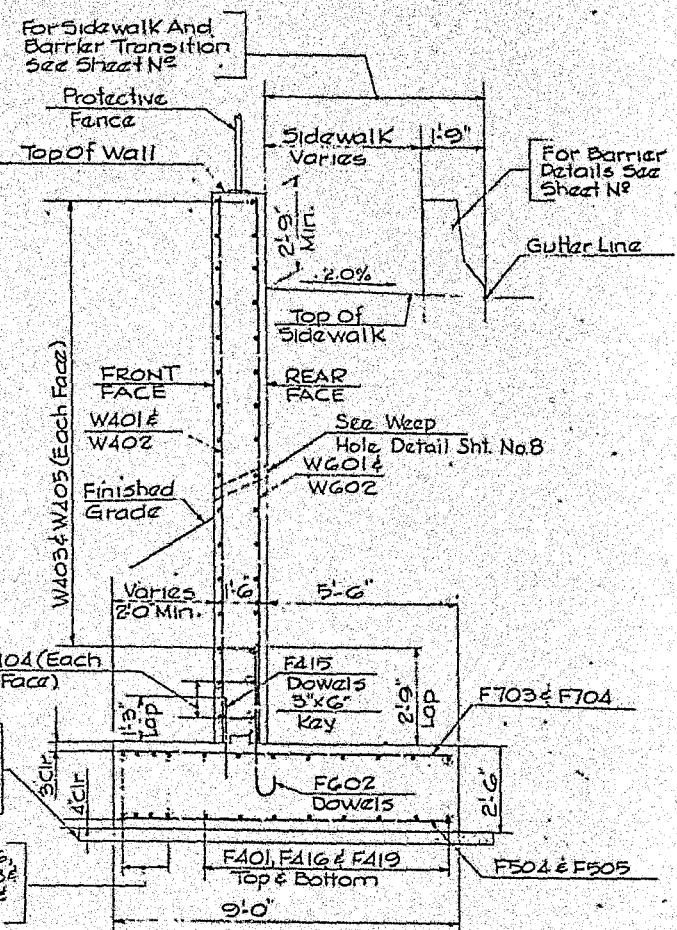


NOTE-A
Transition From Full Height Barrier At LINE-A To 8" Curb Height At LINE-B, Sidewalk To Transition From Gutter Line Elevation At LINE-A To Top Of Curb Elevation At LINE-B.

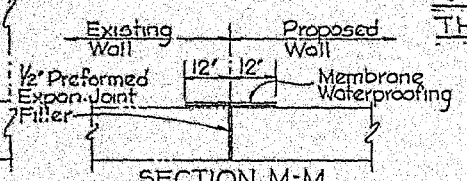
PLAN
Scale ½"=1'-0"



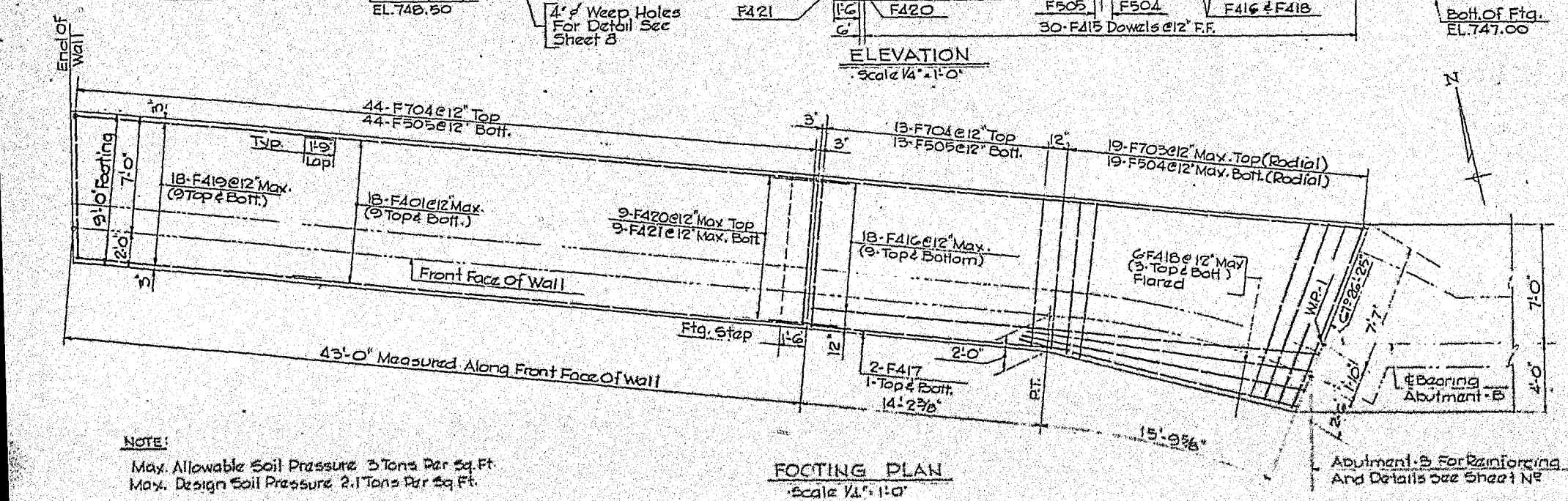
ELEVATION
Scale ¼"=1'-0"



TYPICAL SECTION THRU WINGWALL-C
Scale ⅜"=1'-0"



SECTION M-M
No Scale



NOTE:
Max. Allowable Soil Pressure 3 Tons Per Sq. Ft.
Max. Design Soil Pressure 2.1 Tons Per Sq. Ft.

FOOTING PLAN
Scale ¼"=1'-0"

Abutment-B For Reinforcing And Details See Sheet No.

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

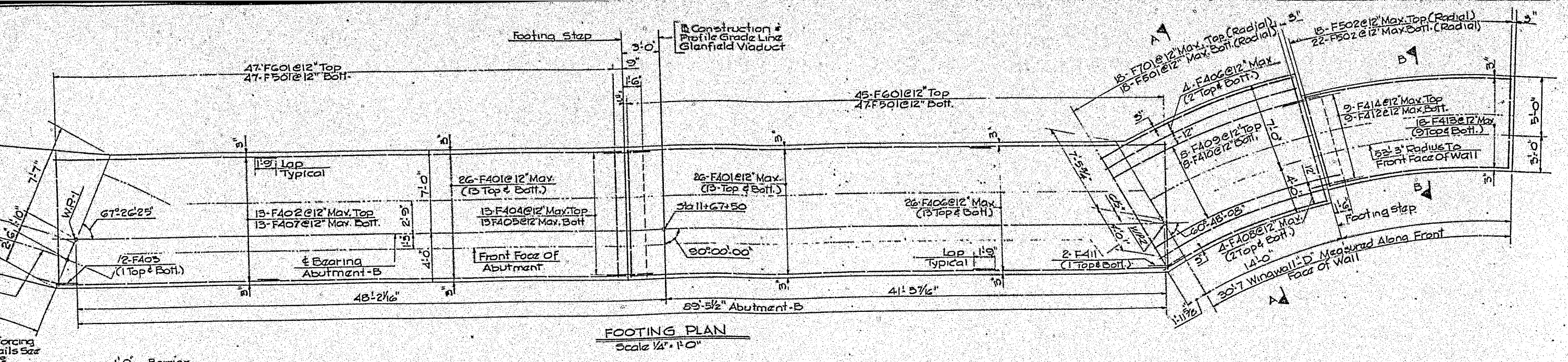
ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 15+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

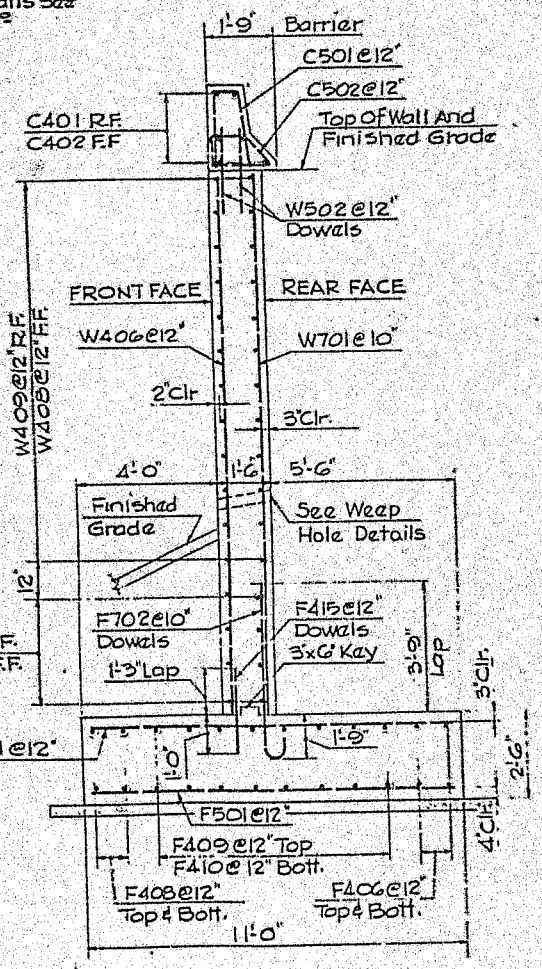
WALL-C PLAN, ELEV. & SECTION

RECOMMENDED _____

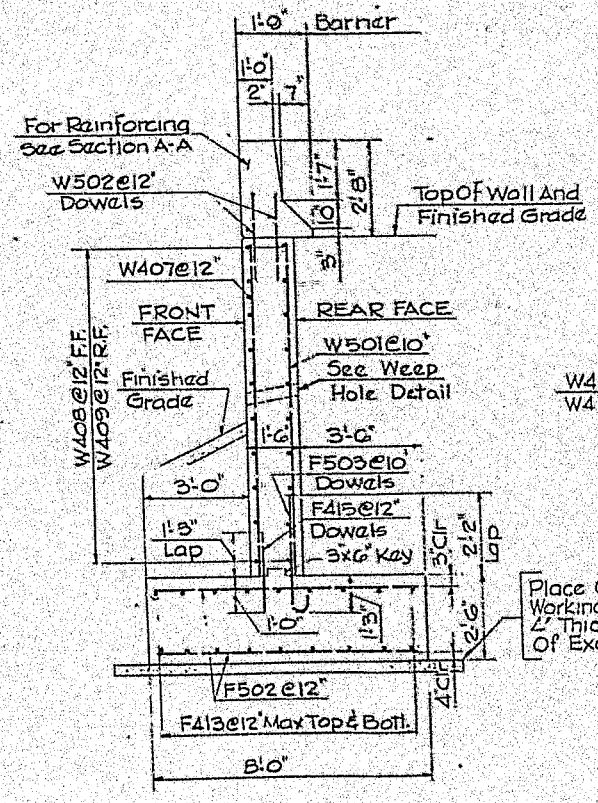
SHEET 7 OF ____



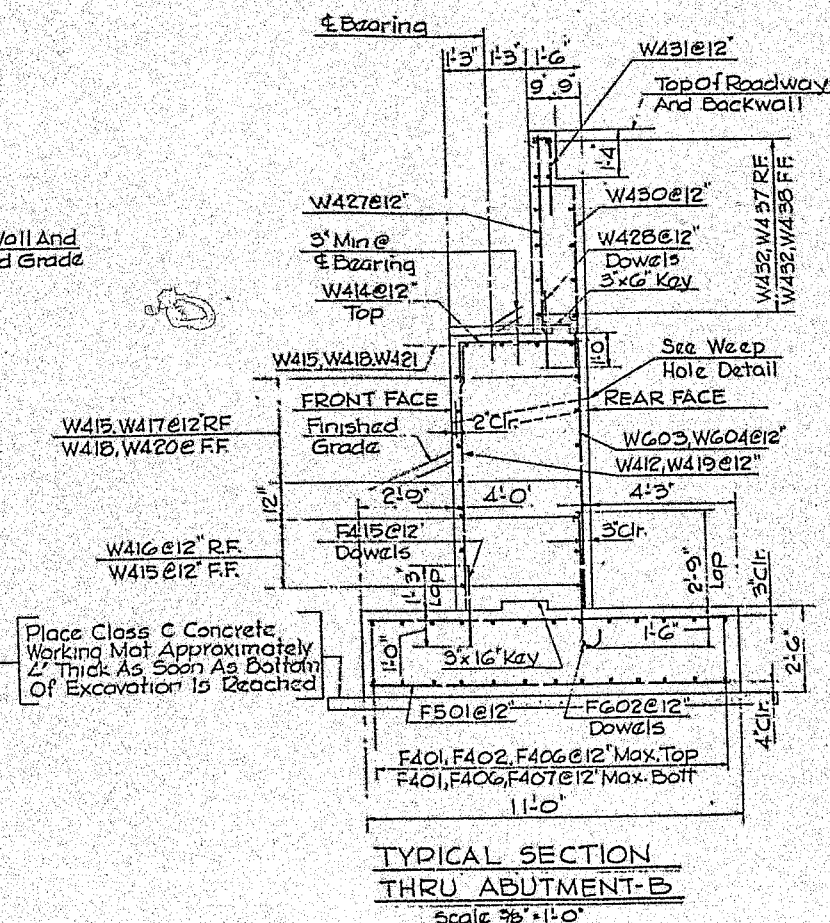
FOOTING PLAN
Scale 1/4" = 1'-0"



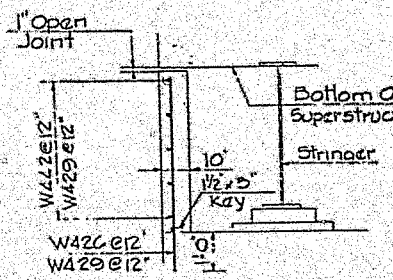
SECTION A-A
Scale 3/8" = 1'-0"



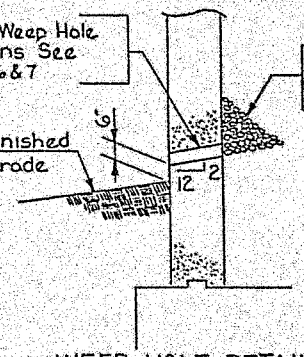
SECTION B-B
Scale 3/8" = 1'-0"



TYPICAL SECTION THRU ABUTMENT-B
Scale 3/8" = 1'-0"



SECTION J-J
Scale 3/8" = 1'-0"



WEEP HOLE DETAIL
Scale: 3/8" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

ABUT-B & WALL-D SECTIONS & DETAILS

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 8 OF ____

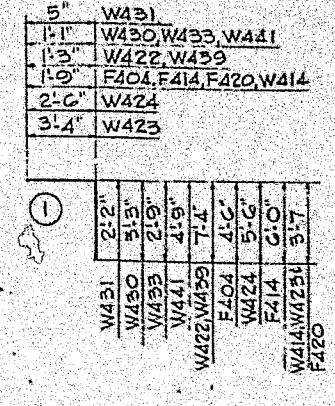
S-1620

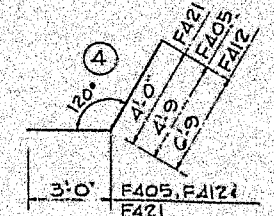
BAR SCHEDULE

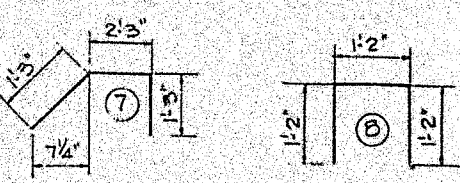
SIZE	TYPE	NUMBER ABUT-B	NUMBER WALL-C	NUMBER WALL-D	LENGTH	REMARKS	MARK	SIZE	TYPE	NUMBER ABUT-B	NUMBER WALL-C	NUMBER WALL-D	LENGTH	REMARKS
#4	Str.	52	18		30'-0"		* W428	#4	Str.	108			2'-3"	
#4	Str.	13			20'-0"		* W429	#4	Str.	8			5'-5"	
#4	3	2			3'-6"		* W430	#4	1	82			6'-4"	
#4	1	13			6'-3"		* W431	#4	1	79			2'-7"	
#4	4	13			7'-9"		* W432	#4	Str.	24			22'-2"	
#4	Str.			4	17'-6"		* W433	#4	1	6			3'-10"	
#4	Str.	13			18'-6"		* W434	#4	3	4			3'-6"	
#4	Str.			4	14'-9"		* W435	#4	3	2			2'-9"	
#4	Str.			8	17'-0" To 18'-9"	Vary 1 Ea. By 3"	* W436	#4	Str.	5			5'-6"	
#4	Str.			8	15'-0" To 16'-9"	Vary 1 Ea. By 3"	* W437	#4	Str.	12			21'-0"	
#4	3	2			3'-6"		* W438	#4	Str.	12			24'-0"	
#4	4			9	9'-9"		* W439	#4	1	6			8'-7"	
#4	Str.			18	15'-4" To 17'-4"	Vary 2 Ea. By 3"	* W440	#4	Str.	6			7'-4"	
#4	1			9	7'-9"		* W441	#4	1	6			5'-10"	
#4	Str.	97	73	31	2'-3"		* W442	#4	Str.	5			3'-7"	
#4	Str.		18		30'-0" To 32'-4"	Vary 2 Ea. By 3½"	* W443	#4	8	4			3'-6"	
#4	Str.		2		15'-6"									
#4	Str.		6		17'-0"									
#4	Str.		18		14'-3" To 14'-11"	Vary 2 Ea. By 1"								
#4	1		9		5'-5"									
#4	4		9		7'-0"									
#5	Str.	96		18	10'-6"		W501	#5	Str.			20	9'-5" To 9'-10 1/8"	Vary 1 Ea. By 3/8"
#5	Str.			40	7'-6"		* W502	#5	Str.			62	2'-6"	
#5	2			20	4'-0"		* W503	#5	Str.	4			3'-3"	
#5	Str.		19		8'-6" To 11'-6"	Vary 1 Ea. By 2"								
#5	Str.		58		8'-6"									
#6	Str.	92			10'-6"		W601	#6	Str.		52		12'-0" To 13'-7 1/8"	Vary 1 Each By 3/8"
#6	2	88	87		4'-11"		W602	#6	Str.		36		15'-2" To 16'-3 3/8"	Vary 1 Each By 3/8"
							W603	#6	Str.	43			6'-11" To 8'-3 3/8"	Vary 1 Each By 3/8"
							W604	#6	Str.	44			5'-10 1/4" To 6'-9"	Vary 1 Each By 1/4"
#7	Str.			18	10'-6"									
#7	2			17	6'-4"									
#7	Str.		19		8'-6" To 11'-6"	Vary 1 Ea. By 2"								
#7	Str.		57		8'-6"									
							W701	#7	Str.			17	12'-8" To 13'-2"	Vary 1 Ea By 3/8"
#4	Str.		43		11'-11" To 13'-8"	Vary 1 Ea. By 1/2"								
#4	Str.		30		15'-0 1/2" To 16'-3	Vary 1 Ea. By 1/2"								
#4	Str.		30		31'-6"		* C401	#4	Str.			6	16'-6"	
#4	Str.		4		29'-6"		* C402	#4	Str.			6	16'-0"	
#4	Str.		54		22'-3"		* C403	#4	Str.	1			8'-5"	
#4	Str.			14	12'-8" To 13'-2 1/2"	Vary 1 Ea By 1/2"	* C404	#4	Str.	2			7'-4"	
#4	Str.			17	9'-2" To 9'-10"	Vary 1 Ea By 1/2"	* C405	#4	Str.	3			6'-0"	
#4	Str.			20	16'-0"		* C406	#4	Str.	6			1'-2"	
#4	Str.			20	16'-4"									
#4	Str.			4	13'-8"									
#4	Str.			4	14'-0"									
#4	Str.	43			7'-0" To 8'-3 3/4"	Vary 1 Ea. By 3/8"	* C501	#5	5			31	5'-3"	
#4	Str.	11			7'-0"		* C502	#5	6			31	5'-3"	
#4	1	82			5'-4"		* C503	#5	5	1			7'-9"	
#4	Str.	22			22'-0"		* C504	#5	5	1			7'-3"	
#4	Str.	13			20'-0"		* C505	#5	5	1			7'-1"	
#4	Str.	9			21'-0"		* C506	#5	5	8			6'-11"	
#4	Str.	17			23'-0"		* C507	#5	9	1			5'-8"	
#4	Str.	40			5'-10 1/4" To 6'-8"	Vary 1 Ea By 1/4"	* C508	#5	9	1			5'-0"	
#4	Str	12			20'-6"		* C509	#5	9	1			4'-6"	
#4	Str.	4			19'-0" To 22'-0"	Vary 1 Ea By 12"	* C510	#5	9	8			4'-2"	
#4	1	16			8'-7"									
#4	1	8			7'-0"									
#4	1	7			8'-0"									
#4	7	7			4'-9"									
#4	Str	7			6'-9"									
#4	Str	108			5'-7"									

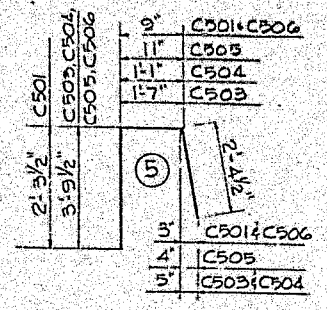
NOTE:
* Denotes Epoxy Coated Bars

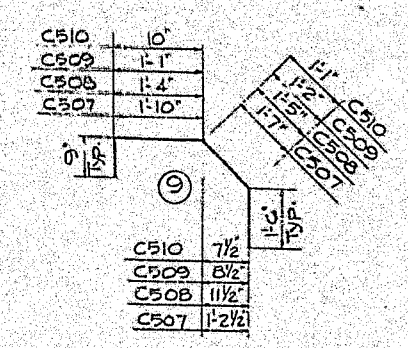
BAR TYPES

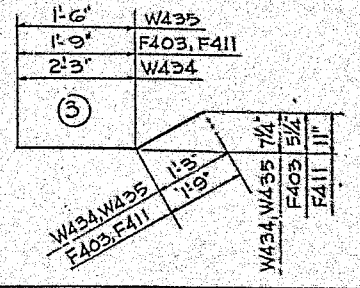


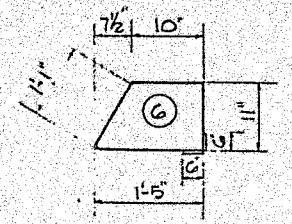




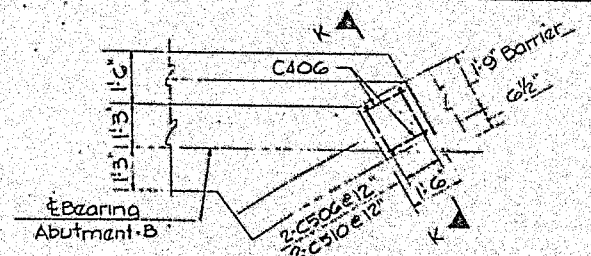




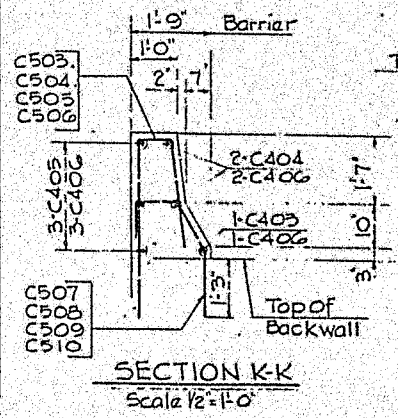




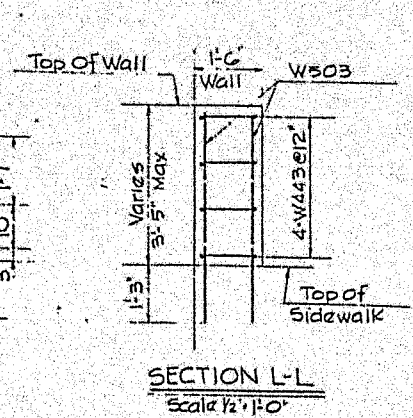
NOTE: All Bar Dimensions Are Out To Out



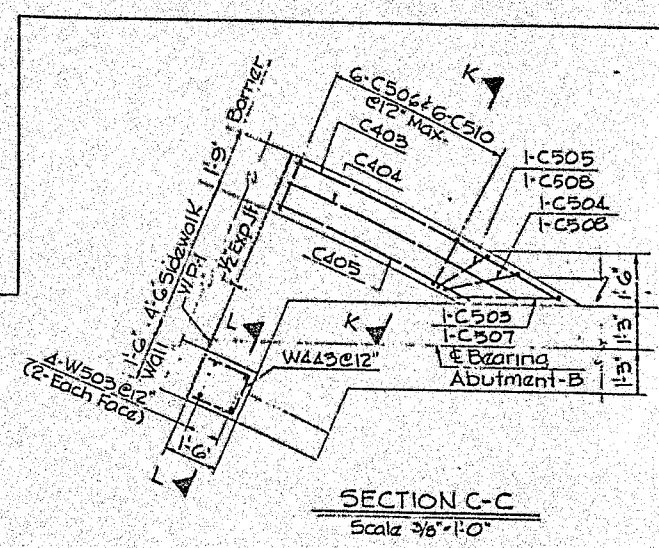
SECTION D-D
Scale 3/8"=1'-0"



SECTION K-K
Scale 1/2"=1'-0"



SECTION L-L
Scale 1/2"=1'-0"



SECTION C-C
Scale 3/8"=1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

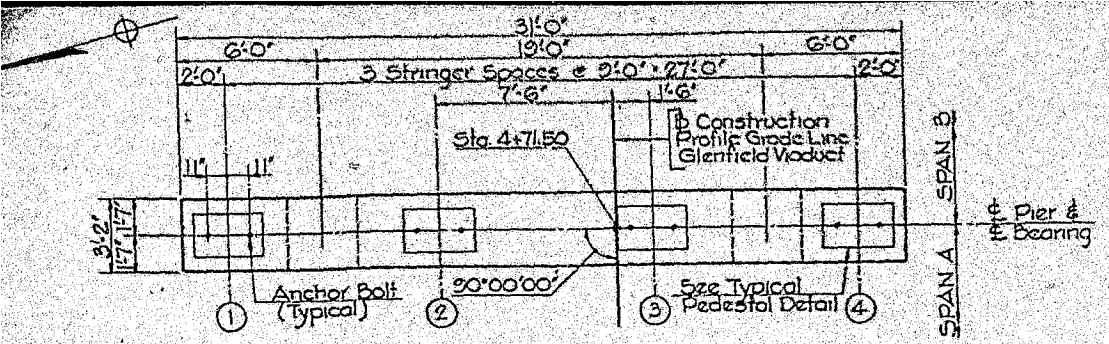
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
ABUT.-B & WALLS C & D DETAILS & SCHEDULE

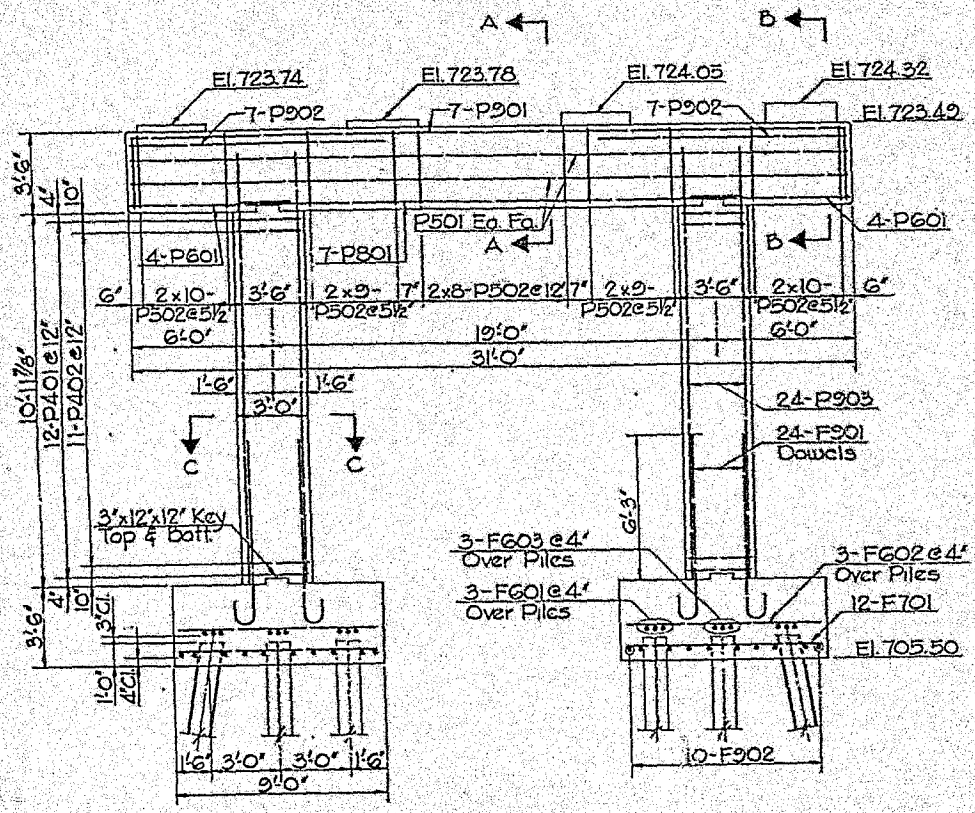
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 9 OF ____

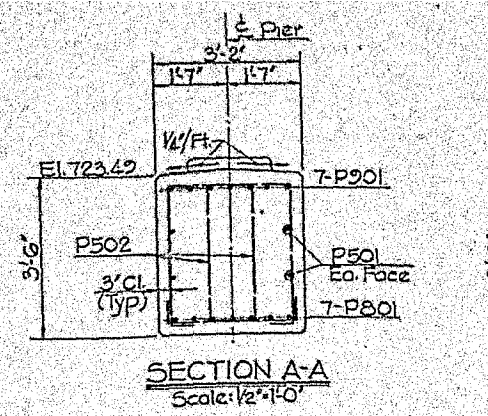
S-16201



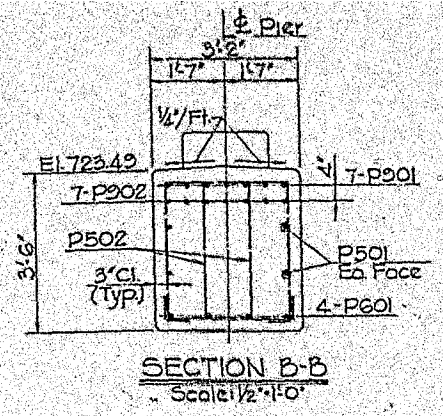
PLAN
Scale: 1/4" = 1'-0"



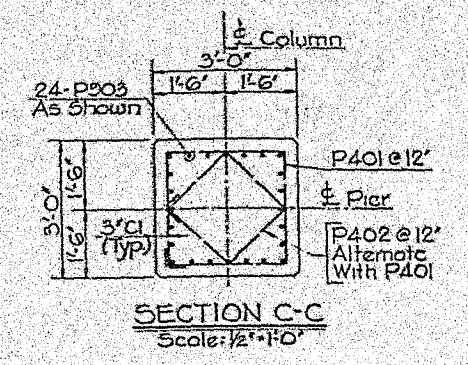
ELEVATION
Scale: 1/4" = 1'-0"



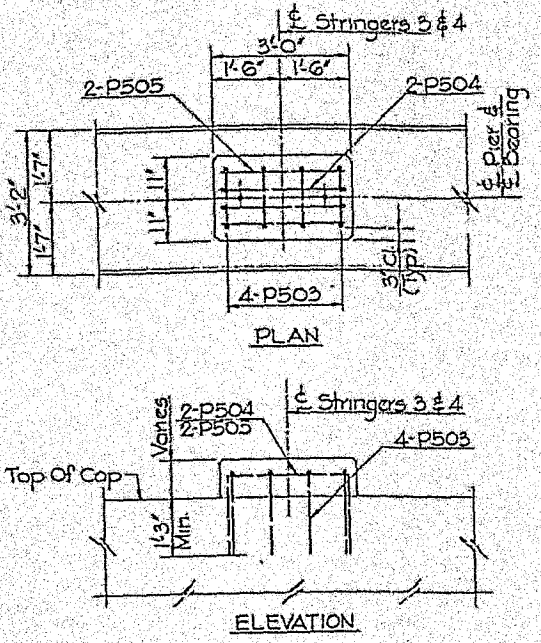
SECTION A-A
Scale: 1/2" = 1'-0"



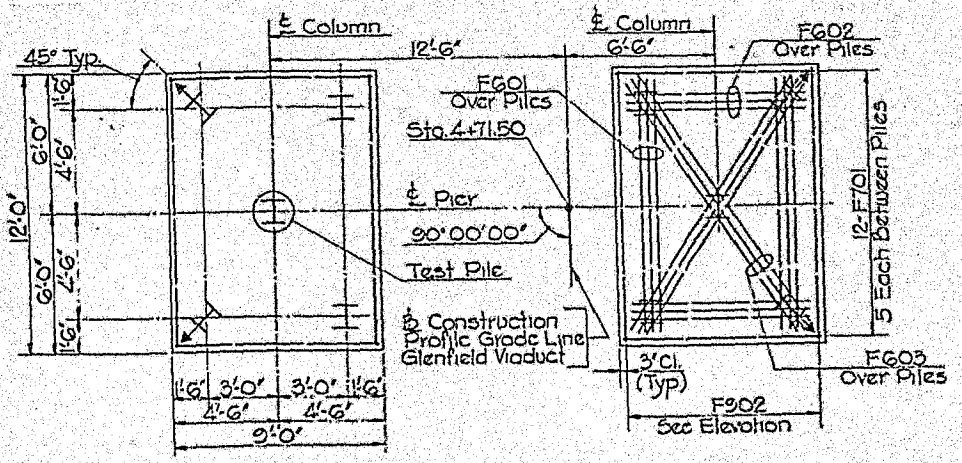
SECTION B-B
Scale: 1/2" = 1'-0"



SECTION C-C
Scale: 1/2" = 1'-0"



PEDESTAL DETAILS
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

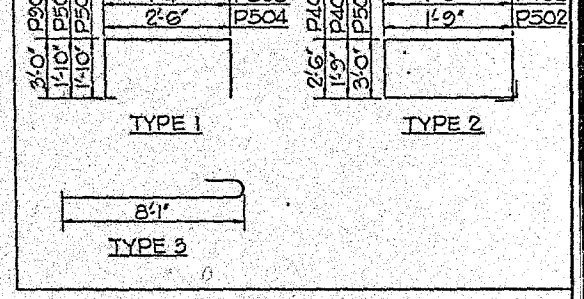
PILE LEGEND
Denotes Plumb Piles
Denotes Battered Piles 3:12
All Piles Shall Be HP 12x74

PILE NOTES
Maximum Allowable Pile Load 98 Tons
Maximum Design Pile Load 89 Tons
Estimated Pile Tip El. 664.00

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	24	10'-9"	
P402	4	2	22	7'-9"	
P501	5	Str.	4	30'-6"	
P502	5	2	92	9'-8"	
P503	5	1	8	5'-0"	
P504	5	1	4	6'-2"	
P505	5	Str.	4	2'-6"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	7	20'-11"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P903	9	Str.	48	13'-6"	
F601	6	Str.	12	11'-0"	
F602	6	Str.	12	7'-0"	
F603	6	Str.	12	13'-0"	
F701	7	Str.	24	8'-6"	
F901	9	3	48	9'-1"	
F902	9	Str.	20	11'-6"	

BAR TYPES



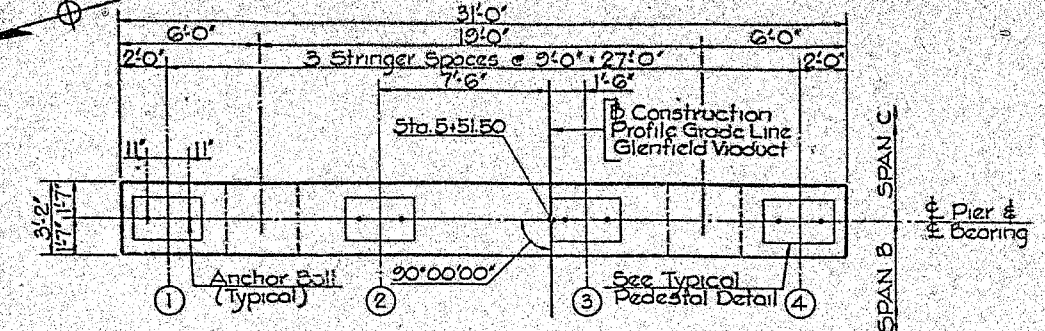
Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

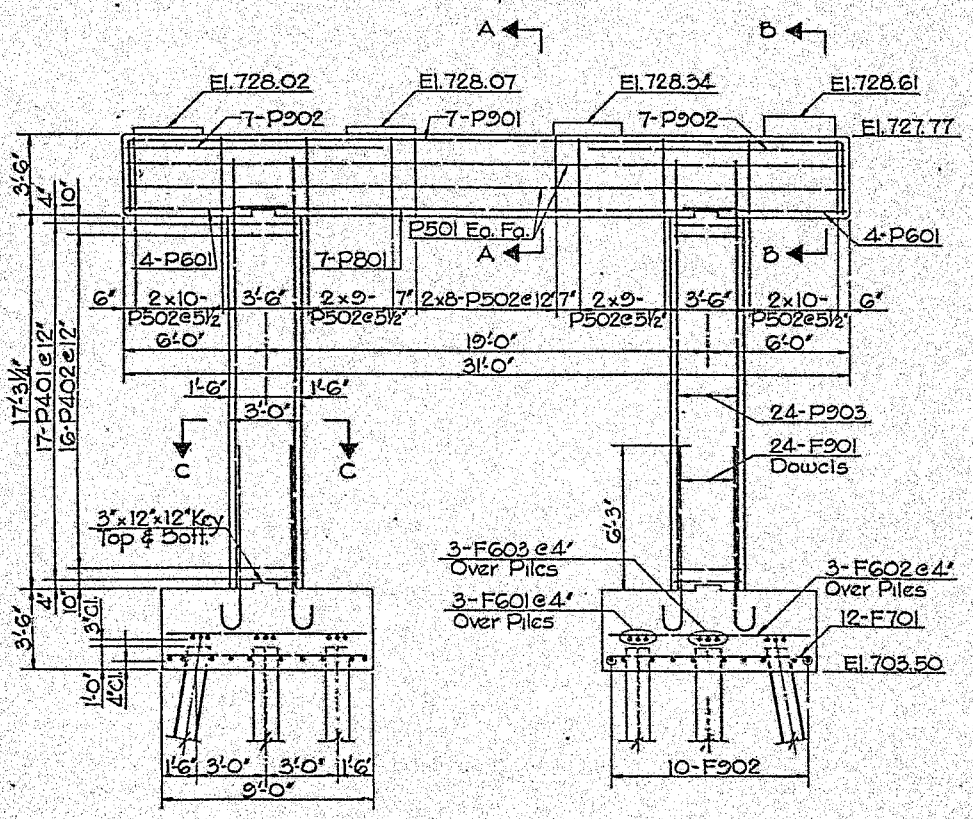
ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 1

RECOMMENDED _____
BRIDGE ENGINEER

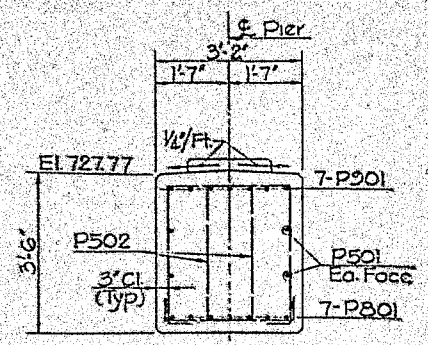
SHEET 10 OF ____
S-16201



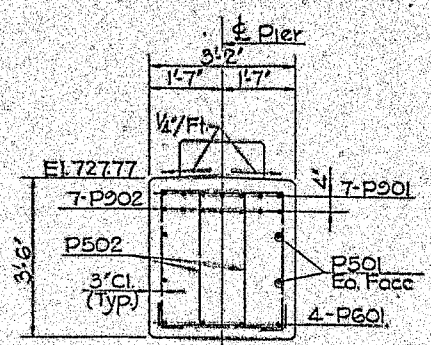
PLAN
Scale: 1/4" = 1'-0"



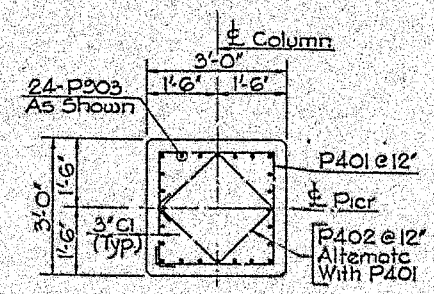
ELEVATION
Scale: 1/4" = 1'-0"



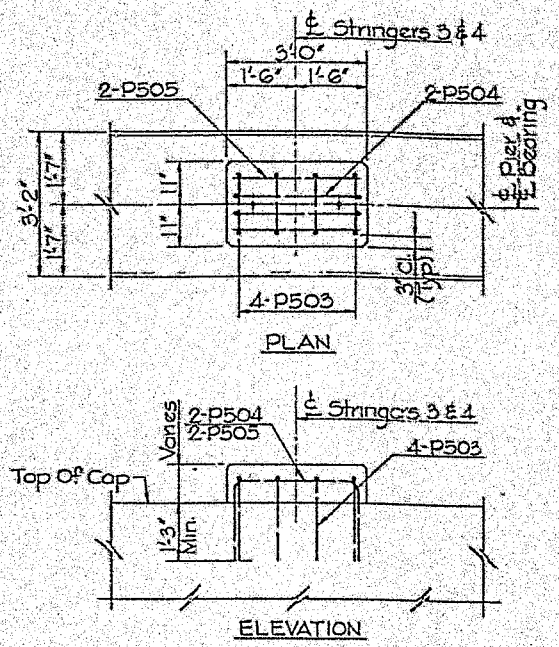
SECTION A-A
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 1/2" = 1'-0"



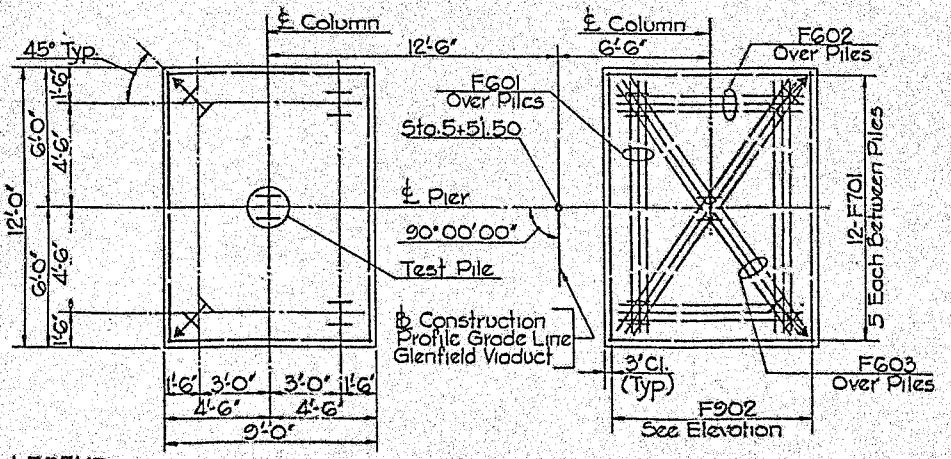
SECTION C-C
Scale: 1/2" = 1'-0"



PLAN

ELEVATION

PEDESTAL DETAILS
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

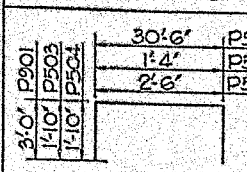
LEGEND
tes Plumb Piles
tes Battered Piles 3:12
es Shall Be HP12x74

PILE NOTES
Maximum Allowable Pile Load 38 Tons
Maximum Design Pile Load 82 Tons
Estimated Pile Tip El. 665.00

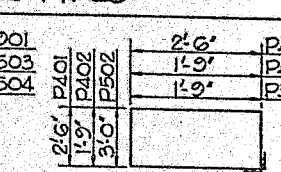
BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	34	10'-9"	
P402	4	2	32	7'-9"	
P501	5	Str.	4	30'-6"	
P502	5	2	92	9'-8"	
P503	5	1	8	5'-0"	
P504	5	1	4	6'-2"	
P505	5	Str.	4	2'-6"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	7	20'-11"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P903	9	Str.	48	19'-9"	
F601	6	Str.	12	11'-0"	
F602	6	Str.	12	7'-0"	
F603	6	Str.	12	13'-0"	
F701	7	Str.	24	8'-6"	
F901	9	3	48	9'-4"	
F902	9	Str.	20	11'-6"	

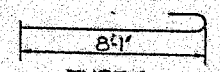
BAR TYPES



TYPE 1



TYPE 2



TYPE 3

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

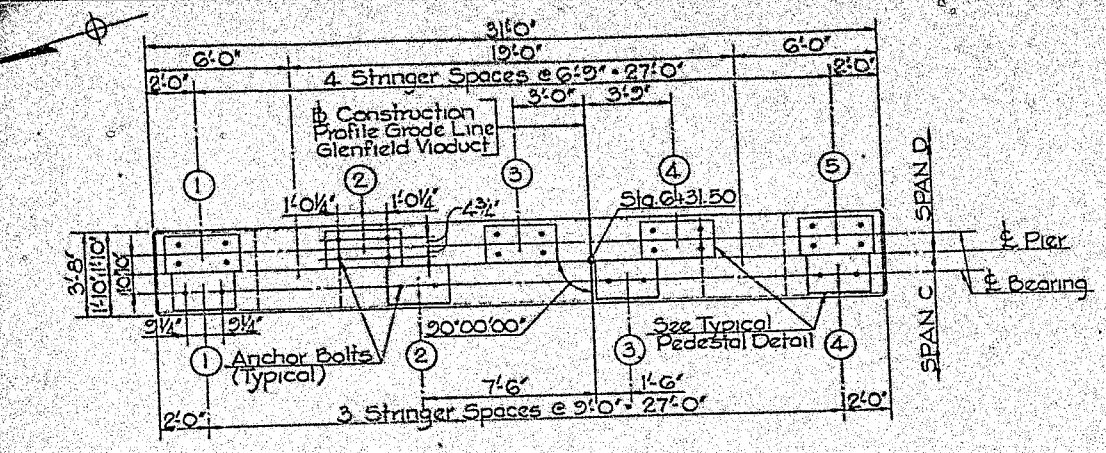
ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 2

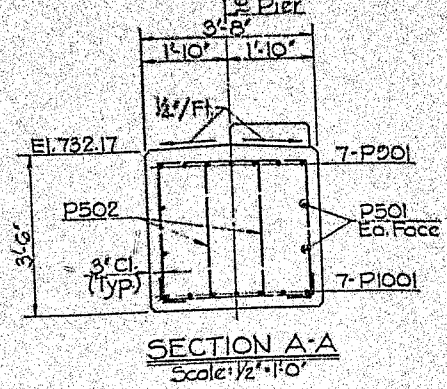
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 11 OF ____

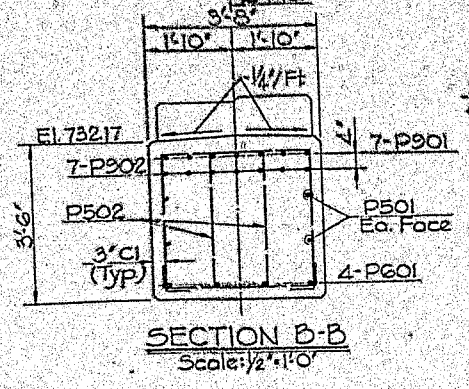
D-1601



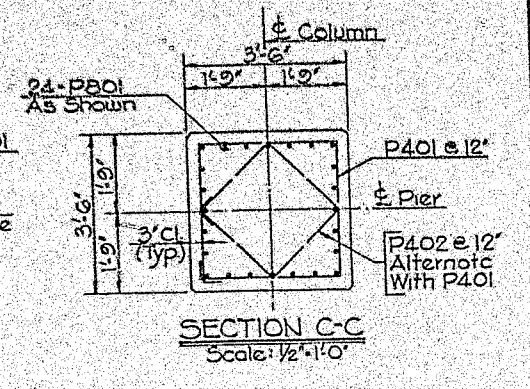
PLAN
Scale: ¼" = 1'0"



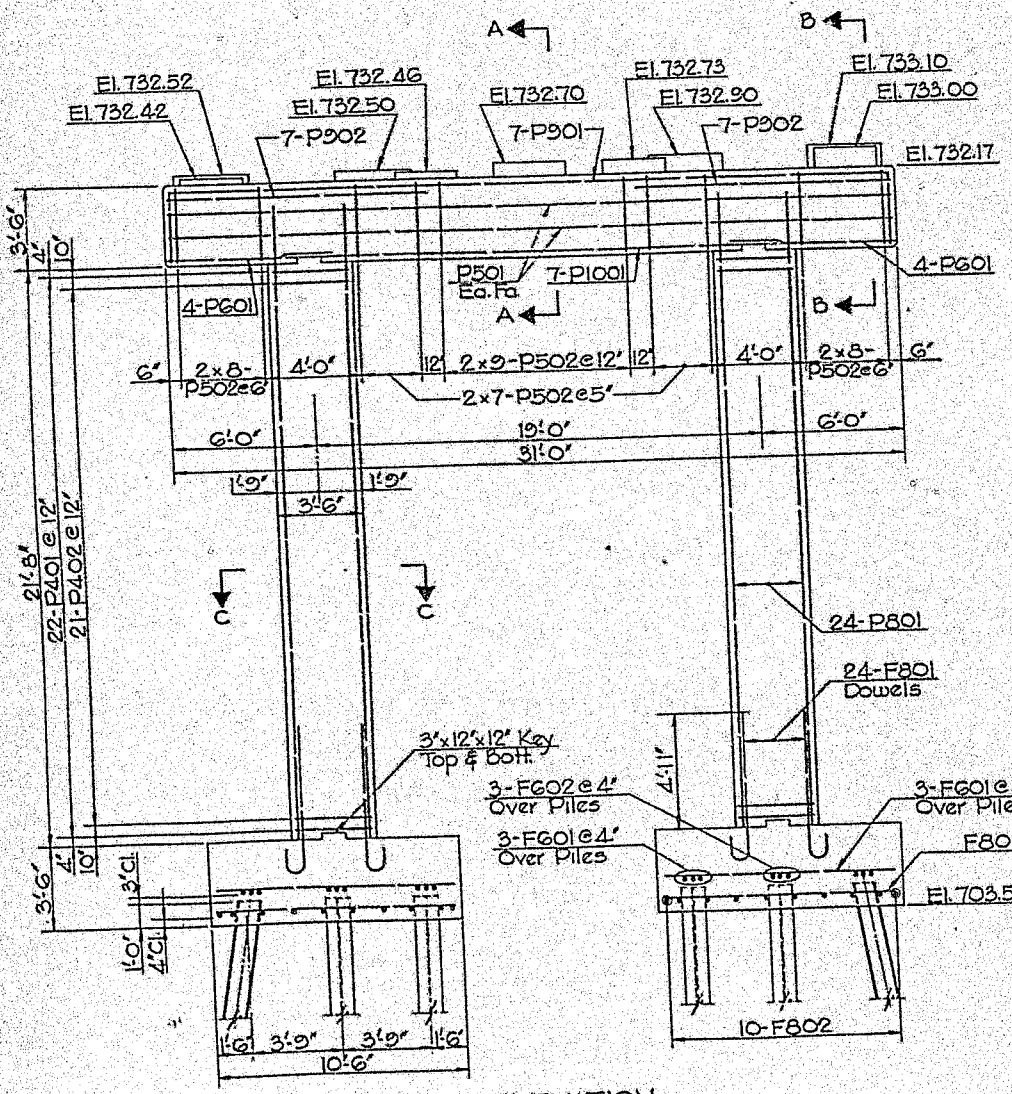
SECTION A-A
Scale: ½" = 1'0"



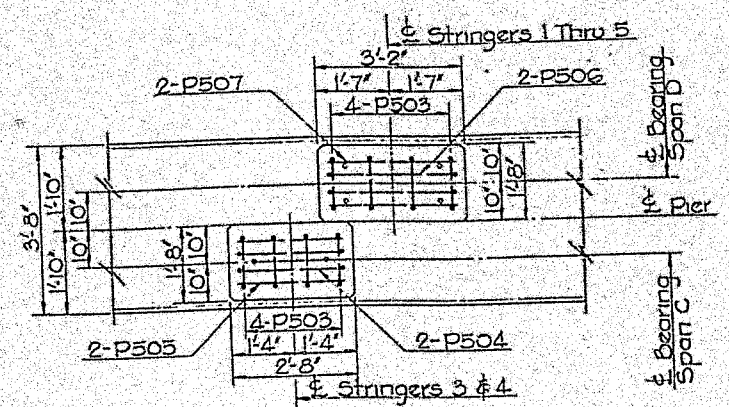
SECTION B-B
Scale: ½" = 1'0"



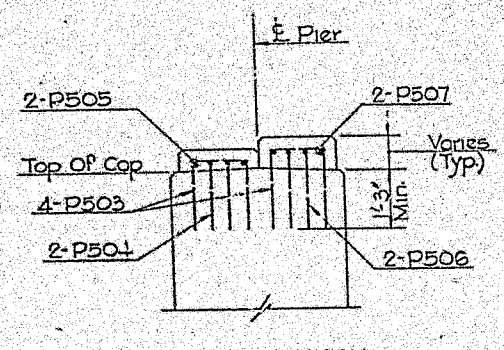
SECTION C-C
Scale: ½" = 1'0"



ELEVATION
Scale: ¼" = 1'0"

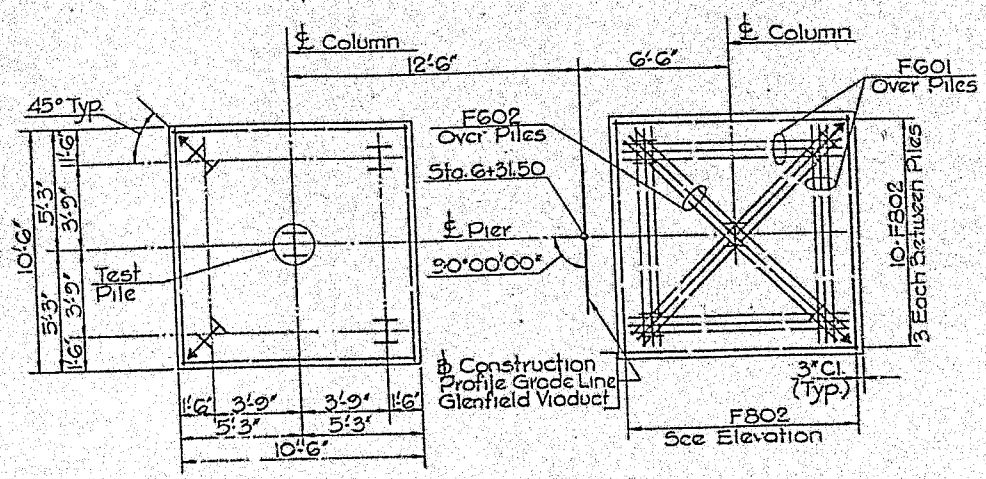


PLAN



TYPICAL SECTION

PEDESTAL DETAILS
Scale: ½" = 1'0"



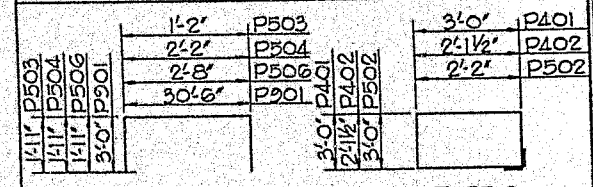
FOOTING PLAN
Scale: ¼" = 1'0"

PILE LEGEND
- Denotes Plumb Piles
- Denotes Battered Piles 3:12
- All Piles Shall Be HP 12 x 74

PILE NOTES
- Maximum Allowable Pile Load 98 Tons
- Maximum Design Pile Load 94 Tons
- Estimate Pile Tip El 650.00

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	44	12'-9"	
P402	4	2	42	9'-3"	
P501	5	Str.	4	30'-6"	
P502	5	2	78	11'-4"	
P503	5	1	28	5'-0"	
P504	5	1	4	6'-0"	
P505	5	Str.	4	2'-2"	
P506	5	1	10	6'-6"	
P507	5	Str.	10	2'-8"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	48	24'-2"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P1001	10	Str.	7	20'-11"	
F601	6	Str.	24	9'-6"	
F602	6	Str.	12	12'-6"	
F801	8	3	48	7'-3"	
F802	8	Str.	40	10'-0"	

BAR TYPES



Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

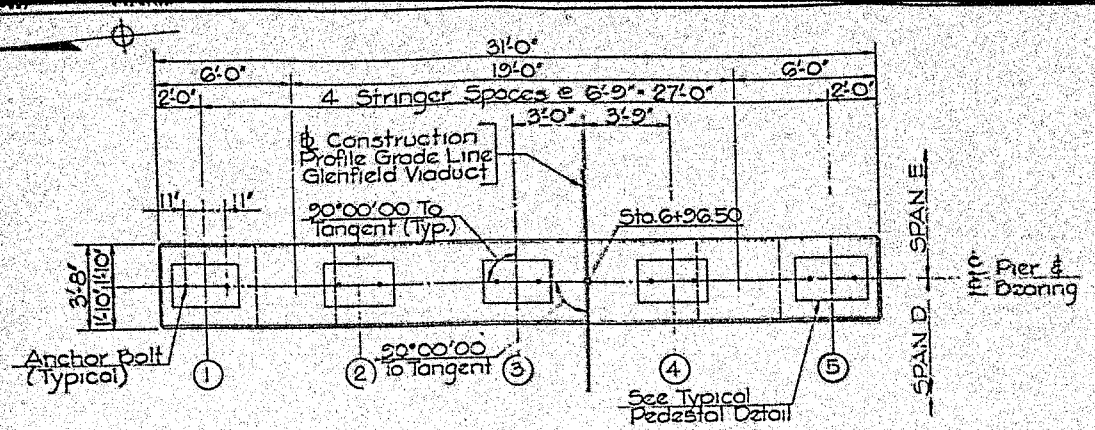
ALLEGHENY COUNTY
GLENFIELD VIADUCT

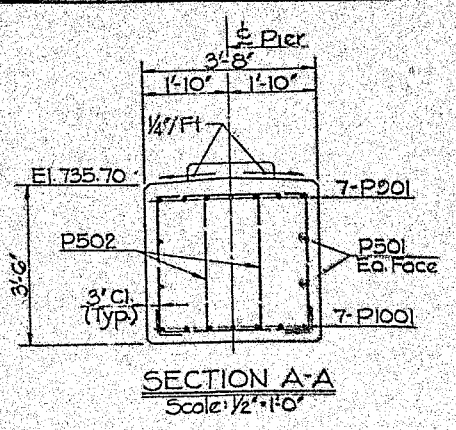
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 3

RECOMMENDED _____
BRIDGE ENGINEER

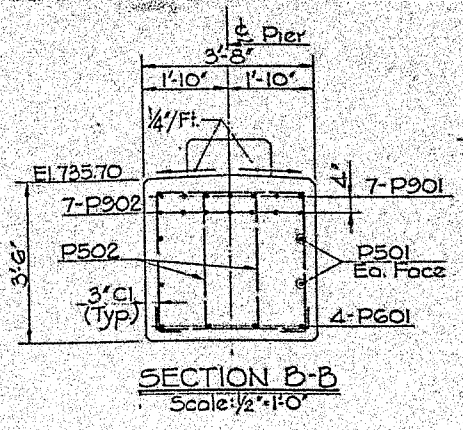
SHEET 12 OF ____

S-16201

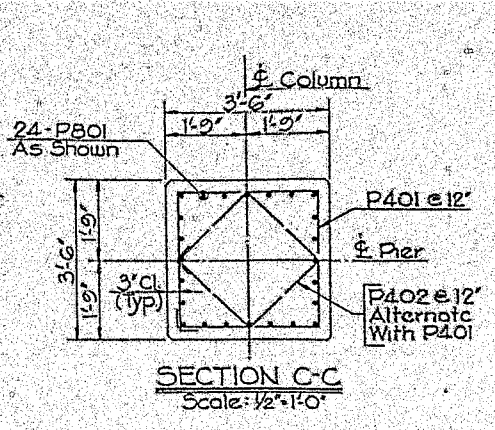




SECTION A-A
Scale: 1/2" = 1'-0"

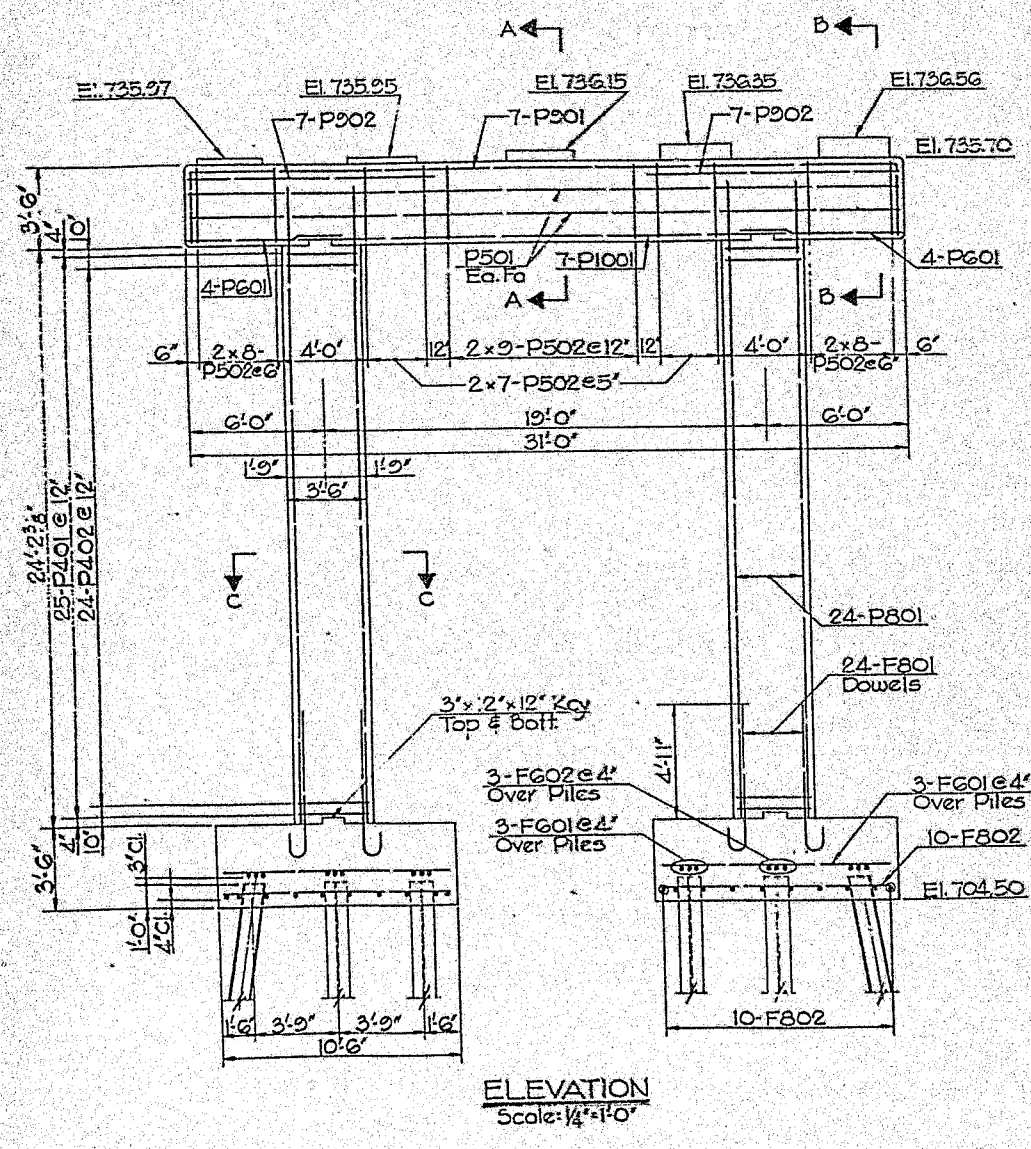


SECTION B-B
Scale: 1/2" = 1'-0"

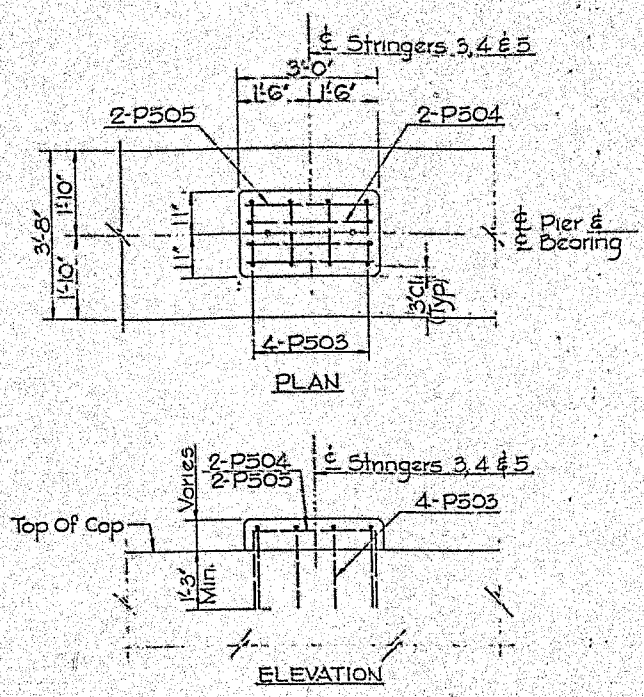


SECTION C-C
Scale: 1/2" = 1'-0"

PLAN
Scale: 1/4" = 1'-0"



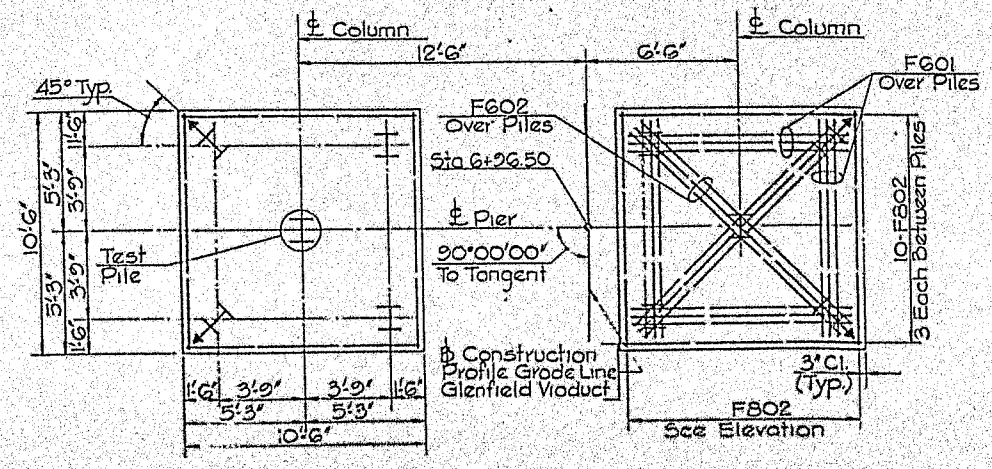
ELEVATION
Scale: 1/4" = 1'-0"



PLAN

ELEVATION

PEDESTAL DETAILS
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

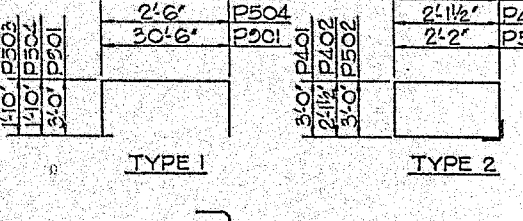
PILE LEGEND
- Denotes Plumb Piles
- Denotes Battered File 3:12
- All Piles Shall Be HP 12 x 74

PILE NOTES
- Maximum Allowable Pressure 5.8 Tons
- Maximum Design Pile Load 54 Tons
- Estimated Pile Tip El. 607.60

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	50	12'-9"	
P402	4	2	48	9'-3"	
P501	5	Str.	4	30'-6"	
P502	5	2	78	11'-4"	
P503	5	1	12	5'-0"	
P504	5	1	6	6'-2"	
P505	5	Str.	6	2'-6"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	48	26'-9"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P1001	10	Str.	7	20'-11"	
FG01	6	Str.	24	9'-6"	
FG02	6	Str.	12	12'-6"	
F801	8	3	48	7'-3"	
F802	8	Str.	40	10'-0"	

BAR TYPES



Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

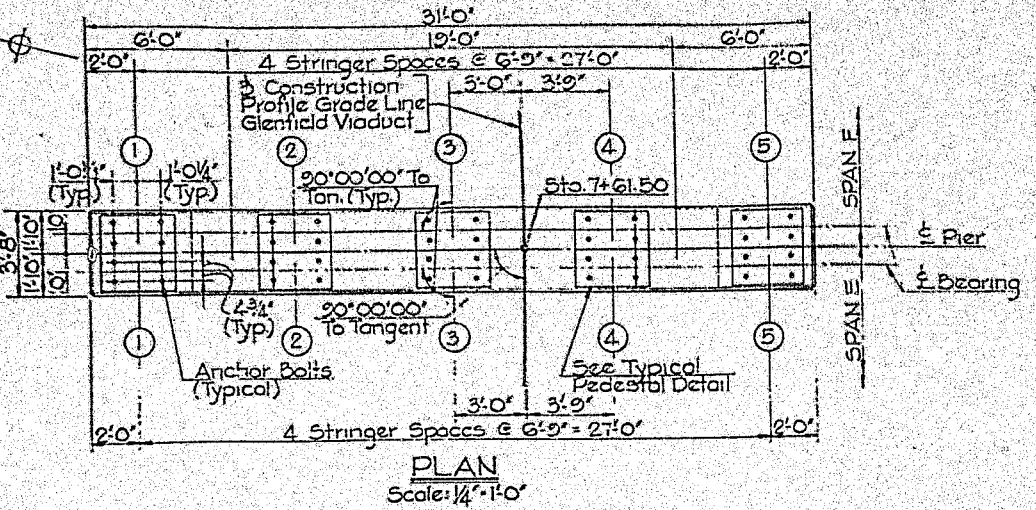
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

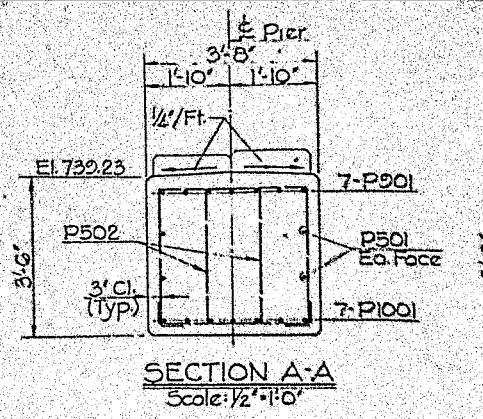
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 4

RECOMMENDED _____
BRIDGE ENGINEER

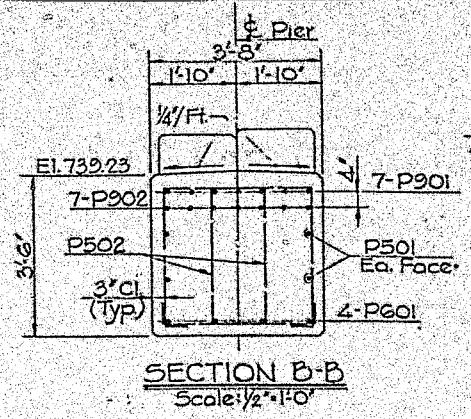
SHEET 12 OF ____
S-16201



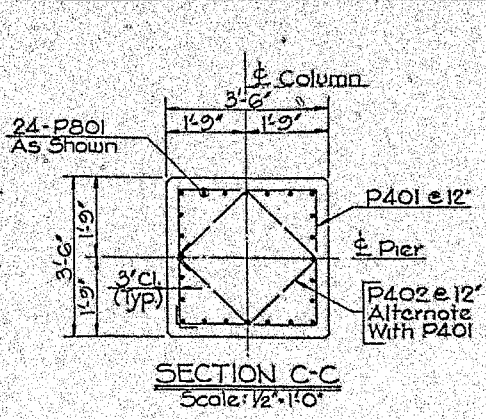
PLAN
Scale: ¼" = 1'-0"



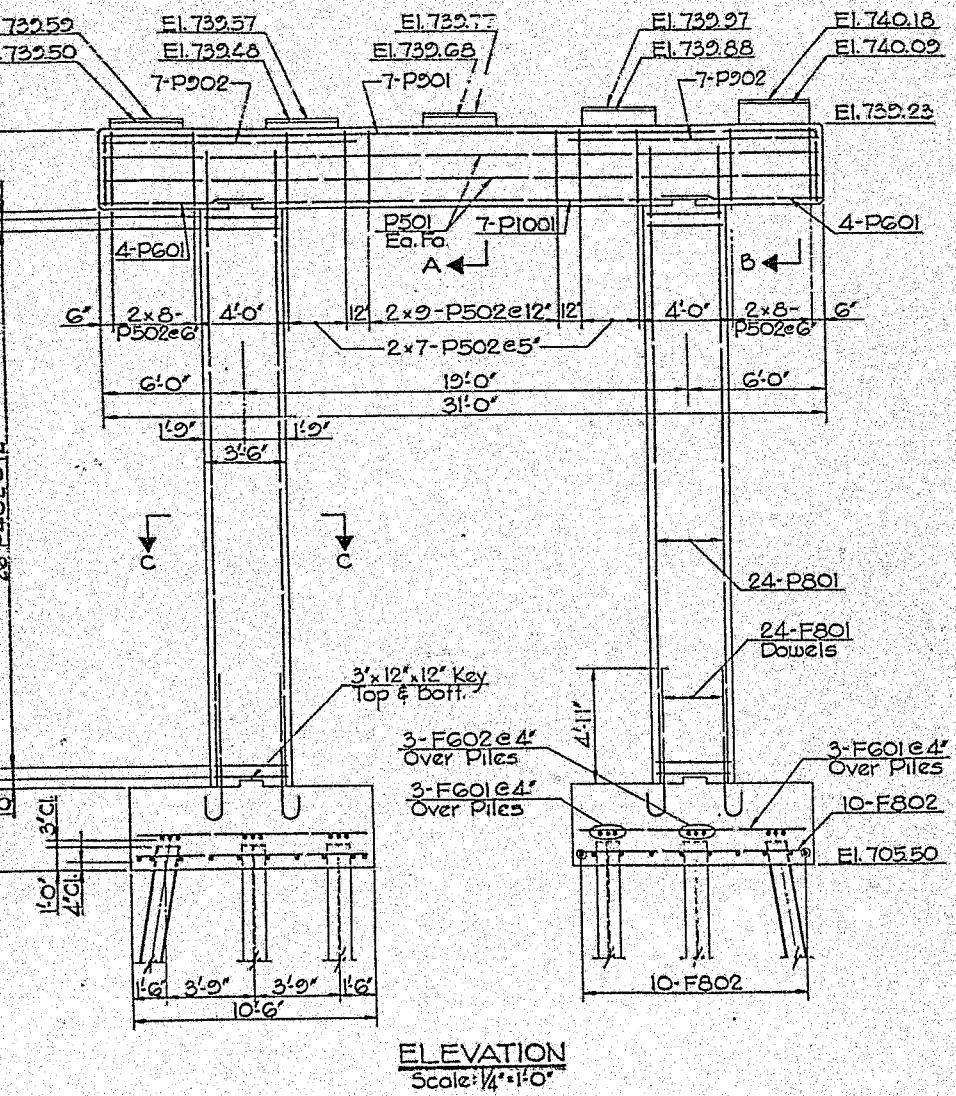
SECTION A-A
Scale: ½" = 1'-0"



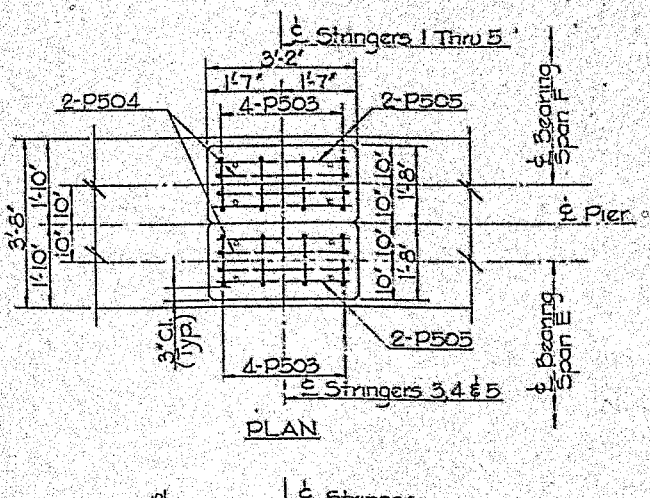
SECTION B-B
Scale: ½" = 1'-0"



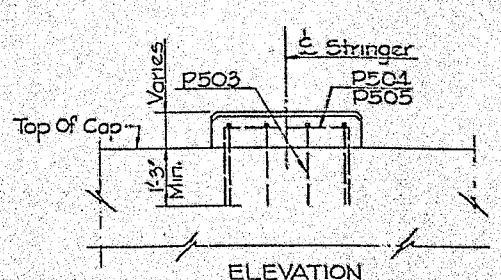
SECTION C-C
Scale: ½" = 1'-0"



ELEVATION
Scale: ¼" = 1'-0"

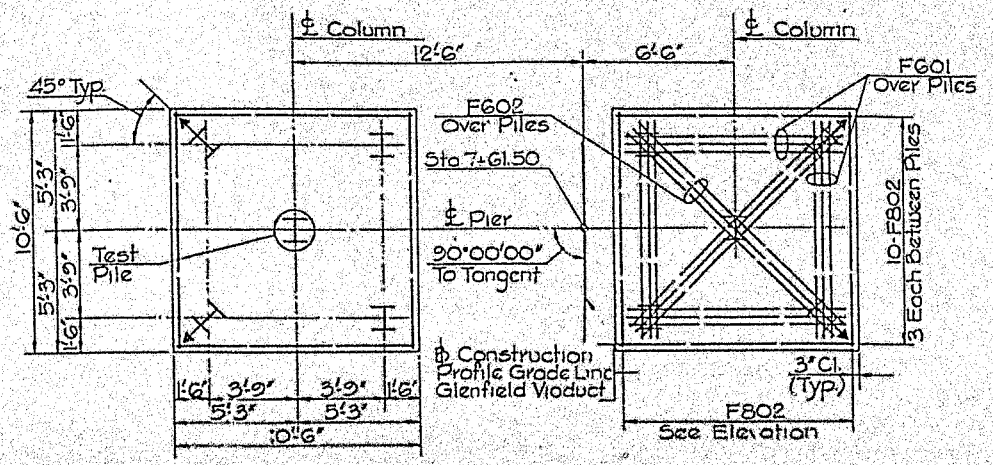


PLAN



ELEVATION

PEDESTAL DETAILS
Scale: ½" = 1'-0"



FOOTING PLAN
Scale: ½" = 1'-0"

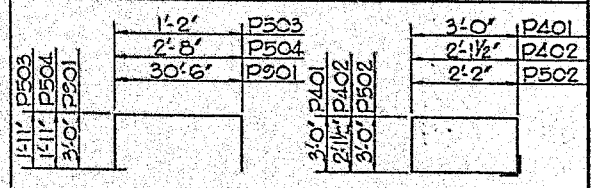
PILE LEGEND
Denotes Plumb Piles
Denotes Battered Piles 3 to 1
All Piles Shall Be HP 12 x 74

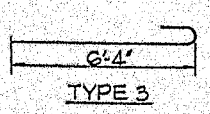
PILE NOTES
Maximum Allowable Pile Loads 55 Tons
Maximum Design Pile Loads 84 Tons
Estimated Pile Tip El. 609.00

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	54	12'-9"	
P402	4	2	52	9'-3"	
P501	5	Str.	4	30'-6"	
P502	5	2	78	11'-4"	
P503	5	1	32	5'-0"	
P504	5	1	16	6'-6"	
P505	5	Str.	16	2'-8"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	48	29'-3"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P1001	10	Str.	7	20'-11"	
FG01	6	Str.	24	9'-6"	
FG02	6	Str.	12	12'-6"	
F801	8	3	48	7'-3"	
F802	8	Str.	40	10'-0"	

BAR TYPES





TYPE 3

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

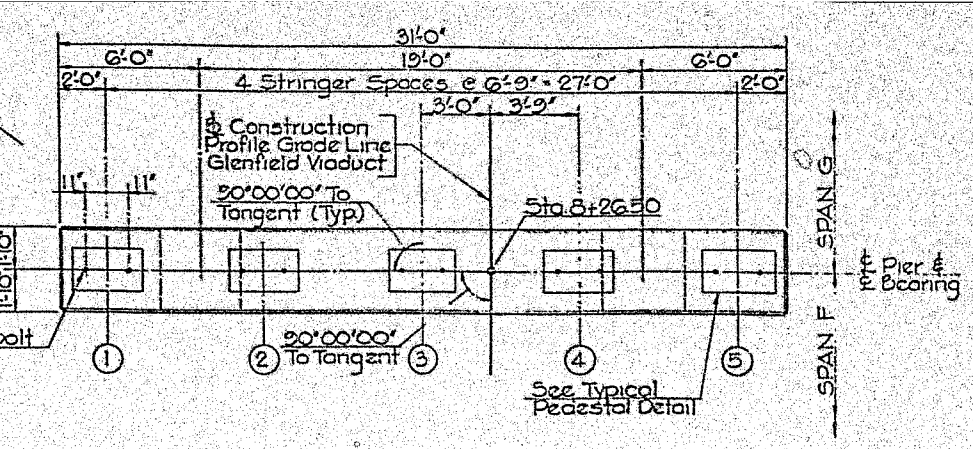
ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 5

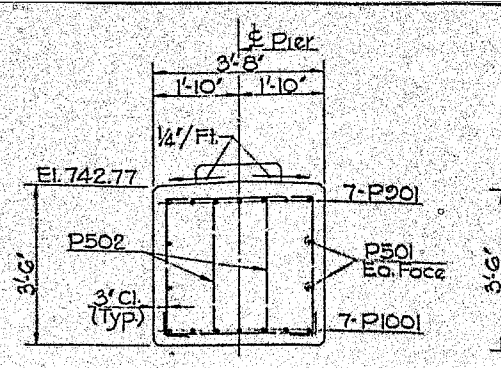
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 14 OF ____

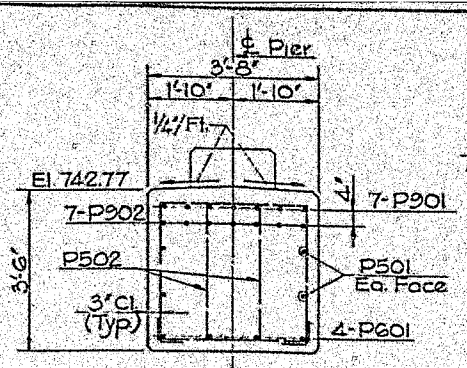
S-16201



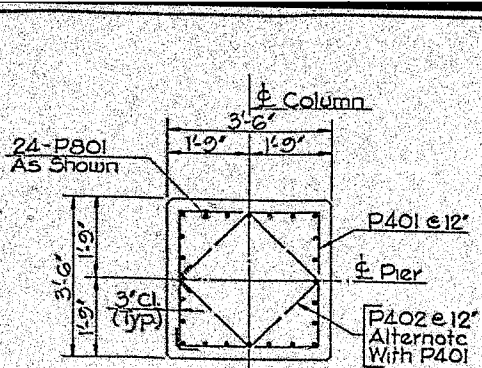
PLAN
Scale: 1/4" = 1'-0"



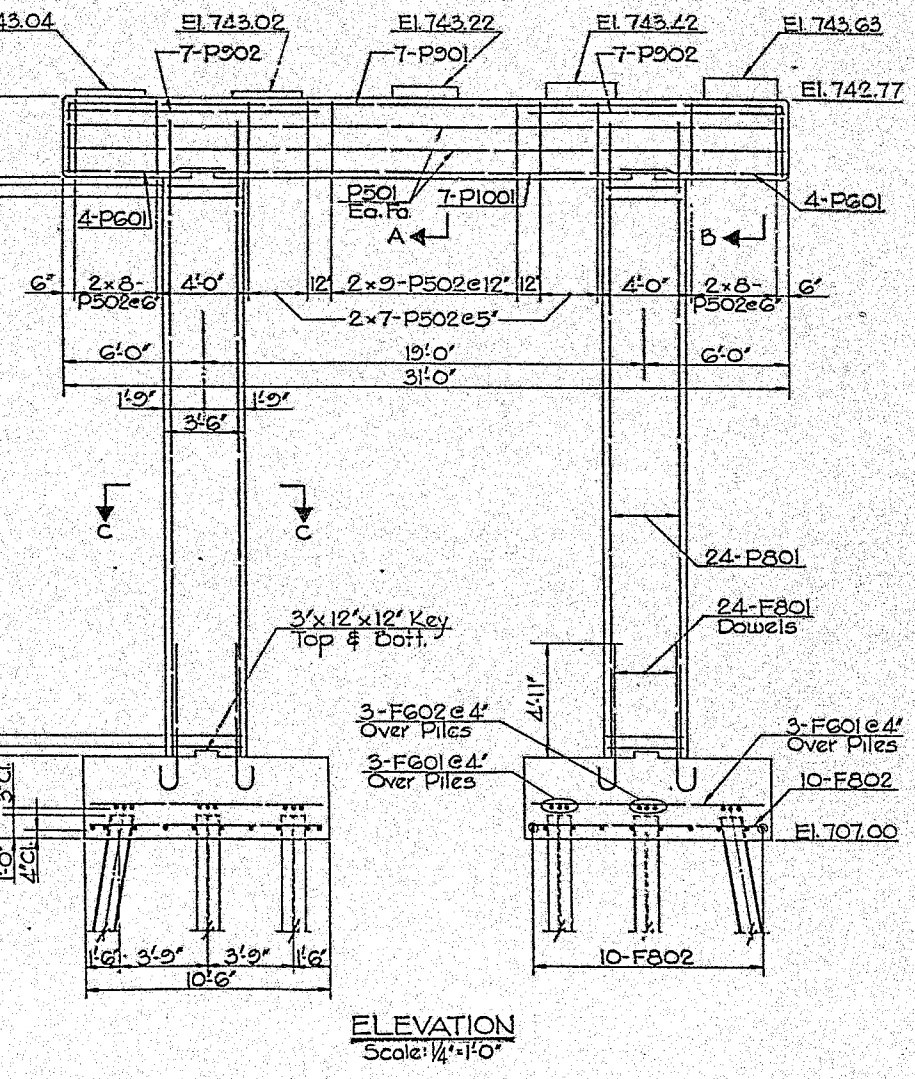
SECTION A-A
Scale: 1/2" = 1'-0"



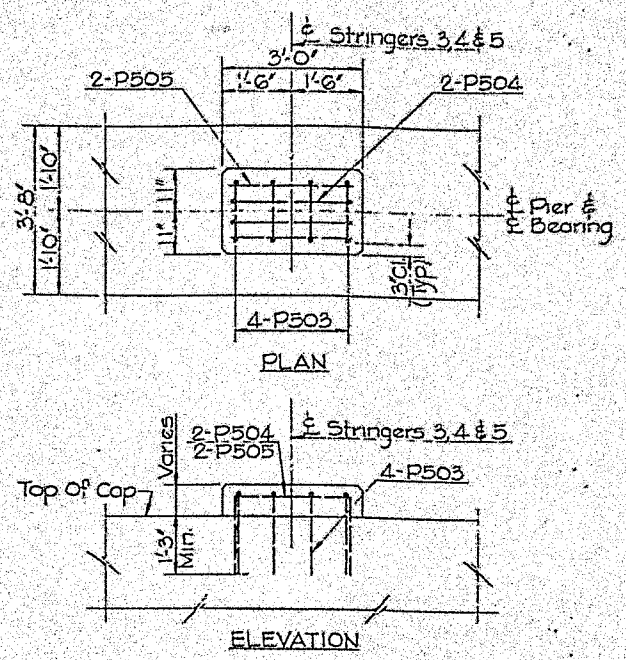
SECTION B-B
Scale: 1/2" = 1'-0"



SECTION C-C
Scale: 1/2" = 1'-0"



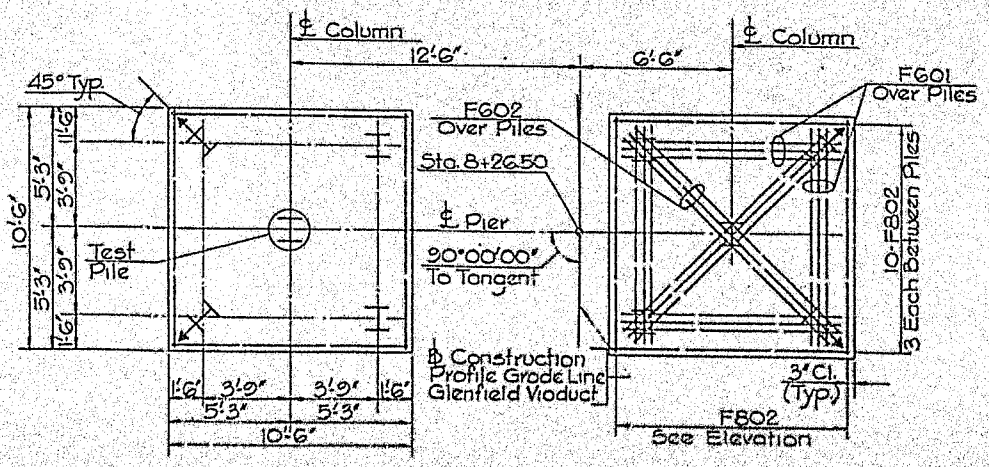
ELEVATION
Scale: 1/4" = 1'-0"



PLAN

ELEVATION

PEDESTAL DETAIL
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

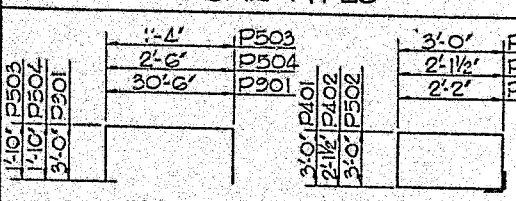
PILE LEGEND
Denotes Plumb Piles
Denotes Battered Piles 3:12
All Piles Shall Be HP12x74

PILE NOTES
Maximum Allowable Pile Load 68 Tons
Maximum Design Pile Load 84 Tons
Estimated Pile Tip El. 670.00

BAR SCHEDULE

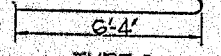
MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	60	12'-9"	
P402	4	2	58	9'-3"	
P501	5	Str.	4	30'-6"	
P502	5	2	78	11'-4"	
P503	5	1	12	5'-0"	
P504	5	1	6	6'-2"	
P505	5	Str.	6	2'-6"	
P601	6	Str.	8	6'-9"	
P801	8	Str.	48	31'-3"	
P901	9	1	7	36'-6"	
P902	9	Str.	14	10'-9"	
P1001	10	Str.	7	20'-11"	
F601	6	Str.	24	5'-6"	
F602	6	Str.	12	12'-6"	
F801	8	3	48	7'-3"	
F802	8	Str.	40	10'-0"	

BAR TYPES



TYPE 1

TYPE 2



TYPE 3

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

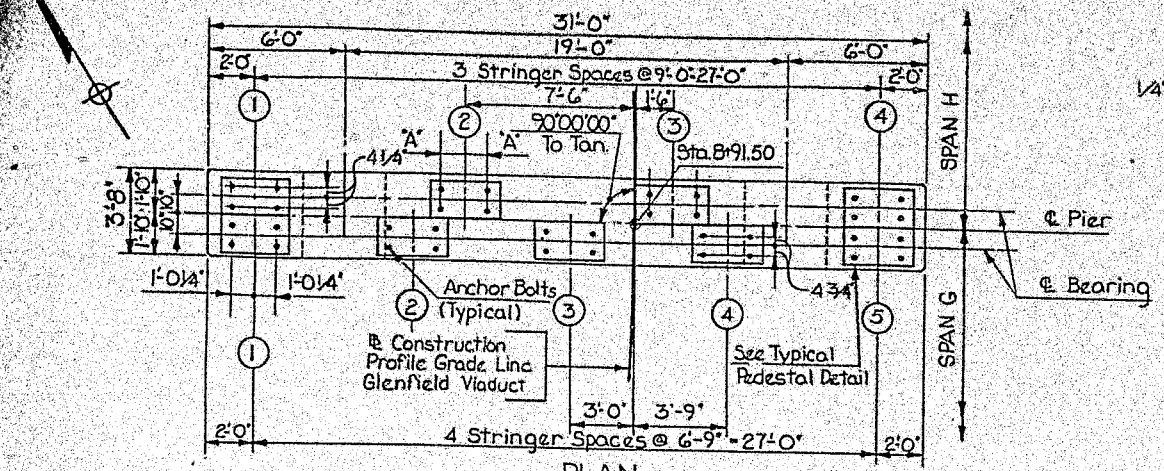
ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 6

RECOMMENDED _____

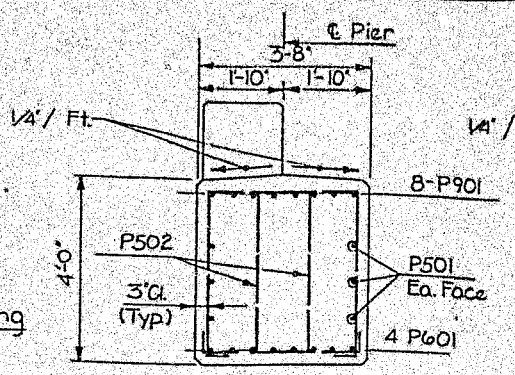
BRIDGE ENGINEER

SHEET 12 OF ____



PLAN

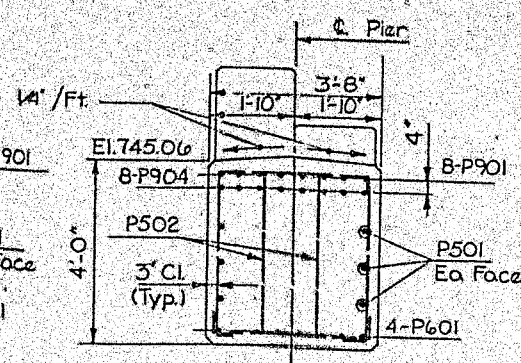
Scale: 1/4"-1'-0"



SECTION A-A

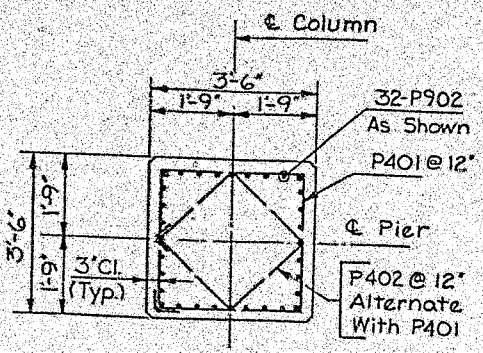
Scale: 1/2"-1'-0"

ANCHOR BOLT LOCATION	
STRINGER NO.	DIMEN. "A"
1	11"
2	11"
3	12"
4	14"



SECTION B-B

Scale: 1/2"-1'-0"



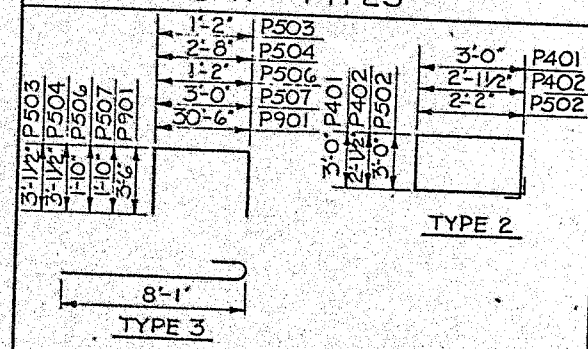
SECTION C-C

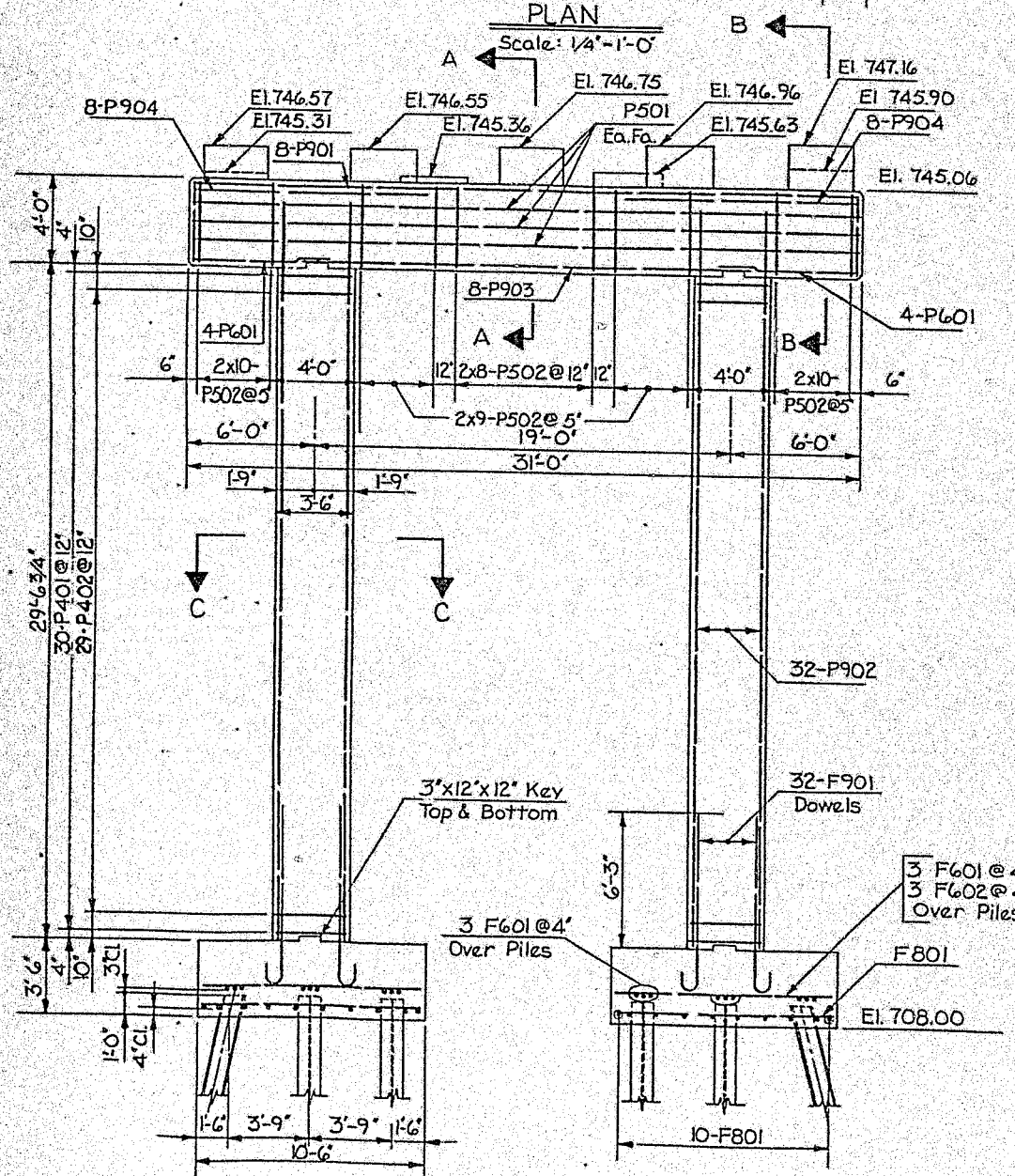
Scale: 1/2"-1'-0"

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARK
P401	4	2	60	12'-9"	
P402	4	2	58	9'-3"	
P501	5	STR.	6	30'-6"	
P502	5	2	92	12'-4"	
P503	5	1	20	7'-5"	
P504	5	1	10	8'-11"	
P505	5	STR.	10	2'-8"	
P506	5	1	8	4'-10"	
P507	5	1	4	6'-8"	
P508	5	STR.	4	3'-0"	
P601	6	STR.	8	6'-9"	
P901	9	1	8	37'-6"	
P902	9	STR.	64	32'-7"	
P903	9	STR.	8	20'-11"	
P904	9	STR.	16	10'-9"	
F601	6	STR.	30	9'-6"	
F602	6	STR.	6	4'-0"	
F801	8	STR	40	10'-0"	
F901	9	3	64	9'-4"	

BAR TYPES





ELEVATION

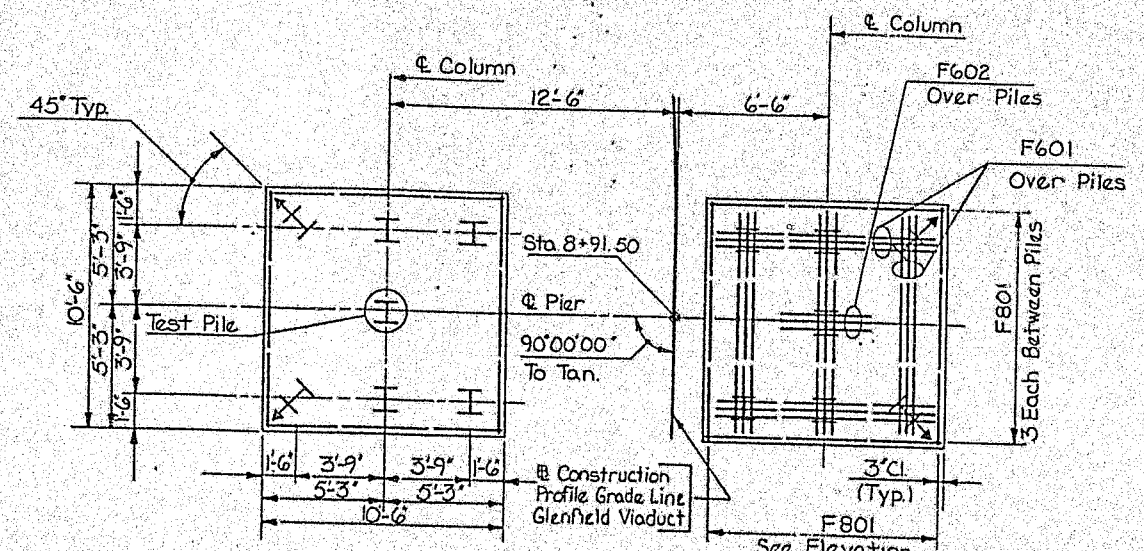
Scale: 1/4"-1'-0"

PLAN

TYPICAL SECTION

PEDESTAL DETAILS

Scale: 1/2"-1'-0"



FOOTING PLAN

Scale: 1/4"-1'-0"

PILE LEGEND

I Denotes Plumb Piles

I Denotes Battered Piles 3:12

All Piles Shall Be HP 12 x 74

PILE NOTES

Maximum Allowable Pile Load 98 Tons

Maximum Design Pile Load 87 Tons

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

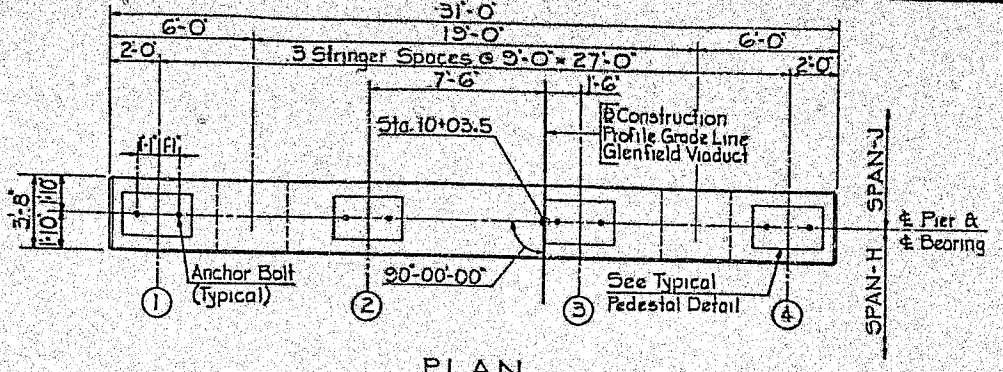
GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

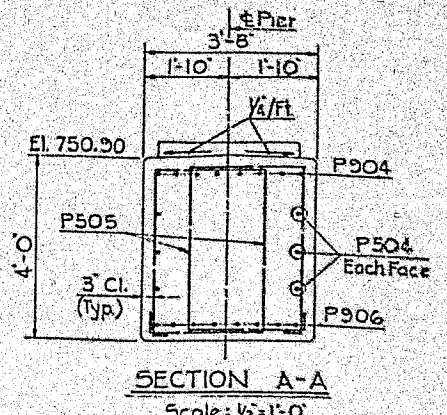
PIER NO. 7

RECOMMENDED _____

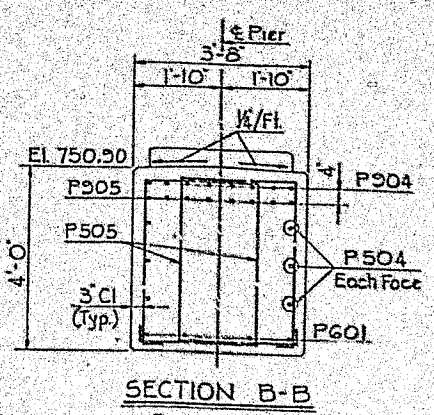
SHEET 16 OF ____



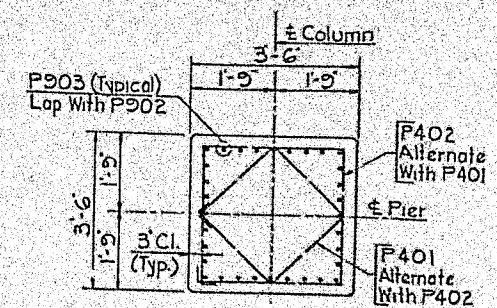
PLAN
Scale: 1/4" = 1'-0"



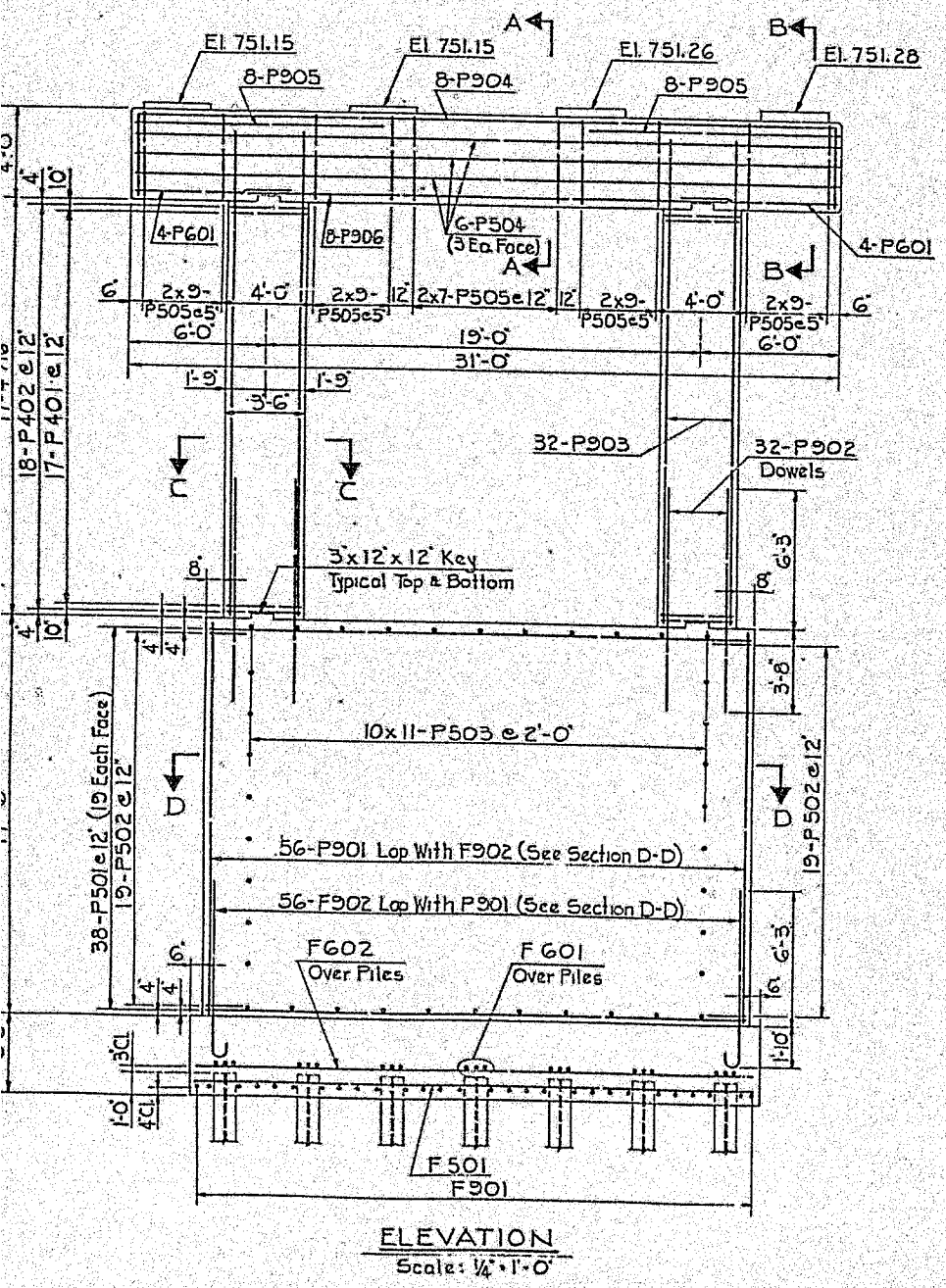
SECTION A-A
Scale: 1/2" = 1'-0"



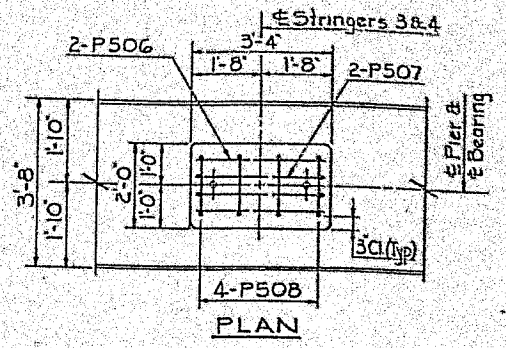
SECTION B-B
Scale: 1/2" = 1'-0"



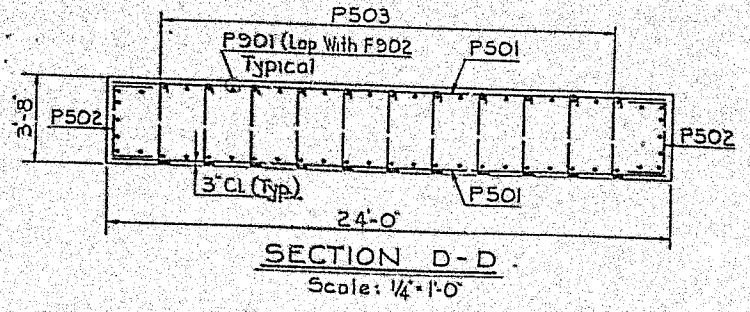
SECTION C-C
Scale: 1/2" = 1'-0"



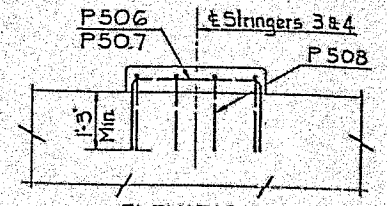
ELEVATION
Scale: 1/4" = 1'-0"



PLAN

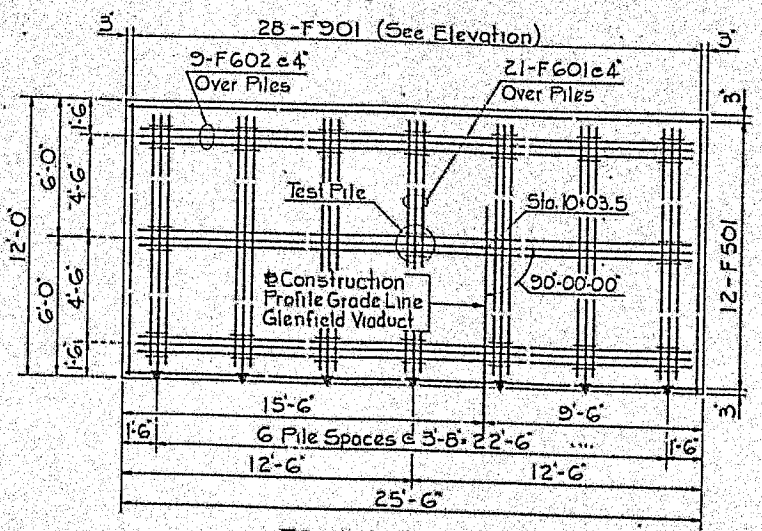


SECTION D-D
Scale: 1/4" = 1'-0"



ELEVATION

PEDESTAL DETAILS
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

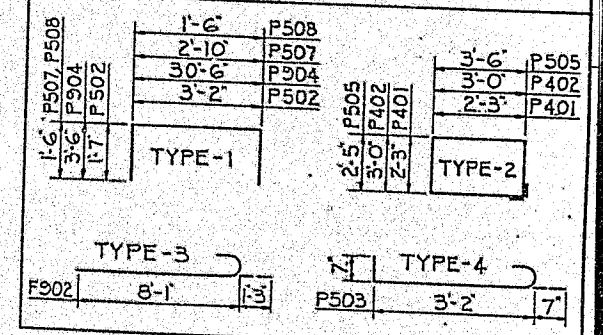
PILE LEGEND
Denotes Plumb Piles
Denotes Battered Piles 3:12
All Piles Shall Be HP12x74

PILE NOTES
Maximum Allowable Pile Load 58 Tons
Maximum Design Pile Load 92 Tons
Estimated Pile Tip El. 673.00

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
F501	#5	Str.	12	25'-2"	
F601	#6	Str.	21	11'-8"	
F602	#6	Str.	9	25'-2"	
F901	#9	Str.	28	11'-8"	
F902	#9	3	56	9'-4"	
P401	#4	2	34	9'-9"	
P402	#4	2	36	12'-9"	
P501	#5	Str.	38	23'-8"	
P502	#5	1	38	6'-4"	
P503	#5	4	110	4'-4"	
P504	#5	Str.	6	30'-6"	
P505	#5	2	86	12'-0"	
P506	#5	Str.	4	2'-10"	
P507	#5	1	4	5'-10"	
P508	#5	1	8	4'-6"	
P601	#6	Str.	8	8'-0"	
P901	#9	Str.	56	17'-4"	
P902	#9	Str.	64	9'-11"	
P903	#9	Str.	64	20'-5"	
P904	#9	1	8	37'-6"	
P905	#9	Str.	16	10'-10"	
P906	#9	Str.	8	21'-10"	

BAR TYPES



Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

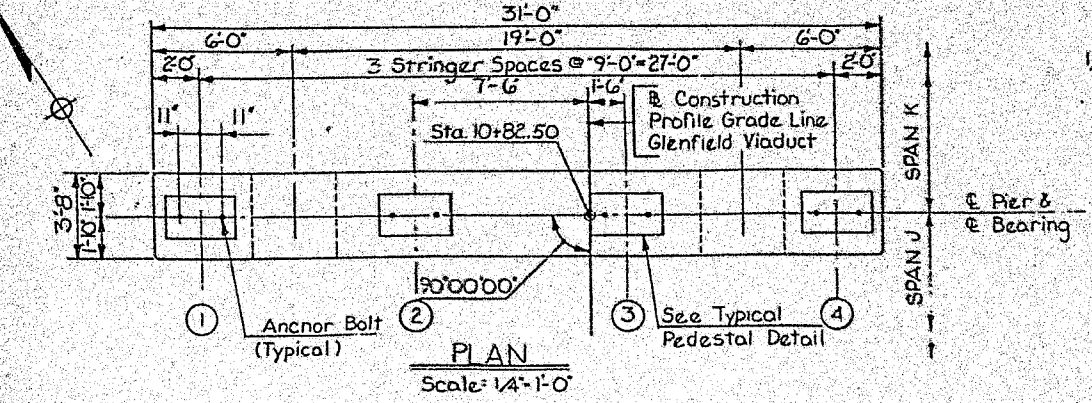
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

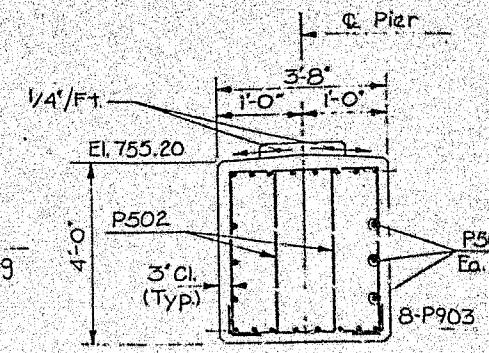
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO. 8

RECOMMENDED _____ SHEET 12 OF ____

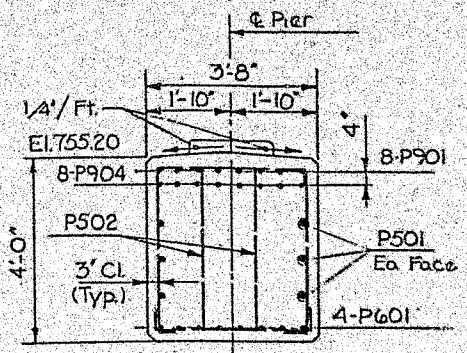
BRIDGE ENGINEER



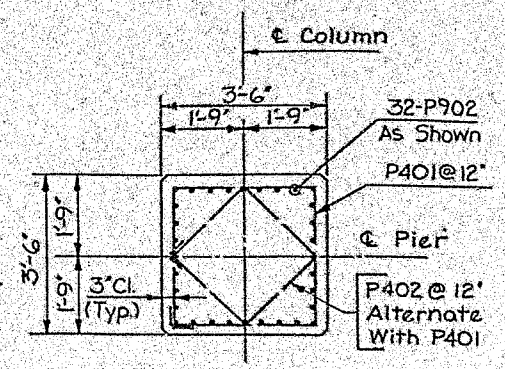
PLAN
Scale: 1/4"=1'-0"



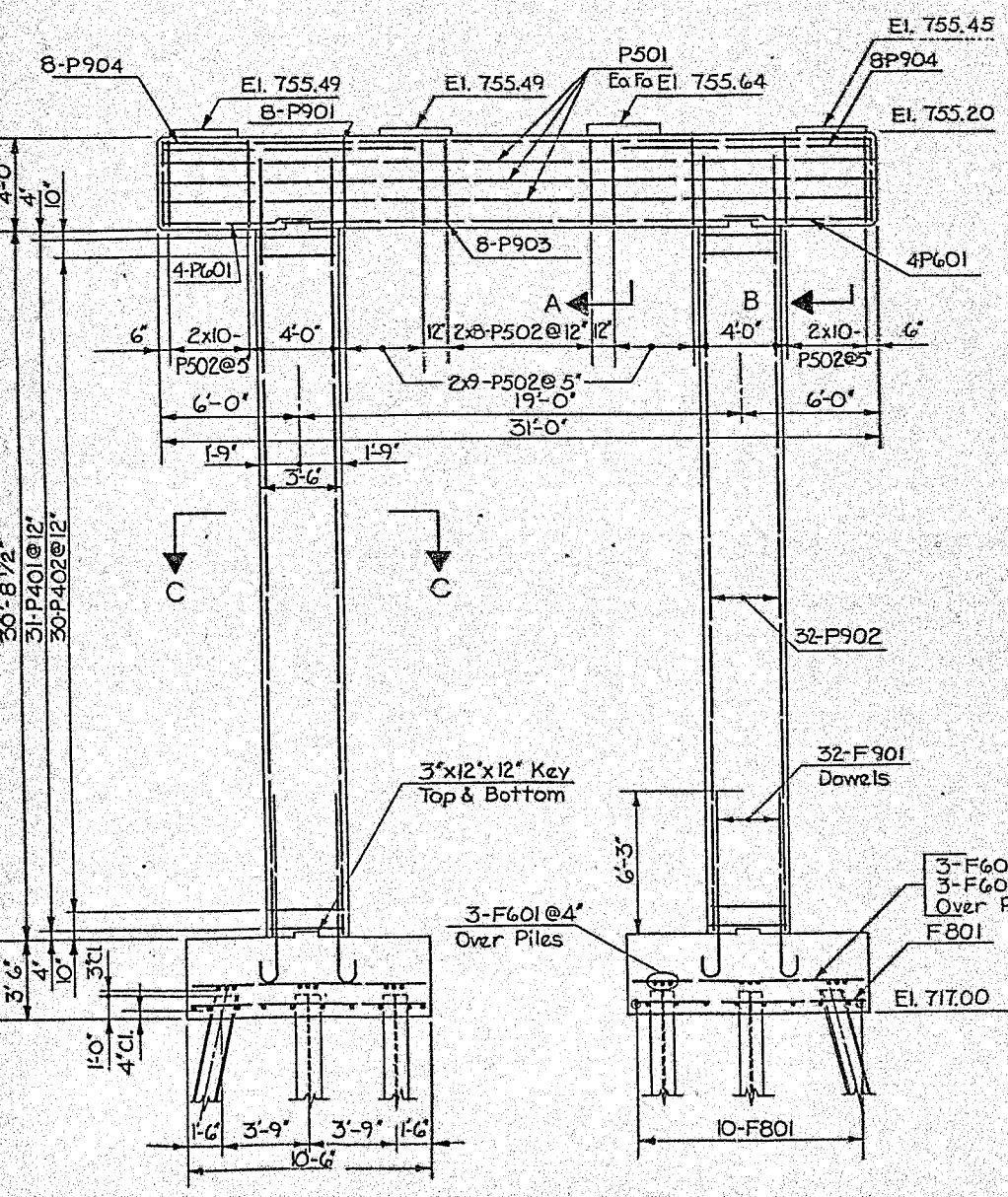
SECTION A-A
Scale: 1/2"=1'-0"



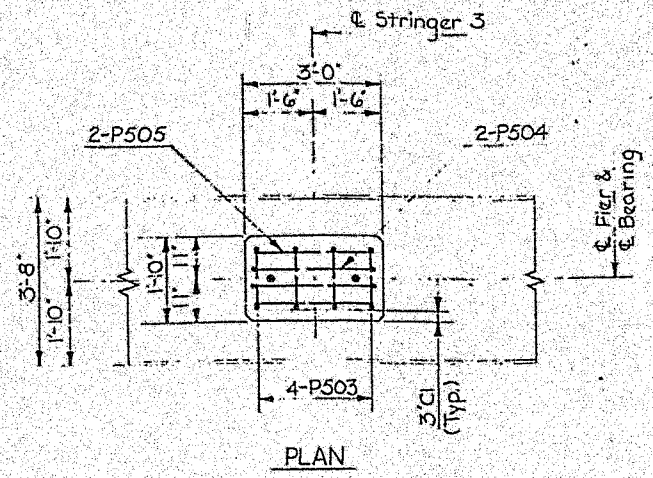
SECTION B-B
Scale: 1/2"=1'-0"



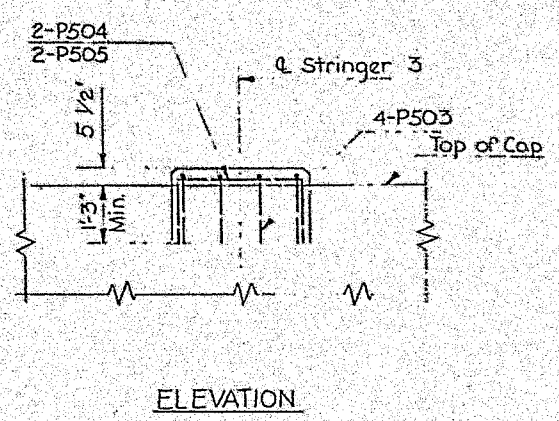
SECTION C-C
Scale: 1/2"=1'-0"



ELEVATION
Scale: 1/4"=1'-0"

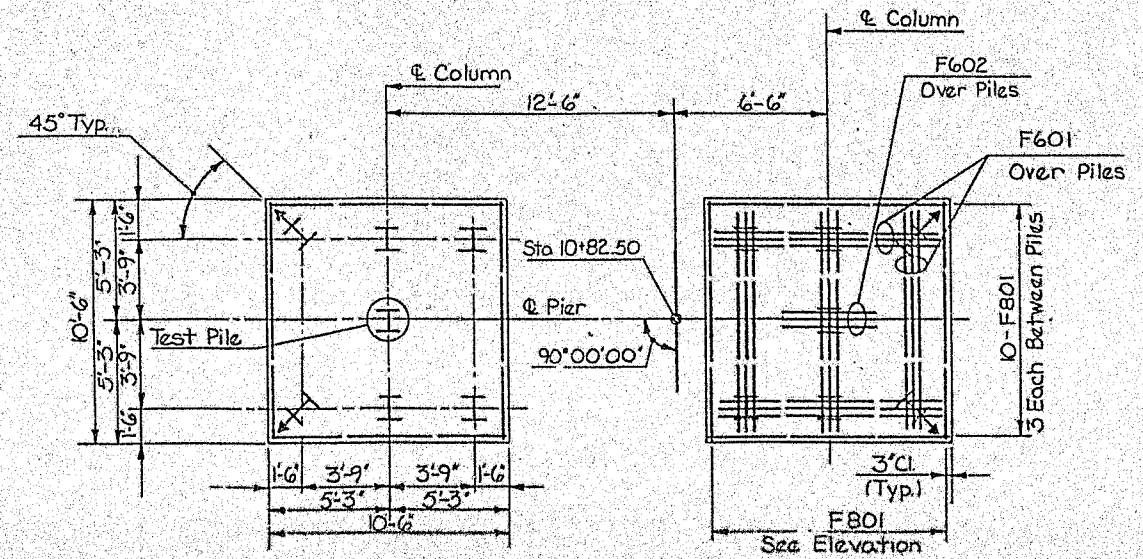


PLAN



ELEVATION

PEDESTAL DETAILS
Scale: 1/2"=1'-0"



FOOTING PLAN
Scale: 1/4"=1'-0"

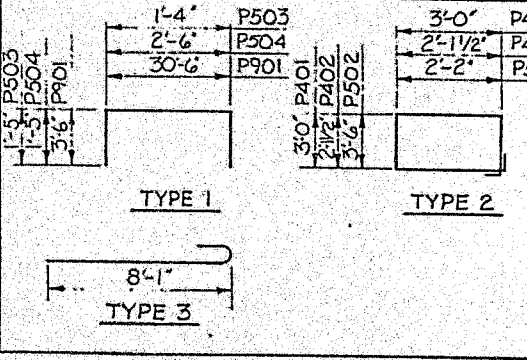
PILE LEGEND
- Denotes Plumb Piles
- Denotes Batter Piles 3:12
- All Piles Shall Be HP 12x74

PILE NOTES
Maximum Allowable Pile Load 95 Tons
Maximum Design Pile Load 87 Tons
Estimated Pile Tip El. 707.00

BAR SCHEDULE

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
P401	4	2	62	12'-9"	
P402	4	2	60	9'-3"	
P501	5	STR.	6	30'-6"	
P502	5	2	92	12'-4"	
P503	5	1	4	4'-2"	
P504	5	1	2	5'-4"	
P505	5	STR.	2	2'-6"	
P601	6	STR.	8	6'-9"	
P901	9	1	8	37'-6"	
P902	9	STR.	64	33'-8"	
P903	9	STR.	8	20'-11"	
P904	9	STR.	16	10'-9"	
F601	6	STR.	30	9'-6"	
F602	6	STR.	6	4'-0"	
F801	8	STR.	40	10'-0"	
F901	9	3	64	9'-4"	

BAR TYPES



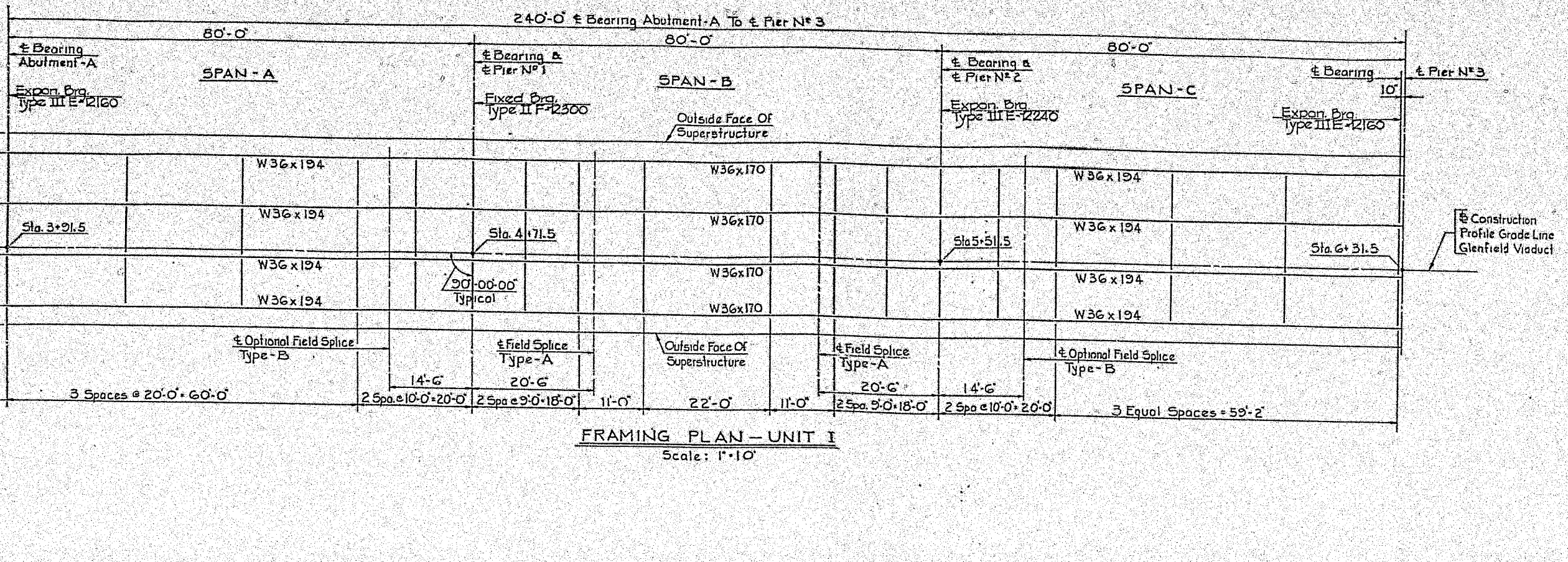
Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
PIER NO 9

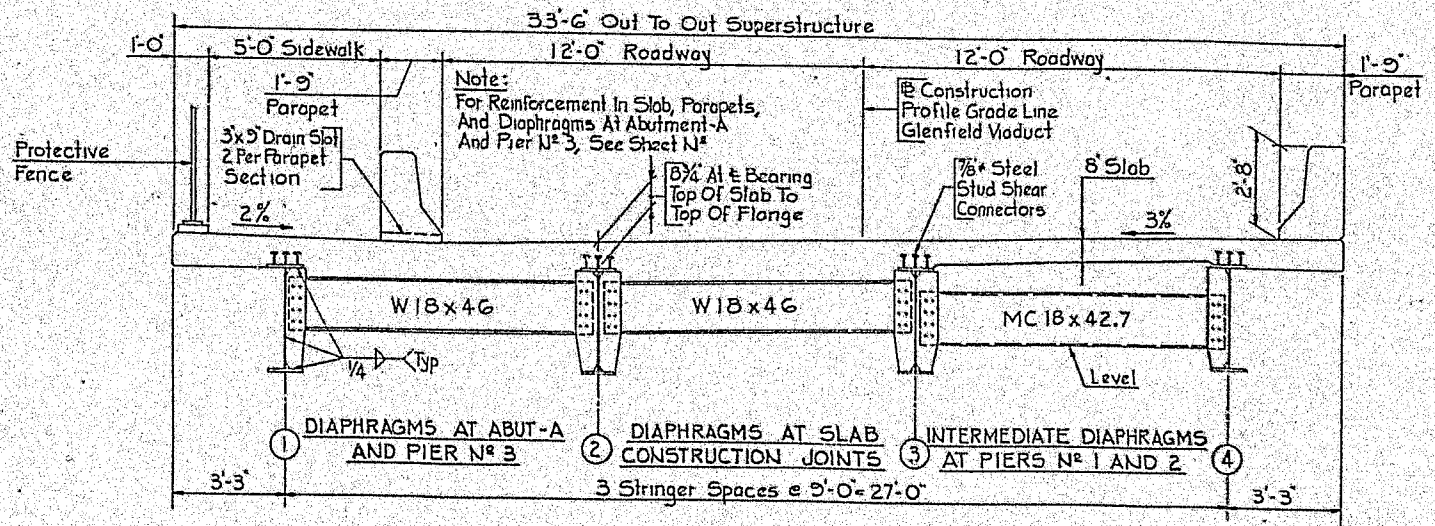
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 48 OF ____
S- 16201



FRAMING PLAN — UNIT I

Scale: 1" = 10'



TYPICAL SECTION - UNIT I

Scale: ⅜" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

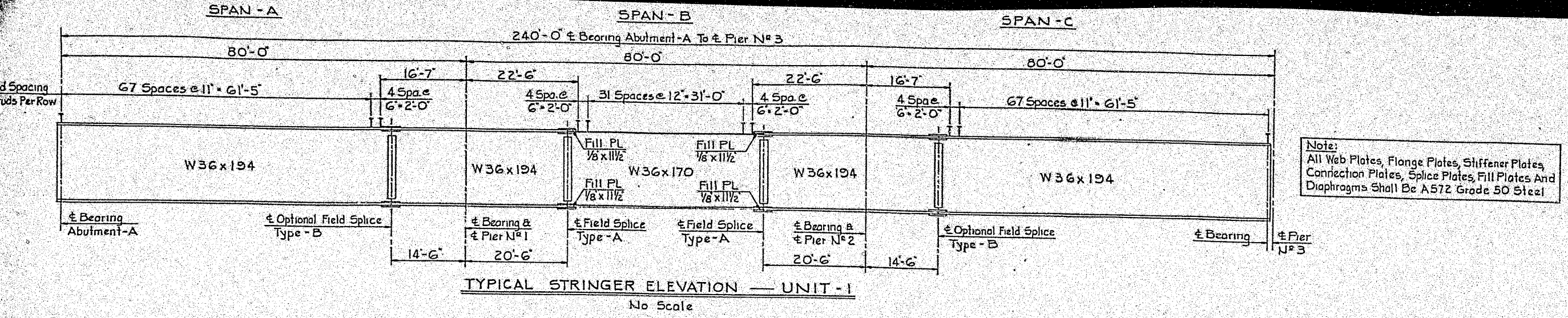
GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

FRAMING PLAN, UNIT I

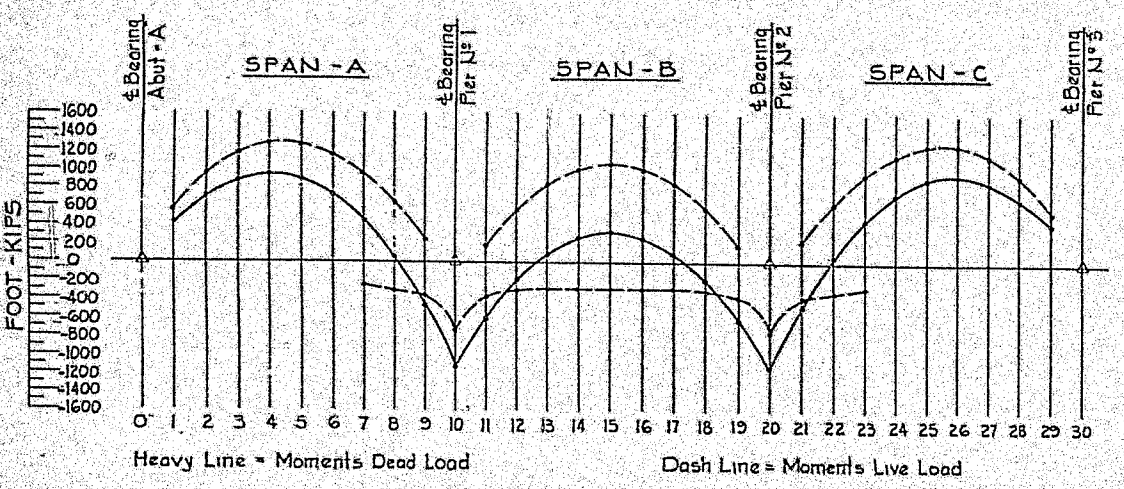
RECOMMENDED

SHEET 12 OF



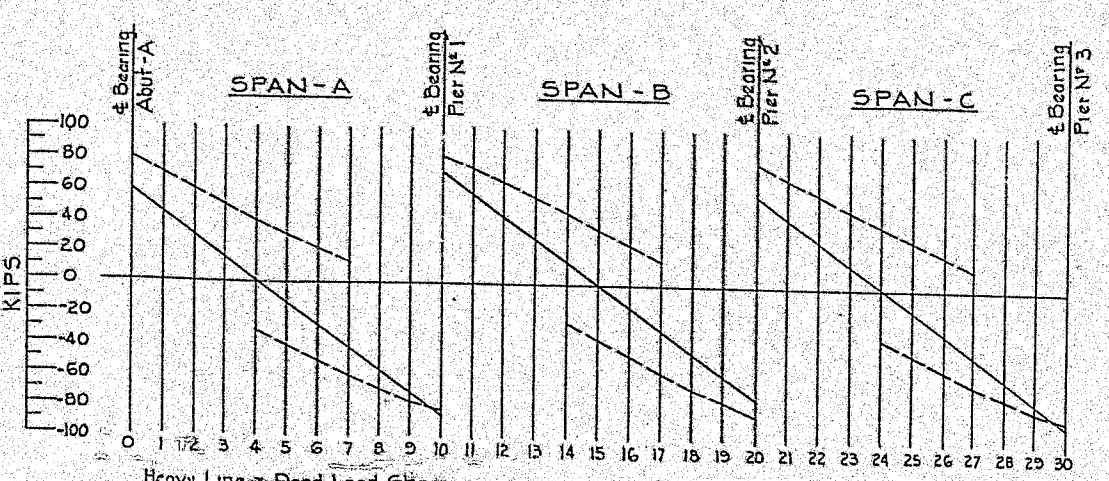
Note:
All Web Plates, Flange Plates, Stiffener Plates, Connection Plates, Splice Plates, Fill Plates And Diaphragms Shall Be A572 Grade 50 Steel

TYPICAL STRINGER ELEVATION — UNIT - 1
No Scale



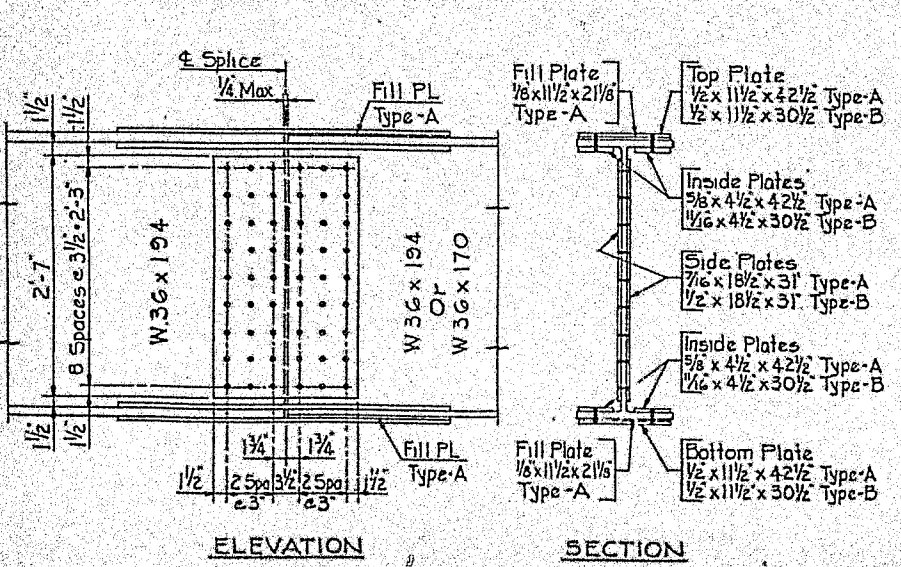
Heavy Line = Moments Dead Load Dash Line = Moments Live Load

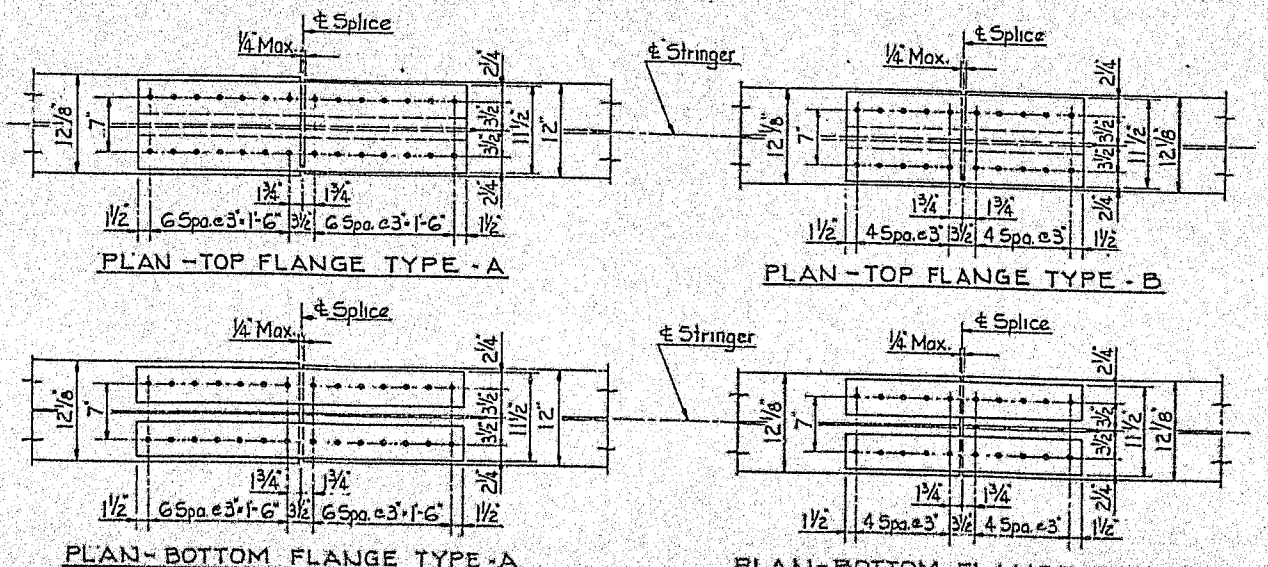
MOMENT DIAGRAM — UNIT - 1



Heavy Line = Dead Load Shear Dash Line = Live Load Shear

SHEAR DIAGRAM — UNIT - 1





FIELD SPLICE DETAILS
Scale: 1" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

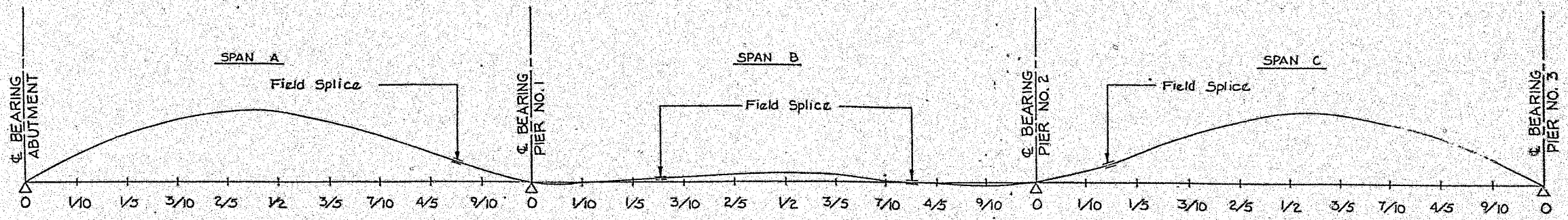
ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
STRINGER DETAILS, UNIT I

RECOMMENDED _____

SHEET 20 OF ____

CAMBER ORDINATES Y, INCHES

DESCRIPTION	STRINGER NO.	SPAN A											SPAN B												SPAN C										
		℄ BEARING ABUTMENT A	1/10	1/5	3/10	2/5	1/2	3/5	7/10	4/5	F.S.	9/10	℄ BEARING PIER NO. 1	1/10	1/5	F.S.	3/10	2/5	1/2	3/5	7/10	F.S.	4/5	9/10	℄ BEARING PIER NO. 2	1/10	F.S.	1/5	3/10	2/5	1/2	3/5	7/10	4/5	9/10	℄ BEARING PIER NO. 3
DUE TO WEIGHT OF STEEL	1 THRU 4	0	1/8"	3/16"	1/4"	5/16"	5/16"	1/4"	3/16"	1/8"	1/8"	1/16"	0	0	0	0	0	0	0	0	0	0	0	0	0	1/16"	1/8"	1/8"	3/16"	1/4"	5/16"	5/16"	1/4"	3/16"	1/8"	0
DUE TO WEIGHT OF DECK SLAB	1 THRU 4	0	9/16"	1"	15/16"	1 1/2"	1 1/2"	1 5/16"	1"	5/8"	9/16"	1/4"	0	-1/16"	0	0	0	1/8"	1/8"	1/8"	0	0	0	-1/16"	0	1/4"	9/16"	5/8"	1"	1 5/16"	1 1/2"	1 1/2"	1 5/16"	1"	9/16"	0
DUE TO SUPERIMPOSED DEAD LOAD	1 THRU 4	0	3/16"	5/16"	3/8"	7/16"	7/16"	3/8"	5/16"	3/16"	3/16"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	3/16"	3/16"	5/16"	3/8"	7/16"	7/16"	3/8"	5/16"	3/16"	0
TOTAL	1 THRU 4	0	7/8"	1 1/2"	1 15/16"	2 1/4"	2 1/4"	1 15/16"	1 1/2"	15/16"	7/8"	3/8"	0	-1/16"	0	0	1/16"	1/4"	1/4"	1/4"	1/16"	0	0	-1/16"	0	3/8"	7/8"	15/16"	1 1/2"	1 15/16"	2 1/4"	2 1/4"	1 15/16"	1 1/2"	7/8"	0

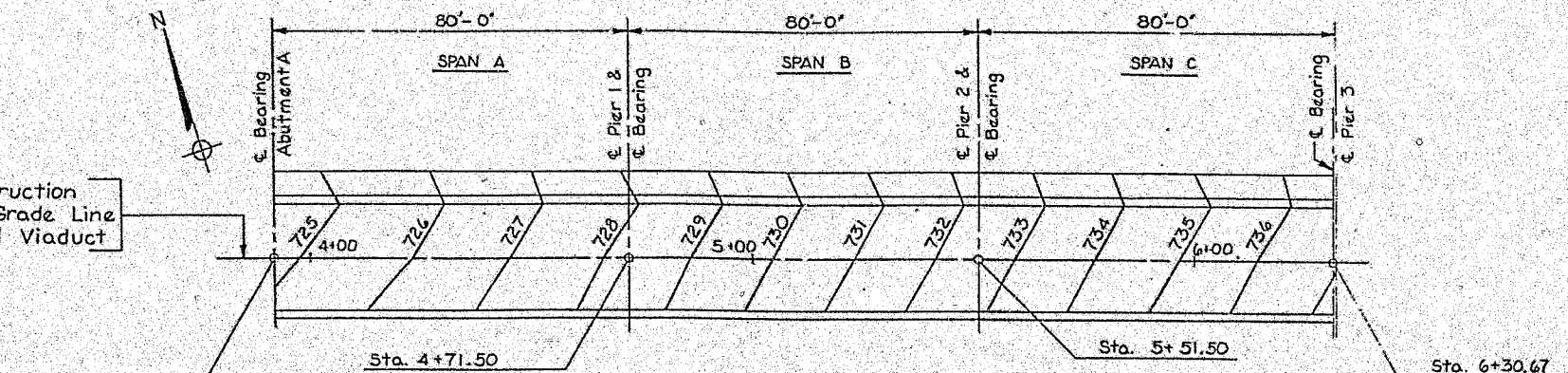


ROADWAY ELEVATION SCHEDULE

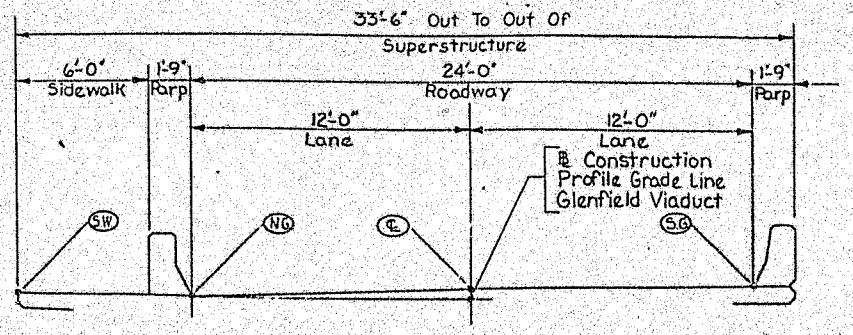
STATION	SIDEWALK	N.G.	℄	S.G.
3+90.0	724.53	724.38	724.74	725.10
4+00.0	724.90	724.75	725.11	725.47
4+10.0	725.29	725.14	725.50	725.86
4+20.0	725.69	725.54	725.90	726.26
4+30.0	726.11	725.96	726.32	726.68
4+40.0	726.55	726.39	726.75	727.11
4+50.0	727.00	726.85	727.21	727.57
4+60.0	727.47	727.32	727.68	728.04
4+70.0	727.96	727.80	728.16	728.52
4+80.0	728.46	728.31	728.67	729.03
4+90.0	728.98	728.82	729.18	729.54
5+00.0	729.52	729.36	729.72	730.08
5+10.0	730.06	729.90	730.26	730.62
5+20.0	730.60	730.45	730.81	731.17
5+30.0	731.15	730.99	731.35	731.71
5+40.0	731.69	731.54	731.90	732.26
5+50.0	732.24	732.08	732.44	732.80
5+60.0	732.78	732.62	732.98	733.34
5+70.0	733.32	733.17	733.53	733.89
5+80.0	733.87	733.71	734.07	734.43
5+90.0	734.41	734.26	734.62	734.98
6+00.0	734.96	734.80	735.16	735.52
6+10.0	735.50	735.34	735.70	736.06
6+20.0	736.04	735.89	736.25	736.61
6+30.0	736.59	736.43	736.79	737.15

ROADWAY ELEVATION SCHEDULE

STRINGER NO.	℄ BEARING ABUTMENT A	℄ BEARING PIER NO. 1	℄ BEARING PIER NO. 2	℄ BEARING PIER NO. 3
1	724.52	727.97	732.25	736.56
2	724.57	728.01	732.30	736.60
3	724.84	728.28	732.57	736.87
4	725.11	728.55	732.84	737.14



CONTOUR PLAN
Scale: 1"-20'



TYPICAL DECK SECTION
Scale: 1/4" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
CAMBER & ELEV. SCHEDULES, UNIT I

RECOMMENDED _____

SHEET 21 OF ____

Note:
All Diaphragms On Curved Portion Of Bridge Are Radial.

Measured Along ℄ Construction

℄ Pier Nº 3 — ℄ Pier Nº 7

33'-6" Out To Out Superstructure

4 Spaces @ 6'-9" = 27'-0"

3'-3" — 3'-3"

℄ Bearing — 10"

65'-0" — 130'-0" ℄ Pier Nº 3 To ℄ Pier Nº 5 — 65'-0"

130'-0" ℄ Pier Nº 5 To ℄ Pier Nº 7

℄ Bearing & ℄ Pier Nº 4

℄ Bearing & ℄ Pier Nº 6

℄ Bearing — ℄ Bearing ℄ Pier Nº 5 — 10"

SPAN-D — SPAN-E — SPAN-F — SPAN-G

P.C. Sta. 6+59.03

Sta. 6+31.5

Sta. 6+96.5

Sta. 7+61.5

Sta. 8+24.5

Sta. 8+91.5

℄ Construction Profile Grade Line Glenfield Viaduct

Outside Face Of Superstructure

W36x160 — W36x160 — W36x160 — W36x245 — W36x245

Diaphragm Spacing

Expan. Brg. Type III EL-12325

6 Equal Spaces

℄ Field Splice (Optional)

Fixed Brg. Type II F-12300

15'-0"

UNIT - II — UNIT - III

Measured Along Stringer Nº 3

FRAMING PLAN — UNITS II AND III

Scale: 1" = 10'

33'-6" Out To Out Superstructure

1'-0" — 5'-0" Sidewalk — 12'-0" Roadway — 12'-0" Roadway — 1'-9" Parapet

1'-9" Parapet

Note:
For Reinforcement In Slab, Parapets, And Diaphragms At Piers 3, 5 & 7 See Sheet Nº

℄ Construction Profile Grade Line Glenfield Viaduct

3"x5" Drain Slot 2 Per Parapet Section

See Note A

8½" At ℄ Bearing Top Of Slab To Top Of Flange

⅞ø Steel Stud Shear Connectors

8" Slab

2'-0"

2%

3%

Protective Fence

½" Conn. PL Typical

W8x58

L 3½"x3½"x⅜

WT 5x16.5

1" H.S. Bolts Typical

DIAPHRAGMS AT SLAB CONSTR. JOINT AND PIERS Nº 3, 5 AND 7

INTERMEDIATE DIAPHRAGMS AND AT PIERS Nº 4 & 6

4 Stringer Spaces @ 6'-9" = 27'-0"

3'-3" — 3'-3"

TYPICAL SECTION — UNITS II AND III

Scale: ⅜" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
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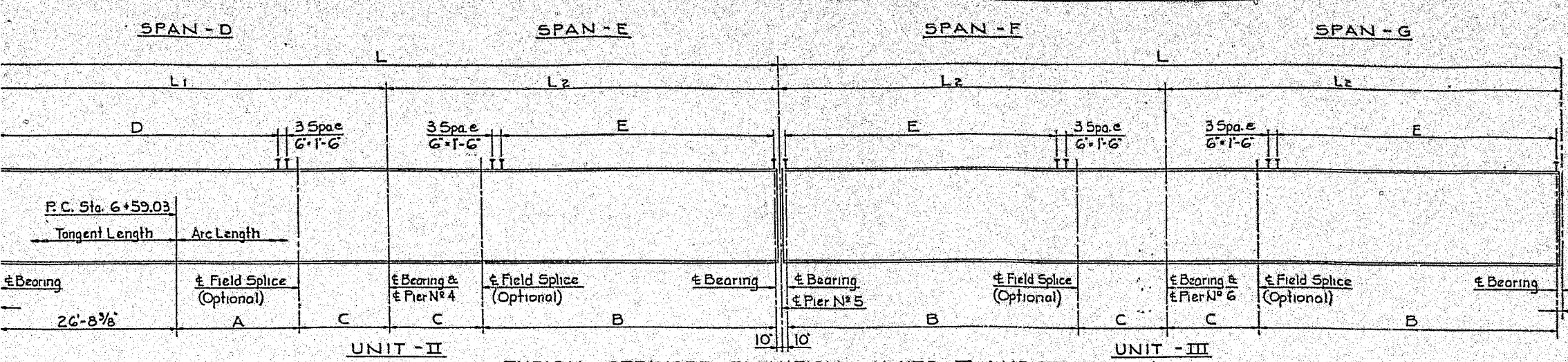
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
FRAMING PLAN, UNITS II & III

RECOMMENDED

SHEET 22 OF



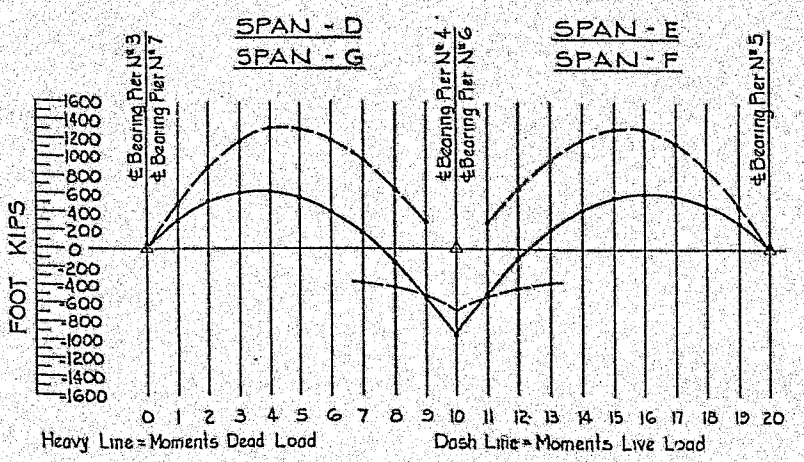
TYPICAL STRINGER ELEVATION — UNITS II AND III

No Scale

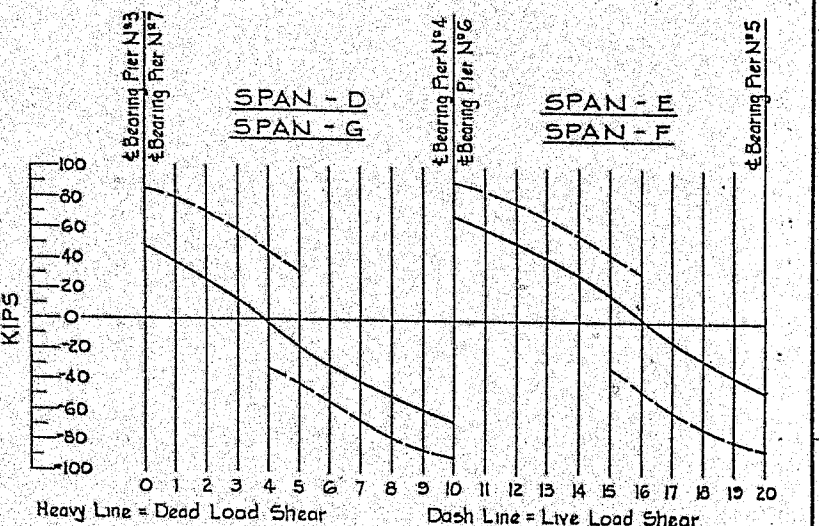
Note:
All Web Plates, Flange Plates, Stiffener Plates, Connection Plates, Splice Plates, Fill Plates And Diaphragms Shall Be A572 Grade 50 Steel

STRINGER SCHEDULE

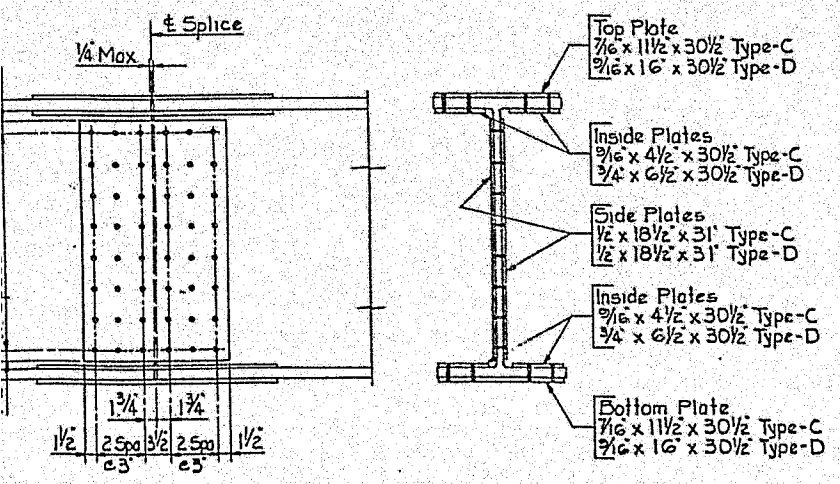
GER	SIZE	RADIUS	STRINGER LENGTHS			DIMENSIONS		SPLICES		SHEAR DEVELOPERS	
			L	L1	L2	A	B	TYPE	C	D	E
	W36x160	163.50	119'-0¼"	60'-8 13/16"	58'-3 7/16"	20'-2 3/16"	44'-5 3/16"	C	13'-10¼"	42 Spa.e 12½"	39 Spa.e 12½"
	W36x160	170.25	122'-9 15/16"	62'-1 5/8"	60'-8 5/16"	21'-0 1/8"	46'-3 3/16"	C	14'-5 1/8"	42 Spa.e 12½"	41 Spa.e 12½"
	W36x160	177.00	126'-7 11/16"	63'-6½"	63'-1 3/16"	21'-10 1/8"	48'-1 3/16"	C	15'-0"	43 Spa.e 12½"	43 Spa.e 12½"
	W36x245	183.75	130'-5 7/16"	64'-11 3/8"	65'-6 1/16"	22'-8 1/8"	49'-11 3/16"	D	15'-6 7/8"	48 Spa.e 11½"	48 Spa.e 11½"
	W36x245	190.50	134'-3 3/16"	66'-4¼"	67'-10 15/16"	23'-6 1/8"	51'-9 3/16"	D	16'-1¾"	49 Spa.e 11½"	50 Spa.e 11½"
	W36x160	163.50	116'-6 7/8"	——	58'-3 7/16"	——	44'-5 3/16"	C	13'-10¼"	——	39 Spa.e 12½"
	W36x160	170.25	121'-4 5/8"	——	60'-8 5/16"	——	46'-3 3/16"	C	14'-5 1/8"	——	41 Spa.e 12½"
	W36x160	177.00	126'-2 3/8"	——	63'-1 3/16"	——	48'-1 3/16"	C	15'-0"	——	43 Spa.e 12½"
	W36x245	183.75	131'-0 1/8"	——	65'-6 1/16"	——	49'-11 3/16"	D	15'-6 7/8"	——	48 Spa.e 11½"
	W36x245	190.50	135'-9 7/8"	——	67'-10 15/16"	——	51'-9 3/16"	D	16'-1¾"	——	50 Spa.e 11½"

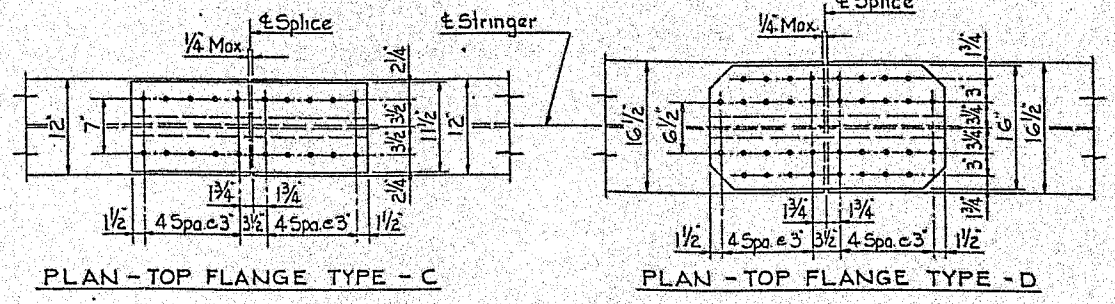


MOMENT DIAGRAM — UNITS II & III



SHEAR DIAGRAM — UNITS II & III





FIELD SPLICE DETAILS

Scale: 1"=1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

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GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
STRINGER DETAILS, UNITS II & III

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 23 OF ____

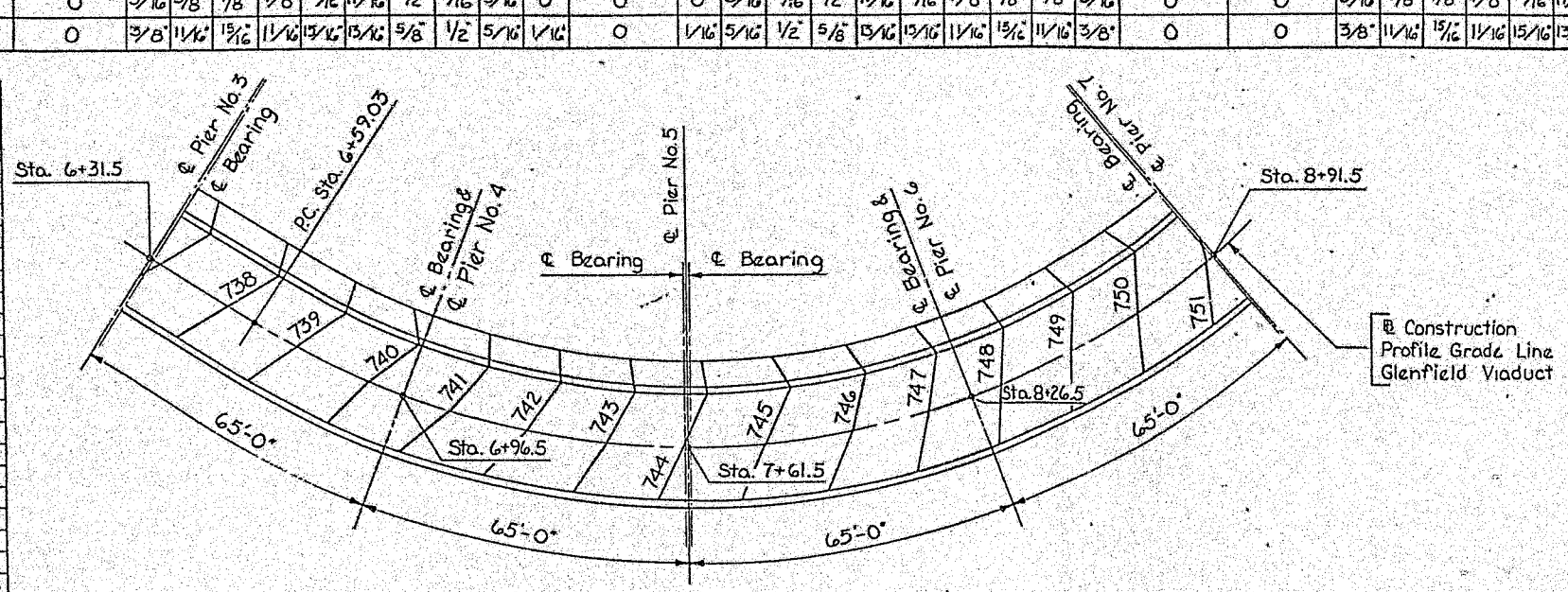
6-1620

UNIT II & UNIT III ~ CAMBER ORDINATES Y, INCHES

DESCRIPTION	STRINGER NO.	SPAN D										SPAN E										SPAN F										SPAN G									
		℄ BEARING ℄ PIER NO.3	1/10	1/5	3/10	2/5	1/2	3/5	7/10	F.S.	4/5	9/10	℄ BEARING ℄ PIER NO.4	1/10	1/5	F.S.	3/10	2/5	1/2	3/5	7/10	4/5	9/10	℄ BEARING ℄ PIER NO.5	℄ BEARING ℄ PIER NO.5	1/10	1/5	3/10	2/5	1/2	3/5	7/10	F.S.	4/5	9/10	℄ BEARING ℄ PIER NO.6	1/10	1/5	F.S.	3/10	2/5	1/2	3/5	7/10	4/5	9/10	℄ BEARING ℄ PIER NO.7
D T OF STEEL	1	0	0	1/16"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	0	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	1/16"	0	0
	2	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0
	3	0	1/16"	1/16"	1/8"	3/16"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	3/16"	1/8"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/8"	3/16"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	3/16"	1/8"	1/16"	1/16"	0
	4	0	1/16"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/16"	0	0	0	1/16"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/16"	0
	5	0	1/16"	1/8"	3/16"	1/4"	3/16"	1/8"	1/8"	1/16"	1/16"	0	0	0	1/16"	1/8"	1/8"	3/16"	3/16"	1/4"	3/16"	1/8"	1/16"	0	0	0	1/16"	1/8"	3/16"	1/4"	3/16"	3/16"	1/8"	1/16"	1/16"	0	0	0	1/16"	1/16"	1/8"	1/8"	3/16"	1/4"	3/16"	1/8"	1/16"	0
TO T OF DECK SLAB	1	0	3/16"	5/16"	7/16"	7/16"	7/16"	3/8"	1/4"	3/16"	1/8"	0	0	0	1/8"	3/16"	1/4"	3/8"	7/16"	7/16"	7/16"	5/16"	3/16"	0	0	0	3/16"	5/16"	7/16"	7/16"	7/16"	3/8"	1/4"	3/16"	1/8"	0	0	0	1/8"	3/16"	1/4"	3/8"	7/16"	7/16"	7/16"	5/16"	3/16"	0
	2	0	3/16"	3/8"	1/2"	9/16"	9/16"	7/16"	5/16"	1/4"	3/16"	1/16"	0	1/16"	3/16"	1/4"	5/16"	7/16"	9/16"	9/16"	9/16"	1/2"	3/8"	3/16"	0	0	3/16"	3/8"	1/2"	9/16"	9/16"	7/16"	5/16"	1/4"	3/16"	1/16"	0	0	1/16"	3/16"	1/4"	5/16"	7/16"	9/16"	1/2"	3/8"	3/16"	0
	3	0	3/16"	3/8"	1/2"	9/16"	9/16"	1/2"	5/16"	1/4"	3/16"	1/16"	0	1/16"	3/16"	1/4"	5/16"	1/2"	9/16"	9/16"	1/2"	3/8"	3/16"	0	0	0	3/16"	3/8"	1/2"	9/16"	9/16"	1/2"	5/16"	1/4"	3/16"	1/16"	0	0	1/16"	3/16"	1/4"	5/16"	1/2"	9/16"	9/16"	1/2"	3/8"	0
	4	0	3/16"	3/8"	1/2"	9/16"	1/2"	7/16"	5/16"	3/16"	1/8"	0	0	0	1/8"	3/16"	5/16"	7/16"	1/2"	9/16"	1/2"	3/8"	3/16"	0	0	0	3/16"	3/8"	1/2"	9/16"	1/2"	7/16"	5/16"	3/16"	1/8"	0	0	0	1/8"	3/16"	5/16"	7/16"	1/2"	9/16"	1/2"	3/8"	3/16"	0
	5	0	1/4"	7/16"	9/16"	5/8"	9/16"	1/2"	3/8"	1/4"	3/16"	1/16"	0	1/16"	3/16"	1/4"	3/8"	1/2"	9/16"	5/8"	9/16"	7/16"	1/4"	0	0	0	1/4"	7/16"	9/16"	5/8"	9/16"	1/2"	3/8"	1/4"	3/16"	1/16"	0	0	1/16"	3/16"	1/4"	3/8"	1/2"	9/16"	5/8"	9/16"	7/16"	1/4"	0
TO RIMPOSED DEAD	1	0	0	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	0	0	0	0	0	0	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	0	0	0	0	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	0	0	0	0	0	0	0	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	0	0	0	0
	2	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0
	3	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	1/16"	0	0	0	0	0	1/16"	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0
	4	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0	0	1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0	0	0	0	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"	0	0
	5	0	1/16"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/16"	0	0	0	1/16"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/8"	1/16"	0	0	0	0	1/16"	1/8"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/16"	0
TOTAL	1	0	3/16"	7/16"	5/8"	5/8"	9/16"	1/2"	3/8"	3/16"	1/8"	0	0	0	1/8"	3/16"	3/8"	1/2"	9/16"	5/8"	5/8"	7/16"	3/16"	0	0	0	3/16"	7/16"	5/8"	5/8"	9/16"	1/2"	3/8"	3/16"	1/8"	0	0	0	1/8"	3/16"	3/8"	1/2"	9/16"	5/8"	5/8"	7/16"	3/16"	0
	2	0	3/16"	1/2"	3/4"	13/16"	13/16"	11/16"	7/16"	3/8"	3/16"	1/16"	0	1/16"	3/16"	3/8"	7/16"	11/16"	13/16"	13/16"	3/4"	1/2"	3/16"	0	0	0	3/16"	1/2"	3/4"	13/16"	13/16"	11/16"	7/16"	3/8"	3/16"	1/16"	0	0	1/16"	3/16"	3/8"	7/16"	11/16"	13/16"	13/16"	3/4"	1/2"	3/16"	0
	3	0	1/4"	1/2"	3/4"	7/8"	13/16"	3/4"	7/16"	3/8"	5/16"	1/16"	0	1/16"	5/16"	3/8"	7/16"	3/4"	13/16"	7/8"	3/4"	1/2"	1/4"	0	0	0	1/4"	1/2"	3/4"	7/8"	13/16"	3/4"	7/16"	3/8"	5/16"	1/16"	0	0	1/16"	5/16"	3/8"	7/16"	3/4"	13/16"	7/8"	3/4"	1/2"	1/4"	0
	4	0	5/16"	5/8"	7/8"	7/8"	13/16"	11/16"	1/2"	5/16"	3/16"	0	0	0	3/16"	5/16"	1/2"	11/16"	13/16"	7/8"	7/8"	5/8"	5/16"	0	0	0	5/16"	5/8"	7/8"	7/8"	13/16"	11/16"	1/2"	5/16"	3/16"	0	0	0	3/16"	5/16"	1/2"	11/16"	13/16"	7/8"	7/8"	5/8"	5/16"	0
	5	0	3/8"	11/16"	15/16"	11/16"	13/16"	15/16"	5/8"	1/2"	5/16"	1/16"	0	1/16"	5/16"	1/2"	5/8"	13/16"	15/16"	1/16"	15/16"	11/16"	3/8"	0	0	0	3/8"	11/16"	15/16"	11/16"	15/16"	13/16"	5/8"	1/2"	5/16"	1/16"	0	0	1/16"	5/16"	1/2"	5/8"	13/16"	15/16"	11/16"	15/16"	11/16"	3/8"	0

ROADWAY ELEVATION SCHEDULE

ON	SIDEWALK	N.G.	℄	S.G.
0.0	737.13	736.98	737.34	737.70
0.0	737.68	737.52	737.88	738.24
0.0	738.22	738.06	738.42	738.78
0.0	738.76	738.61	738.97	739.33
0.0	739.31	739.15	739.51	739.87
0.0	739.85	739.70	740.06	740.42
0.0	740.40	740.24	740.60	740.96
0.0	740.94	740.78	741.14	741.50
0.0	741.48	741.33	741.69	742.05
0.0	742.03	741.87	742.23	742.59
0.0	742.57	742.42	742.78	743.14
0.0	743.12	742.96	743.32	743.68
0.0	743.66	743.50	743.86	744.22
0.0	744.20	744.05	744.41	744.77
0.0	744.75	744.59	744.95	745.31
0.0	745.29	745.14	745.50	745.86
0.0	745.84	745.68	746.04	746.40
0.0	746.38	746.22	746.58	746.94
0.0	746.92	746.77	747.13	747.49
0.0	747.47	747.31	747.67	748.03
0.0	748.01	747.86	748.22	748.58
0.0	748.56	748.40	748.76	749.12
0.0	749.10	748.94	749.30	749.66
0.0	749.64	749.49	749.85	750.21
0.0	750.19	750.03	750.39	750.75
0.0	750.73	750.58	750.94	751.30
0.0	751.28	751.12	751.48	751.84

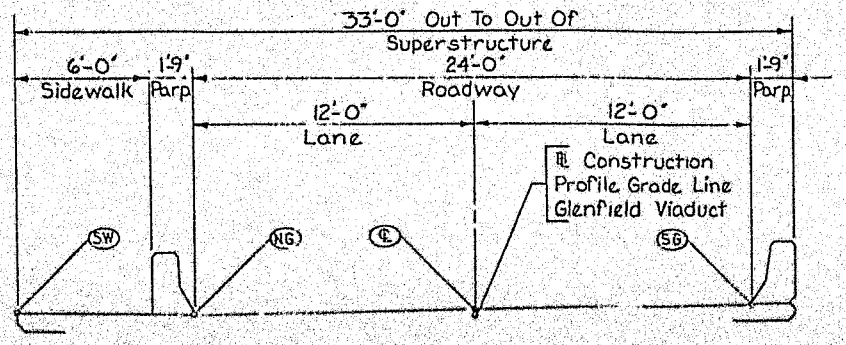


CONTOUR PLAN

Scale: 1"=20'

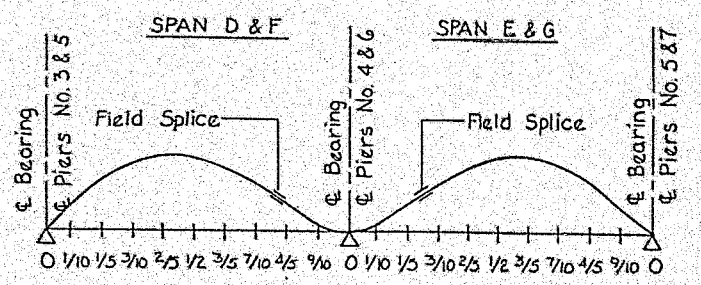
ROADWAY ELEVATION SCHEDULE

ER	UNIT II			UNIT III		
	℄ PIER NO.3 ℄ BEARING	℄ BEARING ℄ PIER NO.4	℄ BEARING ℄ PIER NO.5	℄ BEARING ℄ PIER NO.5	℄ BEARING ℄ PIER NO.6	℄ BEARING ℄ PIER NO.7
	736.65	740.14	743.63	743.72	747.21	750.70
	736.63	740.12	743.61	743.70	747.19	750.68
	736.83	740.32	743.81	743.90	747.39	750.88
	737.03	740.52	744.01	744.10	747.59	751.09



TYPICAL DECK SECTION

Scale: 1/4"=1'-0"



CAMBER DIAGRAM

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

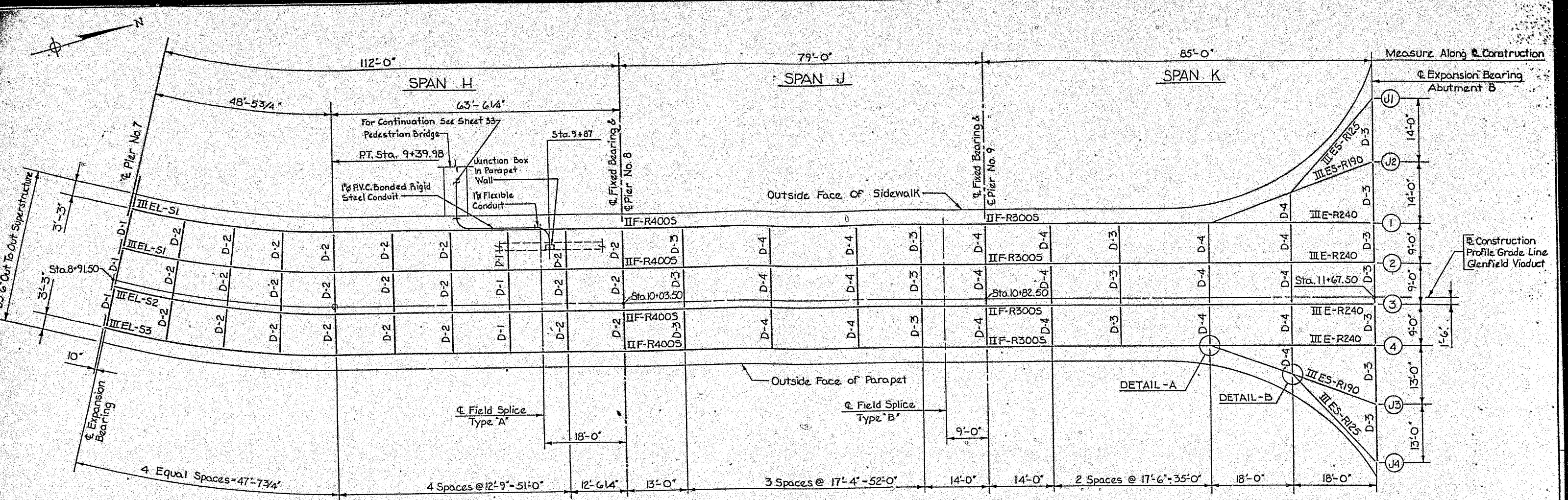
CAMBER & ELEV. SCHEDULES - UNITS II & III

RECOMMENDED _____

BRIDGE ENGINEER

SHEET 24 OF ____

S-16201



FRAMING PLAN

Scale: 1" = 10'

EXPANSION BEARINGS III EL

REACTION (Kips)	MARK	DIMENSIONS (Inches) b	B	ℓ	L	S	T1	T2	T	WEIGHT (Lbs.)
255	51	8"	16"	13"	27½"	9½"	1½"	1¾"	1½"	310
255	52	8"	18"	13"	29½"	9½"	1½"	1¾"	1½"	335
255	53	8"	22"	13"	33½"	9½"	1½"	1¾"	1½"	390

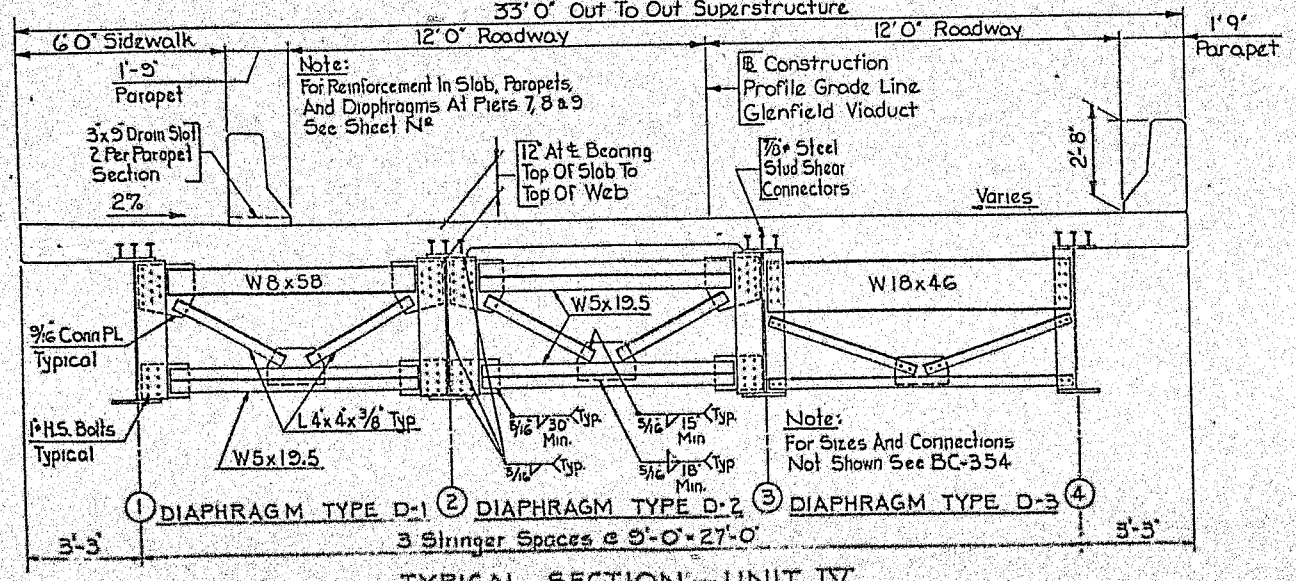
Note: For Details See BC-356A

FIXED BEARINGS II F

REACTION (Kips)	MARK	DIMENSIONS (Inches) S	ℊ	L	T1	T2	T3 (Beneath T2) *	SLOTTED HOLES T1	T2	WEIGHT (Lbs.)
300	R300S	10"	12"	26	2¾	2¾	¾ x 13½ x 27½ W/ 1⅜" Hole	1¾ x 2"	1¾ x 2"	520
400	R400S	11"	14"	30	3"	3"	¾ x 15½ x 31½ W/ 1⅝" Hole	2" x 2¼"	2" x 2¼"	735

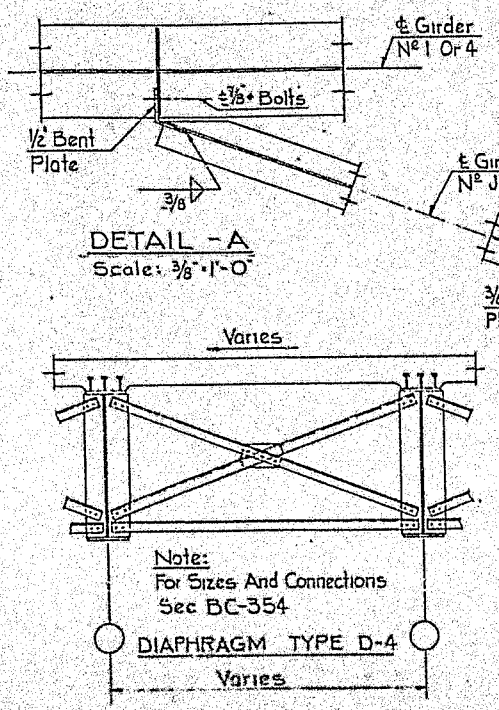
Note: For Details See BC-355A

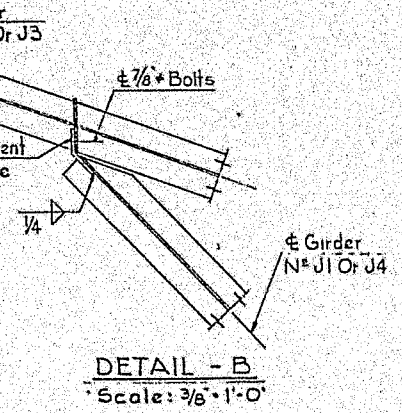
* ½ Field Weld Both Sides Of PL T3 After Adjustment



TYPICAL SECTION — UNIT IV

Scale: 3/8" = 1'-0"





Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

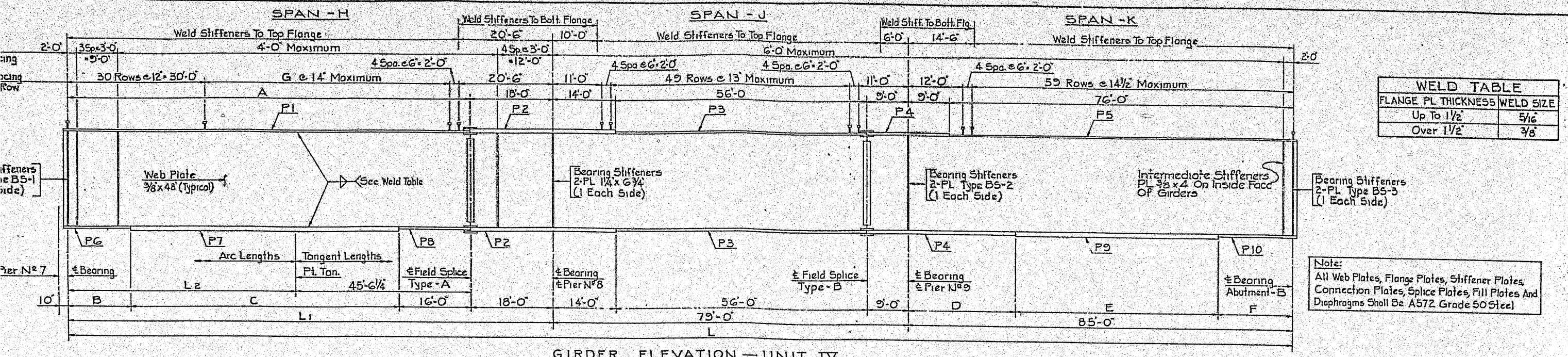
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

FRAMING PLAN - UNIT IV

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 25 OF ____

S-16201



GIRDER ELEVATION — UNIT IV

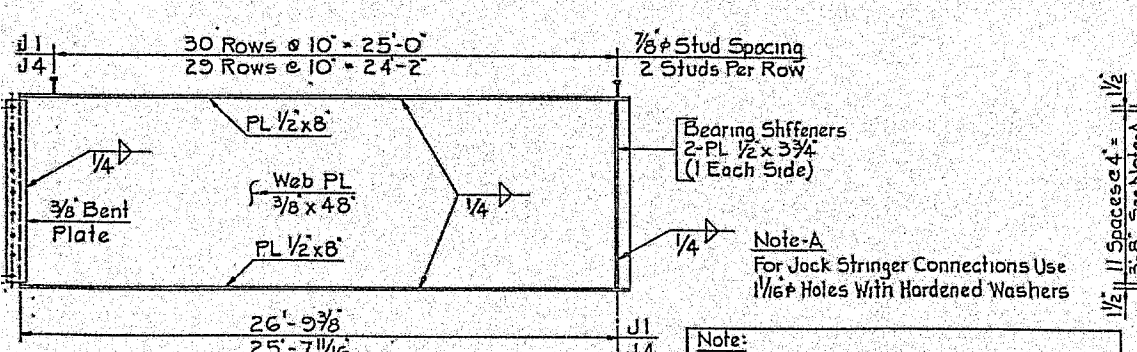
No Scale

WELD TABLE	
FLANGE PL THICKNESS	WELD SIZE
Up To 1 1/2"	5/16"
Over 1 1/2"	3/8"

Note:
All Web Plates, Flange Plates, Stiffener Plates, Connection Plates, Splice Plates, Fill Plates And Diaphragms Shall Be A572 Grade 50 Steel

GIRDER DIMENSION SCHEDULE

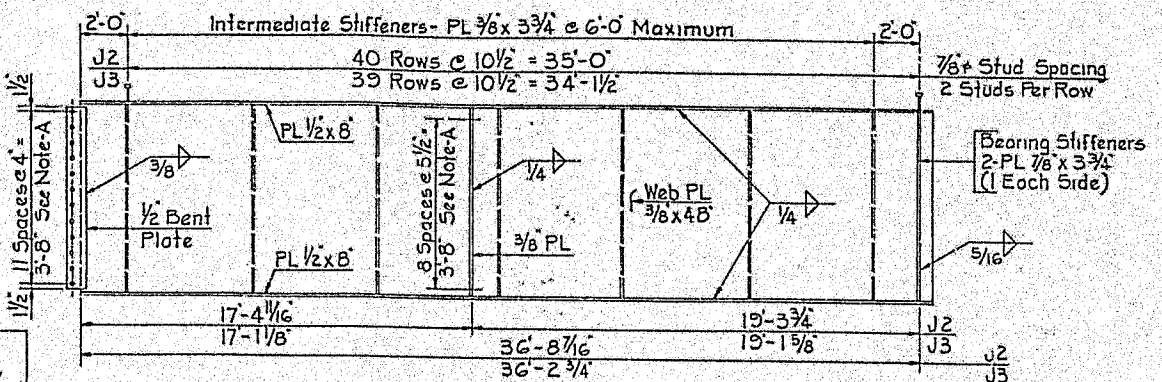
ADIUS	GIRDER LENGTHS			FLANGE PLATE LENGTHS						STUD SPAC	FLANGE PLATE SIZES											BEARING STIFFENER SIZES			SPLICE TYPES	
	L	L1	L2	A	B	C	D	E	F	G	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	BS-1	BS-2	BS-3		
53.50	270'-8 11/16"	106'-8 11/16"	43'-2 7/16"	88'-8 11/16"	13'-9"	58'-11 11/16"	24'-0"	45'-0"	16'-0"	47 Rows	1"x14"	1 1/2"x14"	1"x14"	1 1/8"x16"	7/8"x16"	1"x16"	2"x16"	1"x16"	2"x16"	1"x16"	1 1/8"x7 3/4"	1 1/4"x7 3/4"	7/8"x7 3/4"	A1	B
72.50	273'-1 3/4"	109'-1 3/4"	45'-7 1/2"	91'-1 3/4"	14'-6"	60'-7 3/4"	85'-0"	—	—	49 Rows	1"x14"	1 1/2"x14"	1"x14"	1"x14"	3/4"x14"	1"x16"	2"x16"	1"x16"	—	—	1 1/8"x7 3/4"	1 1/4"x6 3/4"	7/8"x6 3/4"	A1	B
31.50	275'-6 7/8"	111'-6 7/8"	48'-0 5/8"	93'-6 7/8"	15'-3"	62'-3 7/8"	85'-0"	—	—	51 Rows	1 1/4"x16"	2"x14"	1"x14"	1"x14"	3/4"x14"	1"x18"	2"x18"	1"x18"	—	—	1 1/8"x8 3/4"	1 1/4"x6 3/4"	7/8"x6 3/4"	A2	B
90.50	277'-11 5/16"	113'-11 5/16"	50'-5 11/16"	95'-11 5/16"	16'-0"	63'-11 5/16"	24'-0"	45'-0"	16'-0"	53 Rows	1 1/4"x16"	2"x14"	1"x14"	1 1/8"x16"	7/8"x16"	1"x22"	2"x22"	1 1/8"x22"	2"x16"	1"x16"	1 1/8"x10 3/4"	1 1/4"x7 3/4"	7/8"x7 3/4"	A3	B



GIRDER ELEVATION J1 & J4

No Scale

Note:
All Web Plates, Flange Plates, Stiffener Plates, Connection Plates, Splice Plates, Fill Plates And Diaphragms Shall Be A572 Grade 50 Steel



GIRDER ELEVATION J2 & J3

No Scale

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

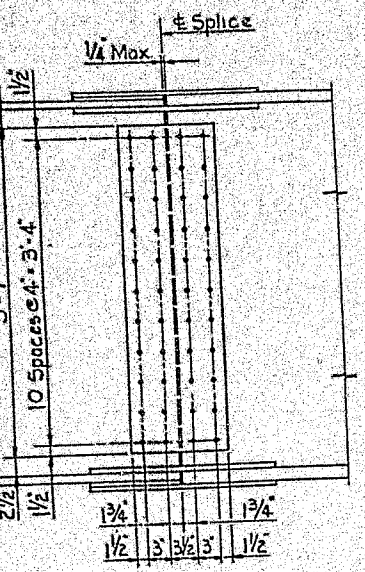
ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
STRINGER DETAILS - UNIT IV

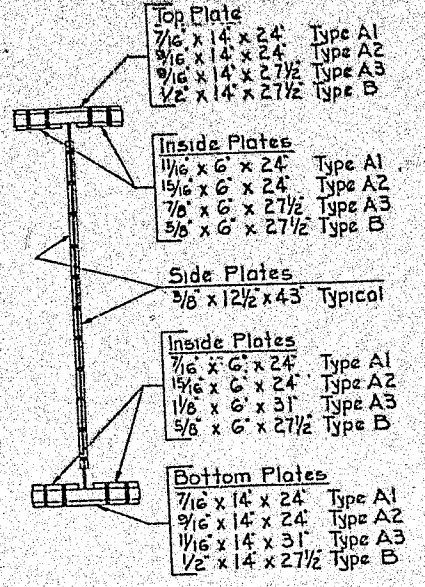
RECOMMENDED _____

_____
BRIDGE ENGINEER

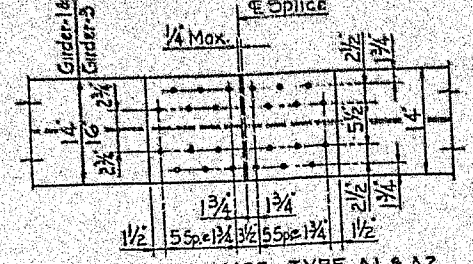
SHEET 26 OF ____



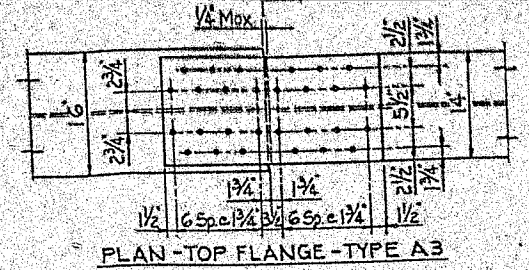
ELEVATION



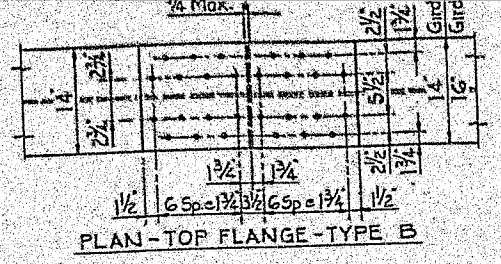
SECTION



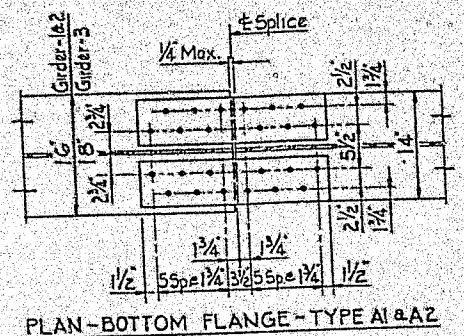
PLAN - TOP FLANGE - TYPE A1 & A2



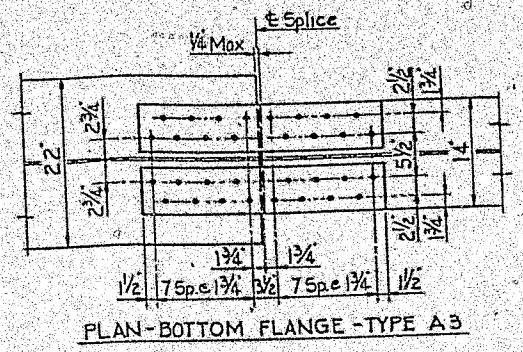
PLAN - TOP FLANGE - TYPE A3



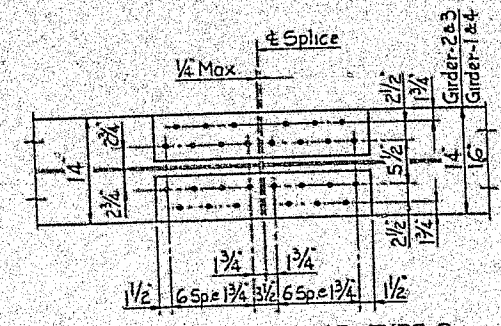
PLAN - TOP FLANGE - TYPE B



PLAN - BOTTOM FLANGE - TYPE A1 & A2



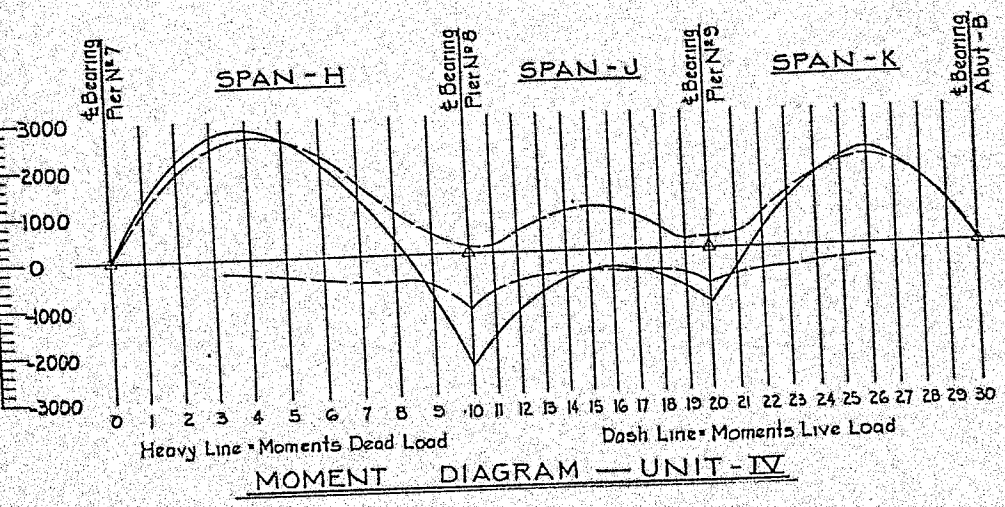
PLAN - BOTTOM FLANGE - TYPE A3



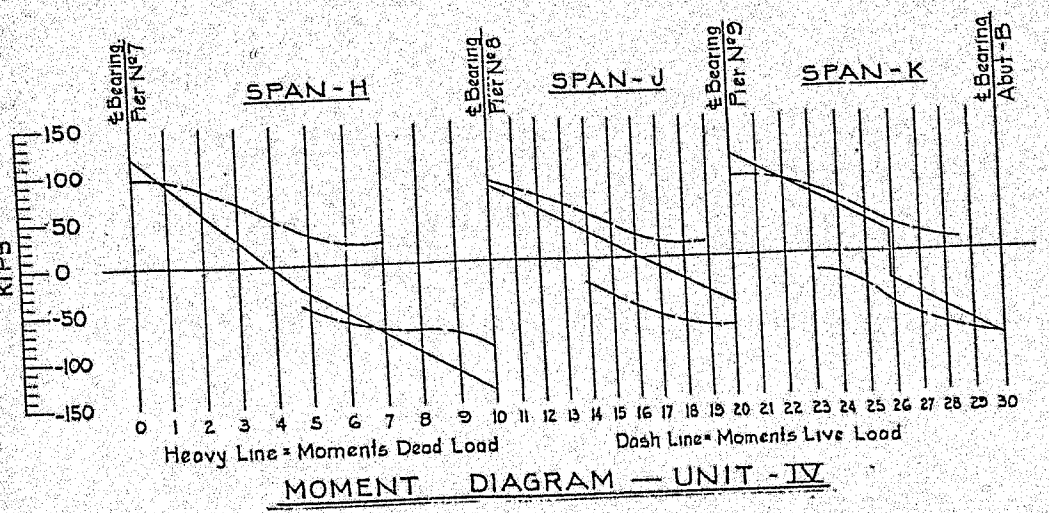
PLAN - BOTTOM FLANGE - TYPE B

FIELD SPLICE DETAILS

Scale: 1"=1'-0"



MOMENT DIAGRAM — UNIT - IV



MOMENT DIAGRAM — UNIT - IV

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
STRINGER SPLICES & DETAILS — UNIT IV

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 27 OF ____

S-16201

UNIT IV ~ CAMBER ORDINATES Y, INCHES

DESCRIPTION	STRINGER NO.	SPAN H												SPAN J												SPAN K											
		℄ BEARING PIER NO.7	1/10	1/5	3/10	2/5	1/2	3/5	7/10	4/5	F.S.	9/10	℄ BEARING PIER NO.8	1/10	1/5	3/10	2/5	1/2	3/5	7/10	4/5	F.S.	9/10	℄ BEARING PIER NO.9	1/10	1/5	3/10	2/5	1/2	3/5	7/10	4/5	9/10	℄ BEARING ABUTMENT B
E TO IGHT OF STEEL	1	0	3/16"	5/16"	7/16"	7/16"	7/16"	3/8"	5/16"	3/16"	3/16"	1/16"	0	-1/16"	-1/16"	-1/16"	-1/8"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	0	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	1/4"	3/16"	1/16"	0
	2	0	5/16"	1/2"	5/8"	11/16"	5/8"	9/16"	7/16"	5/16"	1/4"	1/8"	0	-1/16"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/16"	-1/16"	-1/16"	-1/16"	0	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	1/4"	3/16"	1/16"	0
	3	0	3/8"	5/8"	13/16"	7/8"	7/8"	3/4"	5/8"	3/8"	5/16"	3/16"	0	-1/16"	-1/8"	3/16"	-3/16"	-3/16"	-3/16"	-1/8"	-1/8"	-1/16"	-1/16"	0	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	1/4"	3/16"	1/16"	0
	4	0	1/2"	7/8"	1 1/16"	1 1/8"	1 1/16"	15/16"	13/16"	1/2"	3/8"	1/4"	0	-1/8"	-3/16"	-1/4"	-1/4"	-1/4"	-3/16"	-3/16"	-1/8"	-1/16"	-1/16"	0	1/16"	1/8"	1/4"	5/16"	5/16"	1/4"	5/16"	1/8"	0	0
E TO IGHT OF DECK SLAB	1	0	15/16"	1 7/16"	1 13/16"	1 15/16"	1 7/8"	1 7/8"	1 5/16"	7/8"	1 1/16"	3/8"	0	-3/16"	-1/4"	-5/16"	-5/16"	-5/16"	-5/16"	-3/16"	-1/4"	-3/16"	-1/8"	0	5/16"	5/8"	15/16"	1 3/16"	1 1/4"	1 5/16"	1 1/8"	7/8"	7/16"	0
	2	0	1 1/16"	1 3/16"	2 3/8"	2 1/2"	2 7/16"	2 1/8"	1 11/16"	1 1/8"	7/8"	1/2"	0	-3/16"	-5/16"	-3/8"	-3/8"	-3/8"	-5/16"	-5/16"	-1/4"	-3/16"	-1/8"	0	1/4"	9/16"	7/8"	1 1/16"	1 1/8"	1 3/16"	1"	3/4"	3/8"	0
	3	0	1 1/4"	2 3/16"	2 5/16"	2 5/16"	2 1/8"	2 1/2"	2"	1 5/16"	1"	5/8"	0	-1/4"	-7/16"	-1/2"	-9/16"	-1/2"	-7/16"	-3/8"	-5/16"	-3/16"	-3/16"	0	1/4"	5/8"	7/8"	1 1/8"	1 3/16"	1 3/16"	1"	13/16"	3/8"	0
	4	0	1 1/2"	2 1/16"	3 3/16"	3 3/16"	3 1/16"	3"	2 5/16"	1 1/2"	1 3/16"	1 1/16"	0	-5/16"	-9/16"	-11/16"	-13/16"	-3/4"	-11/16"	-9/16"	-7/16"	-1/4"	-1/4"	0	3/8"	3/4"	1 5/16"	1 9/16"	1 3/8"	1 7/16"	1 5/16"	15/16"	9/16"	0
TO PERIMPOSED DEAD LOAD	1	0	3/16"	5/16"	3/8"	7/16"	7/16"	3/8"	5/16"	1/4"	3/16"	1/8"	0	0	-1/16"	0	0	0	0	0	0	0	0	0	1/16"	3/16"	1/4"	5/16"	5/16"	5/16"	5/16"	1/4"	1/8"	0
	2	0	1/4"	3/8"	1/2"	9/16"	9/16"	1/2"	7/16"	5/16"	1/4"	1/8"	0	-1/16"	-1/16"	-1/16"	-1/16"	0	0	0	0	0	0	0	1/16"	1/8"	3/16"	1/4"	1/4"	5/16"	1/4"	3/16"	1/8"	0
	3	0	1/4"	1/2"	5/8"	11/16"	11/16"	5/8"	9/16"	3/8"	1/4"	3/16"	0	-1/16"	-1/8"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	-1/16"	0	1/16"	3/16"	1/4"	1/4"	5/16"	5/16"	1/4"	3/16"	1/8"	0
	4	0	5/16"	3/8"	13/16"	7/8"	7/8"	13/16"	3/8"	7/16"	5/16"	3/16"	0	-1/16"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/16"	-1/16"	-1/16"	-1/16"	0	1/16"	3/16"	1/4"	5/16"	3/8"	3/8"	5/16"	1/4"	1/8"	0
TO SUPERELEVATION D/OR VERTICAL CURVE	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/8"	1/8"	1/8"	1/8"	1/8"	0	19/16"	2 3/16"	4 7/16"	5 3/16"	5 1/4"	4 1/16"	1 11/16"	15/16"	5/16"	0
	2	0	0	1/8"	1/16"	1/4"	1/8"	0	-1/8"	-1/8"	-1/8"	0	0	0	0	0	0	0	1/8"	1/8"	1/8"	1/8"	1/8"	0	15/16"	2 3/16"	3 1/4"	4 3/16"	3 5/16"	3 3/16"	2 7/16"	2 1/4"	1 5/16"	0
	3	0	1/8"	3/8"	5/8"	13/16"	5/8"	1/4"	-1/8"	-1/8"	-1/8"	0	0	0	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	0	0	0	0	0	11/16"	3"	3 9/16"	4 5/16"	4 9/16"	4 7/16"	3 9/16"	2 7/8"	1 7/16"	0
	4	0	1/2"	15/16"	1 1/16"	2 1/16"	1 13/16"	1 1/16"	11/16"	3/4"	5/8"	3/8"	0	-5/16"	-5/8"	-15/16"	-13/16"	-1 1/16"	-1 1/16"	-3/4"	-1/2"	-1/16"	-1/8"	0	1 1/16"	1 15/16"	2 1/4"	2 3/16"	2 3/16"	2 3/4"	2 3/4"	2 3/16"	1 3/4"	0
TAL	1	0	13/16"	2 1/16"	2 3/8"	2 5/16"	2 3/4"	2 3/8"	1 9/16"	1 5/16"	1 1/16"	9/16"	0	-1/4"	-3/8"	-7/8"	-7/16"	-1/4"	-1/4"	-5/16"	-1/8"	-1/16"	-1/16"	0	2 1/4"	4 5/16"	5 9/16"	6 9/16"	7 1/16"	5 9/16"	3 3/8"	2 1/4"	1 1/4"	0
	2	0	15/8"	2 3/16"	3 5/8"	4"	3 3/4"	3 3/16"	2 7/16"	1 7/8"	1 1/4"	3/4"	0	-5/16"	-1/2"	-9/16"	-9/16"	-1/2"	-5/16"	-1/4"	-3/16"	-1/8"	-1/16"	0	1 11/16"	3 3/16"	4 1/2"	5 3/4"	5 9/16"	5 1/8"	4 5/16"	3 3/8"	1 3/4"	0
	3	0	2"	3 1/16"	4 1/8"	5 1/16"	5 1/16"	4 1/8"	3 1/16"	2 5/16"	1 7/16"	1"	0	-3/8"	-1 1/16"	-1 5/16"	-1 5/16"	-7/8"	-13/16"	-9/16"	-1/2"	-5/16"	-5/16"	0	2 1/16"	3 5/16"	5 1/8"	5 5/16"	6 5/16"	6 3/16"	5 3/16"	4 1/16"	2"	0
	4	0	2 5/16"	3 1/8"	4 1/16"	5 1/16"	5 1/16"	4 3/16"	3 5/16"	2 1/2"	1 11/16"	1 1/2"	0	-7/8"	-1 1/8"	-2"	-2 3/16"	-2 1/16"	-1 5/8"	-1 1/8"	-1/2"	-1/2"	-1/2"	0	1 9/16"	2 7/8"	3 9/16"	4 5/16"	4 3/16"	4 3/8"	4 1/2"	3 5/16"	1 9/16"	0

ROADWAY ELEVATION SCHEDULE

STATION	SIDEWALK	N.G.	℄	S.G.
9+00	751.28	751.12	751.48	751.84
9+10	751.82	751.66	752.02	752.38
9+20	752.36	752.21	752.57	752.93
9+30	752.91	752.75	753.11	753.47
9+40	753.45	753.30	753.66	754.02
9+50	754.00	753.84	754.16	754.49
9+60	754.54	754.38	754.67	754.96
9+70	755.08	754.93	755.18	755.43
9+80	755.63	755.47	755.71	755.90
9+90	756.17	756.02	756.26	756.38
10+00	756.72	756.56	756.80	756.85
10+10	757.26	757.10	757.34	757.32
10+20	757.80	757.65	757.89	757.79
10+30	758.35	758.19	758.43	758.26
10+40	758.89	758.74	758.98	758.74
10+50	759.44	759.28	759.52	759.28
10+60	759.98	759.82	760.06	759.82
10+70	760.52	760.37	760.61	760.37
10+80	761.06	760.91	761.15	760.91
10+90	761.54	761.30	761.65	761.38
11+00	762.01	761.65	761.10	761.84
11+10	762.32	762.08	762.51	762.24
11+20	762.63	762.47	762.87	762.61
11+30	762.88	762.71	763.19	762.98
11+40	763.00	762.82	763.46	763.38
11+50	763.03	762.90	763.69	763.80
11+60	762.88	762.85	763.87	764.28

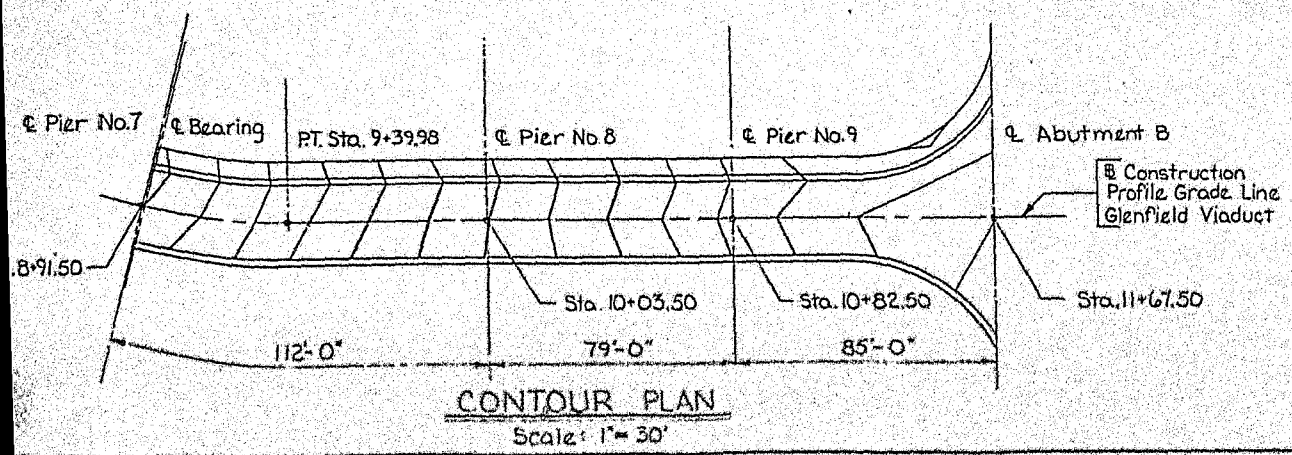
JACKSTRINGERS, CAMBER ORDINATES Y, INCHES

DESCRIPTION	STRINGER NO.	SPAN K				
		CONNECTION POINT	1/4	1/2	3/4	℄ BEARING ABUTMENT B
E TO EIGHT OF STEEL	J1	0	0	0	0	0
	J2	0	0	1/16"	0	0
	J3	0	0	0	0	0
	J4	0	0	1/16"	0	0
E TO EIGHT OF DECK SLAB	J1	0	0	1/16"	0	0
	J2	0	1/4"	3/8"	1/4"	0
	J3	0	0	1/16"	0	0
	J4	0	1/4"	3/8"	1/4"	0
E TO PERIMPOSED DEAD LOAD	J1	0	0	0	0	0
	J2	0	1/16"	1/16"	1/16"	0
	J3	0	0	0	0	0
	J4	0	1/16"	1/16"	1/16"	0
E TO SUPERELEVATION ND/OR VERTICAL CURVE	J1	0	13/16"	15/16"	15/16"	0
	J2	0	15/16"	1 1/16"	3/8"	0
	J3	0	-3/8"	-1/4"	-3/8"	0
	J4	0	-1/8"	-1/4"	-1/8"	0
TOTAL	J1	0	13/16"	13/8"	15/16"	0
	J2	0	1 1/4"	1 15/16"	11/16"	0
	J3	0	-3/8"	-3/16"	-3/8"	0
	J4	0	3/16"	1/8"	3/16"	0

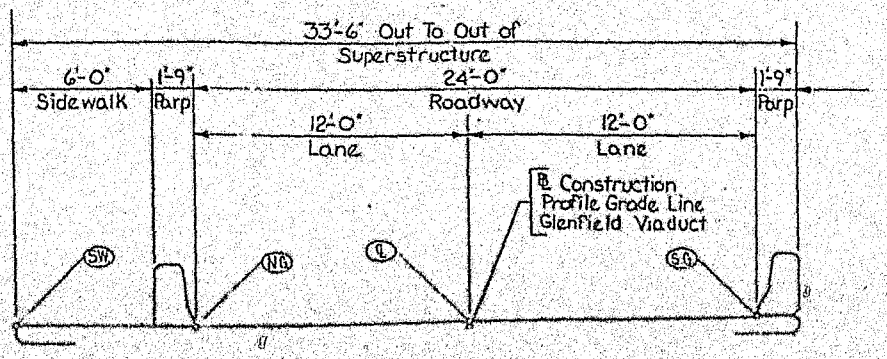
ROADWAY ELEVATION SCHEDULE

UNIT IV

STRINGER NO.	℄ BEARING PIER NO.7	℄ BEARING PIER NO.8	℄ BEARING PIER NO.9	℄ BEARING ABUTMENT B
J1	——	——	——	762.57
J2	——	——	——	762.89
1	750.79	756.84	761.10	763.39
2	750.84	756.84	761.09	763.71
3	751.11	756.99	761.24	764.01
4	751.38	757.01	761.06	764.19
J3	——	——	——	764.46
J4	——	——	——	764.72



CONTOUR PLAN
Scale: 1"=30'



TYPICAL DECK SECTION
Scale: 1/4"=1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

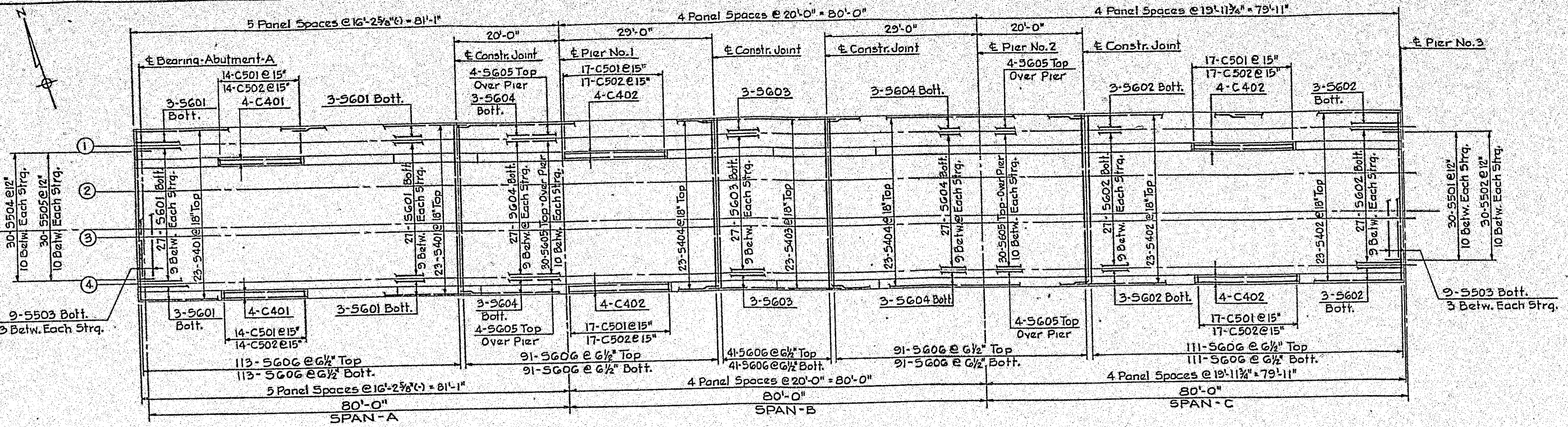
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
CAMBER & ELEV. SCHEDULE - UNIT IV

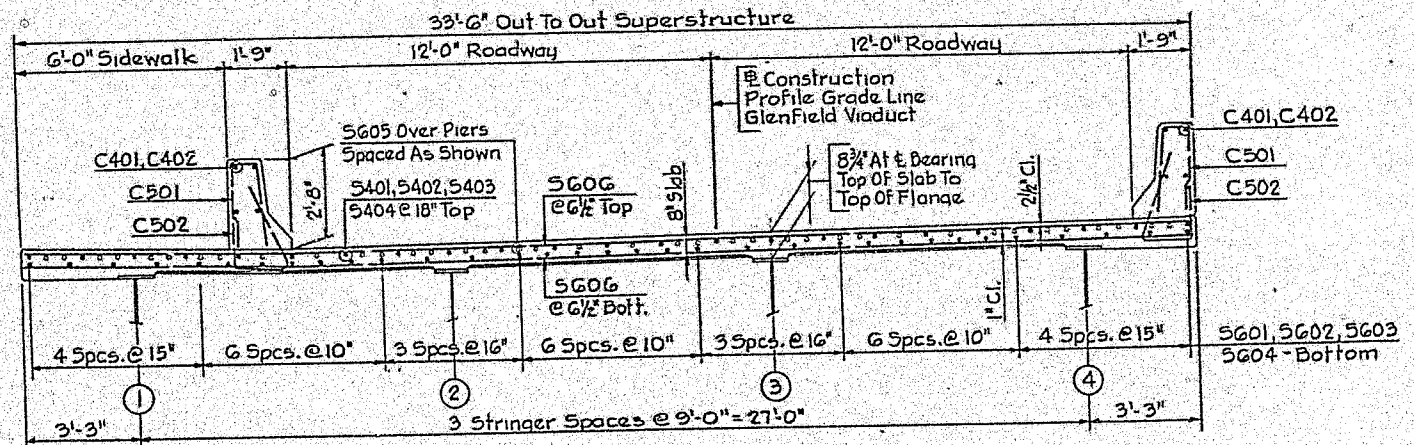
RECOMMENDED _____
BRIDGE ENGINEER

SHEET 22 OF ____



DECK PLAN - UNIT I

Scale: 1" = 10'



TYPICAL SECTION - UNIT I

Scale: ⅜" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

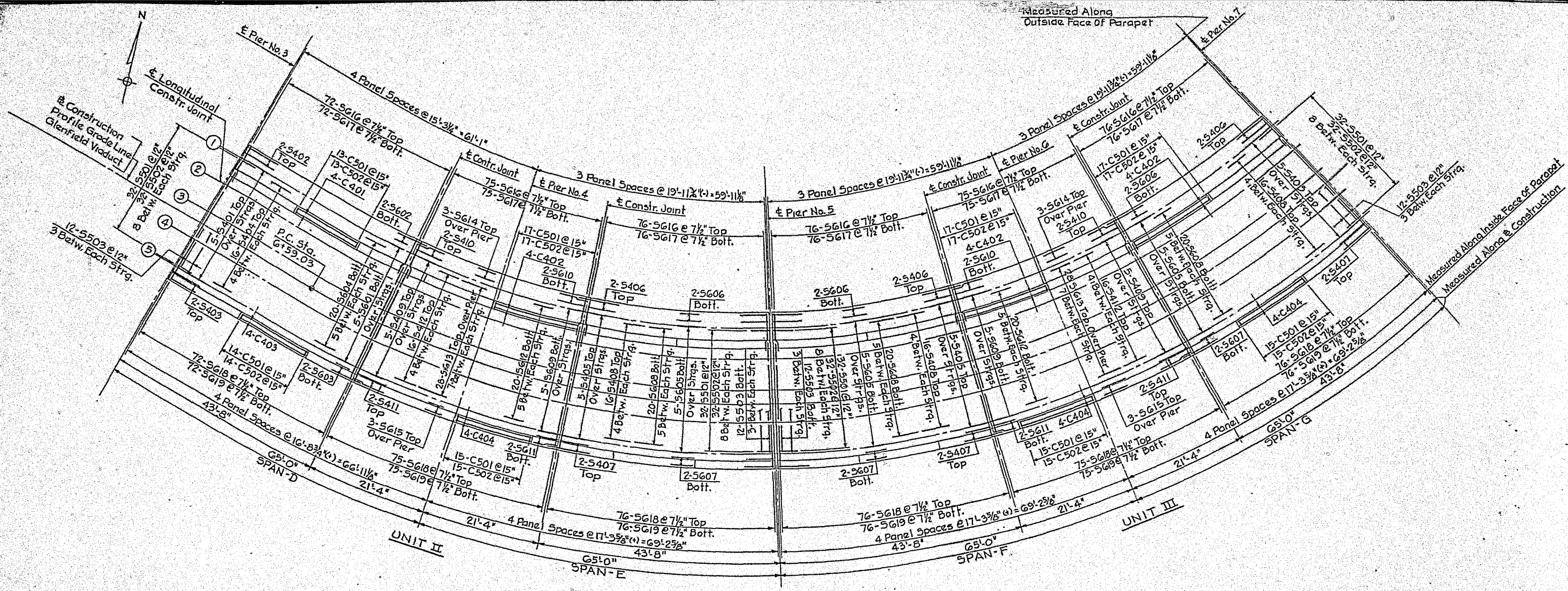
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET, STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
DECK PLAN - UNIT I

RECOMMENDED _____
BRIDGE ENGINEER

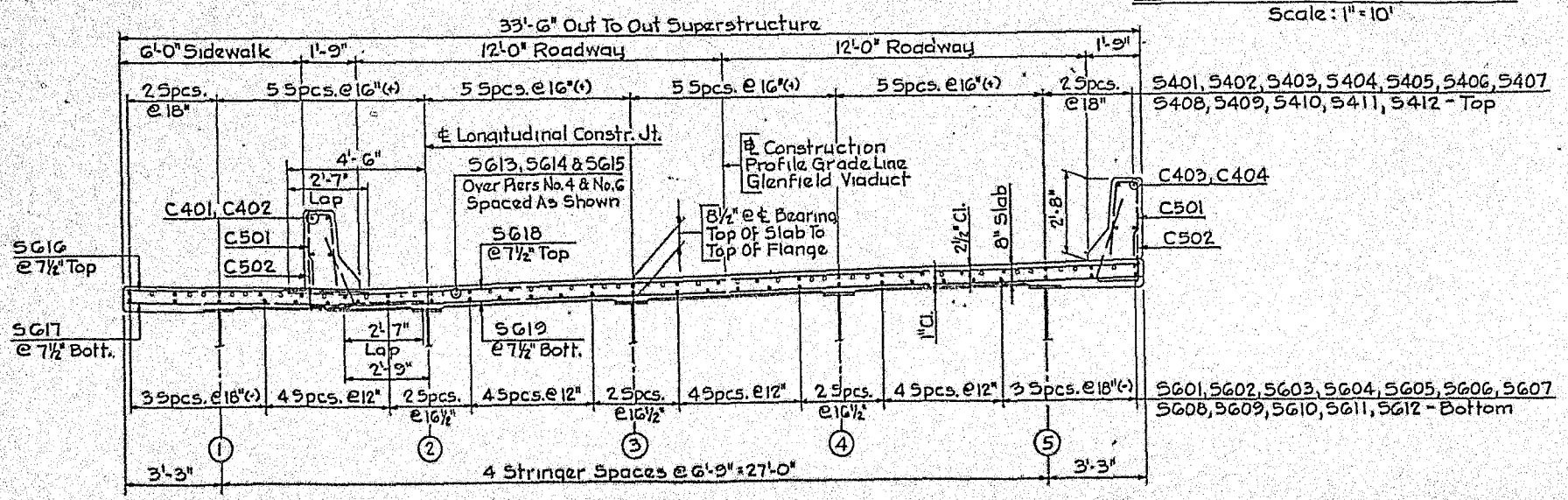
SHEET 22 OF ____

S-16201



DECK PLAN - UNITS II AND III

Scale: 1" = 10'



TYPICAL SECTION - UNITS II AND III

Scale: ⅜" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

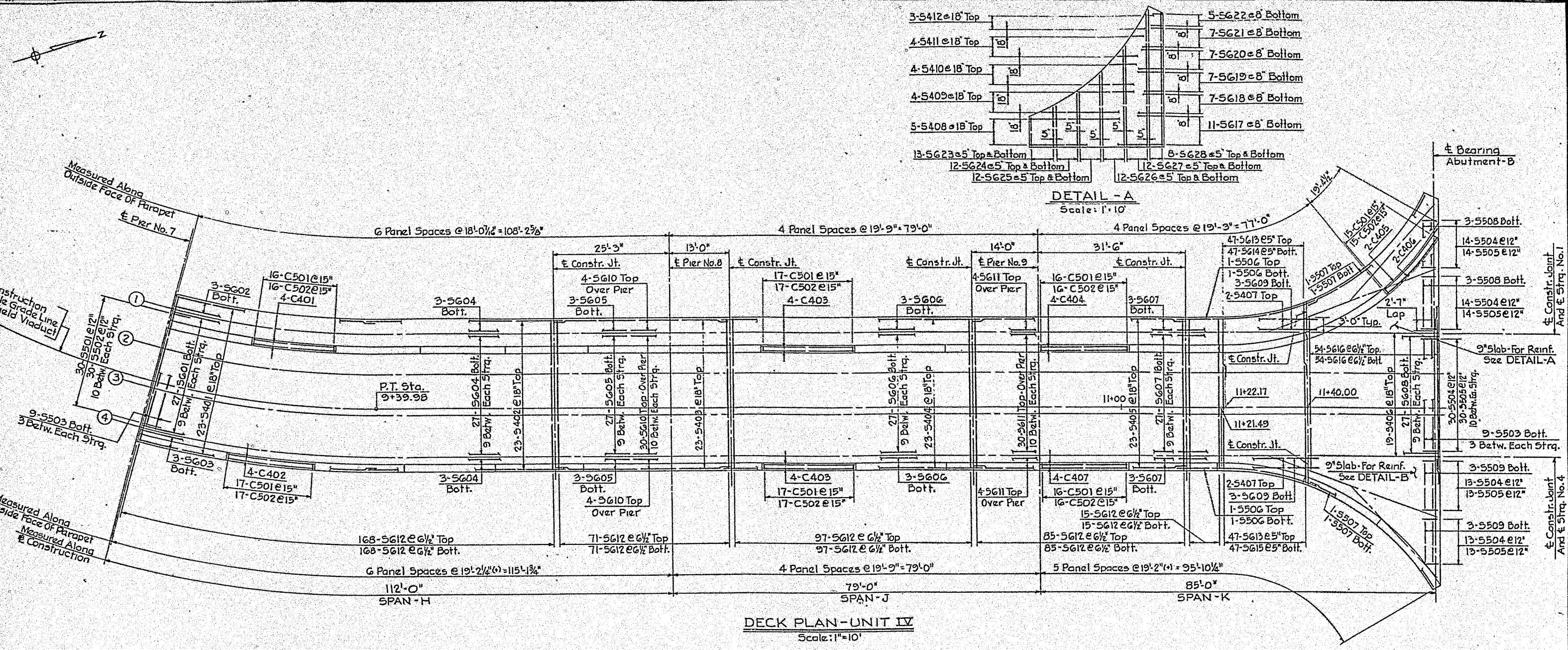
ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9-88.80 OVER
EAST BEAVER STREET STA. 16-96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

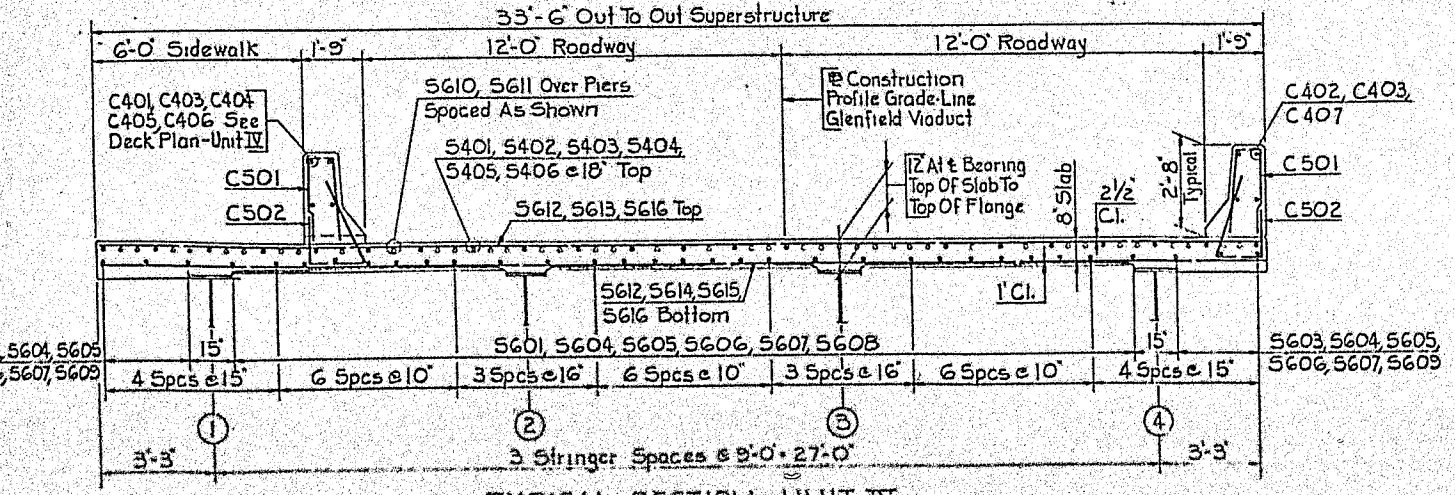
DECK PLAN - UNITS II & III

RECOMMENDED _____
BRIDGE ENGINEER

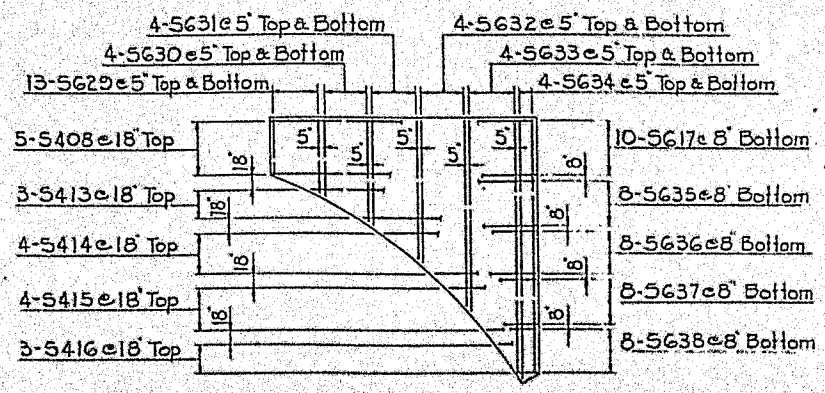
SHEET 30 OF ____



DECK PLAN - UNIT IV
Scale: 1"=10'



TYPICAL SECTION - UNIT IV
Scale: 3/8" = 1'-0"



DETAIL - B
Scale: 1" = 10'

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

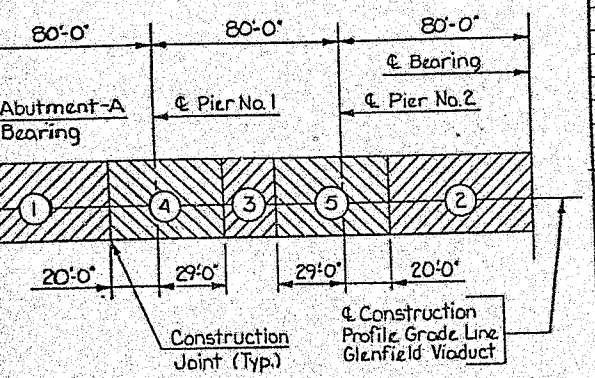
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
DECK PLAN - UNIT IV

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 31 OF ____
S-1620

BAR SCHEDULE ~ UNIT I

	SIZE	TYPE	NO.	LENGTH	REMARKS
	# 4	STR.	46	31'-11"	
	# 4	STR.	46	31'-4"	
	# 4	STR.	23	25'-0"	
	# 4	STR.	46	48'-8"	
	# 5	1	30	2'-4"	
	# 5	2	30	3'-4"	
	# 5	STR.	18	8'-6"	
	# 5	1	30	2'-8"	
	# 5	2	30	4'-0"	
	# 6	STR.	66	32'-7"	
	# 6	STR.	66	32'-0"	
	# 6	STR.	33	20'-4"	
	# 6	STR.	66	48'-8"	
	# 6	STR.	76	44'-0"	
	# 6	STR.	894	33'-2"	
	# 4	STR.	40	15'-10"	
	# 4	STR.	64	19'-7"	
	# 5	3	412	5'-5"	
2	# 5	4	412	6'-3"	

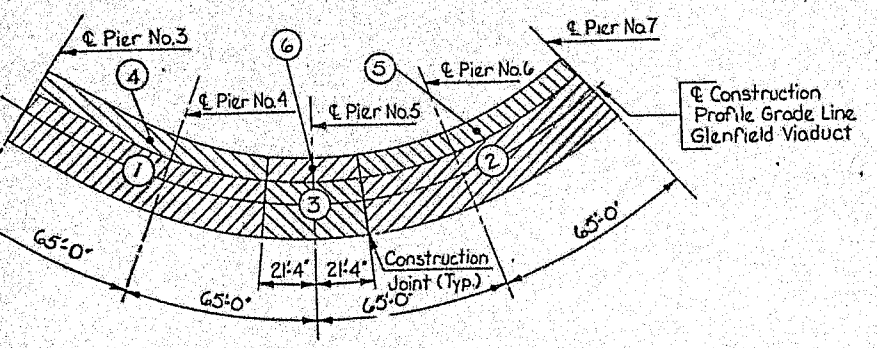


POURING SEQUENCE ~ UNIT I

Scale: 1"=40'

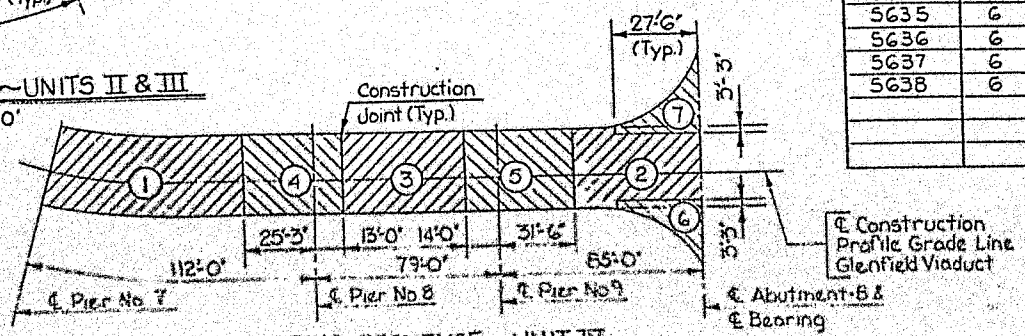
BAR SCHEDULE ~ UNITS II & III

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
S401	# 4	STR.	5	43'-0" TO 45'-4"	VARY EACH BY 7"
S402	# 4	STR.	2	42'-8"	
S403	# 4	STR.	2	45'-7"	
S404	# 4	STR.	16	43'-0" TO 45'-4"	VARY EACH BY 1⅞"
S405	# 4	STR.	15	40'-11" TO 47'-4"	VARY 3 EA. BY 1'-7¼"
S406	# 4	STR.	6	40'-3"	
S407	# 4	STR.	6	48'-1"	
S408	# 4	STR.	48	40'-11" TO 47'-4"	VARY 3 EA. BY 5⅛"
S409	# 4	STR.	10	38'-6" TO 44'-11"	VARY 2 EA. BY 1'-7¼"
S410	# 4	STR.	4	37'-10"	
S411	# 4	STR.	4	45'-8"	
S412	# 4	STR.	32	38'-6" TO 44'-11"	VARY 2 EA. BY 5¼"
S501	# 5	1	128	2'-4"	
S502	# 5	2	128	3'-4"	
S503	# 5	STR.	48	6'-3"	
S601	# 6	STR.	5	43'-8" TO 46'-0"	VARY EACH BY 7"
S602	# 6	STR.	2	43'-4"	
S603	# 6	STR.	2	46'-3"	
S604	# 6	STR.	20	43'-8" TO 46'-0"	VARY EACH BY 1½"
S605	# 6	STR.	15	41'-7" TO 48'-0"	
S606	# 6	STR.	6	40'-11"	
S607	# 6	STR.	6	48'-9"	
S608	# 6	STR.	60	41'-7" TO 48'-0"	VARY 3 EA. BY 4"
S609	# 6	STR.	10	38'-6" TO 44'-11"	VARY 2 EA. BY 1'-7¼"
S610	# 6	STR.	4	37'-10"	
S611	# 6	STR.	4	45'-8"	
S612	# 6	STR.	40	38'-6" TO 44'-11"	VARY 2 EA. BY 4"
S613	# 6	STR.	56	38'-6" TO 44'-11"	VARY 2 EA. BY 2⅜"
S614	# 6	STR.	6	37'-10"	
S615	# 6	STR.	6	45'-8"	
S616	# 6	STR.	374	7'-11"	
S617	# 6	STR.	374	9'-8"	
S618	# 6	STR.	374	27'-10"	
S619	# 6	STR.	374	26'-1"	
C401	# 4	STR.	16	14'-10"	
C402	# 4	STR.	36	19'-7"	
C403	# 4	STR.	16	16'-4"	
C404	# 4	STR.	48	16'-11"	
C501	# 5	3	123	5'-5"	
C502	# 5	4	123	6'-3"	



POURING SEQUENCE ~ UNITS II & III

Scale: 1"=40'

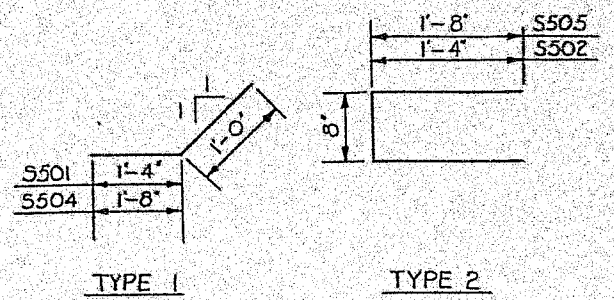


POURING SEQUENCE ~ UNIT IV

BAR SCHEDULE ~ UNIT IV

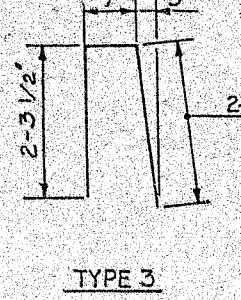
MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
S401	4	STR.	23	42'-11" TO 51'-10"	VARY BY 4⅞" (+)
S402	4	STR.	23	41'-1"	
S403	4	STR.	23	37'-11"	
S404	4	STR.	23	55'-0"	
S405	4	STR.	23	45'-2"	
S406	4	STR.	19	56'-1"	
S407	4	STR.	4	29'-0"	
S408	4	STR.	10	28'-3"	
S409	4	STR.	4	18'-2" TO 25'-8"	VARY BY 30"
S410	4	STR.	4	11'-0" TO 16'-0"	VARY BY 20"
S411	4	STR.	4	6'-8" TO 9'-8"	VARY BY 12"
S412	4	STR.	3	3'-8" TO 5'-8"	VARY BY 12"
S413	4	STR.	3	18'-10" TO 24'-8"	VARY BY 2'-11"
S414	4	STR.	4	10'-11" TO 16'-5"	VARY BY 1'-10"
S415	4	STR.	4	5'-6" TO 9'-6"	VARY BY 1'-4"
S416	4	STR.	3	2'-4" TO 4'-4"	VARY BY 1'-0"
S501	5	1	30	2'-4"	
S502	5	2	30	3'-4"	
S503	5	STR.	18	8'-6"	
S504	5	1	84	2'-8"	
S505	5	2	84	4'-0"	
S506	5	STR.	4	30'-10"	
S507	5	STR.	4	35'-8"	
S508	5	STR.	6	13'-0"	
S509	5	STR.	6	12'-0"	
S601	6	STR.	27	43'-11" TO 48'-10"	VARY BY 2¼" (+)
S602	6	STR.	3	42'-11" TO 43'-7"	VARY BY 4"
S603	6	STR.	3	51'-2" TO 51'-10"	VARY BY 4"
S604	6	STR.	33	42'-5"	
S605	6	STR.	33	37'-11"	
S606	6	STR.	33	56'-4"	
S607	6	STR.	33	45'-2"	
S608	6	STR.	27	56'-7"	
S609	6	STR.	6	30'-4"	
S610	6	STR.	38	36'-10"	
S611	6	STR.	38	30'-10"	
S612	6	STR.	872	33'-2"	
S613	6	STR.	94	17'-11" TO 21'-4"	VARY 2 EA. BY 15/16" (+)
S614	6	STR.	47	13'-5" TO 16'-11"	VARY BY 15/16" (-)
S615	6	STR.	47	22'-5" TO 25'-8"	VARY BY 7/8" (-)
S616	6	STR.	54	33'-0"	
S617	6	STR.	21	28'-3"	
S618	6	STR.	7	19'-0" TO 26'-6"	VARY BY 15"
S619	6	STR.	7	13'-8" TO 18'-2"	VARY BY 9"
S620	6	STR.	7	8'-10" TO 12'-4"	VARY BY 7"
S621	6	STR.	7	5'-8" TO 8'-2"	VARY BY 5"
S622	6	STR.	5	3'-8" TO 5'-0"	VARY BY 4"
S623	6	STR.	26	6'-5" TO 8'-7"	VARY 2 EA. BY 2 3/16"
S624	6	STR.	24	8'-9" TO 11'-4"	VARY 2 EA. BY 2 13/16"
S625	6	STR.	24	11'-8" TO 15'-6"	VARY 2 EA. BY 4 3/16"
S626	6	STR.	24	15'-8" TO 20'-10"	VARY 2 EA. BY 5 5/8"
S627	6	STR.	24	21'-6" TO 28'-6"	VARY 2 EA. BY 7 5/8"
S628	6	STR.	16	28'-8" TO 29'-10"	VARY 2 EA. BY 13/4"
S629	6	STR	26	7'-2" TO 8'-5"	VARY 2 EA. BY 1¼"
S630	6	STR	26	8'-8" TO 11'-5"	VARY 2 EA. BY 2¾"
S631	6	STR	26	11'-8" TO 15'-5"	VARY 2 EA. BY 3¾"
S632	6	STR	26	15'-8" TO 20'-8"	VARY 2 EA. BY 5"
S633	6	STR	26	21'-2" TO 27'-8"	VARY 2 EA. BY 6½"
S634	6	STR	8	27'-8" TO 28'-5"	VARY 2 EA. BY 3"
S635	6	STR	8	17'-8" TO 26'-8"	VARY 2 EA. BY 1'-3 1/16"
S636	6	STR	8	10'-11" TO 16'-8"	VARY 2 EA. BY 9 3/16"
S637	6	STR	8	5'-11" TO 10'-5"	VARY 2 EA. BY 7¾"
S638	6	STR	8	2'-2" TO 5'-6"	VARY 2 EA. BY 5 11/16"

BAR TYPES

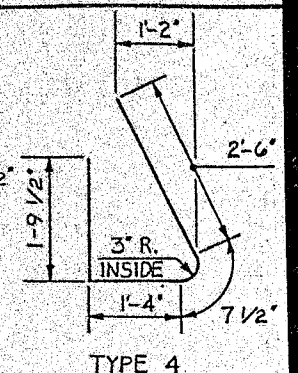


TYPE 1

TYPE 2



TYPE 3



TYPE 4

BAR SCHEDULE ~ UNIT IV (CONT.)

MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
C401	4	STR.	24	17'-8"	
C402	4	STR.	24	18'-9"	
C403	4	STR.	32	19'-4"	
C404	4	STR.	16	18'-10"	
C405	4	STR	2	18'-7"	
C406	4	STR.	2	16'-10"	
C407	4	STR.	20	18'-3"	
C501	5	3	493	5'-5"	
C502	5	4	493	6'-3"	

NOTE

This Schedule Does Not Include Reinforcement For Light Pole Anchorages Or The Approach Slabs. For Reinforcement And Details Of These Items, See Supplemental Drawings BC-322A And RC-23

All Reinforcement Shall Be Epoxy Coated

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

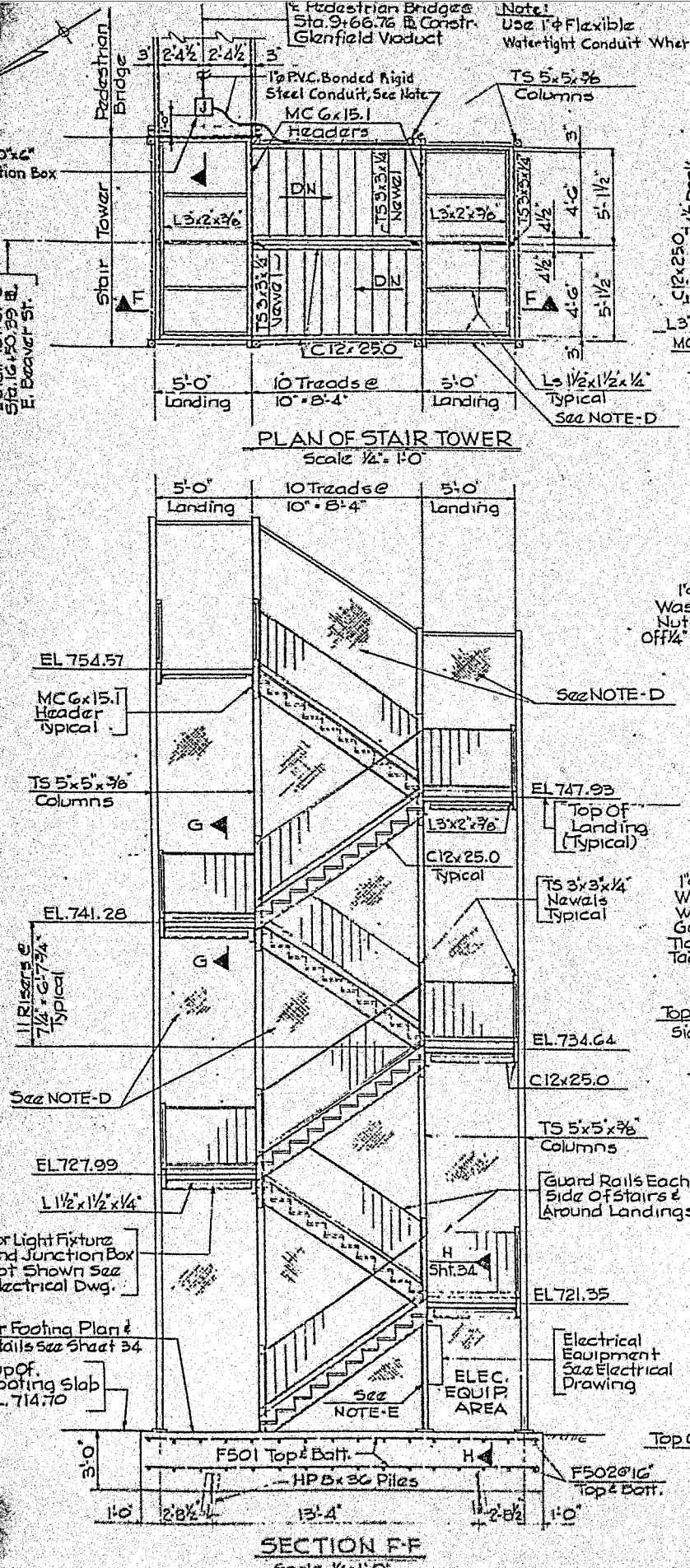
DECK DETAILS & BAR SCHEDULES

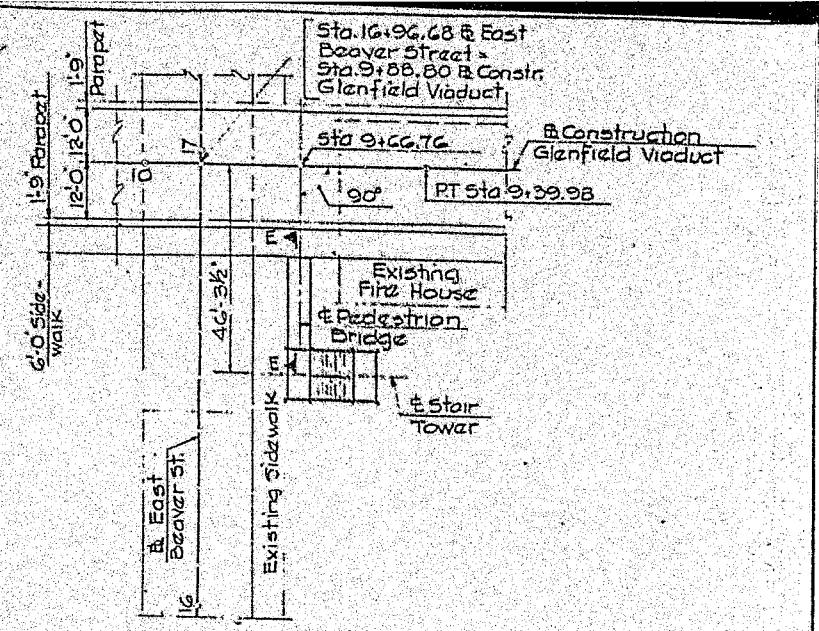
RECOMMENDED _____

BRIDGE ENGINEER

SHEET 32 OF ____

S-16201





NOTES

NOTE-A Provide 3½"x3½" Bearing Pad Composed Of Three ½" Layers Of 60 Durometer Neoprene, Separated By And Bonded To 16 Gage Steel Shims. Bond Pad To Lower Bearing Surface.

NOTE-B Install Bolts With Uniform Clearance In Holes At 68°F

NOTE-C Provide Neoprene Compression Seals At Each End Of Pedestrian Bridge, Capable Of Accomodating A Total Movement Of One Half Inch.

NOTE-D Provide Protective Screen Around Stair Tower Except At Exit And Entrance Ways.

NOTE-E Provide A Protective Screen Gate Or Door For Electrical Equipment Area.

NOTE-F Provide 8'-0" High Protective Fence For Pedestrian Bridge.

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD. VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
MISCELLANEOUS DETAILS

RECOMMENDED _____ BRIDGE ENGINEER

SHEET 33 OF ____

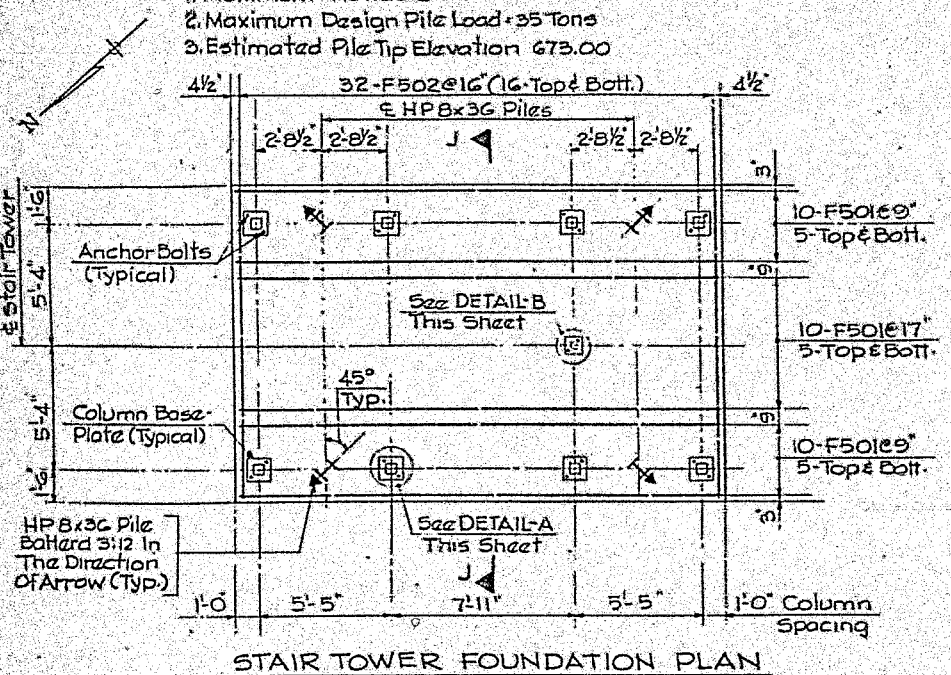
S-16201

BAR SCHEDULE

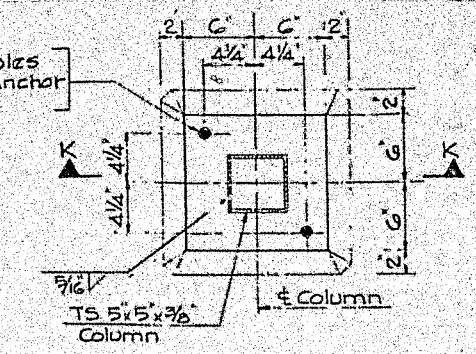
MARK	SIZE	TYPE	NO.	LENGTH	REMARKS
F501	#5	Str.	30	29'-3"	
F502	#5	Str	32	13'-2	

PILE NOTES:

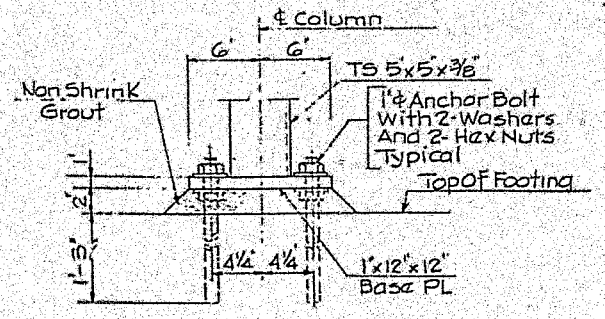
1. Maximum Allowable Pile Load = 48 Tons
2. Maximum Design Pile Load = 35 Tons
3. Estimated Pile Tip Elevation 673.00



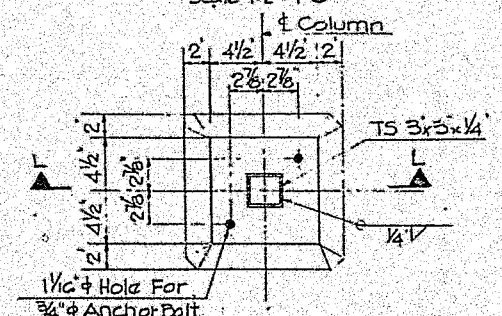
STAIR TOWER FOUNDATION PLAN
Scale ¼" = 1'-0"



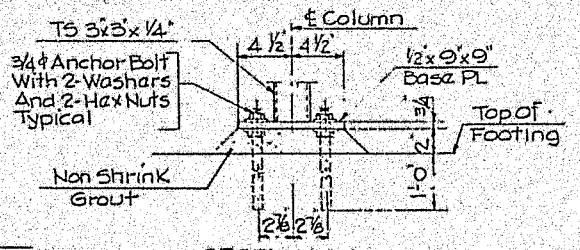
DETAIL - A
Scale 1½" = 1'-0"



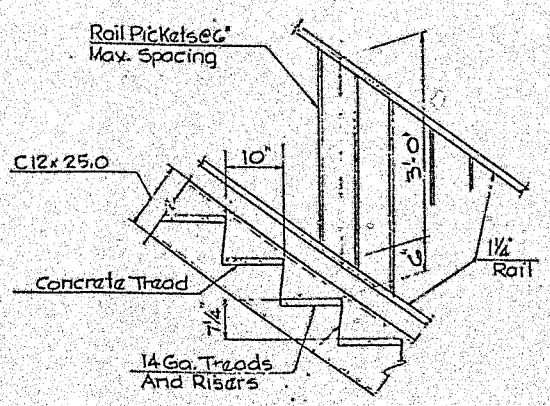
SECTION K-K
Scale 1½" = 1'-0"



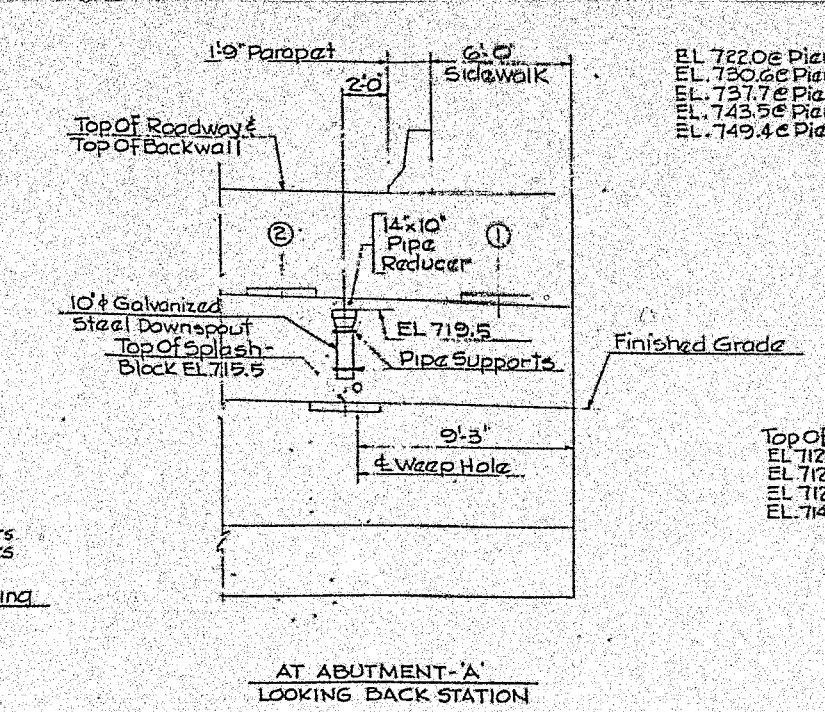
DETAIL - B
Scale 1½" = 1'-0"



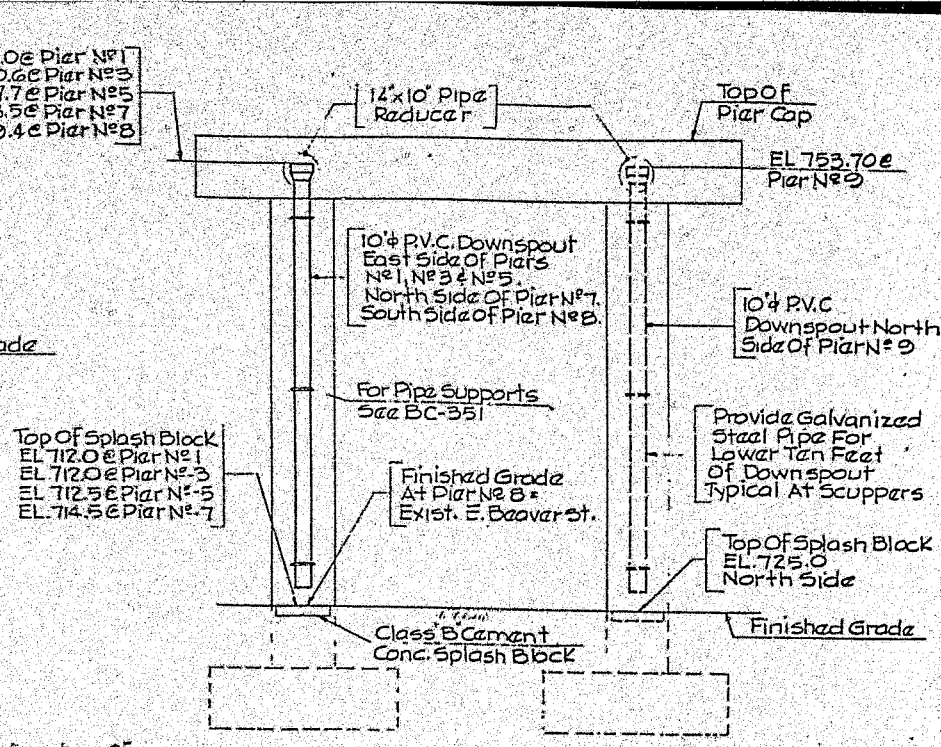
SECTION L-L
Scale 1½" = 1'-0"



STAIR DETAIL
Scale ¾" = 1'-0"



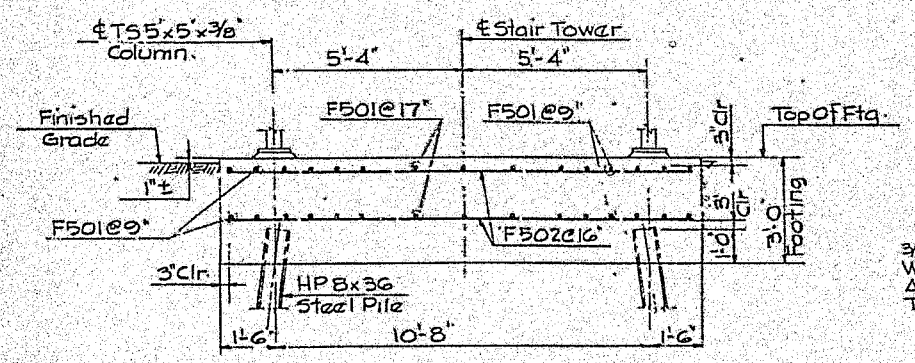
AT ABUTMENT - 'A'
LOOKING BACK STATION



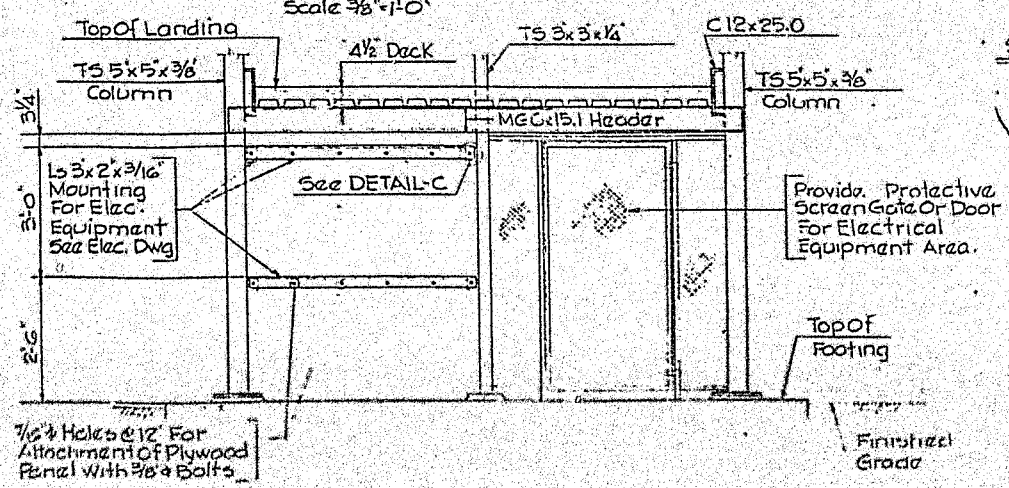
AT PIERS
LOOKING AHEAD STATIONS

NOTE: For Location Of Scuppers See General Plan.

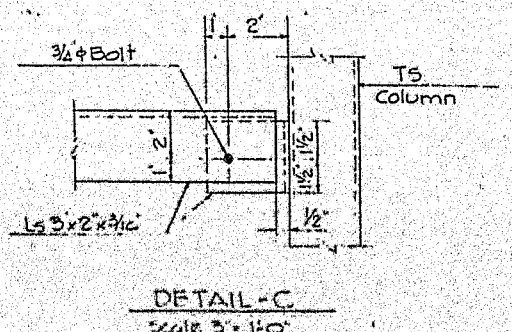
DRAINAGE DETAILS
Scale ¼" = 1'-0"



SECTION J-J
Scale ⅜" = 1'-0"



SECTION H-H



DETAIL - C
Scale 3" = 1'-0"

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
DRAINAGE & MISCELLANEOUS DETAILS

APPROVED _____

SHEET 34 OF ____

BORING B-1

STA 3+91, 14' LT GE 715.3

A	B	
		FILL- Sandy SILT, w/ Concrete, Wood, Glass, Dry - Moist
		2.9 712.4
		FILL- Sandstone Boulder 711.8
5.0	3	3.5
		FILL- Sandy SILT w/ Conc., Wood 709.6
6.5	10	5.5
		FILL- Silty CLAY w/ Sandstone Frags, Gy, Dry
8.0	12	8.5 706.8
		FILL- SANDSTONE FRAGS
9.5	17	Tan-Gy, Dry
11.0	30	13.0 702.3
		FILL- CLAY, Silty, Sandy Tan w/ Shale Frags, Moist
15.5	19	17.0 698.3
		Fine SAND & SILT Clayey
		Dk Gray, Wet
20.0	7	Alluvium
		24.0 691.3
24.5	2	
26.5	Tube 100%	SAND & SILT, Fine to Med.
28.0	8	Some Clay, Gravel, Tan-Br
		Wet
		Alluvium
32.5	11	
		34.0 681.3
		SAND Fine to Cse., Gray,
37.0	38	Some Fine Sandy Clay, Sandstone Frags, Wet
		Colluvium
41.5	36	
44.5	Refus.	44.5 670.8

El. 707.0 Bott. Flg Abut. A

BORING B-2

STA 3+90, 7' RT GE 715.1

A	B	
		FILL- CLAY Sandy, Silty w/ Gray Sandstone, Dry to Moist
4.5	18	4.6 710.5
4.8	50/3"	FILL- SANDSTONE BOULDERS
		Gray 707.9
8.7	24	7.2
10.2	9	FILL- SANDSTONE BOULDERS & COBBLES, Gy, Dry
11.7	12	
16.5	46	
		18.0 697.1
		SAND Fine Cloyey Dk Br-Gray
21.0	3	Moist
		Alluvium
25.5	8	
		29.0 686.1
		SAND Fine to Cse Clayey Silty
30.0	40	Br. Moist - Wet
		32.0 Alluvium 683.1
34.5	47	SAND Fine to Cse Gray w/ Gravel & Rock Frags, Wet-Sat.
		Colluvium
39.0	29	
43.5	64	
48.0	108	
52.5	49	
53.5	50/1"	53.5 661.6
		Lt. Gray SANDSTONE Fresh
		Few Breaks
		RQD 36%
59.0	100%	59.0 656.1

El. 705.5 Bott. Flg Pier No. 1

BORING B-3

STA 4+75, 15' LT GE 712.0

A	B	
		FILL- SANDSTONE BOULDERS Gray SLAG, Silty Sandy CLAY, Dry
4.5	61	
6.5	24	
8.0	37	
9.5	22	
11.0	44	
		12.5 699.5
		SAND & SILT Some Clay
15.5	4	Dk Gray, Moist - Wet
		Alluvium
20.0	1	
24.5	6	
		26.0 686.0
		SAND Med Cse w/ Rounded Gravel, Some Silt, Tan
29.0	34	Moist - Wet
		30.0 Alluvium 682.0
33.5	34	SAND Fine-Cse w/ Rock Frags and Gravel, Some Clayey Silt
		Gray, Wet
		Colluvium
38.0	43	
39.0	Refus	
44.0	16%	RQD 0% Boulder
45.5	32	
47.5	Refus.	47.0 665.0
		Lt Gray SANDSTONE Stained
		49.5 Weathered 662.5
		Lt Gray SANDSTONE Some Staining Slight Decomp to Fresh
54.5	94%	54.5 RQD 20% 657.5

El. 705.5 Bott. Flg. Pier No. 1 Caved 0 HR

BORING B-4

STA 4+70, 6' RT GE 711.4

A	B	
		0.8 Roadway GRAVEL, Silt, Sand
		FILL- SAND w/ Silt and Sandstone Frags Gy
4.5	15	Moist - Dry
		5.0 706.4
		6.2 VOID Tools Dropped 705.2
7.7	14	FILL- SANDSTONE BOULDERS
9.2	90	& COBBLES Very Weathered
		Gray, Dry
12.0	25	
		14.0 697.4
		CLAY Sandy, Some Silt and Root
16.5	3	Br, Wet
18.0	4	18.5 692.9
18.2	Tube	SILT & Fine SAND Clayey
20.2	100%	Dk Gray, Wet
		Alluvium
23.5	3	23.0 688.4
		SAND Fine to Med., Some Clayey Silt, Dk Gray, Wet
28.0	20	Alluvium
		28.5 682.9
		SAND Fine to Cse w/ Gravel Little Silt, Gray, Wet
32.5	16	32.0 Colluvium 679.4
		SAND Fine to Med. Gray w/ Silty Clay Some Rock Frags, Wet
37.0	42	Colluvium
41.5	74	
44.1	50/1"	44.1 667.3

El. 703.5 Bott. Flg Pier No. 2

BORING B-5

STA 5+53, 16' LT GE 711.8

A	B	
1.5	10	
		FILL- GRAVEL, BRICK, Sandy SILT, COAL, CINDERS, Dry
		5.5 706.3
6.0	4	6.0 FILL- CLAY Silty Trace Sand, 705.8
7.5	5	FILL- SAND Fine, Clayey, w/ Wood Frags, Tan, Moist
9.0	10	
10.5	3	
		12.5 699.3
		SAND Fine to Med. w/ Clayey Silt
15.0	2	Dk Gy, Moist
		Alluvium
19.5	2	
		21.0 690.8
		SAND Fine Little Silt, Tan
23.5	3	Moist to Wet
		Alluvium
		26.8 685.0
28.0	24	SAND Fine to Cse, Some Gravel Silt & Rock Frags, Wet-Sat.
		Colluvium
32.5	24	
36.8	20/8"	36.0 675.8
		SANDSTONE FRAGS Green-Tan
38.5	50/1"	38.5 673.3

El. 703.5 Bott. Flg Pier No. 2

BORING B-6

STA 5+49, 3' RT GE 710.5

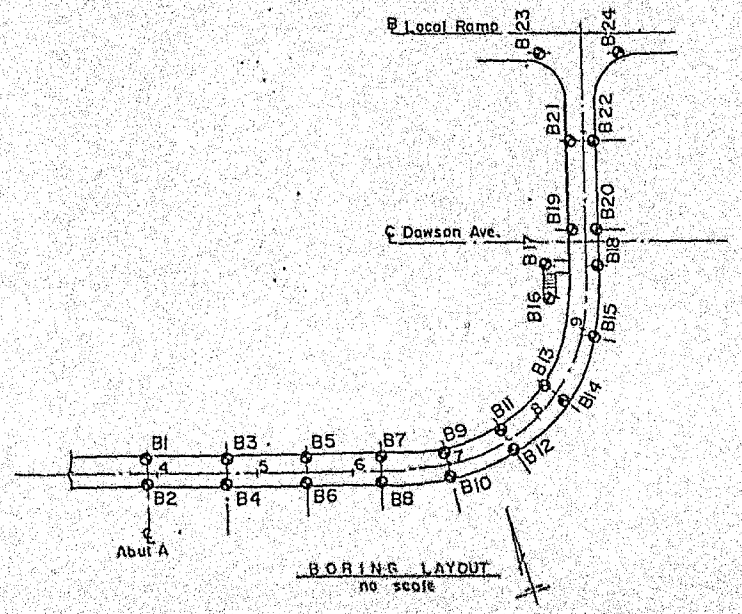
A	B	
		0.8 CONC. PAD
4.5	8	
		FILL - SILT Sandy, w/ Sandstone Frags, Gray-Br, Dry
6.5	49	
8.0	6	
9.5	13	
11.0	1	
		16.0 694.5
		SILT Sandy, Some Clay
20.0	2	Dk Gray, Moist
		Alluvium
		21.5 689.0
		SILT & Fine SAND, Little Clay
24.5	2	Dk Gray, Moist
		25.5 Alluvium 685.0
		SAND Fine to Cse w/ Rounded
29.0	11	Gravel, Green-Gray
		Colluvium
32.5	31	
36.3	50/3"	36.3 674.2

GENERAL NOTES

COLUMN A DENOTES THE DEPTH AT THE BOTTOM OF A STANDARD PENETRATION TEST OR OF A CORE RUN

COLUMN B DENOTES THE BLOWS ON THE SAMPLING SPOON PER FOOT OF PENETRATION (EXCEPT AS NOTED) OR THE PERCENTAGE OF CORE RECOVERY

SIZE OF SAMPLING SPOON: 2" O.D., 1.375" I.D.
WEIGHT OF HAMMER ON SPOON: 140#
DROP OF HAMMER ON SPOON: 30"
SIZE OF CORE: NXM
G.E. - INDICATES GROUND ELEVATION
▼ INDICATES WATER ELEVATION
VERTICAL SCALE: 1" = 5.0'



BORING LAYOUT
no scale

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
BORING LOGS

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 35 OF ____
S-16201

GS DRILLED BY
SYLVANIA DRILLING CO.

BORING B-7

A 6+30, 15' LT GE 712.1

		FILL- CLAY Sandy Silty w/ Rock Frags, Br-Tan, Dry
		707.1
		FILL- CINDERS, COAL, SAND, SILT, Some Rock Frags Dry 706.1
		FILL- CLAY, SILT w/Rock Frags Br, Dry-Moist
		699.1
		SAND Fine, Cloyey Silt, Dk. Gray Moist to Wet Alluvium
		693.6
		SAND Fine, Little Silt, Tan Wet Alluvium 686.6
		SAND Fine To Med., w/ Clayey Silt and Gravel, Dk Gray, Wet Alluvium
		675.4
		SANDSTONE FRAGS Tan Dry 675.1

BORING B-8

El. 703.5 Bott. Flg. Pier No. 5

A 6+33, 10' RT GE 710.5

A	B		
			FILL- CLAY Sandy, Silty, Dk Br Moist- Dry
3.4	50/4	3.4	707.1
			FILL- SANDSTONE BOULDERS w/ Br-Tan Cloyey Sandy Silt, Dry
6.5	12		
8.0	91		
10.5	39		
12.0	17		
12.7	50/2"	12.5	698.0
		13.5	FILL- SANDSTONE COBBLES w/ Slag, Dry 697.0
			SAND Fine w/ Cloyey Silt, Gray-Green Moist-Wet Alluvium
17.0	4		
21.5	11		
26.0	30		
		27.0	683.5
			SAND Fine to Cse w/ Gravel Trace Silt, Green-Gray, Wet-Sat.
30.5	15	30.5	Alluvium 680.0
			SAND Fine to Cse w/ Weathd. Rock Frags, Green-Gray and Silty Cloyey Nodules Wet-Moist
35.0			
35.5	44	35.5	Colluvium 675.0

BORING B-9

El. 704.5 Bott. Flg. Pier No. 4

A B STA 6+95, 15' LT GE 712.0

A	B		
			FILL- SILT Sandy, w/ Rock Frags Slag, Cinders, Br-Blk, Dry
4.5	12		
6.5	10	6.0	706.0
8.0	5		CLAY Some Silt, Little Sand Slag, Dry-Moist FILL
9.5	9		
11.0	7		
		12.5	699.5
15.5	2		SAND Fine & SILT Some Clay Dk Gray, Moist-Wet Alluvium
20.0	3		
	Tube	21.0	691.0
22.0	100%		CLAY, Fine SAND, Some Silt, Tan-Gray, Moist Alluvium
23.5	10		
		26.5	685.5
28.0	12		SAND Med-Cse w/ Rock Frags Green-Gray, Moist Alluvium
		29.0	683.0
			CLAY Some Silt, Tan-Gray, Wet Alluvium
32.5	28	32.0	680.0
			SAND Med Cse w/ Gravel Green-Gray, Wet Colluvium
37.0	46		
40.1	50/1	40.0	672.0
			SILT Fine Sand w/ Gravel & Sandstone Frags, Moist
43.5	50/5	43.5	Colluvium 668.5
			SANDSTONE Slightly Decomp. to Fresh, Lt. Gray RQD 70%
50.0	100%	50.0	662.0

BORING B-10

El. 704.5 Bott. Flg. Pier No. 4

A B STA 6+95, 9' RT GE 711.5

A	B		
			FILL, CLAY, SAND, SILT, w/ Rock Frags, Br-Tan-Blk, Moist
4.5	10	4.0	707.5
6.5	8		FILL - SANDSTONE Boulders & Cobbles w/ Silty Clay & Sand Dry-Moist
8.0	42		
9.5	12		
11.0	11	10.7	700.8
			CLAY, Sandy w/ Rock Frags Red-Br, Moist
15.5	11	16.0	695.5
			SAND & SILT Some Clay Dk Green-Gray, Moist Alluvium
20.0	6		
24.5	5		
29.0	27	28.5	683.0
		28.6	ORGANIC Blk Wet 682.9
			SAND Fine Cse w/ Gravel Little Cloyey Silt, Green-Gray Wet, Colluvium
33.5	22		
38.0	82	37.8	673.7
			SANDSTONE FRAGS Gray
41.5	77/5"	41.5	670.0

BORING B-11

El. 705.5 Bott. Flg. Pier No. 5

A B STA 7+63, 14' LT. GE 712.1

A	B		
			FILL- SILT Sandy Cloyey, w/ Wood, Coal, Cinders, Br, Dry
4.5	18	5.0	707.1
6.0	50/5"		CONCRETE & WOOD Dry
		7.0	705.1
8.5	5	8.0	FILL- Sandstone Frags, Slag, Dry 704.1
10.0	4		SILT, Fine SAND, Some Cloy, Br., Moist
11.5	7		
13.0	14		
17.5	4		
21.5	6		
		22.5	689.6
25.5	10		SILT & Fine SAND, Little Clay Gray, Moist
		26.0	Alluvium 686.1
			CLAY Some Silt, Br, Wet Alluvium
29.5	28	28.5	683.6
		29.3	SAND Fine Some Cloyey Silt w/ Rock Frags, Gray, Wet Alluvium 682.8
34.0	22		SAND Med. to Cse, w/ Rock Frags, Gravel, Clay, Gray, Wet Colluvium
38.5	13		
43.0	16		
44.5	50/5"	45.0	667.1

BORING B-12

El. 705.5 Bott. Flg. Pier No. 5

A B STA 7+60, 10' RT. GE 711.9

A	B		
			FILL- SILT Sandy Cloyey, w/ Rock Frags, Tan, Dry
		3.0	708.9
		3.5	FILL- ASH, CINDERS 708.4
4.5	19		FILL- SILT Sandy Cloyey, w/ Rock Frags Tan-Br Moist to Wet
6.5	19		
8.0	8		
9.5	12		
11.0	10		
		14.5	697.4
15.5	12		SILT and Fine Sand, Some Clay
		16.0	Dk Gray, Moist to Wet 695.9
			CLAY, Silty, Br Moist to Wet Alluvium
20.0	7		
24.5	5		
29.0	40		
		32.5	679.4
33.5	22		SAND Fine to Cse w/ Gravel
		35.0	Gray Wet-Sat. Colluvium 676.9
38.0	99		SAND Fine Silty, Some Gravel & Weath. Sandstone, Gray, Moist
41.0	50/0	41.0	670.9

LED BY
DRILLING CO.

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
BORING LOGS

RECOMMENDED _____
BRIDGE ENGINEER

SHEET 36 OF ____

S-16201

BORING B-13

STA 8+28, 13'LT GE 712.4

A	B	
		0.4' TOPSOIL
		SILT Clayey, Little Fine Sand, Red-Tan, Moist, Alluvium
4.5	13	
6.5	19	
8.0	16	
9.5	22	
11.0	8	
15.5	6	
20.0	5	
21.5		690.9
		SAND Fine, Silt, Dk Gray, Moist-Wet, Alluvium
24.5	2	
25.8	Tube 100%	25.8 686.6
25.8	50/0	SAND Med to Cse w/ Gravel, Wet-Sat, Alluvium
30.5	25	
		32.0 680.4
35.0	34	SAND Fine to Med Silty, Gray, Moist, Colluvium
		36.0 676.4
39.5	28	SAND Fine, Silty, Dk Gray-Tan, Colluvium
		41.0 671.4
42.5	Refus	42.5 SANDSTONE Very Weathered 669.9

El. 707.0 Batt. Flg. Pier No. 6

BORING B-14

STA 8+31, 3'RT GE 712.7

A	B	
		SILT Some Clay, Fine Sand, Br, Moist
4.5	7	4.0 708.7
6.0	7	SILT Clayey, Little Sand, Br-Red, Moist, Alluvium
7.5	9	
9.0	12	
10.5	8	
15.0	8	
19.5	10	
24.0	4	
26.0		686.7
28.5	12	SAND Fine to Cse and Gravel, Some Silt & Clay, Wet-Sat, Alluvium
33.0	30	33.0 679.7
37.5	10	SILT & SAND Fine, Little Clay, Dk Gray, Wet, Colluvium
		40.5 672.2
41.5	28	SANDSTONE FRAGS, 43.0 Colluvium 669.7
46.3	100%	SANDSTONE Lt Gray, Some Staining, RQD 36%
48.7	100%	RQD 88% 48.7 664.0

El. 708.0 Batt. Flg. Pier No. 7

BORING B-15

STA 8+84, 1'LT GE 714.2

A	B	
4.5	8	SILT Some Clay, Trace Sand, Red-Br, Moist to Wet to Sat
6.5	15	
8.0	16	
9.5	9	
11.0	14	
15.5	7	
20.0	3	
22.0		692.2
24.5	2	SILT and Fine Sand, Some Clay, Gray to Dk Gray, Sat, Alluvium
29.0	66	28.0 686.2
33.5	22	SILT and Fine Dk Gray, Moist, Colluvium
38.0	24	39.0 675.2
		SAND Fine to Cse w/Gravel, Little Silt, Dk Gray, Wet, Colluvium 671.9
42.3	60/8	42.3 SANDSTONE Horiz. Joints, Some Staining
47.5	73%	RQD 0% 47.5 666.7

BORING B-16

STA 9+30, 40'LT GE 714.6

A	B	
		1.0 TOPSOIL
4.5	11	SILT Some Clay Trace Fine Sand, Red-Tan, Moist, Alluvium
6.0	19	
7.5	11	
9.0	16	
12.5	13	
17.0	5	
21.5	6	
26.0	4	
28.0		686.6
30.5	13	SILT and Fine Sand, Some Clay, Dk Gray, Moist-Wet, Colluvium
35.0	11	
39.5	16	
41.5		673.1
		SANDSTONE w/Horiz. Joints, Lt Gray, Some Staining
47.4	100%	RQD 24% 47.4 667.2

BORING B-17

STA 9+63, 38'LT GE 714.7

A	B	
		0.3' TOPSOIL
4.5	13	SILT Clayey, Trace Fine Sand, Dk Br, Moist to Wet, Alluvium
6.5	20	
8.0	15	
9.5	19	
11.0	21	
15.5	14	
19.5	14	
24.0	5	
26.0		688.7
28.5	21	SILT and Fine Sand, Some Clay, Dk Gray, Wet, Colluvium
33.0	18	
37.5	17	
40.5	50/0'	40.5 674.2
		SANDSTONE Fresh, Lt Gray, RQD 0%
45.5	96%	45.5 669.2

BORING B-18

STA 9+66, 9'RT GE 714.3

A	B	
		0.3' TOPSOIL
4.5	15	SILT Some Clay Trace Fine Sand, Tan, Moist, Alluvium
6.5	16	
8.0	13	
9.5	19	
11.0	19	
15.5	13	
20.0	10	
21.5		692.8
24.5	4	SILT and Fine Sand, Little Clay, Dk Gray, Moist-Wet, Alluvium
26.0		688.3
29.0	27	CLAY Little Silt Few Shale Frags, Moist, Colluvium
33.5	21	
36.2		678.1
38.0	43	SAND Fine to Med. Silty w/ Rock Frags, Green-Gray, Moist-Wet
41.0	50/0'	41.0 673.3

RINGS DRILLED BY:
NSYLVANIA DRILLING CO.

Mark	Description	By	Chk'd.	App'd.	Date
	REVISIONS				

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT
GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
BORING LOGS

RECOMMENDED _____ SHEET 37 OF ___

DRILLED BY:
A DRILLING CO.

BORING B-23

A B STA 11+79, 40'LT GE 762.7

A	B		
		.08 CONCRETE	
		1.8 SLAG Subbase	760.9
3.5	30	FILL - CLAY & SAND Fine-Med., w/ Rock Frags, Tan-Br, Moist	
6.5	34	7.0	755.7
		Extremely Weathered SHALE V Fract., Stained, Dry	
9.5	38		
11.0	63		
12.5	47		
15.5	50/0	15.5	747.2
		SANDSTONE Weathd. to Fresh, Fractured, Gray-Br	
19.5	70%	RQD 10% 19.9	742.8
Caved Dry	RQD 0%	SHALE Fractured Br-Gray 21.9	740.8
22.0	84%	22.0 CLAY Seam Gray	740.7
	RQD 0%	SHALE Slight Decomposed to Fresh Dk Gray	
26.0	98%	26.0	736.7

El 747.0 Bott. Ftg. Abut B

BORING B-24

A B STA 11+79, 40'RT GE 765.3

A	B		
		.08 CONC. Roadway	
		2.0 SLAG Base	763.3
4.5	14	FILL- SAND w/ Rock Frags Tan-Gray, Moist	
6.5	44	7.0	758.3
8.0	22	Reworked SHALE, Br, Moist	
9.5	28		
11.0	29		
14.4	50/4"	14.0	751.3
		SHALE V. Fract., Weathered, Gray-Tan	
0 HR		17.0	748.3
	RQD 18%	SHALE Fract. Slightly Weathered to Fresh, Stained, Gray to Blk	
20.0	84%		
	RQD 50%		
25.0	100%	25.0	740.3

El 742.0 Bott. Ftg Abut B

BORING B-21

A B STA 10+84, 15'LT GE 723.5

A	B		
		FILL- CLAY, Silty Some Fine Sand w/ Rock Frags, Little Slag Moist	
72 HRS			
4.5	21		
6.5	54		
8.0	60		
9.5	32		
11.0	49		
		12.5	711.0
		FILL- SHALE and Sandstone Frags	
14.7	50/2"	14.7	708.8
		15.4 SANDSTONE Gray	708.1
		CLAY, Silty, Some Fine Sand w/ Sandstone Frags, Gray, Moist	
19.0	35%	RQD 9 %	
20.5	24	20.6	702.9
22.0	100%	22.0 SANDSTONE Gray RQD 67 %	701.5

El. 717.0 Bott. Ftg. Pier No. 9

BORING B-22

A B STA 10+83, 9'RT GE 724.3

A	B		
		FILL- SILT Sandy, Some Coal Br, Dry-Moist	
4.5	12	4.0	720.3
		CLAY Trace Fine Sand, Br, Moist	
6.5	23		
8.0	27		
9.0	71	8.6	715.7
		SHALE FRAGS Very Broken, Weathered, Stained, Moist	
	RQD 0%	15.8	710.5
14.0	56%	14.5 SANDSTONE V. Weathered Gray-Tan	709.8
		SHALE FRAGS Extremely Weathered Br to Gray	
	RQD 0%	20.3	704.0
9.0	14%	CLAYSTONE Gray-Purple Some Slickensides	
	RQD 63%	23.0	701.3
23.0	70%	CLAY w/ Siltstone Frags Green-Gray	
	RQD 40%	27.0	697.3
26.0	77%	SANDSTONE Tan-Gray Very to Slightly Weathered, Fractured	
	RQD 0%		
31.0	100%	31.0	693.3

BORING B-19

B STA 10+00, 15'LT GE 714.0

B		
1.1	CONCRETE & SLAG	712.9
15	SILT Clayey, Red-Brown, Moist - Wet Alluvium	
44		
39		
41		
38		
16		
12		
	22.0	692.0
32	SILT & SAND Fine to Cse w/ Gravel, Little Clay, Dk. Gray Wet-Sat. Colluvium	
	28.5	685.5
40	SAND Fine to Cse, Some Silt, w/ Sandstone Frags, Gray Moist - Wet Colluvium	
62		
55		
50/0	40.7	673.3

BORING B-20

A B STA 10+00, 10'RT GE 713.9

A	B		
		1.1 CONCRETE & SLAG	
4.5	19	SILT, Clayey Red Ton Br Moist-Wet Alluvium	
6.5	25		
8.0	24		
9.5	34		
11.0	22		
15.5	13		
20.0	3		
		22.0	691.9
24.5	27	SILT & SAND Fine, Some Clay Gray, Moist - Wet	689.9
29.0	48	Weathered SHALE, CLAY, Some Silt & Sand Fine to Cse & Gravel Br to Dk Br, Wet-Sat. Colluvium	
		30.5	683.4
33.5	68	SAND Fine to Cse Silty, Little Clay, Some Gravel & Sandstone Frags, Green-Gray, Wet Colluvium	
38.0	67		
		40.7	673.2
		SANDSTONE Slightly Decomposed to Fresh, Lt Gray, Some Staining	

El 708.5 Bott. Ftg. Pier No. 8

Mark	Description	By	Chk'd.	App'd.	Date
REVISIONS					

Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY
GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER
EAST BEAVER STREET STA. 16+96.67
10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE
BORING LOGS

RECOMMENDED _____

SHEET 38 OF ____

S-1620

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

DRAWINGS FOR CONSTRUCTION OF

GLENFIELD VIADUCT

IN ALLEGHENY COUNTY

From Sta. 0+10.87 To Sta. 11+99.01 Length 1188.14 Ft. 0.225 Mi.

P.U.C.

FCB	11-0	ALLEGHENY		GLENFIELD	VIADUCT	10

STATE PROJECT NUMBER

SYS	L.R. or W.O.	SHUR	PHA	SECTION	DIST.	CO.
B	G L 6 5 2	0	7	0 4 1	1 1 1	L

ALSO INCLUDED:

CROSS SECTIONS (UPON REQUEST)	12 SHEETS
TRAFFIC CONTROL PLAN	4 SHEETS
STRUCTURE PLANS # S-16201	39 SHEETS

DOCKETED
DEC 16 1985

DOCUMENT FOLDER

PA. PUBLIC UTILITY COMMISSION
DOCKET NO. C-800921547 FOLDER NO. 4
PennDot
HEARING AT Pittsburgh DATE 11/27/85
REPORTER Arlene B. Kyger ORIGINAL

SCALE

0 50' 100'

0 10' 20'

DESIGN DESIGNATION

		TRAFFIC DATA	
ASSIFICATION	– LOCAL ROAD	CURRENT A.D.T.	– 700 (1985)
ED	– 25 MPH	DESIGN YEAR A.D.T.	– 980 (2005)
WIDTH	– 2'–12' LANES	D.H.V.	– 98
WIDTH	– NONE	D	– 50%
DTH, MAXIMUM	– NONE	T	– 2%
MINIMUM	–		

PLANS PREPARED BY
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
NEW CUMBERLAND, PENNSYLVANIA

Project Manager
Reg. Prof. Engineer

PA. DEPT. OF TRANSPORTATION
EXHIBIT NO. 2-4
P.U.C. NO. C 80092154
DATE OF HEARING 11-27-85

UNOFFICIAL

GLENFIELD BOROUGH

APPROVED _____ 19__

MAYOR

APPROVED _____ 19__

PRESIDENT–BOROUGH COUNCIL

APPROVED _____ 19__

SECRETARY–BOROUGH COUNCIL

RECOMMENDED _____ 19__

DISTRICT ENGINEER

RECOMMENDED _____ 19__

DEPUTY SECRETARY

APPROVED _____ 19__

SECRETARY OF TRANSPORTATION
(On behalf of the Governor as well as himself).

TABULATION OF PROPERTY OWNERS

1. JAMES B. SAVAGE
2. JOHN J. HALLSTEIN & OEDNA M. SHIPPER
3. EDWARD WOODS & CAROLINE E. WOODS H/W
4. CYRIL E. YARAS & DEBORAH L. YARAS H/W
5. THOMAS STEEDLE
6. JOSEPH W. DEWITT & HILDA M. DEWITT H/W
7. VALLEY VETERANS ASSOCIATION
8. THOMAS MICHAEL GILMORE & PATRICIA JO GILMORE H/W
9. FRANCIS REICH & JOANNE REICH H/W
10. JAMES R. TUNNEY & MARY BERTHA TUNNEY H/W
11. PETER J. CERNANSKY & GAIL E. CERNANSKY H/W
12. JOHN A. O'NEIL & JOSEPHINE T. O'NEIL H/W
13. WILLIAM AUGUSTINE & VERNA AUGUSTINE H/W
14. GLENFIELD VOLUNTEER FIRE CO., INC.
15. CHARLES B. HAUSER & MARY RUTH HAUSER H/W
16. BOROUGH OF GLENFIELD, QUAKER VALLEY SCHOOL DISTRICT, & COUNTY OF ALLEGHENY
17. HARRY W. PFLUGH & ELIZABETH H. CARPT
18. RALPH G. FITCH & ELIZABETH FITCH H/W
19. FREDERICK BARONI & RUTH BARONI H/W
20. DEBORAH L. FITCH
21. COUNTY OF ALLEGHENY
22. CRAIN BROS., INC.
23. THEODORE F. BECKERT
24. H. KLEINMAN, A. KRUGH, JOSEPH WATERS, F.H. ANDERSON, T.M. SHOLES, & J.P. TAYLOR
25. CRAIN BROS., INC.
26. CONRAIL

INDEX

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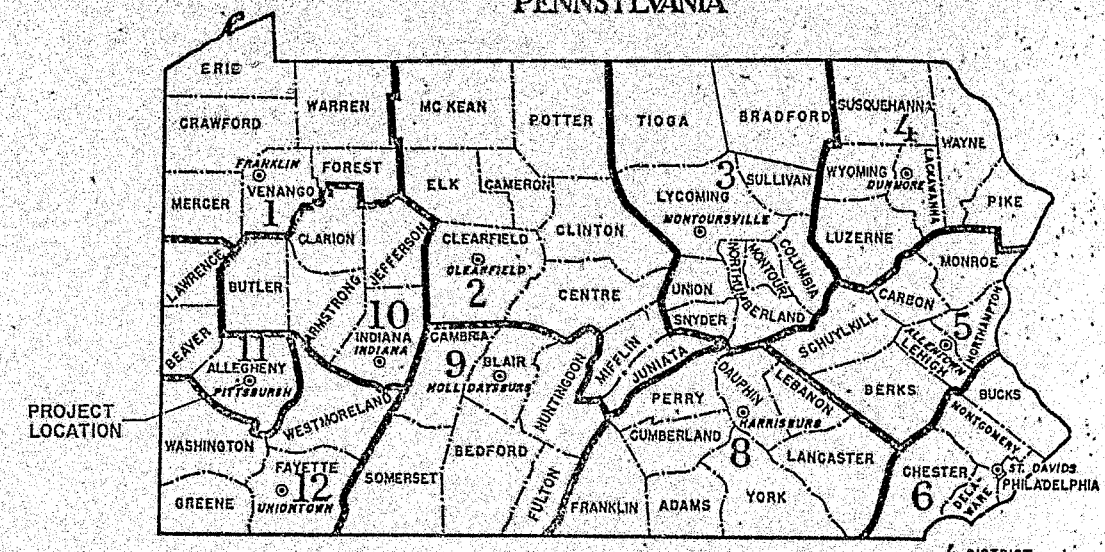
GLENFIELD BOROUGH

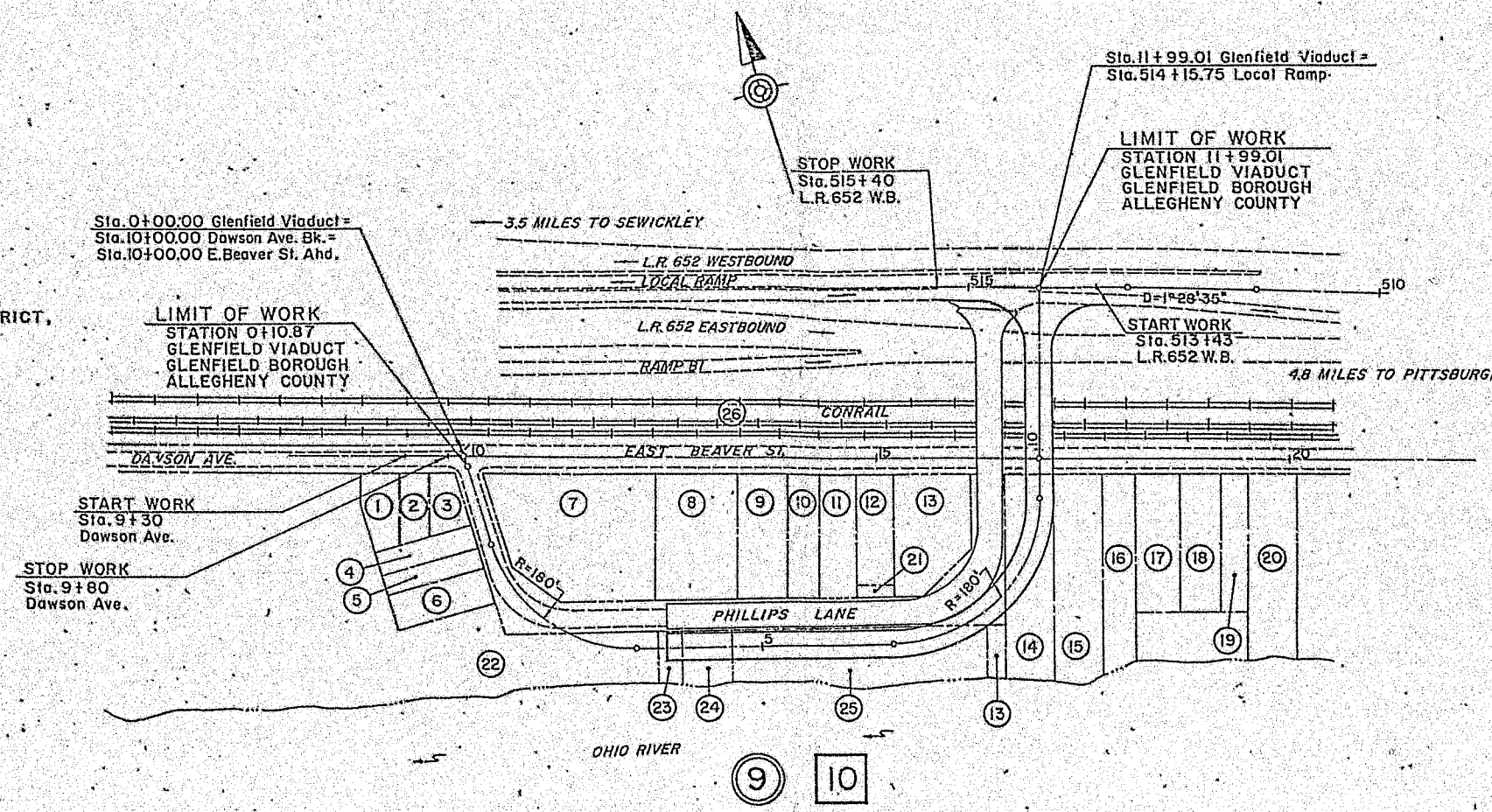
REVISION NUMBER	REVISIONS	DATE	BY

PENNSYLVANIA



4 DISTRICT.
⊙ DISTRICT OFFICE

PROJECT LOCATION



LEGEND

- PLAN
- PROFILE
- PROPERTY IDENTIFICATION NUMBER

INDEX MAP

100 0 100 200 300 FEET

PUBLIC UTILITIES

BELL OF PENNSYLVANIA
201 STANWIX STREET
PITTSBURGH, PA 15222
ATTN: MR. R. HILLIARD
PHONE: (412) 633-3131

COLUMBIA GAS OF PENNSYLVANIA, INC.
61 EAST WHEELING STREET
P.O. BOX Z
WASHINGTON, PA 15301-0610
ATTN: JOHN R. WEBER, P.E.
PHONE: (412) 746-2600

DUQUESNE LIGHT COMPANY
1 OXFORD CENTER
301 GRANT STREET
PITTSBURGH, PA 15279
ATTN: RAYMOND J. WIEHAGEN
PHONE: (412) 393-6000

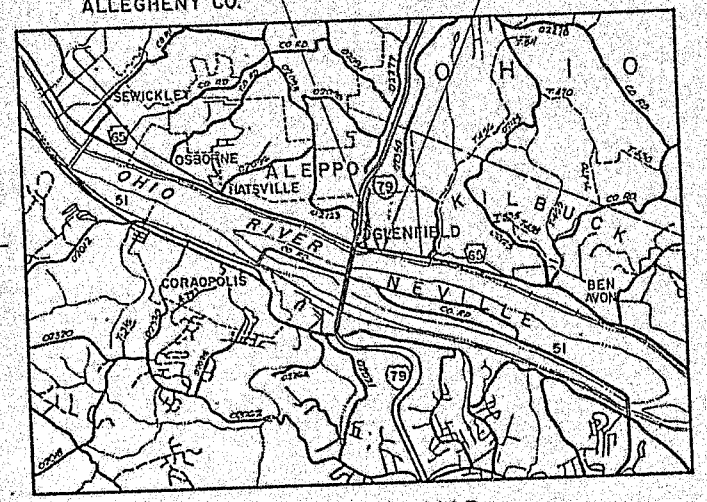
BOROUGH OF GLENFIELD (WATER LINE)
105 RIVER ROAD
SEWICKLEY, PA 15143
ATTN: ANN KIPILO
PHONE: (412) 741-8566

CONSOLIDATED RAIL CORPORATION - CONRAIL
15 N. 3RD STREET
PHILADELPHIA, PA 19104
ATTN: J. T. SULLIVAN
PHONE: (215) 596-3848

CENTRE VIDEO (CABLE TV)
192 OHIO RIVER BLVD.
AMBRIDGE, PA 15001
ATTN: RALPH YAGULLI
PHONE: (412) 922-5522

LIMIT OF WORK
STA. 0+10.87
GLENFIELD VIADUCT
GLENFIELD BORO
ALLEGHENY CO.

LIMIT OF WORK
STA. 11+99.01
GLENFIELD VIADUCT
GLENFIELD BORO
ALLEGHENY CO.



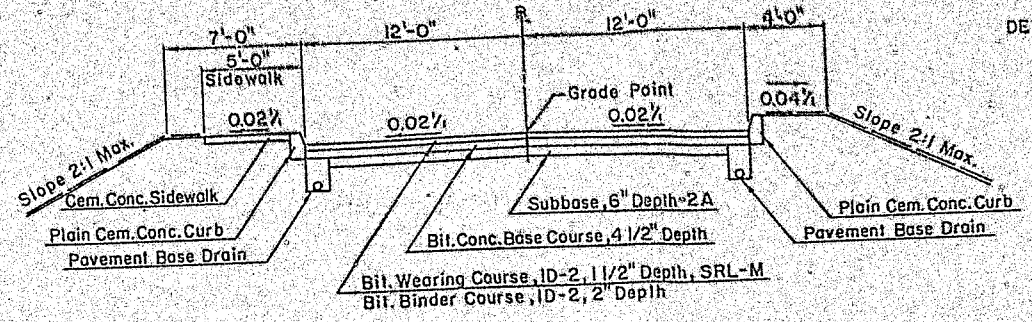
LOCATION MAP

1 0 1 2 3 MILES

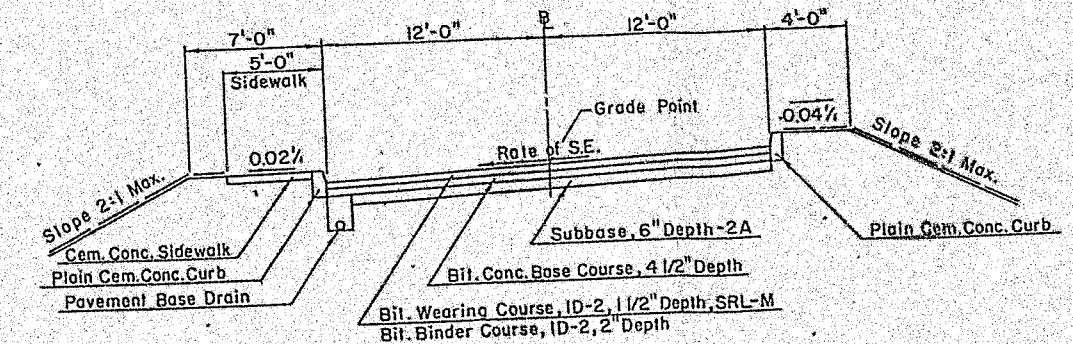
LEGEND

——— STATE HIGHWAYS
TOWNSHIP ROADS

NO DETOUR



TANGENT SECTION



SUPERELEVATED SECTION

TYPICAL SECTIONS - ROADWAY

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

RC-10	5-2-83	BC-301A	3-2-81
RC-11	5-2-83	BC-317A	3-2-81
RC-12	5-2-83	BC-321A	6-20-80
RC-13	5-2-83	BC-322A	6-20-80
RC-23	5-2-83	BC-331A	11-4-81
RC-28	5-2-83	BC-332B	6-21-82
RC-30	5-2-83	BC-334A	3-2-81
RC-33	5-2-83	BC-335A	11-4-81
RC-34	6-16-84	BC-336A	11-4-81
RC-64	6-16-84	BC-337A	3-2-81
RC-65	6-16-84	BC-351	7-1-70
RC-67	10-12-84	BC-352	4-1-71
RC-70	5-2-83	BC-353	4-1-71
RC-80	5-2-83	BC-354	7-1-70
RC-81	6-16-84	BC-355A	11-10-80
RC-83	9-26-84	BC-356A	11-10-80
		BC-363	10-20-70

LEGEND

——— Seeded Area, see General Notes

GENERAL NOTES

THE LEGAL RIGHT-OF-WAY ON GLENFIELD VIADUCT IS VARIABLE BASED ON THE RIGHT-OF-WAY PLAN OF GLENFIELD VIADUCT, APPROVED BY GOVERNOR DICK THORNBURGH ON , AND RECORDED IN THE ALLEGHENY COUNTY RECORDER OF DEEDS OFFICE.

THE DEPARTMENT RESERVES THE RIGHT TO ELIMINATE ANY OR ALL OF THIS WORK. DO NOT PERFORM WORK EXCEPT THAT WHICH IS WITHIN THE HIGHWAY RIGHT-OF-WAY UNTIL SO ORDERED IN WRITING BY THE ENGINEER.

CONSTRUCT PROJECT IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408, DATED 1983.

DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.

THIS IS A FEDERAL-AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE BOROUGH OF GLENFIELD.

TEMPORARY AREA (S) REQUIRED UNTIL THE CONSTRUCTION OR WORK INDICATED IS COMPLETED, UNLESS SOONER REVERTED IN WRITING BY THE DEPARTMENT.

SURVEY IS BASED ON U.S.C.& G.S. DATUM.

HORIZONTAL CONTROL IS TIED TO L.R.652.

ALL CURVE DATA IS BASED ON THE ARC DEFINITION UNLESS OTHERWISE INDICATED.

SLOPES 3:1 OR STEEPER TO BE SEEDED WITH FORMULA C SEED MIXTURE; SLOPES FLATTER THAN 3:1 TO BE SEEDED WITH FORMULA D MIXTURE.

TABULATION OF OVERALL & CONSTRUCTION LENGTH

Sta. 0+10.87 to Sta. 11+99.01 Length 1188.14 Ft. 0.225 Miles

LEGEND - EROSION CONTROL DEVICES

—SF—SF— SILT BARRIER FENCE

ROCK LINING

LIST OF EQUALITIES

NONE

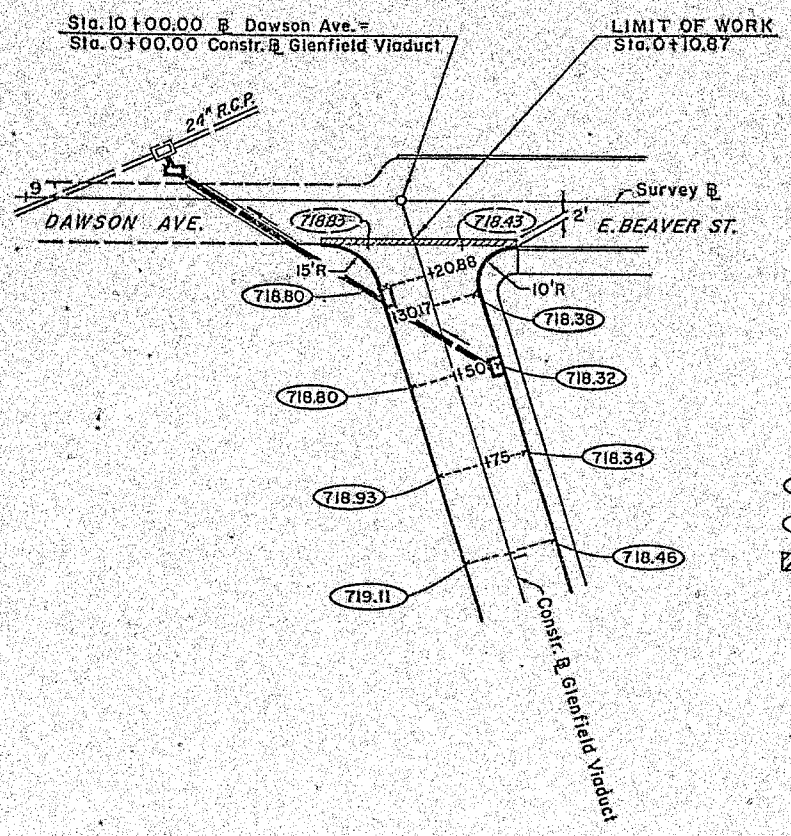
EARTHWORK SUMMARY - ENTIRE PROJECT

THE FOLLOWING INFORMATION ON THE ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED BY THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION IN ITS PRELIMINARY ESTIMATE FOR THIS PROJECT AND SHALL NOT BE TAKEN OR USED AS A WAIVER OF ANY PROVISIONS OF SPECIFICATIONS AND CONTRACTS.
QUANTITIES SHOWN ARE APPROXIMATE.

CU. YDS. OF EXCAVATION					CUBIC YDS. OF COMPLETED EMBANKMENT *	CUBIC YDS. OF SELECT BORROW EXC. STR. BKFILL	
CLASS 1	CLASS 1B	CLASS 2	CLASS 3	CLASS 4			
492	87	66	2404 **	108	844	1840 **	

* Includes all borrow items
** Included in L.S. structure items

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

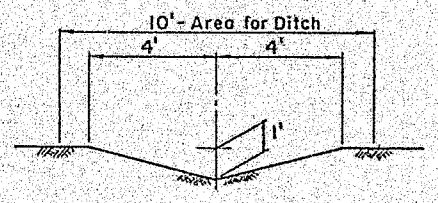
(100.00) Proposed Grade Elevation

(100.00) Existing Pav't. Elevation

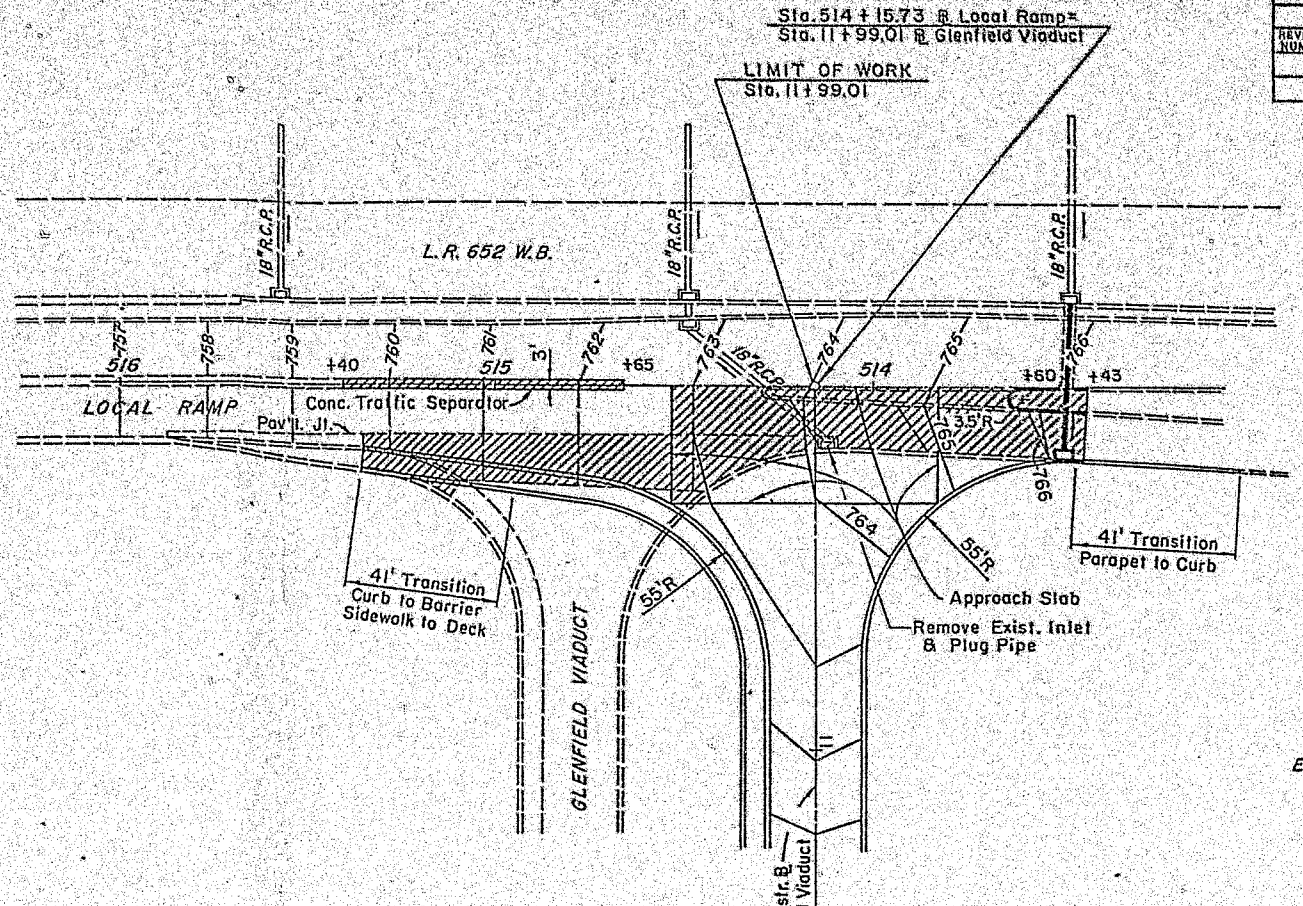
▨ Pavement Removal

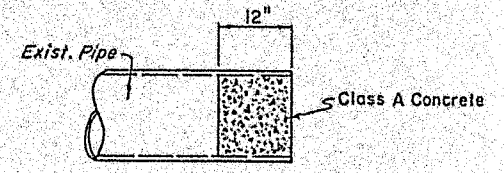
GLENFIELD VIADUCT INTERSECTION WITH DAWSON AVE.

SCALE: 1"=25'



OUTLET DITCH FOR STRUCTURE DRAINAGE
CLASS 2 EXC.

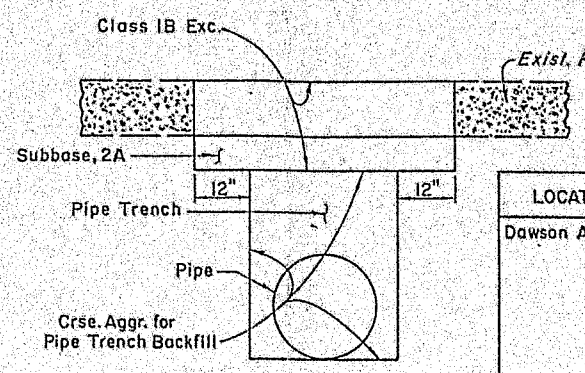




CONCRETE PIPE PLUG DETAIL

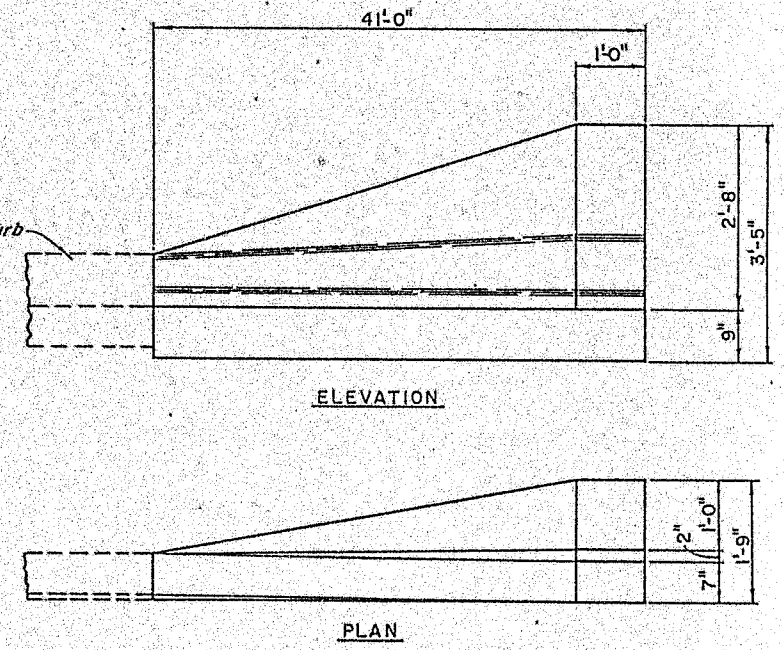
GLENFIELD VIADUCT INTERSECTION WITH L.R. 652 LOCAL RAMP

SCALE: 1"=25'



LOCATION	PAVEMENT	SUBBASE, 2A
Dawson Ave.	Bit. Wearing Crse., 1 1/2" Depth, SRL-M on Bit. Binder Crse. ID-2, 2" Depth on Bit. Conc. Base Crse., 4 1/2" Depth	6"
Local Ramp	10" H.E.S. R.C.C. Pav't.	9"

BASE REPLACEMENT DETAIL



TYPE I CONCRETE BARRIER TRANSITION TO CURB
ITEM NO. 2623-0001

DISTRICT	COUNTY	ROUTE	SHEET
11-0	ALLEGHENY	GLENFIELD VIADUCT	9 OF 10

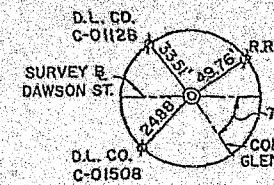
GLENFIELD BOROUGH

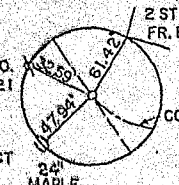
REVISION NUMBER	REVISIONS	DATE	BY

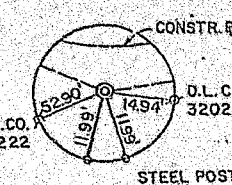
B.M.-Elev. 712.75
3.0' Rt. Sta. 7+90 Survey ℄ Glenfield Viaduct
Cut Mark In Rim Of Manhole

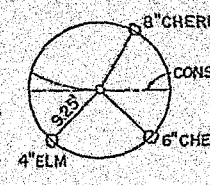
B.M.-Elev. 716.96
21.4' Rt. Sta. 16+55 East Beaver St. ℄
Top Of Bolt On Fire Hydrant

B.M.-Elev. 765.70
23.5' Lt. Sta. 514+35.58 Local Ramp ℄
Penn. D.O.T. Standard Disk Set In Top Of N.E. Wingwall Of Glenfield Viaduct









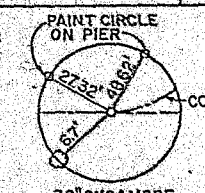
(1) JAMES B. SAVAGE
(2) JOHN J. HALLSTEIN & OEDNA M. SHIPPER
(3) EDWARD WOODS & CAROLINE E. WOODS H/W
(4) CYRIL E. YARAS & DEBORAH L. YARAS H/W
(5) THOMAS STEEDLE
(6) JOSEPH W. DEWITT & HILDA M. DEWITT H/W
(7) VALLEY VETERANS ASSOCIATION
(8) THOMAS MICHAEL GILMORE & PATRICIA JO GILMORE H/W
(9) FRANCIS REICH & JOANNE REICH H/W
(10) JAMES R. TUNNEY & MARY BERTHA TUNNEY H/W
(11) PETER J. CERNANSKY & GAIL E. CERNANSKY H/W
(12) JOHN A. O'NEIL & JOSEPHINE T. O'NEIL H/W

P.O.T. Sta. 10+00.00 ℄ Dawson Ave. =
P.O.T. Sta. 0+00.00 Constr. ℄ Glenfield Viaduct

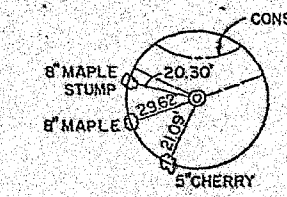
P.C. Sta. 1+13.63

P.I. Sta. 2+49.99
Δ= 105°42'33"

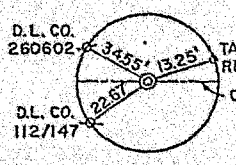
P.T. Sta. 3+47.02



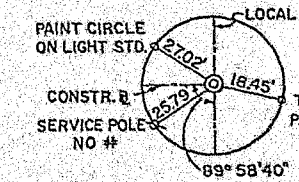
P.C. Sta. 6+59.03



P.I. Sta. 8+37.34
Δ= 90° 34' 20"



P.O.T. Sta. 9+88.80



P.O.T. Sta. 11+99.01 Constr. ℄ Glenfield Viaduct = P.O.T. Sta. 514+15.73 Local Ramp ℄

GLENFIELD VIADUCT
P.I. Sta. 2+49.99
Δ=74° 17' 27" Lt.
D=31° 49' 51.6"
T=136.36'
L=233.39'
R=180.00'
E=45.54'
Superelevate = 0.03⅞
P.C. Sta. 1+13.63
P.T. Sta. 3+47.02

GLENFIELD VIADUCT
P.I. Sta. 8+37.24
Δ=89° 25' 40" Lt.
D=31° 49' 51.6"
T=178.21'
L=280.95'
R=180.00'
E=73.30'
Superelevate = 0.03⅞
P.C. Sta. 6+59.03
P.T. Sta. 9+39.98

FOR DETAILS OF INTERSECTION SEE SHEET 4

STOP WORK
Sta. 515+40
L.R. 652 W.B.

FOR DETAILS OF INTERSECTION SEE SHEET 4

START WORK
Sta. 513+43
L.R. 652 W.B.

L.R. 652 WESTBOUND
LOCAL RAMP N73°50'33.1"W
L.R. 652 EASTBOUND
RAMP B1
(Conc.)

LIMIT OF WORK
STA. 0+10.87
GLENFIELD VIADUCT
GLENFIELD BOROUGH
ALLEGHENY COUNTY

LIMIT OF WORK
STA. 11+99.01
GLENFIELD VIADUCT
GLENFIELD BOROUGH
ALLEGHENY COUNTY

START WORK
Sta. 9+30
Dawson Ave.

P.O.T. Sta. 0+00.00 Constr. ℄ Glenfield Viaduct =
P.O.T. Sta. 10+00.00 Dawson Avenue

FOR DETAILS OF INTERSECTION SEE SHEET 4

Legal Right-Of-Way Line For Limited Access
Legal Right-of-Way Line
Legal Right-of-Way Line for Aerial Easement
Legal Right-of-Way Line for Aerial Easement
CONRAIL
Legal Right-of-Way Line
Legal Right-Of-Way Line Mac. Parking Lot
Temporary Area for Construction (Grading)
Temporary Area for Construction
Temporary Area for Construction
Survey & Constr. ℄
Legal Right-of-Way Line
Legal Right-of-Way Line
Legal Right-of-Way Line
Legal Right-of-Way
Legal Right-of-Way
Legal Right-of-Way

11-0	ALLEGHENY	GLENFIELD VIADUCT	10 OF 10
GLENFIELD BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

LIMIT OF WORK
STA. 0+10.87
GLENFIELD VIADUCT
GLENFIELD BOROUGH
ALLEGHENY COUNTY

P.V.I. Sta. 1+15
Elev. 718.12
V.C.=200'
M.O.=+0.66
H.L.S.D.=270'

P.V.I. Sta. 4+00
Elev. 724.16
V.C.=200'
M.O.=+0.83'
H.L.S.D.=200'

P.V.I. Sta. 11+25
Elev. 763.60
V.C.=100'
M.O.=-0.57'
STOP CONDITION

LIMIT OF WORK
STA. 11+99.01
GLENFIELD VIADUCT
GLENFIELD BOROUGH
ALLEGHENY COUNTY

-0.51 %
+2.12%
+5.44%
+0.92 %

14'6" Min. Clr.
363' Min. Actual Clr.
22'6" Min. Clr.
28'8 1/2" Min. Act. Clr.
E. Beaver St.
Conrail
14'6" Min. Clr.
21'6" Min. Act. Clr.
L.R. 652 E.B.

719.00 G.-718.64 +13.16 G.-718.63
718.56 G.-718.53 +50
718.83 G.-718.67 +50 G.-718.78
718.95 G.-719.14 +50
719.21 G.-719.94 +50 G.-720.24
719.04 G.-720.98 +50
718.3 G.-722.04 +50
717.4 G.-723.31 +50
714.6 G.-724.99 +50
711.9 G.-727.09 +50
711.8 G.-729.60 +50
711.8 G.-732.32 +50
711.3 G.-735.04 +50
712.2 G.-737.76 +50
711.7 G.-740.48 +50
712.0 G.-743.20 +50
712.34 G.-745.92 +50
715.5 G.-748.64 +50
714.5 G.-751.36 +50
714.69 G.-754.08 +50
713.94 G.-756.80 +50 G.-759.52 +50
735.8 G.-762.10 +50 G.-763.69 +79.60 G.-764.10
764.00

DATUM 650

Sta. 0+00.00 = Glenfield Viaduct
Sta. 10+00.00 Dawson Ave. Bk. = Sta. 10+00.00 East Beaver St. Ahd.

FOR PLAN, SEE SHEET 9

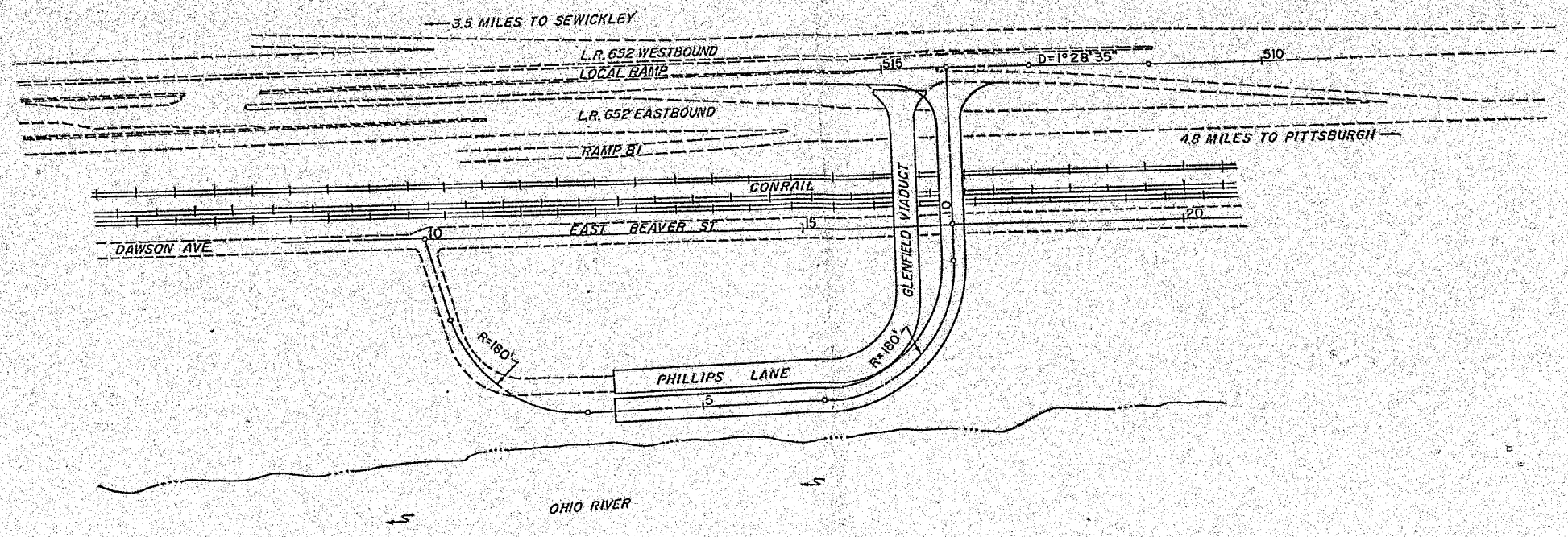
Sta. 9+88.80 Glenfield Viaduct = Sta. 16+96.67 East Beaver St.

Sta. 11+99.01 Glenfield Viaduct = Sta. 514+18.73 Local Ramp

TRACED BY

DRAWINGS FOR TRAFFIC CONTROL PLAN

REVISION NUMBER	REVISIONS	DATE	BY



GENERAL NOTES

THIS WORK CONSISTS OF THE MAINTENANCE OF TRAFFIC AND THE PROTECTION OF THE TRAVELING PUBLIC APPROACHING THE CONSTRUCTION AREA AND WITHIN THE LIMITS OF CONSTRUCTION.

THE CONTRACTOR FURNISHES, ERECTS, PLACES AND MAINTAINS TRAFFIC CONTROL DEVICES AND MAINTAINS TRAFFIC DURING HOURS OF THE CONSTRUCTION AND AT ALL OTHER TIMES IN ACCORDANCE WITH THE METHODS INDICATED ON THESE DRAWINGS, AND,

1. THE SPECIAL PROVISIONS OF THE CONTRACT.
2. PA CODE, TITLE 67, CHAPTER 203, WORK ZONE TRAFFIC CONTROL.
3. PA CODE, TITLE 67, CHAPTER 211, OFFICIAL TRAFFIC CONTROL DEVICES.
4. PDT PUBLICATION NO. 35, APPROVED CONSTRUCTION MATERIALS (BULLETIN 15).
5. PDT PUBLICATION NO. 408, SPECIFICATIONS.

IMMEDIATELY UPON COMPLETION OF THE WORK, REMOVE TRAFFIC CONTROL DEVICES UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS THEY ARE THE CONTRACTORS PROPERTY. THE DEPARTMENT IS TO REMOVE ANY TRAFFIC CONTROL DEVICES ERECTED BY DEPARTMENT FORCES.

PLACE ALL TRAFFIC CONTROL DEVICES FOR INSPECTION BY THE DISTRICT CONSTRUCTION ENGINEER OR HIS REPRESENTATIVE BEFORE WORK BEGINS.

COVER OR REMOVE FROM SIGHT ALL SIGNS NOT IN USE.

THIS TRAFFIC CONTROL PLAN DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY AS SPECIFIED IN SECTION 901.3 (a) OF PUBLICATION NO. 408.

LOCATION OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE, FINAL LOCATION TO BE ESTABLISHED IN THE FIELD.

TRAFFIC CONTROL DEVICES SHOWN IN THE PLANS ARE NOT TO SCALE.

DISTRICT	COUNTY	ROUTE	SHEET
11-0	ALLEGHENY	GLENFIELD VIADUCT	3 OF 4
	GLENFIELD BOROUGH		

REVISION NUMBER	REVISIONS	DATE	BY

TO 65 SOUTH
M4-5 (24"x12")
M1-6 (24"x24")
M3-3 (24"x12")
SPECIAL (24"x24")

TO 65 SOUTH
M4-5 (24"x12")
M1-6 (24"x24")
M3-3 (24"x12")
M6-1 (21"x15")

R3-1 (24"x24")

W20-8 (30"x30")

3.5 MILES TO SEWICKLEY

ARROW BOARD

L.R. 652 WESTBOUND

LOCAL RAMP

RAMP R

RAMP B1

Approved Drums w/Type 'C' Lights 25' c to c

Bury end of Barrier

Temporary Conc. Barrier

TUBULAR MARKERS 25' SPACING

Y.P.M.

250' TRANSITION

W.P.M.

Approved Drums w/Type 'C' Lights 25' c to c

55'

660' LANE TRANSITION

660'

Approved Drums w/Type 'C' Lights 55' c to c

TEMP. END TRANSITION

L.R. 652 EASTBOUND

4.8 MILES TO PITTSBURGH

110' TRANSITION

Approved Drums w/Type 'C' Lights 25' c to c

CONRAIL

EAST BEAVER ST.

500'

GLENFIELD VIADUCT

PHILLIPS LANE

OHIO RIVER

CONSTRUCT PHILLIPS LANE STA. 0+0 TO 2+75 SO AS TO MAINTAIN AT LEAST ONE LANE OF TRAFFIC. FLAGGERS WILL BE REQUIRED DURING ONE LANE OPERATIONS.

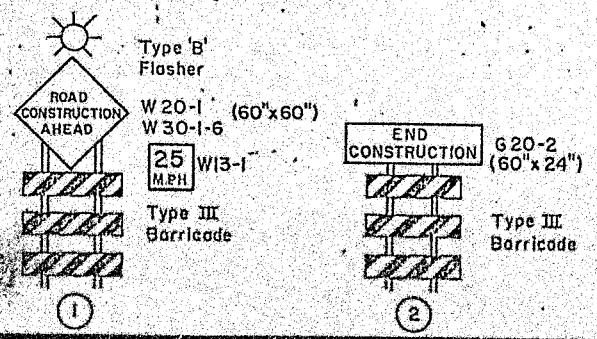
AT END OF EACH DAYS OPERATIONS ROAD SURFACE SHOULD BE SHAPED TO ALLOW TWO LANE TRAFFIC. IF THIS CAN NOT BE ACCOMPLISHED, PROVIDE 24 HOUR FLAGGERS.

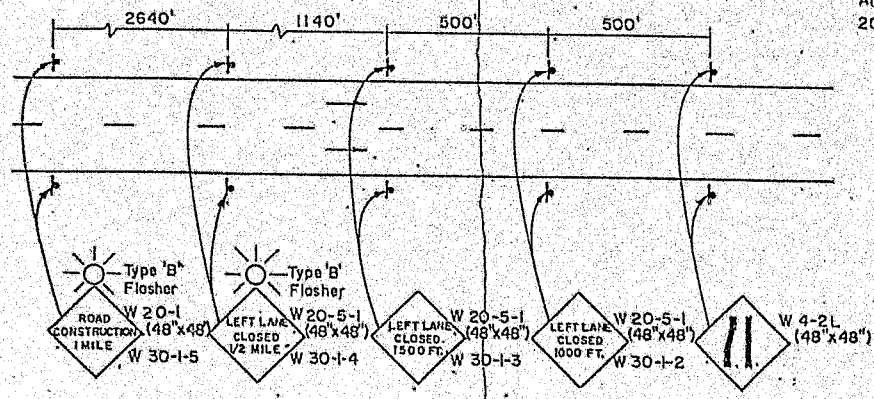
CLOSE SIDEWALK DURING CONSTRUCTION OF PHILLIPS LANE, STA. 0+0 TO 2+75.

FLAGGER SIGNS ARE TO BE IN PLACE ONLY WHEN FLAGGERS ARE PRESENT.

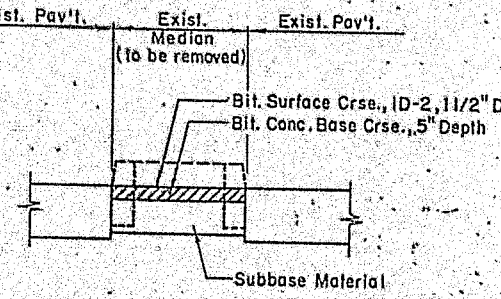
LANE RESTRICTION ON L.R. 652 EASTBOUND TO BE IN EFFECT ONLY DURING CONSTRUCTION OF ABUTMENT B. AT ALL OTHER TIMES, MAINTAIN NORMAL TRAFFIC PATTERNS, PROVIDE ADVANCE SIGNING IN ACCORDANCE WITH FIGURE 24, PUBLICATION 203.

LANE RESTRICTIONS ON LOCAL RAMP TO BE IN EFFECT ONLY DURING CONSTRUCTION OF ABUTMENT B, THE APPROACH SLAB AND THE ADJACENT ROADWAY.





ADVANCED SIGNING-L.R. 652 EASTBOUND



DETAIL - TEMPORARY PAVING

(REMOVE MEDIAN AND INSTALL TEMPORARY PAVING WHILE MAINTAINING EXISTING TRAFFIC PATTERNS AROUND THIS AREA, SEE FIGURE 9A PUBLICATION 203 FOR TRAFFIC CONTROL DETAILS).

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY PAVEMENT
- APPROVED MARKER
- TUBULAR MARKER

W.P.M.-TEMPORARY REMOVABLE PAV'T. MARKING TAPE (4" WHITE)

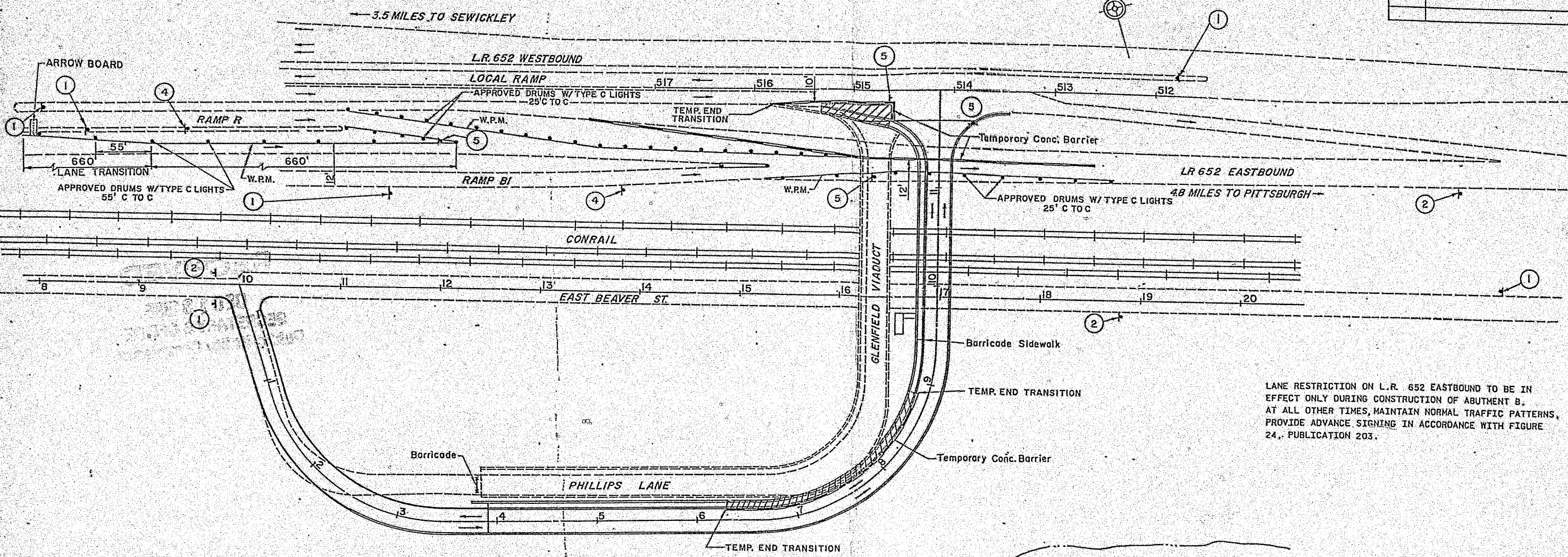
Y.P.M.-TEMPORARY REMOVABLE PAV'T. MARKING TAPE (4" YELLOW)

STAGE I
TRAFFIC CONTROL PLAN

NOTE! FOR ADVANCED SIGNING OF EASTBOUND LANES SEE STAGE 1.

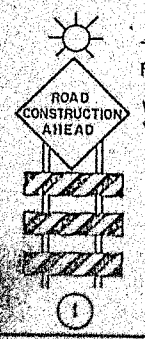
DISTRICT	COUNTY	ROUTE	SHEET
11-0	ALLEGHENY	GLENFIELD VIADUCT	4 OF 4
	GLENFIELD BOROUGH		

REVISION NUMBER	REVISIONS	DATE	BY

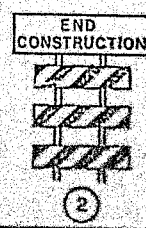


LANE RESTRICTION ON L.R. 652 EASTBOUND TO BE IN EFFECT ONLY DURING CONSTRUCTION OF ABUTMENT B. AT ALL OTHER TIMES, MAINTAIN NORMAL TRAFFIC PATTERNS, PROVIDE ADVANCE SIGNING IN ACCORDANCE WITH FIGURE 24,. PUBLICATION 203.

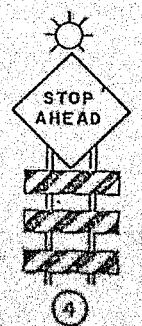
NOTE : SEE SHEET 3 OF 4 FOR ADVANCE SIGNING FOR L.R.652 EASTBOUND DURING LEFT LANE CLOSURE.



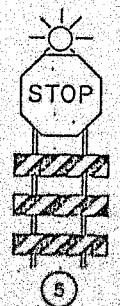
(1) Type 'B' Flasher; W 20-1 W 30-1-6 (60"x60"); Type III Barricade



(2) G 20-2 (60"x 24"); Type III Barricade



(4) Type B Flasher; W 3-1-1 (48"x48"); Type III Barricade



(5) Type 'B' Flasher w/ Red Lense; R1-1 (48"x 48"); Type III Barricade

50' 25' 0 50'

LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY PAVEMENT
- APPROVED DRUMS

W.P.M.-TEMPORARY REMOVABLE PAVEMENT MARKING TAPE (4" WHITE)

STAGE 2
TRAFFIC CONTROL PLAN

Penn Dot Ex. No 5
Pittsburgh 11/27/85
Galeffe B Keyser

PA. DEPT. OF TRANSPORTATION
EXHIBIT NO. 5
P.U.C. NO. C 80092154
DATE OF HEARING 11-27-85

Allegheny County
Glenfield Viaduct
Glenfield Borough
PUC. C. 80092154

RECEIVED
DEC 16 1985
SECRETARY'S OFFICE
Public Utility Commission

Owners (1)
Consolidated Rail Corporation
15 North 32nd Street
Philadelphia, PA 19104

DOCKETED
DEC 16 1985

As shown on the plans of the Borough of Glenfield Drawings Authorizing Acquisition of Right-of-Way for the Glenfield Viaduct in Glenfield Borough, ALL THAT CERTAIN TRACT OF LAND, situated in Allegheny County, Pennsylvania, bounded and described as follows, to wit:

DOCUMENT FOLDER

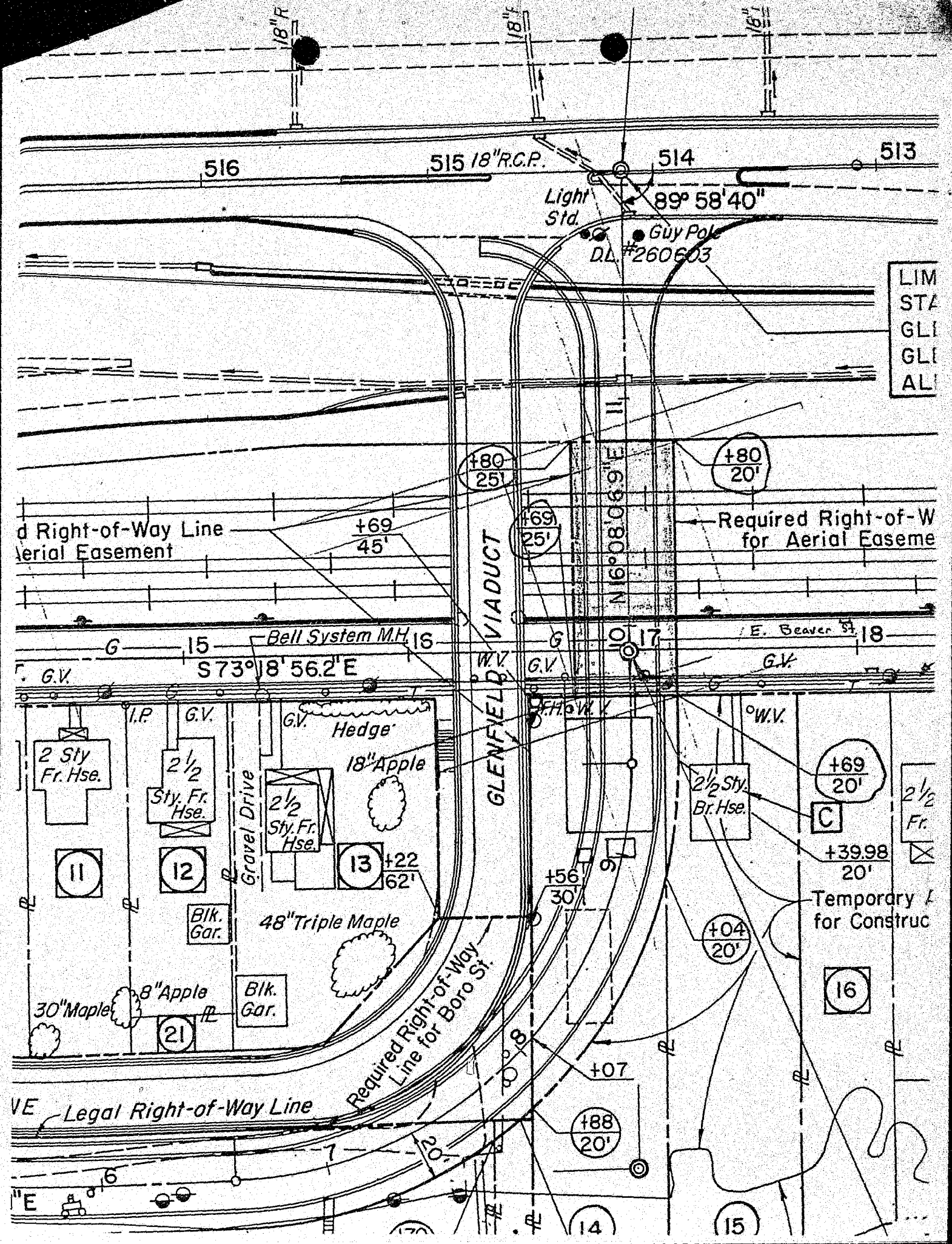
TRACT NO. 1

(REQUIRED RIGHT OF WAY FOR AERIAL EASEMENT)

Beginning at a point on the southerly side of the Glenfield Viaduct said point being at the intersection of the westerly required right-of-way line for aerial easement and the northerly legal right-of-way line for East Beaver Street distant twenty-five (25) feet northwesterly and measured at right angles from the survey and right-of-way base line of Glenfield Viaduct at or about Station 10+02 thereof; thence in a northeasterly direction along the said westerly required right-of-way line for aerial easement to a point and intersection with the southerly legal right-of-way line for limited access for Ramp B1 of Legislative Route 652 Eastbound distant twenty-five (25) feet northwesterly and measured at right angles from the survey and right-of-way base line of said viaduct at or about Station 10+80 thereof; thence in an easterly direction along the said legal right-of-way line for said ramp to a point and intersection with the easterly required right-of-way line for aerial easement distant twenty(20)feet northeasterly and measured at right angles from the survey and right-of-way base line of said viaduct at or

about Station 10+80 thereof; thence in a southwesterly direction along the said required right-of-way line for aerial easement to a point on the northerly legal right-of-way line for East Beaver Street distant twenty (20) feet northeasterly and measured at right angles from the survey and right-of-way base line of said viaduct at or about Station 10+02 thereof; thence in a westerly direction along the said legal right-of-way line for said street to the point and place of beginning and containing three thousand five hundred ten square feet of land more or less.

The above tract of land shown on the Borough of Glenfield's Drawings Authorizing Acquisition of Right of Way for Glenfield Viaduct, as recorded in the office of the recording of deeds, etc., in Allegheny County, Pennsylvania, in _____ on _____, is a portion of real estate, which became legally vested in Consolidated Rail Corporation by deed of Pittsburgh, Ft. Wayne and Chicago Railways Company, dated March 21, 1976, and recorded _____, in Deed Book Volume 6029, Page 21, in the Allegheny County Courthouse.


18" R
18"
16"
516
515 18" R.C.P.
514
513
Light Std.
89° 58' 40"
Guy Pole
D.L. #260603
LIM
STA
GLI
GLI
ALI
+80 25'
+80 20'
+69 45'
+69 25'
d Right-of-Way Line
erial Easement
Required Right-of-W
for Aerial Easeme
N 16° 08' 06.9" E
GLENFIELD VIADUCT
E. Beaver St.
Bell System M.H.
S 73° 18' 56.2" E
15
16
17
18
G
G.V.
W.V.
I.P.
2 Sty Fr. Hse.
2 1/2 Sty. Fr. Hse.
Gravel Drive
Hedge
18" Apple
2 1/2 Sty. Fr. Hse.
2 1/2 Sty. Br. Hse.
+69 20'
C
+39.98 20'
11
12
13
+22 62'
+56 30'
Blk. Gar.
48" Triple Maple
Temporary
for Construc
+04 20'
16
30" Maple
8" Apple
Blk. Gar.
21
Required Right-of-Way Line for Boro St.
+07
Legal Right-of-Way Line
+88 20'
20'
14
15

RECEIVED
DEC 16 1985
SECRETARY'S OFFICE
Public Utility Commission

CONSOLIDATED RAIL CORPORATION

Glenfield, Allegheny County, Pennsylvania
Pittsburgh Division, Central Region

DOCKETED
DEC 16 1985

FORCE ACCOUNT ESTIMATE

Proposed reconstruction of Glenfield Viaduct PAPUC Docket C-800 92154, Ft Wayne Line, Br. No. 9.22, LC 22-2202, WO# 46588.

DOCUMENT FOLDER

A.	Preliminary Engineering	$ 5,000	
	Labor Additives (65.51%)	3,276	
	Expenses Incident Personal & Travel	1,000	
			$ 9,276
B.	Communication and Signal Estimate (See attached sheets for details)		$ 24,000
C.	Accounting		
	Billing Clerks Wages	$ 350	
	Labor Additives (59.79%)	209	
			$ 559
D.	Contingencies (10%)		$ 3,384
	Total Estimate.....		$ 37,219

Note: Project coordination and construction inspections estimated to be $60,000 to be paid by State's Contractor.

Estimate good for 60 days from its date.

OFFICE OF CHIEF ENGINEER
DESIGH AND CONSTRUCTION
Philadelphia, PA
November 25, 1985

PA. PUBLIC UTILITY COMMISSION
DOCKET NO. C-800 92154 FOLDER #1
Conrail EXHIBIT NO 5
HEARING AT Pittsburgh DATE 11/27/85
REPORTER Arlene B. Kyle

CITY GLENFIELD STATE PA ~~ROADWAY~~ O.H. BRIDGE - BEAVER Rd.

REGION CENTRAL DIVISION PITTSBURGH

LINE & LINE CODE ML. FT WAYNE LINE, LC2202 MP 9.22

AAR # — PIN # — WO # 46588

JOB DESCRIPTION RECONSTRUCT O.H. BRIDGE CARRYING BEAVER ROAD

MATERIAL)		9270
) SEE ATTACHED DETAIL		
MATERIAL HANDLING)		464
LABOR		
(5)	ENGINEERING	690
(30)	INSTALL APPARATUS	3330
(—)	INSTALL CANTILEVER FOUNDATIONS	—
(—)	RELOCATE APPARATUS	—
(—)	WIRE CASE - HOUSE	—
(—)	RAISE AND/OR RELOCATE POLE LINE	—
(18)	REMOVE RETIRED APPARATUS	1998
ENGR. ADDITIVES (65.51%)		452
LABOR ADDITIVES (65.09%)		3468
SUBSISTANCE		2640
CONTRACT DESIGN & ENGINEERING		—
CONTRACT SITE PLAN PREPARATION		—
EQUIPMENT RENTAL		600
CONTRACT WORK		—
LOCOMOTIVE & TRAIN CREW		—
CONTINGENCIES		1146
	GROSS TOTAL	24058
SALVAGE		- 58
	NET TOTAL	24000

OFFICE OF CH. ENGR.-C&S
PHILA., PA. - DEC
DATE 11-12-84

CONSOLIDATED RAIL CORPORATION

CITY GLENFIELD STATE PA ~~ROADWAY~~ OH. BRIDGE-BEAVER RD.

BILL OF MATERIAL #_____ WO# 46588

MANAGEMENT CENTER #_____ PFC#_____ CODE#_____

ITEM NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-_____	ARM, GATE CROSSING ____FT.	_____	EA	_____	_____
02-_____	ARM, GATE CROSSING ____FT.	_____	EA	_____	_____
02-_____	ARM, GATE SIDEWALK ____FT.	_____	EA	_____	_____
02-_____	ARM, GATE CROSSING ____FT.	_____	EA	_____	_____
02-_____	ARM, GATE CROSSING ____FT.	_____	EA	_____	_____
02-012522	ARM, GATE CROSSING 18 FT.	_____	EA	185.	_____
02-012563	ARM, GATE CROSSING 24 FT.	_____	EA	270.	_____
02-012605	ARM, GATE CROSSING 29 FT.	_____	EA	313.	_____
02-563953	ARM, GATE SDWK.7 FT W/SUPP'T	_____	EA	603.	_____
02-036182	BASE, SPLIT 5" DIA. W/TERM.	_____	EA	221.	_____
02-044517	BELL, CROSSING	_____	EA	168.	_____
02-051850	BOARD, RECTIFIER ASSY. (SC-3)	_____	EA	162.	_____
02-067252	BOND,RAIL(CADWELD)3/16"X6 1/2"	_____	EA	2.	_____
02-069506	BOX, BATTERY (LARGE)	_____	EA	435.	_____
02-069878	BOX, H'WAY XING TEST GATE (PB)	_____	EA	390.	_____
02-071809	BOX, BATTERY (JUNIOR)	_____	EA	166.	_____
02-071908	BOX, BATTERY (MEDIUM)	_____	EA	242.	_____
02-076063	BRACKET, CONVERSION	_____	EA	196.	_____
02-_____	CABLE Signal 19C#14	2500	FT	.684	1710
02-_____	CABLE Comm. 25PR#16	2500	FT	2.20	5500
02-090417	CABLE (C&S81) 2/C#6 (POWER)	2500	FT	.324	910
02-090458	CABLE (C&S81) 4/C#9	_____	FT	.93	_____
02-090474	CABLE (C&S81)17C COMB	_____	FT	2.42	_____
02-102642	CABLE (C&S81) 2/C#6 (TRACK)	_____	FT	.324	_____
02-102683	CABLE (C&S81) 2/C#12	_____	FT	.54	_____
02-102782	CABLE (C&S81) 7/C#12	_____	FT	.91	_____
02-_____	CANTILEVER, _____FT	_____	__	_____	_____
02-_____	CANTILEVER, _____FT	_____	__	_____	_____
02-104485	CANTILEVER, 18 FT.	_____	EA	3272.	_____
02-104493	CANTILEVER, 22 FT.	_____	EA	3459.	_____
02-104501	CANTILEVER, 26 FT.	_____	EA	3529.	_____
02-_____	CASE, RELAY WIRED W/WO APPAR.	_____	EA	_____	_____
02-_____		_____	EA	_____	_____
02-_____	CASE, RELAY WIRED W/WO APPAR.	_____	EA	_____	_____
02-108304	CASE, RELAY LOW SINGLE	_____	EA	929.	_____
02-108650	CASE, RELAY HIGH SINGLE	_____	EA	999.	_____
02-_____	CELL STORAGE 400AH	_____	EA	188.	_____
02-116257	CELL STORAGE 120AH	____	EA	82.	_____
02-116505	CELL STORAGE 80AH	____	EA	62.	_____
02-116752	CELL STORAGE 160AH	____	EA	99.	_____
02-117008	CELL STORAGE 240AH	____	EA	124.	_____
02-158409	CONTROLLER CIRCUIT (7J)	____	EA	592.	_____
49-229101	CONDUIT, STEEL 4"	150	FT	5.	750
02-758609	CROSSARM LO', LO PIN W/PIN	_____	EA	30.	_____
02-205480	FOUNDATION, HOUSE	_____	EA	62.	_____
02-205878	FOUND.S-10-3WS (CANT UP TO 30')	_____	EA	963.	_____
02-208005	FOUNDATION, S-2 (GATE)	_____	EA	178.	_____
02-_____	GRADE CROSSING PREDICTOR	_____	EA	_____	_____
02-_____	HOUSE, RELAY WIRED W/WO APPAR.	_____	EA	_____	_____

CONSOLIDATED RAIL CORPORATION

CITY GLENFIELD STATE PA COUNTY O.H. BRIDGE - BEAVER RD.

BILL OF MATERIAL #_____ NO#_____

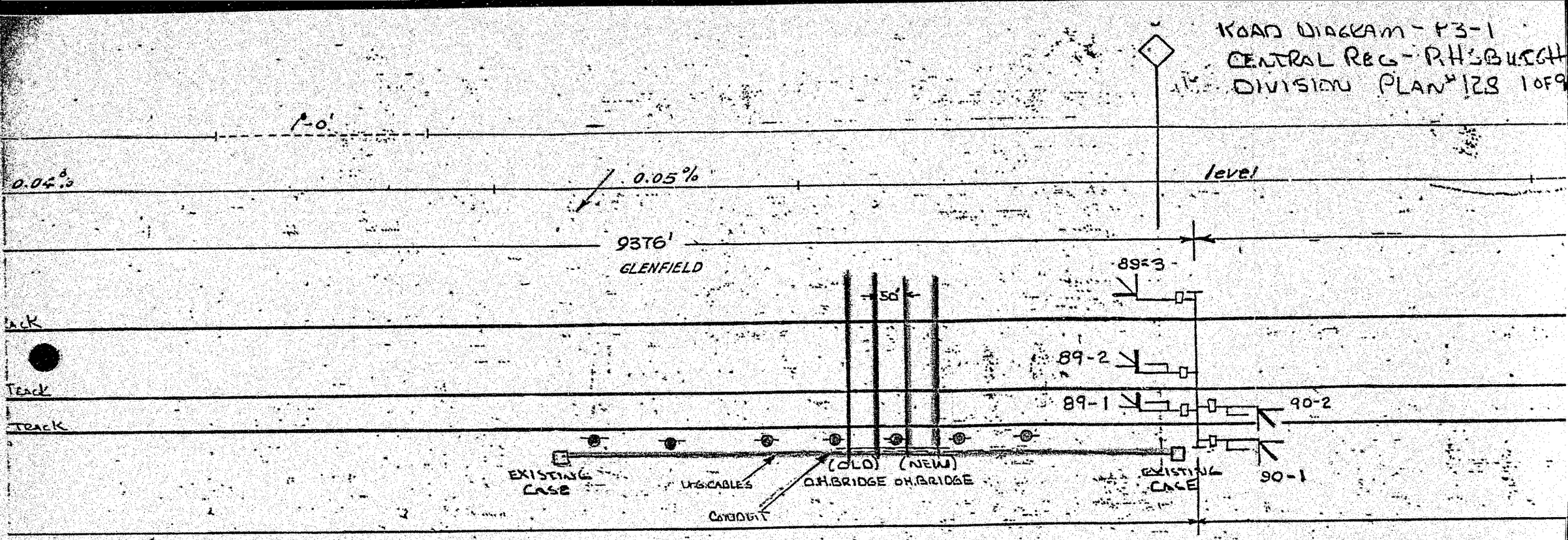
MANAGEMENT CENTER #_____ PFC#_____ CODE#_____

ITEM NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
	CONCRETE, POURED	____	CF	_____	_____
	ELECTRICAL SERVICE	____	EA	_____	_____
	MISCELLANEOUS MATERIAL	1	LO	_____	See
	TOTAL MATERIAL				9270
	MATERIAL HANDLING - (5 %) OF TOTAL MATERIAL				464

OFFICE OF CHIEF ENGR-C&S
PHILA., PA - OPG
DATE 11-12-85
(GOOD FOR 60 DAYS)

144 RECORDS PRINTED

ROAD DIAGRAM - F3-1
CENTRAL REG - PITTSBURGH
DIVISION PLAN # 128 1 OF 9



Note: U.G. CABLES WILL REMAIN PERMANENT AFTER CONSTRUCTION OF NEW O.H. BRIDGE.

GLENFIELD, PA
RECONSTRUCT O.H. BRIDGE - BEAVER ROAD MP 9.22 ML FT. WAYNE LINE LC 2202, PITTSBURGH DIVISION CENTRAL REGION WO 46582

Yellow - EXISTING

CONRAIL

RECEIVED
SECRETARY'S OFFICE
Public Utility Commission

December 11, 1985

Jerry Rich, Secretary
Pennsylvania Public Utility
Commission
P.O. Box 3265
Harrisburg, PA 17120

Re: Glenfield Borough v. Consolidated
Rail Corporation et al.
Pa. P.U.C. Docket C-80092154
Law Department File No. MPCB-90

Dear Mr. Rich:

At the public hearing held in Pittsburgh on November 27, 1985 before Judge Michael Nemec, the former Public Service Commission Order entered on October 27, 1925 at Complaint Docket 6297 - County of Allegheny v. Pennsylvania Railroad Company et al. was received in evidence as a Conrail exhibit. Sufficient copies were not available for distribution at that time and leave was granted to late-file that exhibit.

Herewith is a copy of the aforesaid order. With copies of this letter I am forwarding a copy of the exhibit to each of the parties entering appearances at the public hearing as well as to Judge Nemec. Two copies are being forwarded to the official court reporter.

Very truly yours,

Daniel F. Donovan

Daniel F. Donovan
Senior General Attorney

1138 Six Penn Center Plaza
Philadelphia, PA 19103
(215) 977-5016

DOCUMENT
FOLDER

DFD/bp

Enclosure

cc: Honorable Michael Nemec
Administrative Law Judge
Pennsylvania Public Utility Commission
1103 Pittsburg State Office Building
300 Liberty Avenue
Pittsburgh, PA 15222

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Pittsburg, PA 15219

Joseph Conway, Esquire
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Pittsburgh, PA 15222

Mrs. Arlene B. Kiger
7823 Mt. Carmel Road
Verona, PA 15147

COUNTY OF ALLEGHENY

vs.

PENNSYLVANIA RAILROAD COMPANY, DEPARTMENT OF HIGHWAYS, BOROUGH OF GLENFIELD AND TOWNSHIP OF KILBUCK, ALLEGHENY COUNTY

COMPLAINT DOCKET No. 6297

Crossings—Abolition—Relocation of highway—Apportionment of cost.

Three grade crossings of highways over railroad track were abolished by relocation of a highway and construction of a viaduct.

The cost was divided equally between the county and the railroad company.

Bernard B. McGinnis for Complainant.

J. C. Boyer and *John D. McIntyre* for Borough of Glenfield.

John E. Winner for Township of Kilbuck.

J. L. Aber, A. M. Donman and *S. G. Cramp* for Penna. R. R. Co.

REPORT BY THE COMMISSION, *October 27, 1925:*

The four main-line tracks of the Pennsylvania Railroad system extend in a northwesterly direction from the City of Pittsburgh to points west. About ten miles north of Pittsburgh, the railroad passes through the Township of Kilbuck and the Borough of Glenfield, both in Allegheny County, where it parallels the east bank of the Ohio River, and is distant therefrom approximately 300 feet. The Borough of Glenfield is a small municipality of approximately two thousand inhabitants and is, generally speaking, divided by the tracks of the utility,—one-half thereof, including the railroad station and the business center lying to the east of the tracks, and the other half lying to the west thereof and between them and the river. To the east of the railroad the ground rises sharply, forming a steep hillside.

A county road known as "Beaver Road," one of the main arteries of travel between Pittsburgh and the Pennsylvania-Ohio state line and to northwestern points of the Commonwealth, extends northwardly from that city. At a point approximately 2900 feet south of Glenfield Station this highway crosses the tracks of the railroad company from east to west at grade; this crossing is known as Dixmont Crossing and is in Kilbuck Township. The highway continues north-

DOCKETED
DEC 16 1985

DOCUMENT FOLDER

Ex 6

wardly on the west side of the railroad and immediately proximate thereto for about 2700 feet, where it recrosses to the east side of the utility's tracks; this crossing is known as Glenfield Crossing and is approximately 100 feet south of the station in the borough. About 800 feet north of Glenfield Station a borough street known as Dawson Avenue, lying between the river and the railroad, crosses the railroad tracks at grade and immediately connects with Beaver Road; this crossing is known as Riverview Crossing, and is about 600 feet north of Kilbuck Creek, which runs east and west through the borough.

This complaint avers that these three grade crossings, one of which is in Kilbuck Township and two of which are in the Borough of Glenfield, are dangerous and should be abolished for the safety, accommodation and convenience of the traveling public. These averments are admitted in the answer of the utility respondent and the testimony clearly establishes that they are highly dangerous. The usual daily railroad movements over these three crossings are very heavy, there being, generally speaking, 200 train movements per 24 hours, of which three-fourths are passenger movements, most of them high speed, and one-fourth freight movements.

The testimony discloses that on a Sunday in mid-summer over 4000 automobiles cross over the Dixmont and Glenfield crossings, 200 trucks, and many pedestrians,—the number of the latter at the Glenfield crossing approximating 700. On a like day the number of automobiles passing over the Riverview crossing approximates 1150, and 300 pedestrians. This number is somewhat reduced on week days according to the traffic count offered in evidence, but the travel at all times over all the crossings is exceptionally heavy. Many accidents have occurred at the Dixmont and Glenfield crossings during the last five years, notwithstanding that these two crossings are protected by both safety gates, operated by tower men and flagmen on the crossings throughout the 24-hour period. Riverview crossing is not protected by gates but is protected by flagmen for part time.

Numerous plans were introduced in evidence for the elimination of these crossings and many conferences had by the engineers of the various parties and residents of the borough, and each of these general plans in turn has been subjected to various suggested modifications. However, all of the plans and the various modifications can be grouped into three main schemes to which reference will be presently made. With respect, however, to the abolition of the Riverview crossing each of the three main schemes provides that this crossing should be abolished by closing and barricading it at the right-of-way lines of the railroad company; that Dawson Avenue should be extended from the Riverview crossing in a southerly direction along the west side of the railroad right-of-way and over Kilbuck Creek to

a point of connection with the existing Beaver Road west of the railroad tracks and near the Glenfield crossing, at which point it would fit in with any of the various general schemes.

Scheme No. 1 provides that Dixmont and the Glenfield crossings should be abolished by the construction of two overhead crossings at the approximate points of the existing grade crossings, and that the existing Beaver Road, between the points of crossing, should be widened to conform to the width of the new highway, which the County of Allegheny is constructing from its county seat to its western county line, an important highway, and which it is proposed shall be a portion of the coast-to-coast Lincoln Highway which now parallels the opposite bank of the Ohio River. The adoption of this scheme even as modified will necessitate curves in the highways and grade approaches to and from both overheads. It will create a dangerous condition at the north approach of the Glenfield viaduct in the vicinity of Center Street, the business portion of the borough, by reason of the fact that all borough travel to and from this approach must enter it in the face of all through traffic, and of the further fact that it is impossible to obviate this dangerous condition on account of the topography of the community and the adjacent steep hillside to the east. The total estimated cost of this plan is $504,800, of which $459,800 represents construction costs, and $45,000 property damages. Although this scheme represents the least total cost of any of the schemes, the Commission after the most careful consideration of all the elements involved has not been able to see its way clear to adopt it because of the conditions above stated.

The second general scheme, with numerous modifications, provides for the construction of an overhead structure at the Dixmont crossing, and for an underpass at the Glenfield crossing, and for the widening of the present Beaver Road between the points of crossing. The objections to this scheme are the curves and grades which will be necessary in the highway, and the further important fact that the Glenfield subway will be subjected to inundation at flood stages of the Ohio River. The total estimated cost of this scheme is $655,600, of which the construction cost is approximately $615,600, and the property damages $40,000. Because of the insurmountable objection of the flooding of the proposed subway at certain seasons of the year, and of the further fact that this scheme is the most expensive of the three, the Commission withholds its approval therefrom.

The last and third general scheme provides for building an entirely new highway along the hillside to the east of the railroad between and beyond the Dixmont and Glenfield crossings, making it a continuous highway substantially of straight alignment without any railroad crossings thereon, to leave the existing Beaver Road in its present

location, and at the point near the Glenfield station where Dawson Avenue projected connects with the existing Beaver Road, to build a viaduct, approaches, and a bridge located between the present crossing at a point approximately 700 feet south of the Glenfield station. This will afford access from Dawson Avenue and Beaver Road to the newly constructed concrete highway on the hillside.

Although there was some opposition to the construction of the hillside highway, due to the danger of slippage, the engineer of the county testified that by installing proper drainage facilities and the removal of treacherous soil, all slippage can be obviated. This general scheme is known as Exhibit No. 5 and has been modified by Exhibits 5A and 5AA. This plan provides for such location and alignment of the new highway as will provide for future expansion of the utility's tracks from four, as now existing, to six. The estimated cost is $632,321, of which $607,321 represents construction costs and $25,000 property damages.

In the light of all the facts and the conditions as disclosed by the record, the Commission finds and determines that the scheme for the location of the new highway on the hillside to the north of the railroad as generally set forth in Exhibits 5, 5A and 5AA should be adopted, with two further modifications, to-wit: (1) That a stairway be constructed at the west end of the bridge so as to provide pedestrians access to it from Beaver Road; (2) the construction of a sidewalk not less than four feet in width with a 9-inch curb along the west side of the new highway from the bridge to the existing sidewalk in the borough. These additional modifications will not increase the total cost of the improvement according to the evidence, as they can be taken care of in the percentage set-up for contingencies.

It will be necessary to appropriate several tracts of land for this improvement. As stated, the property damages have been estimated at $25,000. Descriptions by metes and bounds of the several properties so to be appropriated, are recited at length in the order accompanying this report.

The municipal corporations concerned have had full notice of the plans, have examined them, and every effort has been made by the Commission to reach an agreement with the officials relative thereto, Unfortunately this has failed of accomplishment.

There is an existing pedestrian subway at the Glenfield station whereby ready access is had in the center of the borough from the east to west of the railroad, and vice versa. This is to remain and to be maintained by the railroad company. With the sidewalk along the new highway and the steps from the west end of the bridge to Beaver Road, safe and convenient access will also be afforded between

the business section of the borough and that portion of it lying west of the railroad and nearest the Dixmont crossing.

From a consideration of all the record in this case the Commission finds and determines:

1. That the three crossings complained of are dangerous and their abolition necessary for the safety, accommodation and convenience of the public; therefore, the complaint will be sustained and the crossing abolished effective upon the completion of the improvements hereinafter ordered to be made.

2. That the abolitions be made in accordance with the general plan prepared by the County of Allegheny, marked Exhibit No. 5 (2 sheets), as modified by exhibits 5A and 5AA of the hearings of April 23, September 24, and September 28, 1925, as herein modified, which said modified plans are hereby approved, attached hereto and made part hereof.

3. That the Pennsylvania Railroad Company, within thirty (30) days from date of service hereof, submit to this Commission for approval and to the parties of record for examination, detailed plans for that portion of said construction work hereinafter ordered to be done by said Pennsylvania Railroad Company.

4. That the County of Allegheny, within thirty (30) days from the date of service hereof, submit to this Commission for approval and to the parties of record for examination, detailed plans of that portion of said construction work hereinafter ordered to be done by said County of Allegheny.

5. That all property necessary for the improvement, together with all buildings and structures thereon, will be taken and appropriated for the purpose of the improvement; detailed descriptions thereof with the name and address of the reputed owners being recited at length in the order attached to and made part of this report.

6. That the Pennsylvania Railroad Company shall furnish all materials and do all work necessary for the construction of the new hillside road and the connection of the Tom's Run Road to sub-grade, including the removal of slopes and the installation of such drainage facilities as may be necessary to prevent slippage, in accordance with the modified, approved plans, the estimated cost of this portion of the work being $258,210.

7. That the Pennsylvania Railroad Company shall also furnish all materials and do all work necessary for the construction of the new bridge, including piers, abutments, viaduct approaches, and stairway leading to Beaver Road, all in accordance with the modified, approved plans, the estimated cost of this portion of the work being $175,369.

8. That in addition to furnishing the materials and doing the work herein ordered to be done by said Pennsylvania Railroad Company, said company shall pay any money to which it may be entitled as compensation for damages to its property taken, injured or destroyed by this improvement.

9. That the County of Allegheny shall furnish all materials and do all the work necessary for the new hillside road and the connection of the Tom's Run Road, above sub-grade, including

the paving thereon, and also including the curbing and sidewalk along the hillside road as herein provided in accordance with the modified approved plans, estimated to cost $143,407.

10. That the County of Allegheny shall also furnish all material and do all the work necessary to complete the ramp approach to the new bridge, including railings, paving and sidewalk on the approaches, in accordance with the approved, modified plans, the estimated cost of which is $9,635.

11. That the County of Allegheny shall also furnish all materials and do all the work necessary to complete the Dawson Avenue extension from Riverview crossing to Beaver Road on the west side of the railroad, including the construction of the culvert over Kilbuck Run, in accordance with the modified approved plans, the estimated cost of which is $20,700.

12. All of the work shall be fully completed by the respective parties on or before December 31, 1926.

13. That the County of Allegheny, in addition to the work herein ordered to be done and materials to be furnished by it, shall pay to the Pennsylvania Railroad Company, when and as certified by The Public Service Commission, the sum of $216,789.50, to apply on the cost of the work to be done, and materials to be furnished by said railroad company.

14. That the Pennsylvania Railroad Company in addition to the work hereiff ordered to be done and materials to be furnished by it, shall pay to the County of Allegheny, when and as certified by The Public Service Commission, the sum of $86,871, to apply on the cost of the work to be done and materials to be furnished by said County of Allegheny.

15. That all compensation for damage due to the owners of adjacent property taken, injured or destroyed in the execution of this improvement in accordance with the modified, approved plan, exclusive of compensation for damages due to respondent railroad company for any of its property taken, injured or destroyed by reason of said improvement, shall be paid by the County of Allegheny.

16. That the Pennsylvania Railroad Company shall reimburse the County of Allegheny to the extent of fifty per cent (50%) of all sums of money which it may be required to pay as compensation for damage due to the owners of adjacent property taken, injured or destroyed by reason of said improvement, whether said payments be made by virtue of an award of this Commission or by settlement jointly agreed to by the county and railroad company.

17. Any relocation, changes in, or removal of any adjacent structures, equipment or other facilities of any telegraph, telephone, gas, electric light, water power, water pipe line or other public service company, which may be required as incidental to the execution of the improvement herein ordered, shall be made by said public service company at its own expense.

18. That upon the completion of the work, the Pennsylvania Railroad Company and the County of Allegheny shall jointly maintain for a period of two years the hillside road; upon the expiration of said two year period, said hillside road, exclusive

of the sidewalk along same, shall be maintained solely by the County of Allegheny.

19. That upon the completion of the work, the Pennsylvania Railroad Company shall thereafter maintain the bridge, viaduct approaches, including the paving thereon, and the stairway leading thereto; the Borough of Glenfield shall maintain the sidewalk along the hillside road, the ramp approaches to the bridge, including sidewalks, paving, rails and all improvements thereon, and including also Dawson Avenue extension and culvert over Kilbuck Run; the Township of Kilbuck shall maintain the highway connection of Tom's Run Road.

20. That the Pennsylvania Railroad Company shall maintain for all time for public use the existing pedestrian subway located near the Glenfield passenger station.

21. That effective upon the completion of the improvement and its opening to public use, the three grade crossings involved in this proceeding shall be effectively barricaded to public travel by the Pennsylvania Railroad Company, and substantial fences erected at points of crossing along the tracks not less than 10 feet from outermost rail on each side; said barricades to be thereafter maintained by said company.

An order will issue in accordance with these findings.

COUNTY OF ALLEGHENY

vs.

PENNSYLVANIA RAILROAD COMPANY, DEPARTMENT OF HIGHWAYS, BOROUGH OF GLENFIELD, AND TOWNSHIP OF KILBUCK, ALLEGHENY COUNTY.

COMPLAINT DOCKET NO. 6297

Crossings—Abolition—Modification of order.

SUPPLEMENTAL REPORT BY THE COMMISSION, *January 12, 1926*:

By the report and order of October 27, 1925, the Commission found the Dixmont grade crossing in Kilbuck Township, the Glenfield grade crossing and the Riverview grade crossing in the Borough of Glenfield, Allegheny County, over the tracks of the Pennsylvania Railroad Company, respondent, dangerous and their abolition necessary for the safety, accommodation and convenience of the public; adopted a plan for these eliminations which provided, generally, for the relocation of the main highway and the construction of a hillside road between the

Glenfield and Dixmont crossings, the building of an overhead structure between them, and the extension of the necessary roads or streets; ordered certain portions of the work to be done by the railroad company and certain other portions by the County of Allegheny; and allocated the expenses of the improvement.

By joint letter of the county and railroad, dated December 4, 1925, being in the nature of a petition, these parties have requested that certain findings in said report, and certain portions of said order, be modified so as to permit the railroad company to do, additionally, certain parts of the work which the county was ordered to do, viz., the extension of the culvert over Tom's Run, and the extension of Dawson Avenue to connect with Beaver Road on the west or river side of the railroad, and to make the necessary modifications in the allocation of costs as made, so that the county can pay to the railroad company its proportionate share of the estimated cost of this additional work.

The effect of the modifications desired by the county and railroad, the two parties who are to do all of the work and bear all of the expense, is to transfer two portions of the construction work which the county was heretofore ordered to do, to the railroad company in addition to the work which it was ordered to do, and to order the county to pay the railroad company the estimated cost of this additional construction work. The reason for the request is to expedite the work.

Accordingly, the Commission makes the following revised findings and modifications:

Finding No. 6, page 7, of the report of October 27, 1925, which reads as follows:

> "6. That the Pennsylvania Railroad Company shall furnish all materials and do all work necessary for the construction of the new hillside road and the connection of the Tom's Run Road to sub-grade, including the removal of slopes and the installation of such drainage facilties as may be necessary to prevent slippage, in accordance with the modified, approved plans, the estimated cost of this portion of the work being $258,210;"

is hereby modified so as to read as follows:

> "6. That the Pennsylvania Railroad Company shall furnish all materials and do all work necessary for the construction of the new hillside road and the connection of the Tom's Run Road to sub-grade, including the extension of the culvert carrying the highway over Tom's Run, and including the removal of slopes and the installation of such drainage facilities as may be necessary to prevent slippage, in accordance with the modified, approved plans, the estimated cost of this portion of the work being $298,460."

Finding No. 9, page 7, of the report of October 27, 1925, which reads as follows:

> "9. That the County of Allegheny shall furnish all materials and do all the work necessary for the new hillside road and the connection of the Tom's Run Road, above sub-grade, including

the paving thereon, and also including the curbing and sidewalk along the hillside road as herein provided in accordance with the modified approved plans, estimated to cost $143,407;"

is hereby modified so as to read as follows:

"9. That the County of Allegheny shall furnish all materials and do all the work necessary for the new hillside road and the connection of the Tom's Run Road, above sub-grade, including the paving thereon, and also including the curbing and sidewalk along the hillside road as herein provided in accordance with the modified approved plans, estimated to cost $103,157."

Finding No. 11, page 8, of the report of October 27, 1925, which reads as follows:

"11. That the County of Allegheny shall also furnish all materials and do all the work necessary to complete the Dawson Avenue extension from Riverview crossing to Beaver Road on the west side of the railroad, including the construction of the culvert over Kilbuck Run, in accordance with the modified approved plans, the estimated cost of which is $20,700;"

is hereby modified so as to read as follows:

"11. That the Pennsylvania Railroad Company shall also furnish all materials and do all the work necessary to complete the Dawson Avenue extension from Riverview crossing to Beaver Road on the west side of the railroad, including the construction of the culvert over Kilbuck Run, in accordance with the modified approved plans, the estimated cost of which is $20,700."

Finding No. 13, page 8, of the report of October 27, 1925, which reads as follows:

"13. That the County of Allegheny, in addition to the work herein ordered to be done and materials to be furnished by it shall pay to the Pennsylvania Railroad Company, when and as certified by The Public Service Commission, the sum of $216,789.50, to apply on the cost of the work to be done and materials to be furnished by said railroad company;"

is hereby modified so as to read as follows:

"13. That the County of Allegheny, in addition to the work herein ordered to be done and materials to be furnished by it shall pay to the Pennsylvania Railroad Company, when and as certified by The Public Service Commission, the sum of $247,264.50, to apply on the cost of the work to be done and materials to be furnished by said railroad company."

Finding No. 14, page 8, of the report of October 27, 1925, which reads as follows:

"14. That the Pennsylvania Railroad Company in addition to the work herein ordered to be done and materials to be furnished by it, shall pay to the County of Allegheny, when and as certified by The Public Service Commission, the sum of $86,871, to apply on the cost of the work to be done and materials to be furnished by said County of Allegheny;"

is hereby modified so as to read as follows:

"14. That the Pennsylvania Railroad Company in addition to the work herein ordered to be done and materials to be furnished by it, shall pay to the County of Allegheny, when and as certified by The Public Service Commission, the sum of $56,396, to apply on the cost of the work to be done and materials to be furnished by said County of Allegheny."

DELAWARE SEAMLESS TUBE COMPANY
vs.
AUBURN WATER COMPANY

COMPLAINT DOCKET No. 6341

Water companies—Facilities—Private fire protection.

A water company was not ordered to substitute 1200 feet of six-inch line for a four-inch line to a mill, in order to provide better fire protection, where the complainant paid by meter only for water used and nothing for fire protection, the cost would be great, the payments by complainant are decreasing, and the construction of a six-inch line would seriously reduce pressure in a residential district.

Stephen B. Vernon for Complainant.
F. V. Filbert and *V. J. Dalton* for Respondents.

REPORT BY THE COMMISSION, *October 27, 1925:*

Complainant, Delaware Seamless Tube Company, is engaged in the manufacture of seamless tubing. Its mill is located in West Brunswick Township, Schuylkill County, about one-fourth of a mile east of the Borough of Auburn.

Respondent is a public service company engaged in the distribution of water in and around the Borough of Auburn, Schuylkill County. For some years it has been supplying complainant's mill with water.

The basis of the complaint is that the water pressure is insufficient for fire protection at complainant's works. This is alleged to be due to two causes: (1) the alleged corroding of the main supplying complainant's premises; and (2) leakage and wastage of water by other consumers. It is agreed that the pressure is sufficient for complainant's ordinary needs.

Respondent admits that in the past there have been leakage and wastage of water by some of its consumers, but alleges that this has been remedied so far as lies within respondent's power.

With regard to the adequacy of the main, the evidence is incomplete. The complainant was not represented by counsel, and its only witness

DISTRICT	COUNTY	ROUTE	SHEET
11-0	ALLEGHENY	GLENFIELD VIADUCT R/W	4 OF 9
	GLENFIELD BOROUGH		

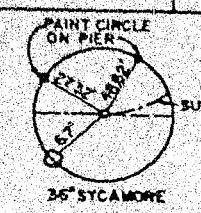
REVISIONS	DATE	BY

B.M.-Elev. 712.78
3.0' Rt. Sta. 7+90 Survey ℄ Glenfield Viaduct
Cut Mark In Rim Of Manhole

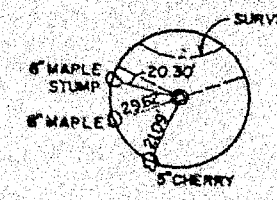
B.M.-Elev. 716.96
21.4' Rt. Sta. 16+55 East Beaver St. ℄
Top Of Bolt On Fire Hydrant

B.M.-Elev. 765.70
23.5' Lt. Sta. 514+35.58 Local Ramp ℄
Penn. D.O.T. Standard Disk Set In Top Of
N.E. Wingwall Of Glenfield Viaduct

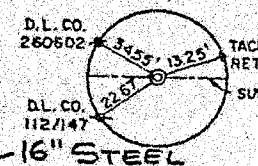
1. JAMES B. SAVAGE
2. JOHN J. HALLSTEIN & OEDNA M. SHIPPER
3. EDWARD WOODS & CAROLINE E. WOODS H/W
4. CYRIL E. YARAS & DEBORAH L. YARAS H/W
5. THOMAS STEEDLE
6. JOSEPH W. DEWITT & HILDA M. DEWITT H/W
7. VALLEY VETERANS ASSOCIATION
8. THOMAS MICHAEL GILMORE & PATRICIA JO GILMORE H/W
9. FRANCIS REICH & JOANNE REICH H/W
10. JAMES R. TUNNEY & MARY BERTHA TUNNEY H/W
11. PETER J. CERNANSKY & GAIL E. CERNANSKY H/W
12. JOHN A. O'NEIL & JOSEPHINE T. O'NEIL H/W



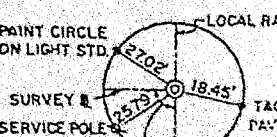
P.C. Sta. 6+59.03



R.I. Sta. 8+37.34
Δ= 90°34'20"



16" STEEL
4" PLASTIC
P.O.T. Sta. 9+88.80



P.O.T. Sta. 11+99.01 Survey ℄ Glenfield Viaduct
= P.O.T. Sta. 514+15.73 Local Ramp ℄

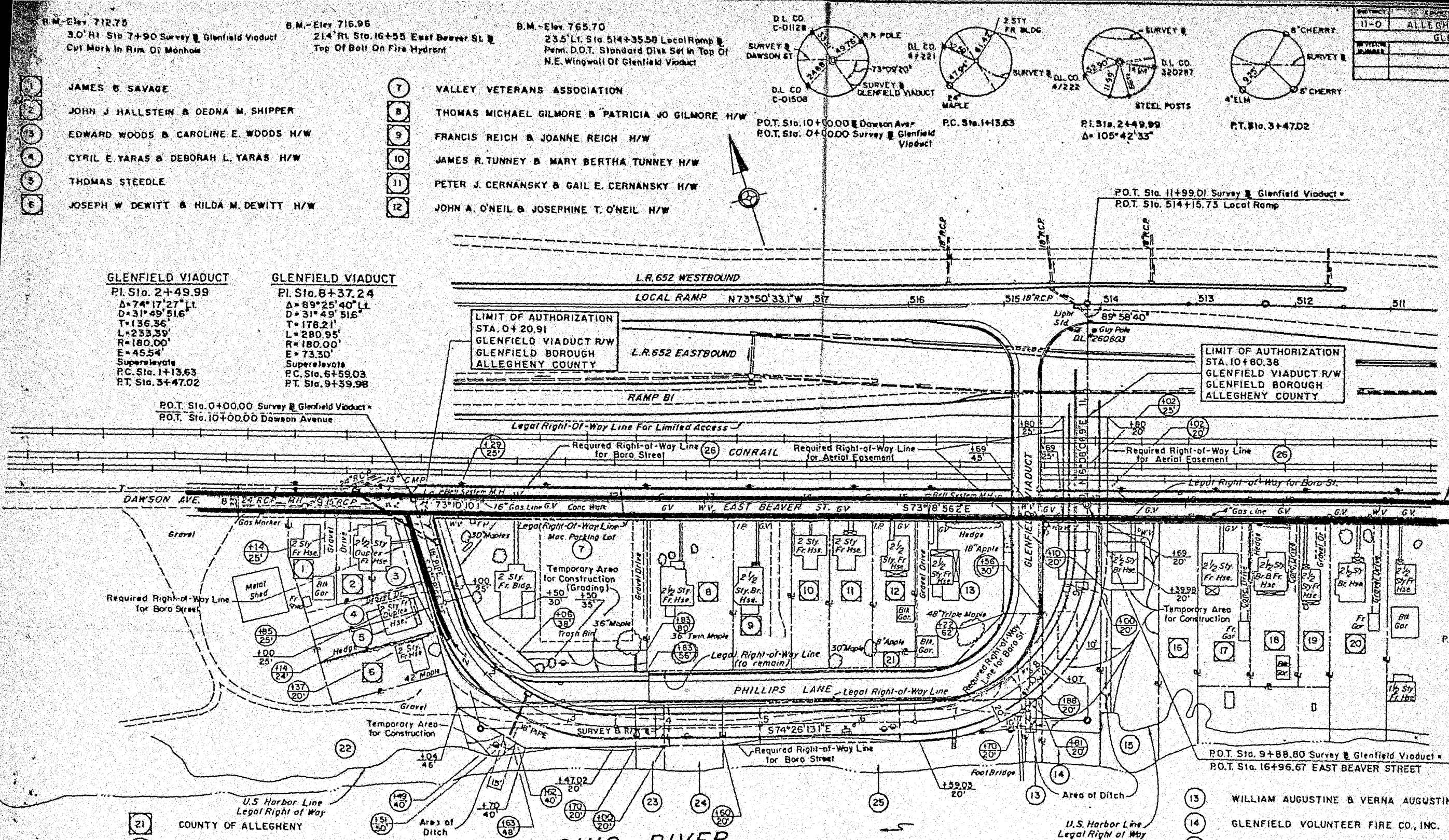
MAPS: 02GT-617
L-27-28

GLENFIELD VIADUCT
P.I. Sta. 2+49.99
Δ= 74°17'27" Lt.
D= 31°49'51.6"
T= 136.36'
L= 233.39'
R= 180.00'
E= 45.54'
Superelevate
P.C. Sta. 1+13.63
P.T. Sta. 3+47.02

GLENFIELD VIADUCT
P.I. Sta. 8+37.24
Δ= 89°25'40" Lt.
D= 31°49'51.6"
T= 178.21'
L= 280.95'
R= 180.00'
E= 73.30'
Superelevate
P.C. Sta. 6+59.03
P.T. Sta. 9+39.98

P.O.T. Sta. 0+00.00 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 10+00.00 Dawson Avenue

P.O.T. Sta. 11+99.01 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 514+15.73 Local Ramp



P.O.T. Sta. 9+88.80 Survey ℄ Glenfield Viaduct =
P.O.T. Sta. 16+96.67 EAST BEAVER STREET

21. COUNTY OF ALLEGHENY
22. CRAIN BROS., INC.
23. THEODORE F. BECKERT
24. H. KLEINMAN, A. KRUGH, JOSEPH WATERS, F.H. ANDERSON, T.M. SHOLES, & J.P. TAYLOR
25. CRAIN BROS., INC.
26. CONRAIL

13. WILLIAM AUGUSTINE & VERNA AUGUSTINE H/W
14. GLENFIELD VOLUNTEER FIRE CO., INC.
15. CHARLES B. HAUSER & MARY RUTH HAUSER H/W
16. BOROUGH OF GLENFIELD, QUAKER VALLEY SCHOOL DISTRICT, & COUNTY OF ALLEGHENY
17. HARRY W. PFLUGH & ELIZABETH H. CARPT
18. RALPH G. FITCH & ELIZABETH FITCH H/W
19. FREDERICK BARONI & RUTH BARONI H/W
20. DEBORAH L. FITCH

PA. PUBLIC UTILITY COMMISSION
DOCKET NO. _____ FOLDER NO. _____
EXHIBIT NO. _____
WITNESS AT _____
REPORTER _____

The Aerial Easement Acquired Between Stations 8+07 And 10+80.38 Includes A Surface Easement Unlimited In Vertical Dimension For The Accommodation Of Piers And Other Appurtenances Plus A Temporary Area For Construction And For Storage Of Materials During Construction.

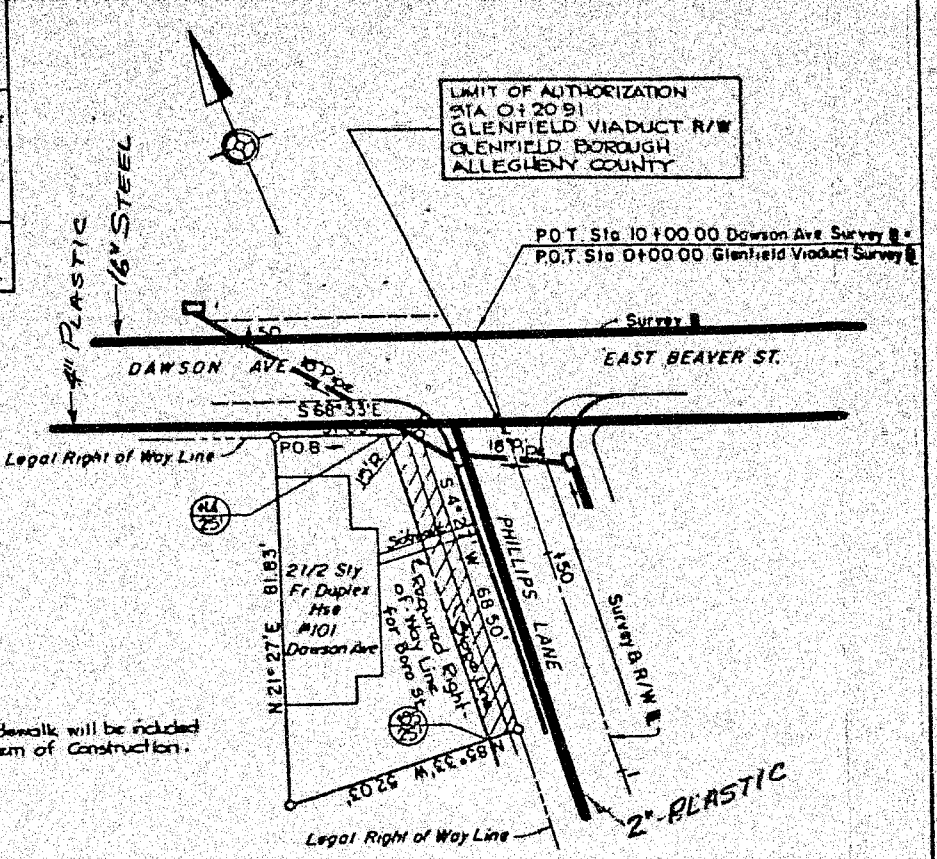
Exhibit No. 1

TH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION
ENFIELD VIADUCT R/W ALLEGHENY COUNTY
SHEET NO. CLAIM NO.
EDWARD WOODS & CAROL E. WOODS H/W
RENCE PAUL BRENNER & DOROTHY BRENNER H/W

	AREAS	ACS SQ FT
6948	DEED	NONE
628	CALCULATED	2,920.28SF
9-18-84	ADVERSES	—
9-19-84	LEGAL R/W	—
$1.00	EFFECTIVE	2,920.28SF
NONE	TOTAL REQ'D R/W	4800.00SF
	TOTAL RESIDUE	2,440.28SF
	RESIDUE LT	
	RESIDUE RT	2,440.28SF

	ACS SQ FT
REQUIRED AREA	4800.00SF
RIGHT OF WAY	
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE
S THE ACCURACY AND OR INACCURACY OF THE DEED



REQUIRED RIGHT-OF-WAY

SCALE: 20' 0 20'

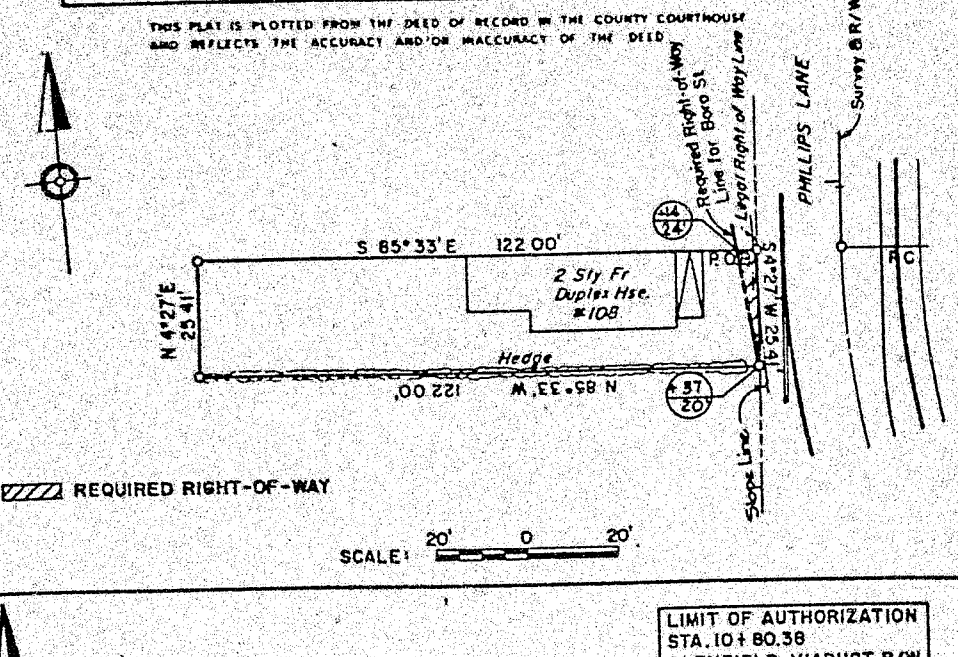
PROPERTY PLAT
COMMONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION
LEG. RTE. GLENFIELD VIADUCT R/W ALLEGHENY COUNTY
PARCEL NO. 5 SHEET NO. CLAIM NO.
PROPERTY OWNER(S) THOMAS STEEDLE
GRANTOR(S) WALDO CONRAD & PATRICIA A. CONRAD H/W

DEED BOOK	6929
PAGE	145
DATE OF DEED	7-26-84
DATE OF RECORD	8-13-84
CONSIDERATION	$11,000
I.R.S. STAMPS	NONE

	AREAS	ACS SQ FT
	DEED	NONE
	CALCULATED	3,100.02S.F.
	ADVERSES	—
	LEGAL R/W	—
	EFFECTIVE	3,100.02S.F.
	TOTAL REQ'D R/W	5800SF
	TOTAL RESIDUE	3042.02SF
	RESIDUE LT	
	RESIDUE RT	3042.02SF

	ACS SQ FT
REQUIRED AREA	5800 SF
RIGHT OF WAY	
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

THIS PLAT IS PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE AND REFLECTS THE ACCURACY AND/OR INACCURACY OF THE DEED



REQUIRED RIGHT-OF-WAY

SCALE: 20' 0 20'

GLENFIELD VIADUCT
P.I. Sta. 2+49.99
Δ = 74°17'27" Lt.
D = 31°49'51.6"
T = 136.36'
L = 233.39'
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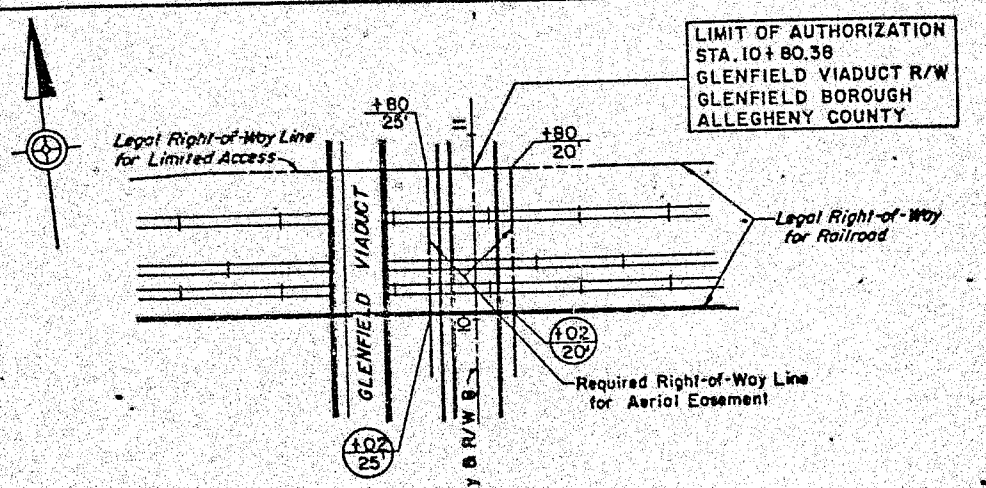
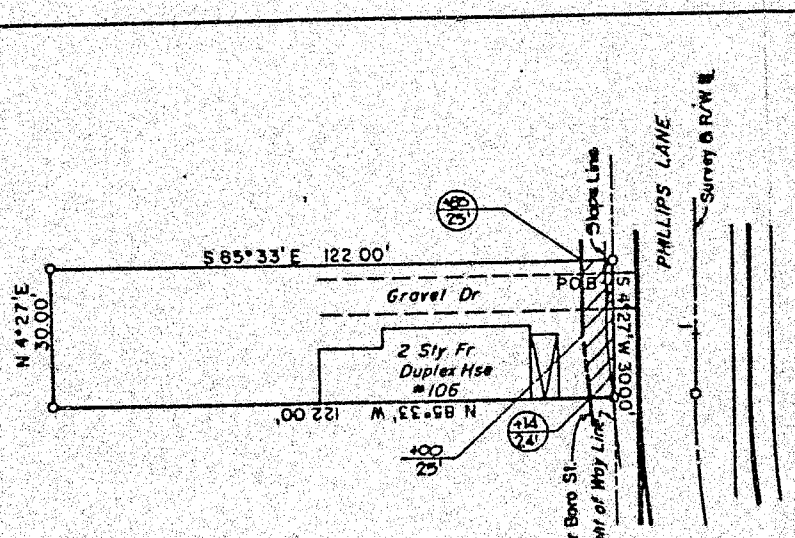
P.C. Sta. 1+13.63
P.T. Sta. 3+47.02





REQUIRED RIGHT-OF-WAY

PROPERTY PLAT
ONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION
GLENFIELD VIADUCT R/W ALLEGHENY COUNTY
5 SHEET NO. CLAIM NO.
OWNER(S) CYRIL E. YARAS & DEBORAH L. YARAS, H/W
AMELIA MORER, WIDOW

	6390
	765
DEED	7-27-81
ECORD	7-30-81
ITION	$ 0.00
IPS	NONE

	AREAS	ACS/SQ FT
	DEED	NONE
	CALCULATED	3,660.02SF
	ADVERSES	—
	LEGAL R/W	—
	EFFECTIVE	3,660.00SF
	TOTAL REQ'D R/W	2000.00SF
	TOTAL RESIDUE	3,460.00SF
	RESIDUE LT	
	RESIDUE RT	3,460.00SF

	ACS/SQ FT
REQUIRED AREA	200.00SF
RIGHT OF WAY	
CHANNEL	
SLOPE	
VERIFICATION DATE	2-22-85
DRAWN BY	J.W.V.
SCALE	1"=20'

THIS PLAT IS PLOTTED FROM THE DEED OF RECORD IN THE COUNTY COURTHOUSE
REFLECTS THE ACCURACY AND OR INACCURACY OF THE DEED

SCALE: 20' 0 20'

PROPERTY PLAT
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
LEG. RTE. GLENFIELD VIADUCT R/W ALLEGHENY COUNTY
PARCEL NO. 26 SHEET NO. CLAIM NO.
PROPERTY OWNER(S) CONRAIL
GRANTOR(S) UNKNOWN

DEED BOOK	
PAGE	
DATE OF DEED	UNKNOWN
DATE OF RECORD	
CONSIDERATION	
I.R.S. STAMPS	

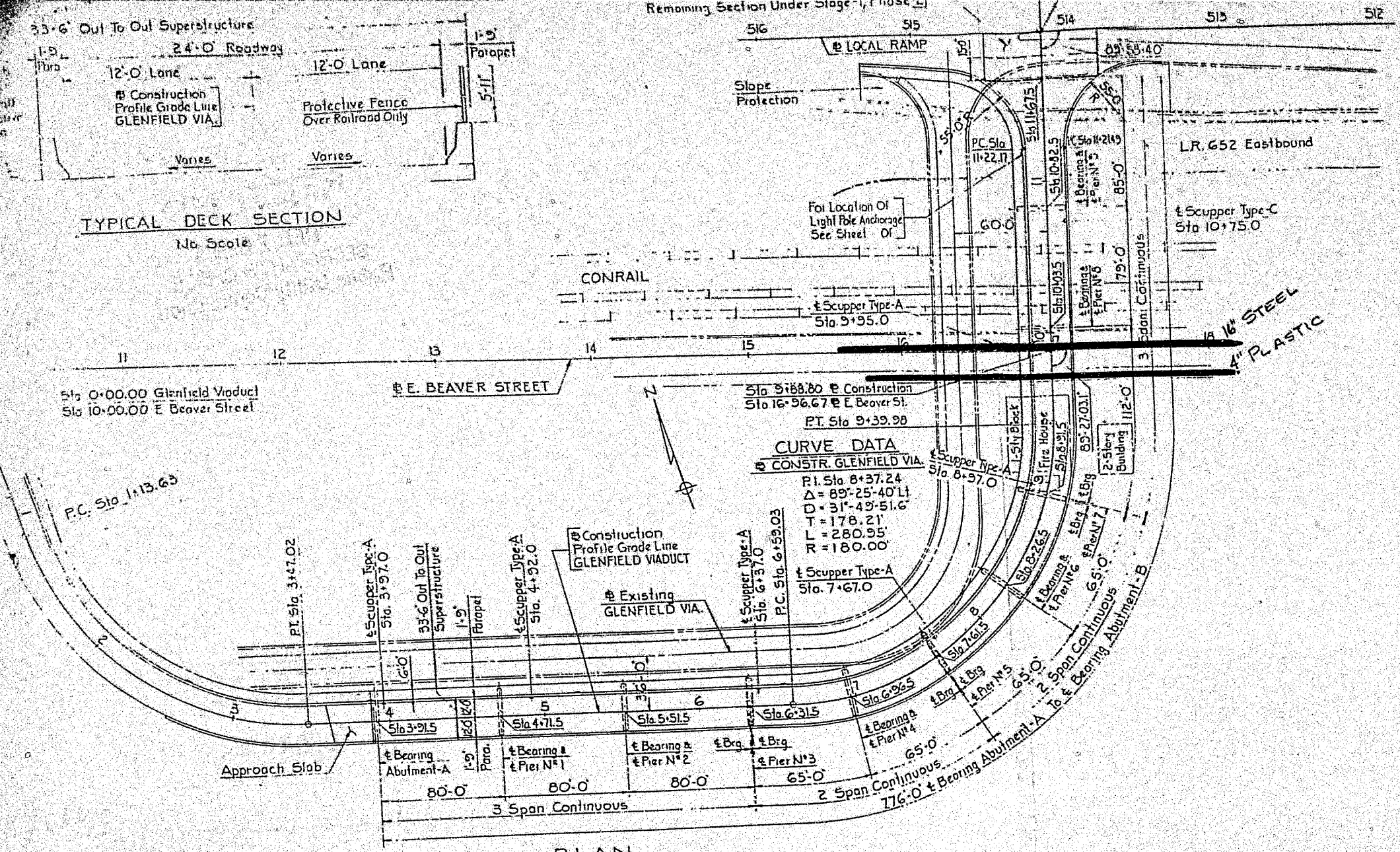
	AREAS	ACS/SQ. FT.
	DEED	—
	CALCULATED	—
	ADVERSES	—
	LEGAL R/W	—
	EFFECTIVE	—
	TOTAL REQ'D R/W	—
	TOTAL RESIDUE	—
	RESIDUE LT.	—
	RESIDUE RT.	—

	ACS/SQ. FT.
REQUIRED AREA	—
RIGHT OF WAY	—
CHANNEL	—
SLOPE	—
AERIAL EASEMENT	3,510 S.F.
VERIFICATION DATE	—
DRAWN BY	J.W.V.
SCALE	1"=50'

SCALE: 50' 0 50'

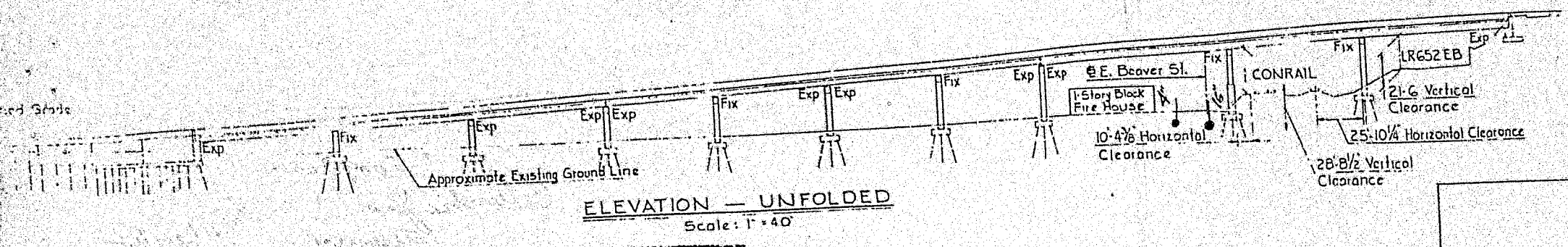
TYPICAL DECK SECTION

No Scale



PLAN

Scale: 1" = 40'



ELEVATION — UNFOLDED

Scale: 1" = 40'

1	Title Sheet	21	Framing Plan - Unit III
2	General Notes	22	Stringer Details - Unit III
3	Abutment-A, Plan, Elev & Sections	23	Stringer Splices & Details - Unit III
4	Walls A & B, Plan & Elevation	24	Camber & Elev Schedules - Units II & III
5	Walls A & B, Sections & Schedule	25	Framing Plan - Unit IV
6	Abut.-B & Wall-D, Plan & Elevation	26	Stringer Details - Unit IV
7	Wall-C, Plan, Elevation & Section	27	Stringer Splices & Details - Unit IV
8	Abut.-B & Wall-D, Sections & Details	28	Camber & Elevation Schedule - Unit IV
9	Abut.-B & Walls C & D, Details & Schedule	29	Deck Plan - Unit I
10	Pier N° 1	30	Deck Plan - Unit II & III
11	Pier N° 2	31	Deck Plan - Unit IV
12	Pier N° 3	32	Deck Details & Bar Schedules
13	Pier N° 4	33	Miscellaneous Details
14	Pier N° 5	34	Drainage And Miscellaneous Details
15	Pier N° 6	35	Boring Logs
16	Pier N° 7	36	Boring Logs
17	Pier N° 8	37	Boring Logs
18	Pier N° 9	38	Boring Logs
19	Framing Plan - Unit I		
20	Stringer Details - Unit I		

SUPPLEMENTAL DRAWINGS

DESCRIPTION	DWG. N°	APP. DATE
Protective Fence	BC-301A	3-2-81
Pedestrian Traffic Barrier (Terminal Details)	BC-317A	3-2-81
Electrical Details	BC-321A	6-20-80
Lighting Pole Anchorage	BC-322A	6-20-80
Cement Concrete Slope Wall	BC-331A	11-4-81
Permanent Metal Deck Forms - Sht. 1 of 2	BC-332B	11-4-81
Permanent Metal Deck Forms - Sht. 2 of 2	BC-332B	11-4-81
Threaded Insert Anchor Assembly	BC-334A	3-2-81
Construction & Expansion Joint Details	BC-335A	11-4-81
Reinforcement Bar Fabrication Details	BC-336A	11-4-81
Railing Anchor Systems	BC-337A	3-2-81
Bridge Drainage - Sheet 1 of 2	BC-351	7-1-70
Bridge Drainage - Sheet 2 of 2	BC-351	7-1-70
Concrete Deck Slab Details	BC-352	4-1-71
Steel Girder Details	BC-353	4-1-71
Steel Diaphragms	BC-354	7-1-70
Bearings - Sheet 1 Of 2	BC-355A	11-10-80
Bearings (For Curved Steel Beam Bridges)	BC-356A	11-10-80
Armored Preformed Neoprene Compression Dam - 1 of 3	BC-363	10-20-70
Armored Preformed Neoprene Compression Dam - 2 of 3	BC-363	10-20-70
Armored Preformed Neoprene Compression Dam - 3 of 3	BC-363	10-20-70
Classification Of Earthwork For Structures	RC-11	5-2-83
Backfill At Structures	RC-12	5-2-83
Bridge Approach Slab	RC-23	5-2-83

For GENERAL NOTES See Sheet N° 2

Mark	Description	By	Chk'd.	App'd	Date
	REVISIONS				

Commonwealth of Pennsylvania

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DESIGN

ALLEGHENY COUNTY GLENFIELD VIADUCT

GLENFIELD VIADUCT STA. 9+88.80 OVER EAST BEAVER STREET STA. 16+96.67

10 SPAN STEEL I-BEAM AND MULTI-GIRDER BRIDGE

GENERAL PLAN & ELEVATION

Date

Rummel, Klepper & Kahl
1309 Bridge Street
New Cumberland, Pa

RECOMMENDED

BRIDGE ENGINEER

SHEET 1 OF

S-16201

OVERSIZE DOCUMENT(S)

FOR DUQUESNE LIGHT CO.:

Exhibit No. 1 - Preliminary plan,
No. W-407640